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INTERVENTO

FONDO COMPLEMENTARE AL PIANO NAZIONALE DI RIPRESA E RESILIENZA
PROGRAMMA "SICURO, VERDE E SOCIALE: RIQUALIFICAZIONE DELL'EDILIZIA RESIDENZIALE PUBBLICA"

**PROGETTO DI MANUTENZIONE STRAORDINARIA PER IL RESTAURO E RISANAMENTO
CONSERVATIVO DI DUE CASAMENTI A CORTE SITI IN
COMUNE DI BOLOGNA LOCALITA' CIRENAICA.
VIA LIBIA CIV. 29÷51 PER COMPLESSIVI 70 ALLOGGI
DI ERP CON RELATIVE PERTINENZE E PARTI COMUNI**

LOTTO **3053/PN_2**

PROGETTO ESECUTIVO

TAV. TAB_06		OGGETTO TABULATI DI CALCOLO CIVICO 35 STATO DI PROGETTO			DATA Settembre 2022	
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TABULATI DI CALCOLO
CIVICO 35
STATO DI PROGETTO



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1 Risultati numerici

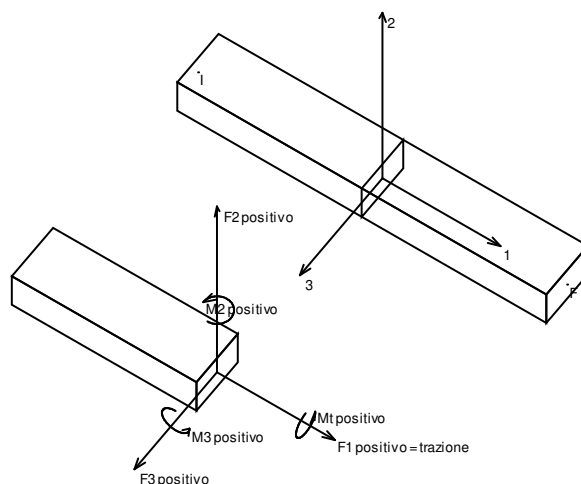
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- $F1$ (N): sforzo normale nell'asta;
- $F2$: sforzo di taglio agente nella direzione dell'asse locale 2;
- $F3$: sforzo di taglio agente nella direzione dell'asse locale 3;
- $M1$ (M_t): momento attorno all'asse locale 1; equivale al momento torcente;
- $M2$: momento attorno all'asse locale 2;
- $M3$: momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

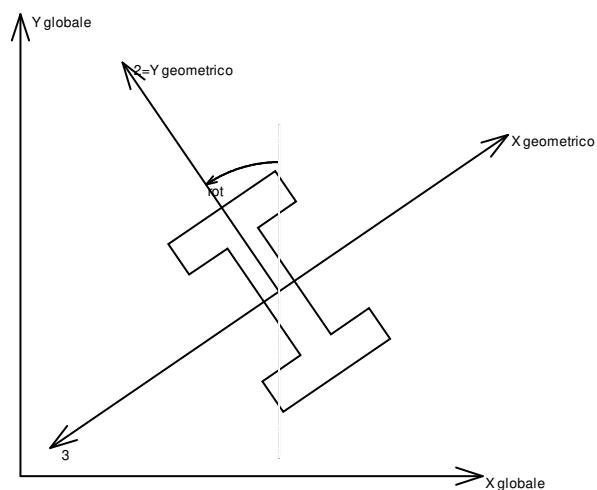
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

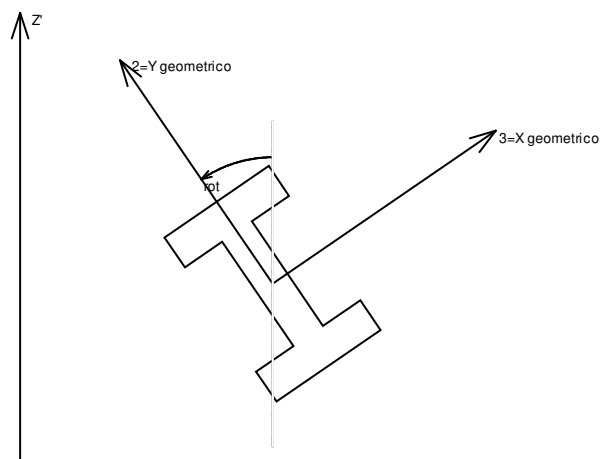


Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

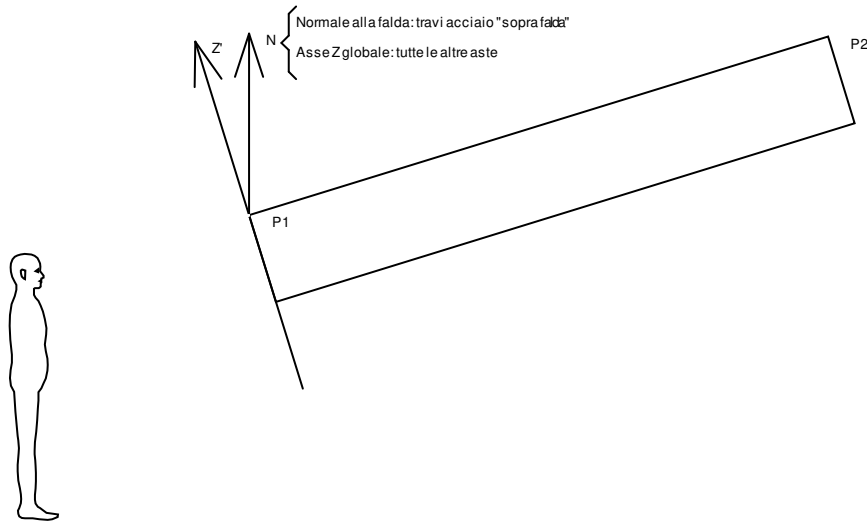
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

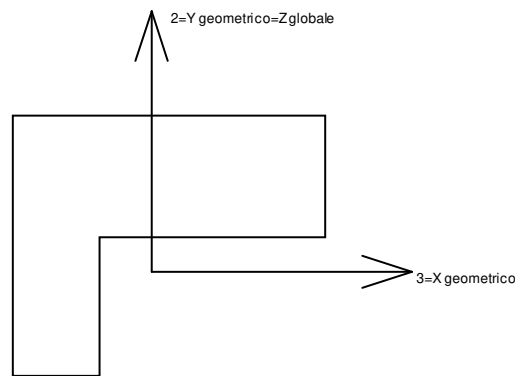
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.1.2 Sollecitazioni estreme aste

Asta: elemento asta a cui si riferiscono le sollecitazioni.

Ind.: indice dell'asta.

Cont.: contesto a cui si riferisce la sollecitazione

N.br.: nome breve della condizione o combinazione di carico.

Pos.: numero della sezione all'interno dell'asta (tra 1 e 31, dove 1 corrisponde alla sezione al nodo iniziale, 16 è la sezione in mezzzeria, 31 corrisponde alla sezione al nodo finale).

Posizione: posizione a cui si riferisce la sollecitazione dell'asta.

X: componente X della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Y: componente Y della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Z: componente Z della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Soll.traslazionale: componente traslazionale della sollecitazione dell'asta.

F1: componente F1 della sollecitazione dell'asta. [daN]

F2: componente F2 della sollecitazione dell'asta. [daN]

F3: componente F3 della sollecitazione dell'asta. [daN]

Soll.rotazionale: componente rotazionale della sollecitazione dell'asta.

M1: componente M1 della sollecitazione dell'asta. [daN*m]

M2: componente M2 della sollecitazione dell'asta. [daN*m]

M3: componente M3 della sollecitazione dell'asta. [daN*m]

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.



Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
67	SLV 12	1	30.42	4.76	-1.89	-23150	2989	1319	3.55	1374.82	-97.65
66	SLV 12	1	30.04	4.76	-1.89	-22354	2826	778	5.72	1228.78	100.18
68	SLV 11	1	30.72	4.76	-1.89	-21465	1784	-1353	11.48	2120.13	-549.64
65	SLV 12	1	29.65	4.76	-1.89	-21363	2765	905	5.91	1123.35	131.18
90	SLV 9	1	30.42	4.26	-1.89	-20913	2871	-1658	-2.03	-1306.75	142.25

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
77	SLV 7	1	35.02	4.76	-1.89	18601	2569	-5061	4.47	-840.15	-1781.59
100	SLV 6	1	35.02	4.26	-1.89	16995	2545	4397	-2.99	699.66	-1864.23
90	SLV Y	1	30.42	4.26	-1.89	15650	-1610	1533	2.79	1326.91	-332.36
89	SLV Y	1	30.04	4.26	-1.89	15021	-1558	858	4.55	1185.34	-421.01
91	SLV Y	31	31.81	4.26	-1.89	14346	284	-1789	-10.45	415.59	-176.32

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
126	SLV 10	1	35.42	0.18	-1.89	-3987	7294	15596	-356.84	-8023.88	-2080.13
1	SLV 8	1	35.07	-0.17	-1.89	6323	1354	6102	125.62	-7445.29	-435.84
12	SLV 6	31	35.07	4.51	-1.89	-322	-8409	-4899	-188.99	-6425.4	5233.9
13	SLV 7	1	35.07	4.51	-1.89	2027	8469	4163	200.55	-6111.71	5162.49
2	SLV 8	1	35.07	0.22	-1.89	6367	1561	5128	48.93	-5462.46	-697.38

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
126	SLV 7	1	35.42	0.18	-1.89	6339	1028	-15523	-123.76	8365.83	-581.79
1	SLV 9	1	35.07	-0.17	-1.89	-5227	7045	-5309	345.64	6663.62	-2215.02
12	SLV Y	31	35.07	4.51	-1.89	-4404	890	4546	57.06	5752.01	107.76
2	SLV 9	1	35.07	0.22	-1.89	-5100	4717	-4213	44.74	5035.85	-3224.45
127	SLV 8	1	35.03	0.18	-1.89	7627	1097	-4846	-51.03	4924.58	-825.13

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
101	SLU 81	1	30.72	-0.17	-1.89	-1	-5115	150	3.82	-228.79	-9371.74
102	SLU 81	1	30.72	0.22	-1.89	7	-4812	134	1.89	-173.49	-6818.48
125	SLU 81	31	30.72	9.5	-1.89	-119	3234	206	-17.82	96.06	-5832.31
77	SLU 81	31	35.42	4.76	-1.89	320	3435	-218	-1.87	-151.34	-4877.56
100	SLU 81	31	35.42	4.26	-1.89	-2006	3258	-218	-1.87	-151.34	-4830.67

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
13	SLU 81	1	35.07	4.51	-1.89	-7193	13427	-357	235.76	-1207.82	9514.3
12	SLU 81	31	35.07	4.51	-1.89	-7833	-13176	705	-216.44	-547.75	9415.14
138	SLU 81	1	30.72	0.18	-1.89	1867	13033	-124	-181.94	590.63	9216.02
137	SLU 81	31	30.72	0.18	-1.89	1674	-12773	-59	171.49	429.48	9178.35
45	SLU 81	1	30.72	9.25	-1.89	3688	12189	-9	152.34	948	7630.2

1.1.2 Sollecitazioni gusci

1.1.2.1 Convenzioni di segno gusci

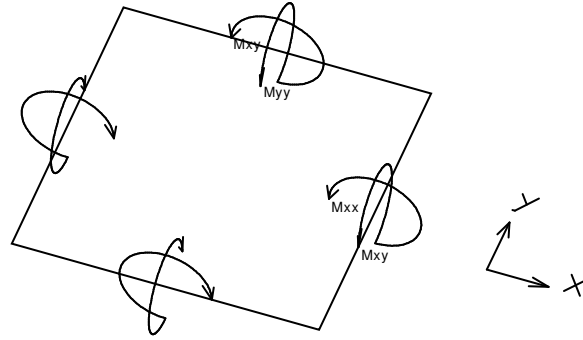
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e patee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

Convenzione di segno per gusci non verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse x ha proiezione in pianta parallela ed equiversa all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equiversi agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.

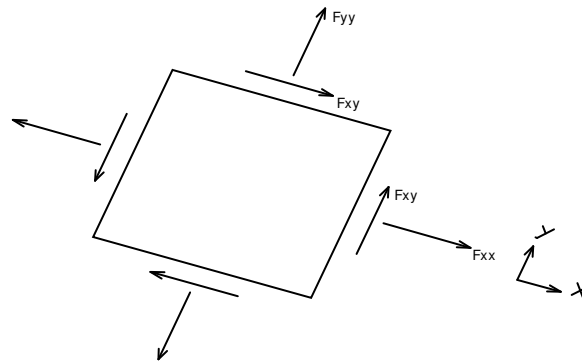
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

- M_{xx} : momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{yy} : momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{xy} : momento torcente [Forza*Lunghezza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .



Si definiscono:

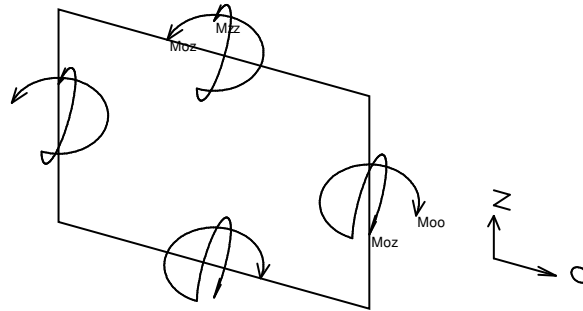
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{xy} : sforzo di taglio [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- V_x : taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse x;
- V_y : taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse y.

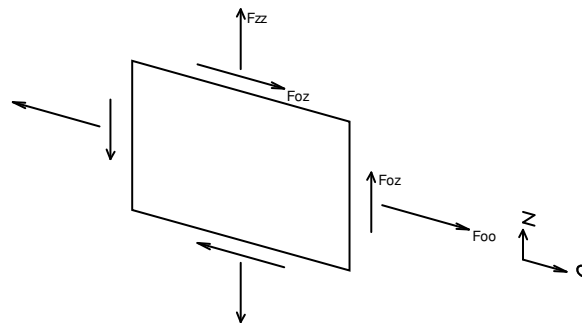
Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione. In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



- Moo: momento flettente distribuito $[Forza * Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mzz: momento flettente distribuito $[Forza * Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Moz: momento 'torcente' distribuito $[Forza * Lunghezza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione Foo, Fzz, Foz sono rispettivamente:



- Fzz: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito $[Forza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vo: taglio fuori piano applicato al bordo di normale parallela all'asse O;
- Vz: taglio fuori piano applicato al bordo di normale parallela all'asse z.

1.1.2.2 Sollecitazioni estreme gusci

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

M11: componente M11 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

M12: componente M12 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

M22: componente M22 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

F11: componente F11 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

F12: componente F12 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

F22: componente F22 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

V13: componente V13 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

V23: componente V23 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
2001	SLV 8	2415	-639	78	-148	-8358	2069	807	-1334	476



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
2091	SLV 8	2425	-607	-64	-146	5164	719	10	1256	451
1021	SLV 7	2177	-328	21	-85	1403	-374	1524	763	142
1017	SLV 7	2177	-326	80	-76	1902	2029	2363	749	-389
2100	SLV 8	2214	-292	31	-77	1783	-441	-191	-631	127

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
2001	SLV 9	2415	641	-80	149	52	143	-1072	1339	-471
2091	SLV 9	2425	605	64	145	96	-49	-817	-1250	-436
1021	SLV 10	2177	331	-22	88	-1351	1247	-1672	-772	-151
1017	SLV 10	2177	330	-82	82	-1818	-915	-1610	-763	408
2100	SLV 9	2214	293	-31	75	29	-212	-787	630	-112

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
804	SLV 3	1050	-127	24	-509	-1797	1072	-9653	125	-809
803	SLV 3	1050	-126	-17	-505	-1866	-207	-9492	-186	-782
569	SLV 3	1048	-111	60	-444	-1580	4390	-7380	63	980
563	SLV 3	1048	-111	110	-444	-1964	4165	-6462	-389	1100
561	SLV 3	1079	-109	-41	-434	-1643	-1954	-7386	-109	957

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
804	SLV 14	1050	131	-26	525	-1487	561	-8005	-141	849
803	SLV 14	1050	130	19	521	-1440	-1748	-7865	203	819
503	SLU 81	232	119	21	481	-3320	-2244	119	-191	1096
284	SLU 81	264	116	-14	464	-763	-760	-2007	243	1157
569	SLV 14	1048	116	-68	463	-1164	2109	-5697	-80	-1073

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
791	SLV 8	263	3	-73	-51	-50634	39324	-45978	-562	-78
788	SLV 3	236	12	79	-56	-49862	-38493	-44544	667	-82
402	SLU 81	284	32	59	128	-22077	19981	-69592	91	295
403	SLU 81	284	37	40	133	-21968	9054	-6570	102	238
790	SLV 8	263	6	9	-53	-21113	-1490	-14443	-28	-134

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
788	SLU 81	418	-64	-2	-32	29639	32207	26831	49	951
791	SLV 8	422	-41	1	-4	29478	-29737	24445	-78	687
400	SLV 11	284	101	34	149	21068	8250	-12350	321	311
784	SLV 3	419	2	-23	16	20566	9187	11704	-262	49
403	SLV 11	426	-18	32	-14	19516	-8534	6261	131	240

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
402	SLU 81	284	32	59	128	-22077	19981	-69592	91	295
293	SLU 81	273	16	44	59	-9394	23197	-64689	-15	207
788	SLU 81	236	-1	88	-65	-37975	-38586	-47528	766	-80
791	SLU 81	263	-34	-76	-55	-29356	35878	-46463	-467	-77
206	SLU 81	17	5	-10	20	3174	-20735	-40532	-49	49

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
438	SLU 81	284	26	28	103	8108	7825	28336	40	124
788	SLU 81	418	-64	-2	-32	29639	32207	26831	49	951
791	SLU 81	422	-95	8	-35	27947	-35026	24693	-2	764
790	SLU 81	238	-21	8	22	8792	-14222	23697	63	93
789	SLU 81	238	-21	-20	23	5754	11195	22422	43	109

1.1.2.3 Sollecitazioni estreme gusci non verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.



Mxx: componente Mxx della sollecitazione del guscio nel nodo indicato. [daN*m/m]
Mxy: componente Mxy della sollecitazione del guscio nel nodo indicato. [daN*m/m]
Myy: componente Myy della sollecitazione del guscio nel nodo indicato. [daN*m/m]
Fxx: componente Fxx della sollecitazione del guscio nel nodo indicato. [daN/m]
Fxy: componente Fxy della sollecitazione del guscio nel nodo indicato. [daN/m]
Fyy: componente Fyy della sollecitazione del guscio nel nodo indicato. [daN/m]
Vx: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]
Vy: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy

1.1.2.4 Sollecitazioni estreme gusci verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

Moo: componente Moo della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Moz: componente Moz della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Mzz: componente Mzz della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Foo: componente Foo della sollecitazione del guscio nel nodo indicato. [daN/m]

Foz: componente Foz della sollecitazione del guscio nel nodo indicato. [daN/m]

Fzz: componente Fzz della sollecitazione del guscio nel nodo indicato. [daN/m]

Vo: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]

Vz: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
2001	SLV 8	2415	-639	78	-148	-8358	2069	807	-1334	476
2091	SLV 8	2425	-607	-64	-146	5164	719	10	1256	451
1021	SLV 7	2177	-328	21	-85	1403	-374	1524	763	142
1017	SLV 7	2177	-326	80	-76	1902	2029	2363	749	-389
2100	SLV 8	2214	-292	31	-77	1783	-441	-191	-631	127



Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
2001	SLV 9	2415	641	-80	149	52	143	-1072	1339	-471
2091	SLV 9	2425	605	64	145	96	-49	-817	-1250	-436
1021	SLV 10	2177	331	-22	88	-1351	1247	-1672	-772	-151
1017	SLV 10	2177	330	-82	82	-1818	-915	-1610	-763	408
2100	SLV 9	2214	293	-31	75	29	-212	-787	630	-112

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
804	SLV 3	1050	-127	24	-509	-1797	1072	-9653	125	-809
803	SLV 3	1050	-126	-17	-505	-1866	-207	-9492	-186	-782
563	SLV 3	1048	-111	110	-444	-1964	4165	-6462	-389	1100
569	SLV 3	1048	-111	60	-444	-1580	4390	-7380	63	980
561	SLV 3	1079	-109	-41	-434	-1643	-1954	-7386	-109	957

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
804	SLV 14	1050	131	-26	525	-1487	561	-8005	-141	849
803	SLV 14	1050	130	19	521	-1440	-1748	-7865	203	819
503	SLU 81	232	119	21	481	-3320	-2244	119	-191	1096
284	SLU 81	264	116	-14	464	-763	-760	-2007	243	1157
563	SLV 14	1048	116	-122	463	-1451	3061	-4617	441	-1201

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
791	SLV 8	263	3	-73	-51	-50634	39324	-45978	-562	-78
788	SLV 3	236	12	79	-56	-49862	-38493	-44544	667	-82
402	SLU 81	284	32	59	128	-22077	19981	-69592	91	295
403	SLU 81	284	37	40	133	-21968	9054	-6570	102	238
790	SLV 8	263	6	9	-53	-21113	-1490	-14443	-28	-134

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
788	SLU 81	418	-64	-2	-32	29639	32207	26831	49	951
791	SLV 8	422	-41	1	-4	29478	-29737	24445	-78	687
400	SLV 11	284	101	34	149	21068	8250	-12350	321	311
784	SLV 3	419	2	-23	16	20566	9187	11704	-262	49
403	SLV 11	426	-18	32	-14	19516	-8534	6261	131	240

Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
402	SLU 81	284	32	59	128	-22077	19981	-69592	91	295
293	SLU 81	273	16	44	59	-9394	23197	-64689	-15	207
788	SLU 81	236	-1	88	-65	-37975	-38586	-47528	766	-80
791	SLU 81	263	-34	-76	-55	-29356	35878	-46463	-467	-77
206	SLU 81	17	-5	-10	-20	3174	20735	-40532	-49	-49

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell Ind	Cont. N.br.	Nodo Ind	Sollecitazione							
			Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
438	SLU 81	284	26	28	103	8108	7825	28336	40	124
788	SLU 81	418	-64	-2	-32	29639	32207	26831	49	951
791	SLU 81	422	-95	8	-35	27947	-35026	24693	-2	764
790	SLU 81	238	-21	8	22	8792	-14222	23697	63	93
789	SLU 81	238	-21	-20	23	5754	11195	22422	43	109

1.1.3 Sollecitazioni gusci armati

1.1.3.1 Convenzioni di segno gusci

Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e platee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

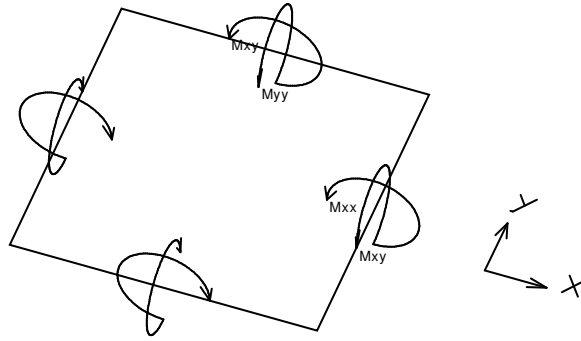
Convenzione di segno per gusci non verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse x ha proiezione in pianta parallela ed equivale all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equivale agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale



posizione.

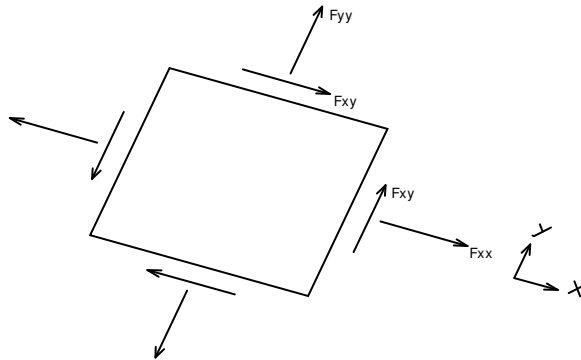
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

- M_{xx} : momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{yy} : momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{xy} : momento torcente [Forza*Lunghezza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .



Si definiscono:

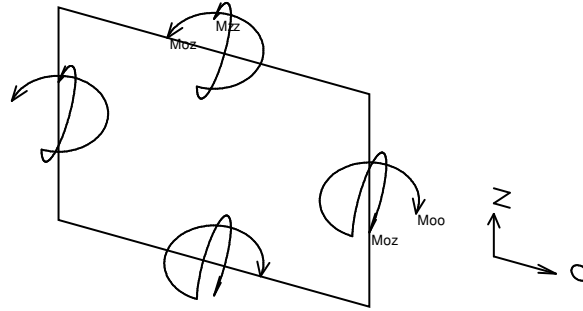
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{xy} : sforzo di taglio [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- V_x : taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse x;
- V_y : taglio fuori piano [Forza/Lunghezza] applicato al bordo di normale parallela all'asse y.

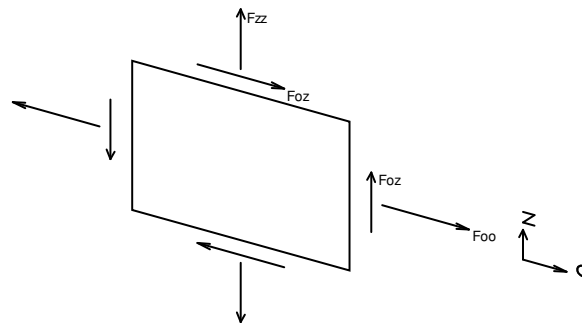
Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione. In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



- Moo: momento flettente distribuito $[Forza * Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mzz: momento flettente distribuito $[Forza * Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Moz: momento 'torcente' distribuito $[Forza * Lunghezza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione Foo, Fzz, Foz sono rispettivamente:



- Fzz: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito $[Forza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

Vengono riportati inoltre i tagli fuori dal piano dell'elemento guscio:

- Vo: taglio fuori piano applicato al bordo di normale parallela all'asse O;
- Vz: taglio fuori piano applicato al bordo di normale parallela all'asse z.

1.1.4 Sollecitazioni gusci muratura

1.1.4.1 Convenzioni di segno gusci muratura

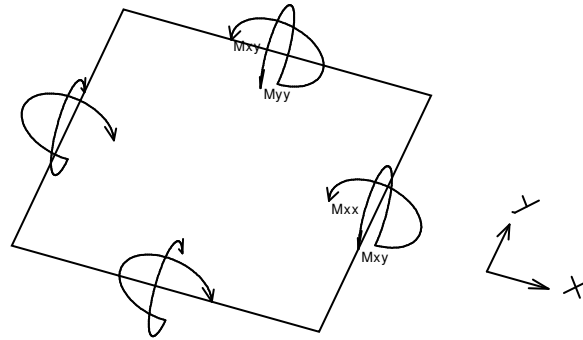
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

- convenzione per gusci non verticali, originati ad esempio da piastre e platee;
- convenzione per gusci verticali, originati ad esempio da pareti e muri.

Convenzione di segno per gusci non verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse x ha proiezione in pianta parallela ed equivale all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equivale agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.

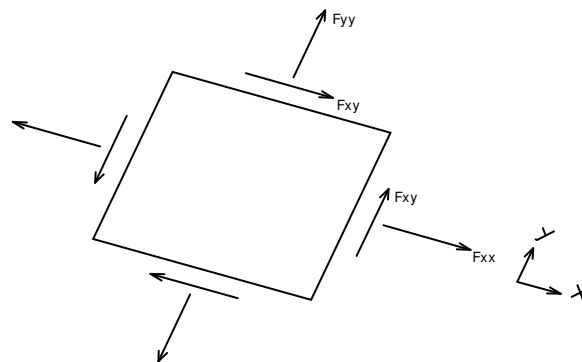
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Mxx, Myy, Mxy.



Si definiscono:

- M_{xx} : momento flettente $[Forza \cdot Lunghezza / Lunghezza]$ agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{yy} : momento flettente $[Forza \cdot Lunghezza / Lunghezza]$ agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- M_{xy} : momento torcente $[Forza \cdot Lunghezza / Lunghezza]$ agente sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .

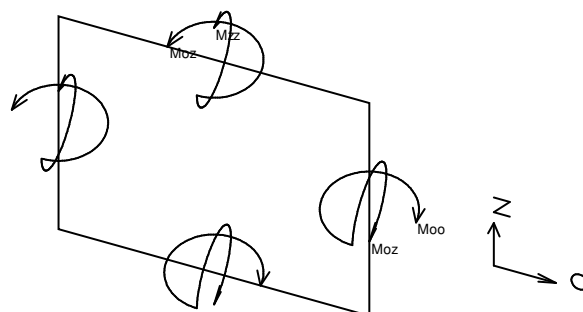


Si definiscono:

- F_{xx} : sforzo tensionale $[Forza / Lunghezza]$ agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo tensionale $[Forza / Lunghezza]$ agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{xy} : sforzo tagliente $[Forza / Lunghezza]$ agente sui bordi (verso positivo indicato dalla freccia in figura).

Convenzione di segno per gusci verticali

Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse O (ascisse) e z (ordinate) contenuti nel piano dell'elemento e terzo asse ortogonale al piano dell'elemento a formare una terna destrorsa. In particolare l'asse O è orizzontale e l'asse z parallelo ed equiverso con l'asse Z globale. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione. In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{oo} , M_{zz} , M_{oz} .



- M_{oo} : momento flettente distribuito $[Forza \cdot Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in

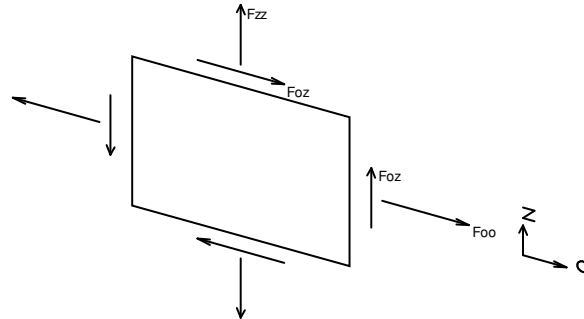


figura che tende le fibre inferiori);

- M_{zz} : momento flettente distribuito $[Forza * Lunghezza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);

- M_{oz} : momento 'torcente' distribuito $[Forza * Lunghezza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione F_{oo} , F_{zz} , F_{oz} sono rispettivamente:



- F_{zz} : sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);

- F_{oo} : sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);

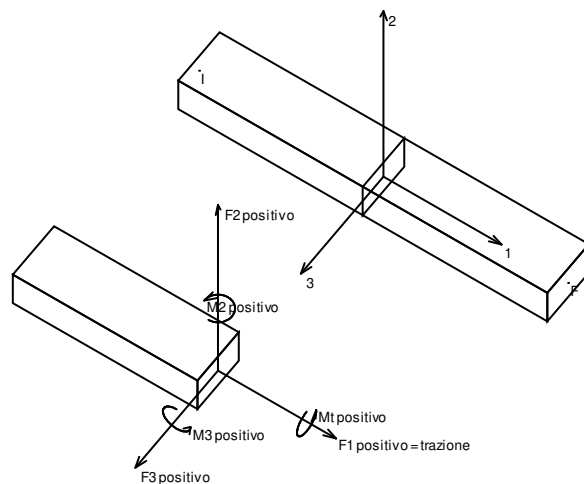
- F_{oz} : sforzo tagliante distribuito $[Forza / Lunghezza]$ applicato sui bordi (verso positivo indicato dalla freccia in figura).

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F_1 (N): sforzo normale nell'asta;
- F_2 : sforzo di taglio agente nella direzione dell'asse locale 2;
- F_3 : sforzo di taglio agente nella direzione dell'asse locale 3;
- M_1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M_2 : momento attorno all'asse locale 2;
- M_3 : momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

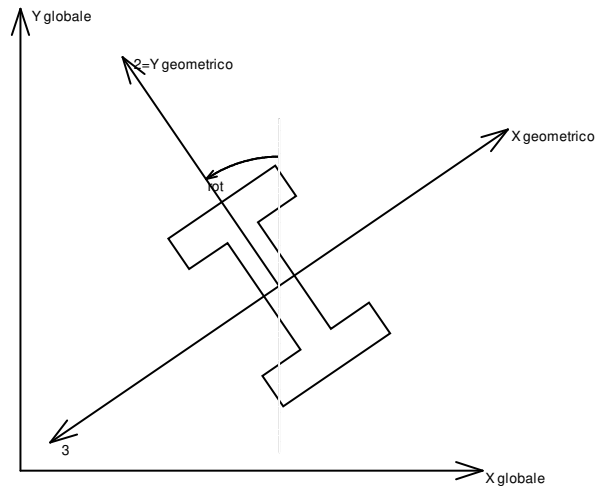


Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

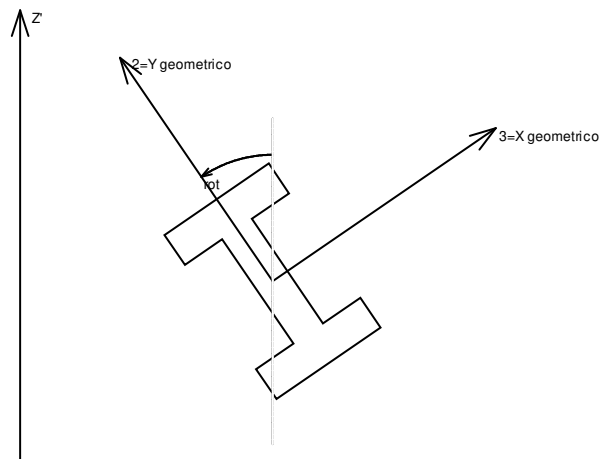
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

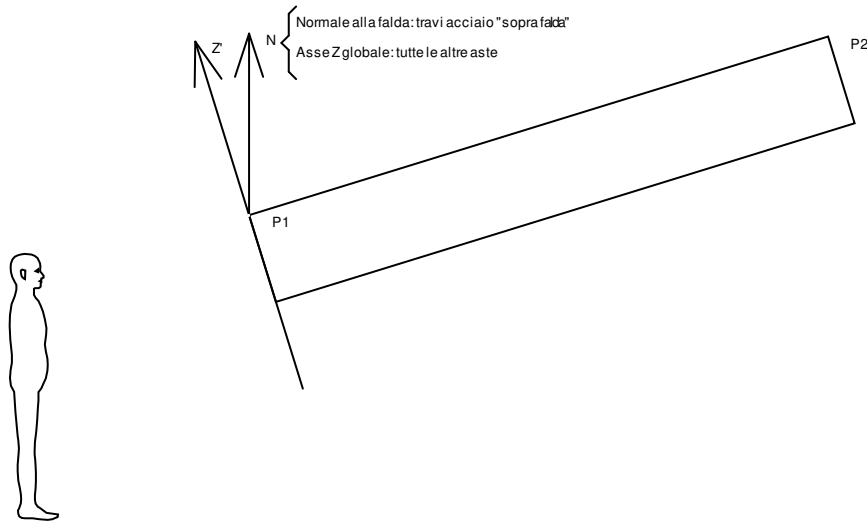
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

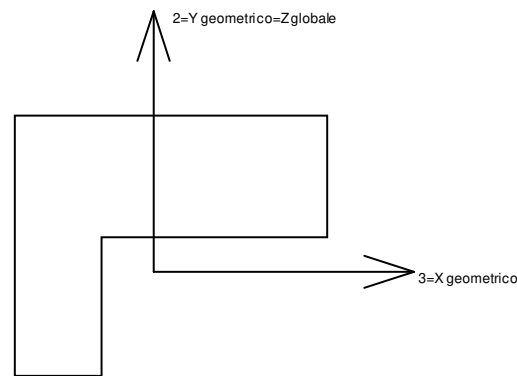
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per P1, P2 contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



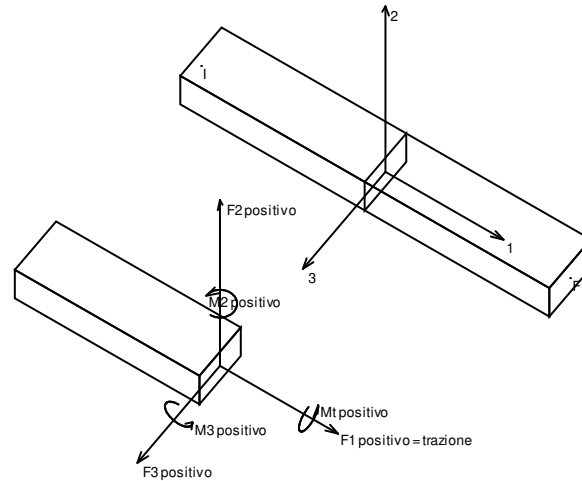
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

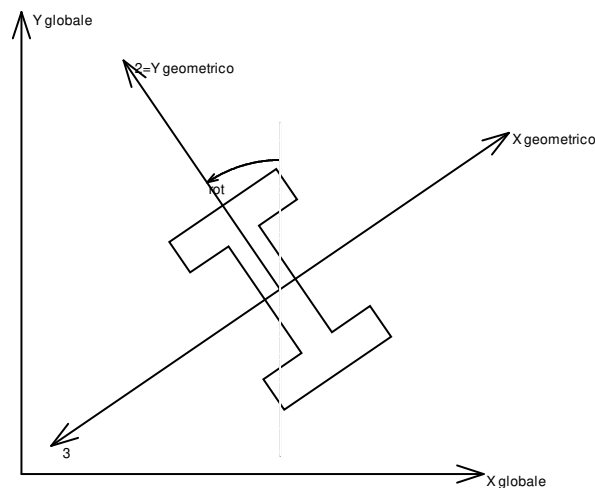
presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

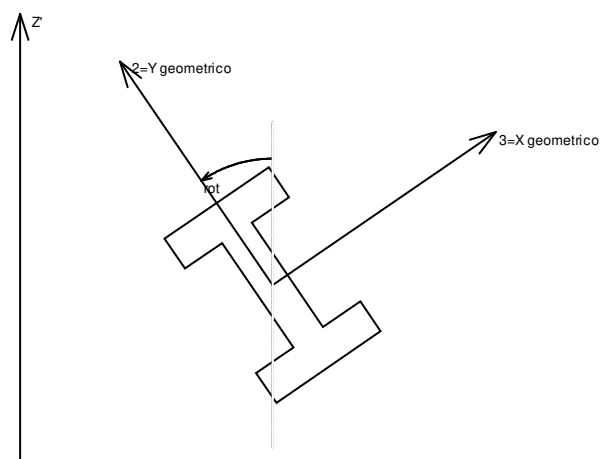
Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).



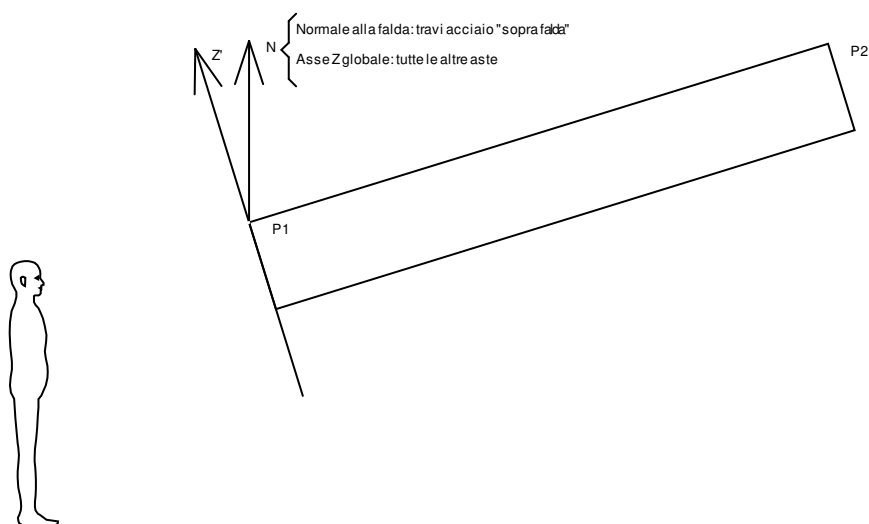
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

L'asse Z' è illustrato nella figura seguente dove:

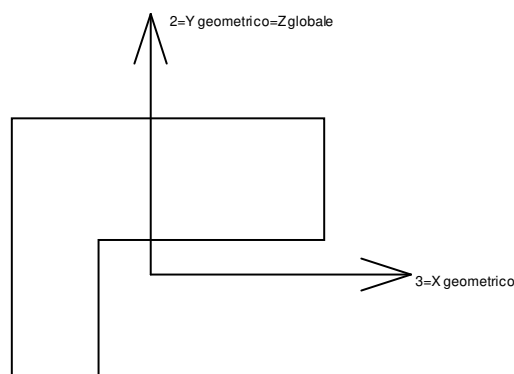
- $P1$ è il punto di inserimento iniziale dell'asta;
- $P2$ è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per $P1$, $P2$ contenente N e il piano della sezione iniziale dell'asta.



Sistema locale aste derivanti da travi in c.a.



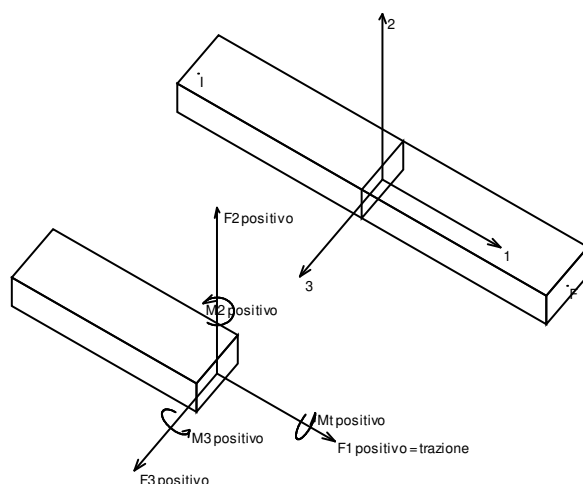
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

Le abbreviazioni relative alle sollecitazioni sugli elementi aste sono da intendersi:

- F1 (N): sforzo normale nell'asta;
- F2: sforzo di taglio agente nella direzione dell'asse locale 2;
- F3: sforzo di taglio agente nella direzione dell'asse locale 3;
- M1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M2: momento attorno all'asse locale 2;
- M3: momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il versore asse 1) i parametri di sollecitazione sono positivi se hanno verso e direzione concordi con il sistema di riferimento locale dell'asta 1, 2, 3 (per i momenti si adotta la regola della mano destra).

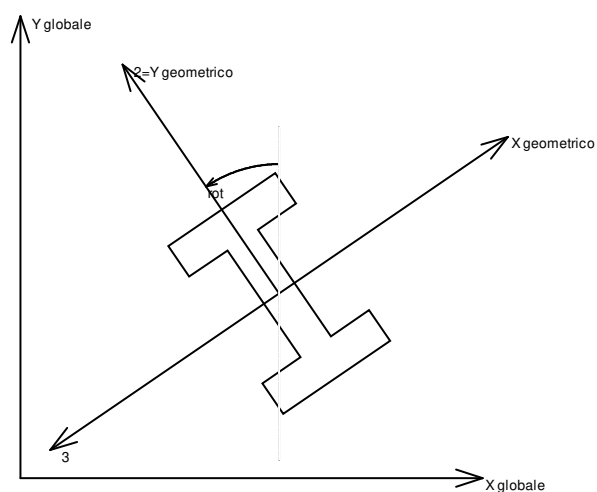
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- aste verticali ad esempio pilastri e colonne;
- aste non verticali non di c.a., ad esempio travi di acciaio o legno;
- aste non verticali in c.a.: travi in c.a. di piano, falda o a quota generica.

Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

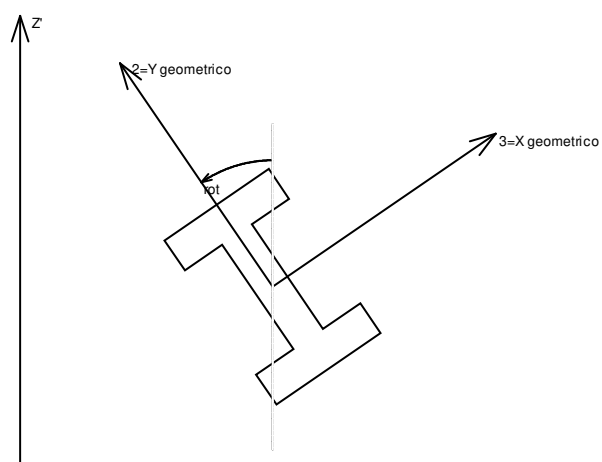


Sistema locale aste verticali



Nella figura si considera l'asse 1 uscente dal foglio (l'osservatore guarda in direzione opposta a quella dell'asse 1).

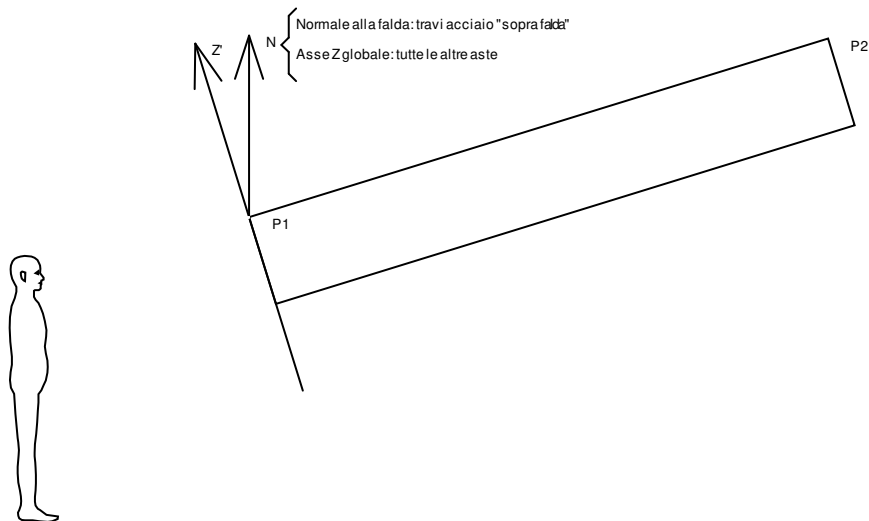
Sistema locale aste non verticali



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

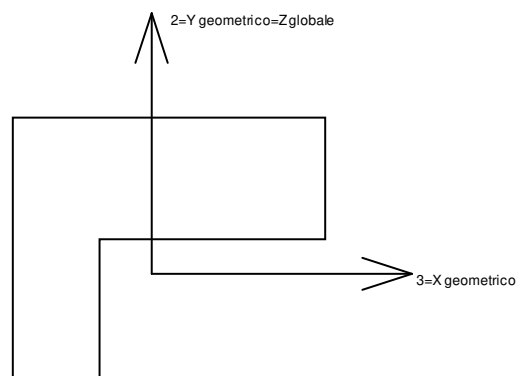
L'asse Z' è illustrato nella figura seguente dove:

- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



Z' è quindi l'intersezione tra il piano passante per $P1, P2$ contenente N e il piano della sezione iniziale dell'asta.

Sistema locale aste derivanti da travi in c.a.



Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli assi 2 e 3 non corrispondono agli assi principali della sezione.

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

Cont.: Contesto a cui si riferisce la reazione vincolare.

N.br.: nome breve della condizione o combinazione di carico.

Reazione a traslazione: reazione vincolare traslazionale del nodo.

x: componente X della reazione vincolare del nodo. [daN]

y: componente Y della reazione vincolare del nodo. [daN]

z: componente Z della reazione vincolare del nodo. [daN]

Reazione a rotazione: reazione vincolare rotazionale del nodo.

x: componente X della reazione a rotazione del nodo. [daN*m]

y: componente Y della reazione a rotazione del nodo. [daN*m]

z: componente Z della reazione a rotazione del nodo. [daN*m]

Reazioni F_x minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
149	SLV 14	-1441	250	8568	-8.03	-1304.38	49.61



Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
275	SLV 14	-1212	121	5062	-1021.5	-419.9	-241.66
151	SLV 14	-1062	288	6643	-8.42	1040.37	-29.82
276	SLV 14	-788	128	3191	-521.65	373.74	-205.48
161	SLV X	-771	281	1873	5.07	382.87	-64.28

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
149	SLV 3	1445	-278	8338	32.51	-1243.6	-54.87
151	SLV 3	1088	-318	6247	30.67	993.06	33.18
275	SLV 3	1062	-127	6724	-1328.64	-538.83	210.32
227	SLV 1	873	388	2939	121.32	-293.48	35.36
161	SLV 3	820	-828	3485	25.43	862.46	194.14

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
161	SLV 7	314	-1611	4724	47.07	1115.72	382.15
135	SLV 12	-291	-1608	5305	45.14	-933.84	-281.88
138	SLV 12	-231	-1105	3956	45.45	4.54	22.48
158	SLV 7	233	-1085	3495	41.07	0.34	-17.02
137	SLV 12	-197	-1035	3506	40.21	-94.38	-10.57

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
135	SLV 5	212	1624	5674	-10.28	-993.88	284.28
161	SLV 10	-250	1554	6062	-1.64	1389.24	-368.32
138	SLV 5	171	1112	4191	-27.4	5.67	-23.11
137	SLV 5	145	1044	3736	-24.53	-100.04	10.21
158	SLV 10	-188	1043	4282	-29.38	-4.31	16.81

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
135	SLV X	-709	-202	-1780	-4.74	292.71	-34.52
30	SLV Y	87	-765	-1509	-308.01	-331.78	165.84
17	SLV Y	139	-265	-1504	-321.99	-3.96	-37.97
4	SLV Y	125	-833	-1364	-283.86	236.76	-178.37
138	SLV X	-565	-138	-1152	-2.4	-5.09	2.91

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
149	SLU 81	5	-20	13082	20.17	-1970.14	-3.93
151	SLU 81	20	-23	9956	18.16	1571.68	2.42
275	SLU 81	-117	-4	9042	-1806.11	-734.85	-24.46
135	SLU 81	-55	15	8426	27.49	-1479.81	2.32
161	SLU 81	46	-46	8196	35.02	1906	11.21

1.2.2 Reazioni nodali in combinazioni di carico

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

Cont.: Contesto a cui si riferisce la reazione vincolare.

N.br.: nome breve della condizione o combinazione di carico.

Reazione a traslazione: reazione vincolare traslazionale del nodo.

x: componente X della reazione vincolare del nodo. [daN]

y: componente Y della reazione vincolare del nodo. [daN]

z: componente Z della reazione vincolare del nodo. [daN]

Reazione a rotazione: reazione vincolare rotazionale del nodo.

x: componente X della reazione a rotazione del nodo. [daN*m]

y: componente Y della reazione a rotazione del nodo. [daN*m]

z: componente Z della reazione a rotazione del nodo. [daN*m]

Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
4	SLU 1	21	-5	2842	651.97	-492.9	-5.94
4	SLU 2	21	-5	2842	651.97	-492.9	-5.94
4	SLU 3	21	-5	2842	651.97	-492.9	-5.94
4	SLU 4	21	-5	2842	651.97	-492.9	-5.94
4	SLU 5	21	-5	2842	651.97	-492.9	-5.94
4	SLU 6	21	-5	2842	651.97	-492.9	-5.94
4	SLU 7	21	-5	2842	651.97	-492.9	-5.94
4	SLU 8	21	-5	2842	651.97	-492.9	-5.94
4	SLU 9	21	-5	2842	651.97	-492.9	-5.94
4	SLU 10	27	-4	3384	775.36	-585.91	-7.16
4	SLU 11	27	-4	3384	775.36	-585.91	-7.16



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
4	SLU 12	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 13	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 14	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 15	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 16	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 17	27	-4	3384		775.36	-585.91	-7.16	
4	SLU 18	29	-4	3616		828.24	-625.77	-7.68	
4	SLU 19	29	-4	3616		828.24	-625.77	-7.68	
4	SLU 20	29	-4	3616		828.24	-625.77	-7.68	
4	SLU 21	29	-4	3616		828.24	-625.77	-7.68	
4	SLU 22	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 23	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 24	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 25	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 26	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 27	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 28	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 29	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 30	25	-6	3236		741.83	-560.5	-6.99	
4	SLU 31	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 32	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 33	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 34	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 35	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 36	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 37	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 38	30	-5	3778		865.22	-653.52	-8.21	
4	SLU 39	33	-4	4010		918.1	-693.38	-8.73	
4	SLU 40	33	-4	4010		918.1	-693.38	-8.73	
4	SLU 41	33	-4	4010		918.1	-693.38	-8.73	
4	SLU 42	33	-4	4010		918.1	-693.38	-8.73	
4	SLU 43	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 44	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 45	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 46	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 47	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 48	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 49	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 50	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 51	26	-6	3560		816.76	-617.59	-7.36	
4	SLU 52	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 53	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 54	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 55	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 56	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 57	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 58	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 59	31	-5	4101		940.15	-710.6	-8.58	
4	SLU 60	34	-5	4333		993.03	-750.46	-9.1	
4	SLU 61	34	-5	4333		993.03	-750.46	-9.1	
4	SLU 62	34	-5	4333		993.03	-750.46	-9.1	
4	SLU 63	34	-5	4333		993.03	-750.46	-9.1	
4	SLU 64	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 65	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 66	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 67	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 68	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 69	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 70	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 71	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 72	30	-7	3954		906.61	-685.19	-8.41	
4	SLU 73	35	-6	4495		1030	-778.21	-9.63	
4	SLU 74	35	-6	4495		1030	-778.21	-9.63	
4	SLU 75	35	-6	4495		1030	-778.21	-9.63	
4	SLU 76	35	-6	4495		1030	-778.21	-9.63	
4	SLU 77	35	-6	4495		1030	-778.21	-9.63	
4	SLU 78	35	-6	4495		1030	-778.21	-9.63	
4	SLU 79	35	-6	4495		1030	-778.21	-9.63	
4	SLU 80	35	-6	4495		1030	-778.21	-9.63	
4	SLU 81	38	-6	4727		1082.88	-818.07	-10.15	
4	SLU 82	38	-6	4727		1082.88	-818.07	-10.15	
4	SLU 83	38	-6	4727		1082.88	-818.07	-10.15	
4	SLU 84	38	-6	4727		1082.88	-818.07	-10.15	
4	SLE RA 1	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 2	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 3	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 4	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 5	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 6	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 7	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 8	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 9	22	-5	2955		677.64	-512.21	-6.24	
4	SLE RA 10	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 11	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 12	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 13	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 14	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 15	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 16	26	-5	3316		759.9	-574.22	-7.05	
4	SLE RA 17	26	-5	3316		759.9	-574.22	-7.05	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
4	SLE RA 18	27	-4	3471	795.16	-600.8	-7.4
4	SLE RA 19	27	-4	3471	795.16	-600.8	-7.4
4	SLE RA 20	27	-4	3471	795.16	-600.8	-7.4
4	SLE RA 21	27	-4	3471	795.16	-600.8	-7.4
4	SLE FR 1	22	-5	2955	677.64	-512.21	-6.24
4	SLE FR 2	22	-5	2955	677.64	-512.21	-6.24
4	SLE FR 3	22	-5	2955	677.64	-512.21	-6.24
4	SLE FR 4	24	-5	3109	712.9	-538.79	-6.59
4	SLE FR 5	24	-5	3109	712.9	-538.79	-6.59
4	SLE FR 6	25	-5	3213	736.4	-556.51	-6.82
4	SLE QP 1	22	-5	2955	677.64	-512.21	-6.24
4	SLE QP 2	24	-5	3109	712.9	-538.79	-6.59
4	SLD 1	178	178	3766	859.47	-648.2	-18.78
4	SLD 2	227	126	3758	857.88	-646.83	-40.16
4	SLD 3	211	-38	3412	785.87	-586.82	-65.07
4	SLD 4	260	-90	3404	784.28	-585.45	-86.45
4	SLD 5	4	396	3846	869.06	-665.2	67.54
4	SLD 6	53	343	3838	867.46	-663.82	45.97
4	SLD 7	112	-324	2667	623.72	-460.58	-86.76
4	SLD 8	161	-377	2659	622.12	-459.2	-108.33
4	SLD 9	-114	367	3560	803.68	-618.37	95.15
4	SLD 10	-64	314	3552	802.07	-616.99	73.59
4	SLD 11	-6	-353	2381	558.34	-413.76	-59.14
4	SLD 12	44	-406	2373	556.74	-412.38	-80.71
4	SLD 13	-212	81	2814	641.52	-492.13	73.28
4	SLD 14	-164	29	2806	639.93	-490.76	51.9
4	SLD 15	-180	-135	2461	567.92	-430.74	26.99
4	SLD 16	-131	-187	2453	566.33	-429.37	5.61
4	SLV 1	376	414	4608	1047.33	-788.56	-33.82
4	SLV 2	487	296	4590	1043.71	-785.45	-82.45
4	SLV 3	450	-85	3790	877.01	-646.51	-140.84
4	SLV 4	561	-203	3771	873.4	-643.39	-189.47
4	SLV 5	-24	921	4807	1072.84	-830.29	165.01
4	SLV 6	89	801	4788	1069.16	-827.12	115.52
4	SLV 7	225	-744	2079	505.12	-356.77	-191.73
4	SLV 8	338	-865	2060	501.44	-353.6	-241.22
4	SLV 9	-291	855	4159	924.36	-723.98	228.04
4	SLV 10	-178	735	4140	920.68	-720.8	178.56
4	SLV 11	-42	-811	1431	356.64	-250.46	-128.7
4	SLV 12	71	-931	1412	352.96	-247.29	-178.18
4	SLV 13	-514	193	2447	552.4	-434.19	176.3
4	SLV 14	-403	75	2429	548.78	-431.07	127.67
4	SLV 15	-439	-306	1629	382.08	-292.13	69.28
4	SLV 16	-329	-424	1611	378.47	-289.02	20.65
4	CRTFP Ux+	0	0	0	-0.01	0	0
4	CRTFP Ux-	0	0	0	0.01	0	0
4	CRTFP Uy+	0	0	0	-0.01	0.01	0
4	CRTFP Uy-	0	0	0	0.01	-0.01	0
6	SLU 1	15	-2	1988	558.21	-51.87	-5.17
6	SLU 2	15	-2	1988	558.21	-51.87	-5.17
6	SLU 3	15	-2	1988	558.21	-51.87	-5.17
6	SLU 4	15	-2	1988	558.21	-51.87	-5.17
6	SLU 5	15	-2	1988	558.21	-51.87	-5.17
6	SLU 6	15	-2	1988	558.21	-51.87	-5.17
6	SLU 7	15	-2	1988	558.21	-51.87	-5.17
6	SLU 8	15	-2	1988	558.21	-51.87	-5.17
6	SLU 9	15	-2	1988	558.21	-51.87	-5.17
6	SLU 10	19	-1	2363	660.54	-61.56	-6.58
6	SLU 11	19	-1	2363	660.54	-61.56	-6.58
6	SLU 12	19	-1	2363	660.54	-61.56	-6.58
6	SLU 13	19	-1	2363	660.54	-61.56	-6.58
6	SLU 14	19	-1	2363	660.54	-61.56	-6.58
6	SLU 15	19	-1	2363	660.54	-61.56	-6.58
6	SLU 16	19	-1	2363	660.54	-61.56	-6.58
6	SLU 17	19	-1	2363	660.54	-61.56	-6.58
6	SLU 18	21	-1	2524	704.4	-65.71	-7.19
6	SLU 19	21	-1	2524	704.4	-65.71	-7.19
6	SLU 20	21	-1	2524	704.4	-65.71	-7.19
6	SLU 21	21	-1	2524	704.4	-65.71	-7.19
6	SLU 22	18	-2	2260	632.63	-58.9	-6.16
6	SLU 23	18	-2	2260	632.63	-58.9	-6.16
6	SLU 24	18	-2	2260	632.63	-58.9	-6.16
6	SLU 25	18	-2	2260	632.63	-58.9	-6.16
6	SLU 26	18	-2	2260	632.63	-58.9	-6.16
6	SLU 27	18	-2	2260	632.63	-58.9	-6.16
6	SLU 28	18	-2	2260	632.63	-58.9	-6.16
6	SLU 29	18	-2	2260	632.63	-58.9	-6.16
6	SLU 30	18	-2	2260	632.63	-58.9	-6.16
6	SLU 31	22	-2	2636	734.96	-68.59	-7.57
6	SLU 32	22	-2	2636	734.96	-68.59	-7.57
6	SLU 33	22	-2	2636	734.96	-68.59	-7.57
6	SLU 34	22	-2	2636	734.96	-68.59	-7.57
6	SLU 35	22	-2	2636	734.96	-68.59	-7.57
6	SLU 36	22	-2	2636	734.96	-68.59	-7.57
6	SLU 37	22	-2	2636	734.96	-68.59	-7.57
6	SLU 38	22	-2	2636	734.96	-68.59	-7.57
6	SLU 39	23	-1	2797	778.82	-72.74	-8.17
6	SLU 40	23	-1	2797	778.82	-72.74	-8.17
6	SLU 41	23	-1	2797	778.82	-72.74	-8.17
6	SLU 42	23	-1	2797	778.82	-72.74	-8.17



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
6	SLU 43	18	-3	2490		700.15	-65.02	-6.39
6	SLU 44	18	-3	2490		700.15	-65.02	-6.39
6	SLU 45	18	-3	2490		700.15	-65.02	-6.39
6	SLU 46	18	-3	2490		700.15	-65.02	-6.39
6	SLU 47	18	-3	2490		700.15	-65.02	-6.39
6	SLU 48	18	-3	2490		700.15	-65.02	-6.39
6	SLU 49	18	-3	2490		700.15	-65.02	-6.39
6	SLU 50	18	-3	2490		700.15	-65.02	-6.39
6	SLU 51	18	-3	2490		700.15	-65.02	-6.39
6	SLU 52	22	-2	2866		802.49	-74.71	-7.8
6	SLU 53	22	-2	2866		802.49	-74.71	-7.8
6	SLU 54	22	-2	2866		802.49	-74.71	-7.8
6	SLU 55	22	-2	2866		802.49	-74.71	-7.8
6	SLU 56	22	-2	2866		802.49	-74.71	-7.8
6	SLU 57	22	-2	2866		802.49	-74.71	-7.8
6	SLU 58	22	-2	2866		802.49	-74.71	-7.8
6	SLU 59	22	-2	2866		802.49	-74.71	-7.8
6	SLU 60	24	-2	3027		846.34	-78.86	-8.4
6	SLU 61	24	-2	3027		846.34	-78.86	-8.4
6	SLU 62	24	-2	3027		846.34	-78.86	-8.4
6	SLU 63	24	-2	3027		846.34	-78.86	-8.4
6	SLU 64	21	-3	2763		774.58	-72.06	-7.37
6	SLU 65	21	-3	2763		774.58	-72.06	-7.37
6	SLU 66	21	-3	2763		774.58	-72.06	-7.37
6	SLU 67	21	-3	2763		774.58	-72.06	-7.37
6	SLU 68	21	-3	2763		774.58	-72.06	-7.37
6	SLU 69	21	-3	2763		774.58	-72.06	-7.37
6	SLU 70	21	-3	2763		774.58	-72.06	-7.37
6	SLU 71	21	-3	2763		774.58	-72.06	-7.37
6	SLU 72	21	-3	2763		774.58	-72.06	-7.37
6	SLU 73	25	-2	3139		876.91	-81.74	-8.78
6	SLU 74	25	-2	3139		876.91	-81.74	-8.78
6	SLU 75	25	-2	3139		876.91	-81.74	-8.78
6	SLU 76	25	-2	3139		876.91	-81.74	-8.78
6	SLU 77	25	-2	3139		876.91	-81.74	-8.78
6	SLU 78	25	-2	3139		876.91	-81.74	-8.78
6	SLU 79	25	-2	3139		876.91	-81.74	-8.78
6	SLU 80	25	-2	3139		876.91	-81.74	-8.78
6	SLU 81	27	-2	3299		920.77	-85.89	-9.39
6	SLU 82	27	-2	3299		920.77	-85.89	-9.39
6	SLU 83	27	-2	3299		920.77	-85.89	-9.39
6	SLU 84	27	-2	3299		920.77	-85.89	-9.39
6	SLE RA 1	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 2	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 3	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 4	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 5	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 6	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 7	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 8	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 9	16	-2	2066		579.47	-53.88	-5.46
6	SLE RA 10	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 11	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 12	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 13	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 14	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 15	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 16	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 17	18	-2	2316		647.69	-60.34	-6.39
6	SLE RA 18	19	-1	2423		676.93	-63.11	-6.8
6	SLE RA 19	19	-1	2423		676.93	-63.11	-6.8
6	SLE RA 20	19	-1	2423		676.93	-63.11	-6.8
6	SLE RA 21	19	-1	2423		676.93	-63.11	-6.8
6	SLE FR 1	16	-2	2066		579.47	-53.88	-5.46
6	SLE FR 2	16	-2	2066		579.47	-53.88	-5.46
6	SLE FR 3	16	-2	2066		579.47	-53.88	-5.46
6	SLE FR 4	17	-2	2173		608.71	-56.65	-5.86
6	SLE FR 5	17	-2	2173		608.71	-56.65	-5.86
6	SLE FR 6	18	-2	2244		628.2	-58.49	-6.13
6	SLE QP 1	16	-2	2066		579.47	-53.88	-5.46
6	SLE QP 2	17	-2	2173		608.71	-56.65	-5.86
6	SLD 1	134	126	2610		727.89	-67.28	-44.42
6	SLD 2	170	90	2604		726.72	-67.15	-57.69
6	SLD 3	156	-26	2371		669.55	-61.17	-55.37
6	SLD 4	191	-62	2366		668.37	-61.04	-68.64
6	SLD 5	8	280	2667		733.38	-69.14	3.89
6	SLD 6	43	244	2662		732.19	-69.02	-9.5
6	SLD 7	78	-227	1872		538.88	-48.79	-32.62
6	SLD 8	113	-264	1867		537.7	-48.66	-46
6	SLD 9	-80	260	2478		679.72	-64.64	34.29
6	SLD 10	-44	223	2473		678.54	-64.51	20.91
6	SLD 11	-10	-248	1683		485.23	-44.28	-2.22
6	SLD 12	26	-284	1678		484.04	-44.15	-15.6
6	SLD 13	-157	58	1980		549.05	-52.25	56.92
6	SLD 14	-122	22	1974		547.87	-52.13	43.66
6	SLD 15	-136	-95	1741		490.7	-46.15	45.97
6	SLD 16	-101	-131	1736		489.52	-46.02	32.7
6	SLV 1	284	293	3170		880.63	-80.92	-93.5
6	SLV 2	365	211	3158		877.96	-80.63	-123.68
6	SLV 3	333	-59	2618		745.6	-66.78	-118.78



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
6	SLV 4	413	-141	2606	742.93	-66.49	-148.95
6	SLV 5	-6	650	3313	896.04	-85.47	17.01
6	SLV 6	76	567	3301	893.32	-85.17	-13.69
6	SLV 7	156	-524	1473	445.94	-38.36	-67.25
6	SLV 8	238	-608	1461	443.22	-38.07	-97.95
6	SLV 9	-205	603	2884	774.2	-75.23	86.24
6	SLV 10	-123	520	2872	771.48	-74.94	55.53
6	SLV 11	-43	-571	1044	324.1	-28.13	1.97
6	SLV 12	39	-654	1032	321.38	-27.83	-28.73
6	SLV 13	-380	137	1740	474.49	-46.81	137.24
6	SLV 14	-299	55	1728	471.82	-46.51	107.07
6	SLV 15	-331	-215	1188	339.46	-32.67	111.96
6	SLV 16	-251	-297	1176	336.79	-32.38	81.79
6	CRTFP Ux+	0	0	0	-0.01	0	0
6	CRTFP Ux-	0	0	0	0.01	0	0
6	CRTFP Uy+	0	0	0	-0.01	0	0
6	CRTFP Uy-	0	0	0	0.01	0	0
7	SLU 1	17	0	2161	537.29	4.58	-5.8
7	SLU 2	17	0	2161	537.29	4.58	-5.8
7	SLU 3	17	0	2161	537.29	4.58	-5.8
7	SLU 4	17	0	2161	537.29	4.58	-5.8
7	SLU 5	17	0	2161	537.29	4.58	-5.8
7	SLU 6	17	0	2161	537.29	4.58	-5.8
7	SLU 7	17	0	2161	537.29	4.58	-5.8
7	SLU 8	17	0	2161	537.29	4.58	-5.8
7	SLU 9	17	0	2161	537.29	4.58	-5.8
7	SLU 10	21	1	2565	632.14	5.59	-7.44
7	SLU 11	21	1	2565	632.14	5.59	-7.44
7	SLU 12	21	1	2565	632.14	5.59	-7.44
7	SLU 13	21	1	2565	632.14	5.59	-7.44
7	SLU 14	21	1	2565	632.14	5.59	-7.44
7	SLU 15	21	1	2565	632.14	5.59	-7.44
7	SLU 16	21	1	2565	632.14	5.59	-7.44
7	SLU 17	21	1	2565	632.14	5.59	-7.44
7	SLU 18	23	1	2738	672.79	6.02	-8.14
7	SLU 19	23	1	2738	672.79	6.02	-8.14
7	SLU 20	23	1	2738	672.79	6.02	-8.14
7	SLU 21	23	1	2738	672.79	6.02	-8.14
7	SLU 22	20	0	2454	606.05	5.33	-6.92
7	SLU 23	20	0	2454	606.05	5.33	-6.92
7	SLU 24	20	0	2454	606.05	5.33	-6.92
7	SLU 25	20	0	2454	606.05	5.33	-6.92
7	SLU 26	20	0	2454	606.05	5.33	-6.92
7	SLU 27	20	0	2454	606.05	5.33	-6.92
7	SLU 28	20	0	2454	606.05	5.33	-6.92
7	SLU 29	20	0	2454	606.05	5.33	-6.92
7	SLU 30	20	0	2454	606.05	5.33	-6.92
7	SLU 31	25	1	2858	700.89	6.34	-8.55
7	SLU 32	25	1	2858	700.89	6.34	-8.55
7	SLU 33	25	1	2858	700.89	6.34	-8.55
7	SLU 34	25	1	2858	700.89	6.34	-8.55
7	SLU 35	25	1	2858	700.89	6.34	-8.55
7	SLU 36	25	1	2858	700.89	6.34	-8.55
7	SLU 37	25	1	2858	700.89	6.34	-8.55
7	SLU 38	25	1	2858	700.89	6.34	-8.55
7	SLU 39	27	1	3031	741.54	6.77	-9.25
7	SLU 40	27	1	3031	741.54	6.77	-9.25
7	SLU 41	27	1	3031	741.54	6.77	-9.25
7	SLU 42	27	1	3031	741.54	6.77	-9.25
7	SLU 43	21	-1	2709	674.91	5.7	-7.15
7	SLU 44	21	-1	2709	674.91	5.7	-7.15
7	SLU 45	21	-1	2709	674.91	5.7	-7.15
7	SLU 46	21	-1	2709	674.91	5.7	-7.15
7	SLU 47	21	-1	2709	674.91	5.7	-7.15
7	SLU 48	21	-1	2709	674.91	5.7	-7.15
7	SLU 49	21	-1	2709	674.91	5.7	-7.15
7	SLU 50	21	-1	2709	674.91	5.7	-7.15
7	SLU 51	21	-1	2709	674.91	5.7	-7.15
7	SLU 52	25	1	3112	769.75	6.71	-8.79
7	SLU 53	25	1	3112	769.75	6.71	-8.79
7	SLU 54	25	1	3112	769.75	6.71	-8.79
7	SLU 55	25	1	3112	769.75	6.71	-8.79
7	SLU 56	25	1	3112	769.75	6.71	-8.79
7	SLU 57	25	1	3112	769.75	6.71	-8.79
7	SLU 58	25	1	3112	769.75	6.71	-8.79
7	SLU 59	25	1	3112	769.75	6.71	-8.79
7	SLU 60	27	1	3285	810.4	7.14	-9.49
7	SLU 61	27	1	3285	810.4	7.14	-9.49
7	SLU 62	27	1	3285	810.4	7.14	-9.49
7	SLU 63	27	1	3285	810.4	7.14	-9.49
7	SLU 64	24	0	3002	743.66	6.45	-8.27
7	SLU 65	24	0	3002	743.66	6.45	-8.27
7	SLU 66	24	0	3002	743.66	6.45	-8.27
7	SLU 67	24	0	3002	743.66	6.45	-8.27
7	SLU 68	24	0	3002	743.66	6.45	-8.27
7	SLU 69	24	0	3002	743.66	6.45	-8.27
7	SLU 70	24	0	3002	743.66	6.45	-8.27
7	SLU 71	24	0	3002	743.66	6.45	-8.27
7	SLU 72	24	0	3002	743.66	6.45	-8.27
7	SLU 73	29	1	3406	838.51	7.46	-9.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
7	SLU 74	29	1	3406	838.51	7.46	-9.91
7	SLU 75	29	1	3406	838.51	7.46	-9.91
7	SLU 76	29	1	3406	838.51	7.46	-9.91
7	SLU 77	29	1	3406	838.51	7.46	-9.91
7	SLU 78	29	1	3406	838.51	7.46	-9.91
7	SLU 79	29	1	3406	838.51	7.46	-9.91
7	SLU 80	29	1	3406	838.51	7.46	-9.91
7	SLU 81	31	1	3579	879.15	7.89	-10.61
7	SLU 82	31	1	3579	879.15	7.89	-10.61
7	SLU 83	31	1	3579	879.15	7.89	-10.61
7	SLU 84	31	1	3579	879.15	7.89	-10.61
7	SLE RA 1	18	0	2245	556.94	4.8	-6.12
7	SLE RA 2	18	0	2245	556.94	4.8	-6.12
7	SLE RA 3	18	0	2245	556.94	4.8	-6.12
7	SLE RA 4	18	0	2245	556.94	4.8	-6.12
7	SLE RA 5	18	0	2245	556.94	4.8	-6.12
7	SLE RA 6	18	0	2245	556.94	4.8	-6.12
7	SLE RA 7	18	0	2245	556.94	4.8	-6.12
7	SLE RA 8	18	0	2245	556.94	4.8	-6.12
7	SLE RA 9	18	0	2245	556.94	4.8	-6.12
7	SLE RA 10	21	0	2514	620.17	5.47	-7.21
7	SLE RA 11	21	0	2514	620.17	5.47	-7.21
7	SLE RA 12	21	0	2514	620.17	5.47	-7.21
7	SLE RA 13	21	0	2514	620.17	5.47	-7.21
7	SLE RA 14	21	0	2514	620.17	5.47	-7.21
7	SLE RA 15	21	0	2514	620.17	5.47	-7.21
7	SLE RA 16	21	0	2514	620.17	5.47	-7.21
7	SLE RA 17	21	0	2514	620.17	5.47	-7.21
7	SLE RA 18	22	1	2629	647.26	5.75	-7.68
7	SLE RA 19	22	1	2629	647.26	5.75	-7.68
7	SLE RA 20	22	1	2629	647.26	5.75	-7.68
7	SLE RA 21	22	1	2629	647.26	5.75	-7.68
7	SLE FR 1	18	0	2245	556.94	4.8	-6.12
7	SLE FR 2	18	0	2245	556.94	4.8	-6.12
7	SLE FR 3	18	0	2245	556.94	4.8	-6.12
7	SLE FR 4	19	0	2360	584.04	5.08	-6.59
7	SLE FR 5	19	0	2360	584.04	5.08	-6.59
7	SLE FR 6	20	0	2437	602.1	5.28	-6.9
7	SLE QP 1	18	0	2245	556.94	4.8	-6.12
7	SLE QP 2	19	0	2360	584.04	5.08	-6.59
7	SLD 1	156	134	2802	690.34	7.28	-54.8
7	SLD 2	197	97	2796	689.41	7.26	-68.98
7	SLD 3	180	-25	2547	637.06	6.54	-62.75
7	SLD 4	221	-62	2542	636.12	6.52	-76.93
7	SLD 5	9	296	2880	697.08	6.87	-3.97
7	SLD 6	50	258	2874	696.13	6.85	-18.27
7	SLD 7	90	-237	2033	519.46	4.41	-30.47
7	SLD 8	131	-274	2027	518.51	4.39	-44.77
7	SLD 9	-93	274	2693	649.56	5.78	31.6
7	SLD 10	-52	236	2687	648.61	5.76	17.3
7	SLD 11	-12	-258	1846	471.94	3.32	5.1
7	SLD 12	29	-296	1840	471	3.3	-9.2
7	SLD 13	-183	62	2178	531.95	3.65	63.76
7	SLD 14	-142	25	2173	531.01	3.63	49.58
7	SLD 15	-159	-98	1924	478.67	2.91	55.81
7	SLD 16	-118	-135	1918	477.73	2.89	41.63
7	SLV 1	330	309	3368	826.6	10.09	-116.23
7	SLV 2	423	225	3356	824.47	10.03	-148.48
7	SLV 3	386	-60	2780	703.27	8.38	-134.55
7	SLV 4	479	-145	2768	701.14	8.32	-166.81
7	SLV 5	-6	683	3559	844.63	9.2	-0.11
7	SLV 6	89	597	3546	842.46	9.14	-32.93
7	SLV 7	180	-548	1598	433.51	3.5	-61.2
7	SLV 8	275	-634	1586	431.35	3.45	-94.02
7	SLV 9	-237	634	3134	736.73	6.72	80.85
7	SLV 10	-142	548	3122	734.56	6.67	48.03
7	SLV 11	-51	-597	1174	325.61	1.03	19.76
7	SLV 12	44	-683	1161	323.45	0.97	-13.06
7	SLV 13	-441	144	1952	466.93	1.85	153.64
7	SLV 14	-348	60	1940	464.8	1.79	121.38
7	SLV 15	-385	-225	1364	343.6	0.14	135.31
7	SLV 16	-292	-309	1352	341.47	0.08	103.06
7	CRTFP Ux+	0	0	0	0	0	0
7	CRTFP Ux-	0	0	0	0	0	0
7	CRTFP Uy+	0	0	0	0	0	0
7	CRTFP Uy-	0	0	0	0	0	0
8	SLU 1	16	1	2043	451.01	3.31	-5.67
8	SLU 2	16	1	2043	451.01	3.31	-5.67
8	SLU 3	16	1	2043	451.01	3.31	-5.67
8	SLU 4	16	1	2043	451.01	3.31	-5.67
8	SLU 5	16	1	2043	451.01	3.31	-5.67
8	SLU 6	16	1	2043	451.01	3.31	-5.67
8	SLU 7	16	1	2043	451.01	3.31	-5.67
8	SLU 8	16	1	2043	451.01	3.31	-5.67
8	SLU 9	16	1	2043	451.01	3.31	-5.67
8	SLU 10	21	2	2420	527.3	4.02	-7.28
8	SLU 11	21	2	2420	527.3	4.02	-7.28
8	SLU 12	21	2	2420	527.3	4.02	-7.28
8	SLU 13	21	2	2420	527.3	4.02	-7.28
8	SLU 14	21	2	2420	527.3	4.02	-7.28



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
8	SLU 15	21	2	2420		527.3	4.02	-7.28
8	SLU 16	21	2	2420		527.3	4.02	-7.28
8	SLU 17	21	2	2420		527.3	4.02	-7.28
8	SLU 18	23	3	2582		559.99	4.33	-7.97
8	SLU 19	23	3	2582		559.99	4.33	-7.97
8	SLU 20	23	3	2582		559.99	4.33	-7.97
8	SLU 21	23	3	2582		559.99	4.33	-7.97
8	SLU 22	19	1	2316		506.01	3.85	-6.76
8	SLU 23	19	1	2316		506.01	3.85	-6.76
8	SLU 24	19	1	2316		506.01	3.85	-6.76
8	SLU 25	19	1	2316		506.01	3.85	-6.76
8	SLU 26	19	1	2316		506.01	3.85	-6.76
8	SLU 27	19	1	2316		506.01	3.85	-6.76
8	SLU 28	19	1	2316		506.01	3.85	-6.76
8	SLU 29	19	1	2316		506.01	3.85	-6.76
8	SLU 30	19	1	2316		506.01	3.85	-6.76
8	SLU 31	24	3	2694		582.3	4.57	-8.37
8	SLU 32	24	3	2694		582.3	4.57	-8.37
8	SLU 33	24	3	2694		582.3	4.57	-8.37
8	SLU 34	24	3	2694		582.3	4.57	-8.37
8	SLU 35	24	3	2694		582.3	4.57	-8.37
8	SLU 36	24	3	2694		582.3	4.57	-8.37
8	SLU 37	24	3	2694		582.3	4.57	-8.37
8	SLU 38	24	3	2694		582.3	4.57	-8.37
8	SLU 39	26	3	2856		615	4.87	-9.06
8	SLU 40	26	3	2856		615	4.87	-9.06
8	SLU 41	26	3	2856		615	4.87	-9.06
8	SLU 42	26	3	2856		615	4.87	-9.06
8	SLU 43	20	1	2561		567.45	4.12	-7
8	SLU 44	20	1	2561		567.45	4.12	-7
8	SLU 45	20	1	2561		567.45	4.12	-7
8	SLU 46	20	1	2561		567.45	4.12	-7
8	SLU 47	20	1	2561		567.45	4.12	-7
8	SLU 48	20	1	2561		567.45	4.12	-7
8	SLU 49	20	1	2561		567.45	4.12	-7
8	SLU 50	20	1	2561		567.45	4.12	-7
8	SLU 51	20	1	2561		567.45	4.12	-7
8	SLU 52	25	3	2939		643.74	4.83	-8.6
8	SLU 53	25	3	2939		643.74	4.83	-8.6
8	SLU 54	25	3	2939		643.74	4.83	-8.6
8	SLU 55	25	3	2939		643.74	4.83	-8.6
8	SLU 56	25	3	2939		643.74	4.83	-8.6
8	SLU 57	25	3	2939		643.74	4.83	-8.6
8	SLU 58	25	3	2939		643.74	4.83	-8.6
8	SLU 59	25	3	2939		643.74	4.83	-8.6
8	SLU 60	27	3	3101		676.44	5.14	-9.29
8	SLU 61	27	3	3101		676.44	5.14	-9.29
8	SLU 62	27	3	3101		676.44	5.14	-9.29
8	SLU 63	27	3	3101		676.44	5.14	-9.29
8	SLU 64	23	2	2835		622.46	4.66	-8.09
8	SLU 65	23	2	2835		622.46	4.66	-8.09
8	SLU 66	23	2	2835		622.46	4.66	-8.09
8	SLU 67	23	2	2835		622.46	4.66	-8.09
8	SLU 68	23	2	2835		622.46	4.66	-8.09
8	SLU 69	23	2	2835		622.46	4.66	-8.09
8	SLU 70	23	2	2835		622.46	4.66	-8.09
8	SLU 71	23	2	2835		622.46	4.66	-8.09
8	SLU 72	23	2	2835		622.46	4.66	-8.09
8	SLU 73	28	3	3213		698.75	5.37	-9.7
8	SLU 74	28	3	3213		698.75	5.37	-9.7
8	SLU 75	28	3	3213		698.75	5.37	-9.7
8	SLU 76	28	3	3213		698.75	5.37	-9.7
8	SLU 77	28	3	3213		698.75	5.37	-9.7
8	SLU 78	28	3	3213		698.75	5.37	-9.7
8	SLU 79	28	3	3213		698.75	5.37	-9.7
8	SLU 80	28	3	3213		698.75	5.37	-9.7
8	SLU 81	30	3	3375		731.44	5.68	-10.39
8	SLU 82	30	3	3375		731.44	5.68	-10.39
8	SLU 83	30	3	3375		731.44	5.68	-10.39
8	SLU 84	30	3	3375		731.44	5.68	-10.39
8	SLE RA 1	17	1	2121		466.72	3.46	-5.98
8	SLE RA 2	17	1	2121		466.72	3.46	-5.98
8	SLE RA 3	17	1	2121		466.72	3.46	-5.98
8	SLE RA 4	17	1	2121		466.72	3.46	-5.98
8	SLE RA 5	17	1	2121		466.72	3.46	-5.98
8	SLE RA 6	17	1	2121		466.72	3.46	-5.98
8	SLE RA 7	17	1	2121		466.72	3.46	-5.98
8	SLE RA 8	17	1	2121		466.72	3.46	-5.98
8	SLE RA 9	17	1	2121		466.72	3.46	-5.98
8	SLE RA 10	20	2	2373		517.58	3.94	-7.05
8	SLE RA 11	20	2	2373		517.58	3.94	-7.05
8	SLE RA 12	20	2	2373		517.58	3.94	-7.05
8	SLE RA 13	20	2	2373		517.58	3.94	-7.05
8	SLE RA 14	20	2	2373		517.58	3.94	-7.05
8	SLE RA 15	20	2	2373		517.58	3.94	-7.05
8	SLE RA 16	20	2	2373		517.58	3.94	-7.05
8	SLE RA 17	20	2	2373		517.58	3.94	-7.05
8	SLE RA 18	22	2	2481		539.38	4.15	-7.51
8	SLE RA 19	22	2	2481		539.38	4.15	-7.51
8	SLE RA 20	22	2	2481		539.38	4.15	-7.51



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
8	SLE RA 21	22	2	2481		539.38	4.15	-7.51
8	SLE FR 1	17	1	2121		466.72	3.46	-5.98
8	SLE FR 2	17	1	2121		466.72	3.46	-5.98
8	SLE FR 3	17	1	2121		466.72	3.46	-5.98
8	SLE FR 4	19	2	2229		488.52	3.67	-6.44
8	SLE FR 5	19	2	2229		488.52	3.67	-6.44
8	SLE FR 6	19	2	2301		503.05	3.8	-6.75
8	SLE QP 1	17	1	2121		466.72	3.46	-5.98
8	SLE QP 2	19	2	2229		488.52	3.67	-6.44
8	SLD 1	155	120	2609		567.46	5.57	-54.78
8	SLD 2	197	88	2604		566.91	5.55	-68.99
8	SLD 3	180	-21	2375		525.9	4.99	-62.67
8	SLD 4	221	-53	2370		525.35	4.97	-76.87
8	SLD 5	9	262	2700		575.43	5.13	-3.96
8	SLD 6	50	230	2695		574.87	5.11	-18.28
8	SLD 7	89	-207	1919		436.9	3.19	-30.23
8	SLD 8	130	-240	1914		436.34	3.17	-44.56
8	SLD 9	-93	243	2543		540.7	4.17	31.68
8	SLD 10	-52	211	2539		540.14	4.14	17.35
8	SLD 11	-13	-226	1762		402.17	2.23	5.4
8	SLD 12	28	-259	1758		401.61	2.21	-8.93
8	SLD 13	-184	56	2087		451.69	2.37	63.99
8	SLD 14	-143	24	2083		451.14	2.34	49.78
8	SLD 15	-159	-85	1853		410.13	1.78	56.1
8	SLD 16	-118	-117	1848		409.58	1.76	41.9
8	SLV 1	330	274	3097		668.7	8.01	-116.38
8	SLV 2	423	200	3087		667.44	7.96	-148.68
8	SLV 3	386	-52	2555		572.48	6.67	-134.55
8	SLV 4	479	-125	2544		571.22	6.61	-166.85
8	SLV 5	-6	604	3316		688.96	7.03	-0.27
8	SLV 6	89	529	3305		687.68	6.98	-33.14
8	SLV 7	179	-482	1508		368.23	2.55	-60.85
8	SLV 8	274	-557	1497		366.95	2.49	-93.71
8	SLV 9	-237	560	2960		610.09	4.84	80.83
8	SLV 10	-142	486	2950		608.81	4.79	47.96
8	SLV 11	-52	-526	1152		289.36	0.36	20.26
8	SLV 12	43	-600	1142		288.08	0.31	-12.61
8	SLV 13	-442	129	1913		405.82	0.72	153.97
8	SLV 14	-348	55	1903		404.56	0.67	121.67
8	SLV 15	-386	-197	1371		309.6	-0.62	135.8
8	SLV 16	-293	-270	1360		308.34	-0.68	103.5
8	CRTFP Ux+	0	0	0		0	0	0
8	CRTFP Ux-	0	0	0		0	0	0
8	CRTFP Uy+	0	0	0		0	0	0
8	CRTFP Uy-	0	0	0		0	0	0
9	SLU 1	16	2	1963		395.89	1.98	-5.53
9	SLU 2	16	2	1963		395.89	1.98	-5.53
9	SLU 3	16	2	1963		395.89	1.98	-5.53
9	SLU 4	16	2	1963		395.89	1.98	-5.53
9	SLU 5	16	2	1963		395.89	1.98	-5.53
9	SLU 6	16	2	1963		395.89	1.98	-5.53
9	SLU 7	16	2	1963		395.89	1.98	-5.53
9	SLU 8	16	2	1963		395.89	1.98	-5.53
9	SLU 9	16	2	1963		395.89	1.98	-5.53
9	SLU 10	20	3	2324		460.54	2.4	-7.1
9	SLU 11	20	3	2324		460.54	2.4	-7.1
9	SLU 12	20	3	2324		460.54	2.4	-7.1
9	SLU 13	20	3	2324		460.54	2.4	-7.1
9	SLU 14	20	3	2324		460.54	2.4	-7.1
9	SLU 15	20	3	2324		460.54	2.4	-7.1
9	SLU 16	20	3	2324		460.54	2.4	-7.1
9	SLU 17	20	3	2324		460.54	2.4	-7.1
9	SLU 18	22	4	2479		488.25	2.57	-7.78
9	SLU 19	22	4	2479		488.25	2.57	-7.78
9	SLU 20	22	4	2479		488.25	2.57	-7.78
9	SLU 21	22	4	2479		488.25	2.57	-7.78
9	SLU 22	19	2	2224		442.15	2.31	-6.6
9	SLU 23	19	2	2224		442.15	2.31	-6.6
9	SLU 24	19	2	2224		442.15	2.31	-6.6
9	SLU 25	19	2	2224		442.15	2.31	-6.6
9	SLU 26	19	2	2224		442.15	2.31	-6.6
9	SLU 27	19	2	2224		442.15	2.31	-6.6
9	SLU 28	19	2	2224		442.15	2.31	-6.6
9	SLU 29	19	2	2224		442.15	2.31	-6.6
9	SLU 30	19	2	2224		442.15	2.31	-6.6
9	SLU 31	23	4	2585		506.81	2.72	-8.17
9	SLU 32	23	4	2585		506.81	2.72	-8.17
9	SLU 33	23	4	2585		506.81	2.72	-8.17
9	SLU 34	23	4	2585		506.81	2.72	-8.17
9	SLU 35	23	4	2585		506.81	2.72	-8.17
9	SLU 36	23	4	2585		506.81	2.72	-8.17
9	SLU 37	23	4	2585		506.81	2.72	-8.17
9	SLU 38	23	4	2585		506.81	2.72	-8.17
9	SLU 39	25	4	2740		534.52	2.9	-8.84
9	SLU 40	25	4	2740		534.52	2.9	-8.84
9	SLU 41	25	4	2740		534.52	2.9	-8.84
9	SLU 42	25	4	2740		534.52	2.9	-8.84
9	SLU 43	20	2	2463		498.79	2.47	-6.83
9	SLU 44	20	2	2463		498.79	2.47	-6.83
9	SLU 45	20	2	2463		498.79	2.47	-6.83



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
9	SLU 46	20	2	2463		498.79	2.47	-6.83
9	SLU 47	20	2	2463		498.79	2.47	-6.83
9	SLU 48	20	2	2463		498.79	2.47	-6.83
9	SLU 49	20	2	2463		498.79	2.47	-6.83
9	SLU 50	20	2	2463		498.79	2.47	-6.83
9	SLU 51	20	2	2463		498.79	2.47	-6.83
9	SLU 52	24	4	2824		563.45	2.88	-8.4
9	SLU 53	24	4	2824		563.45	2.88	-8.4
9	SLU 54	24	4	2824		563.45	2.88	-8.4
9	SLU 55	24	4	2824		563.45	2.88	-8.4
9	SLU 56	24	4	2824		563.45	2.88	-8.4
9	SLU 57	24	4	2824		563.45	2.88	-8.4
9	SLU 58	24	4	2824		563.45	2.88	-8.4
9	SLU 59	24	4	2824		563.45	2.88	-8.4
9	SLU 60	26	4	2979		591.16	3.06	-9.07
9	SLU 61	26	4	2979		591.16	3.06	-9.07
9	SLU 62	26	4	2979		591.16	3.06	-9.07
9	SLU 63	26	4	2979		591.16	3.06	-9.07
9	SLU 64	23	3	2724		545.06	2.79	-7.89
9	SLU 65	23	3	2724		545.06	2.79	-7.89
9	SLU 66	23	3	2724		545.06	2.79	-7.89
9	SLU 67	23	3	2724		545.06	2.79	-7.89
9	SLU 68	23	3	2724		545.06	2.79	-7.89
9	SLU 69	23	3	2724		545.06	2.79	-7.89
9	SLU 70	23	3	2724		545.06	2.79	-7.89
9	SLU 71	23	3	2724		545.06	2.79	-7.89
9	SLU 72	23	3	2724		545.06	2.79	-7.89
9	SLU 73	27	4	3085		609.71	3.2	-9.46
9	SLU 74	27	4	3085		609.71	3.2	-9.46
9	SLU 75	27	4	3085		609.71	3.2	-9.46
9	SLU 76	27	4	3085		609.71	3.2	-9.46
9	SLU 77	27	4	3085		609.71	3.2	-9.46
9	SLU 78	27	4	3085		609.71	3.2	-9.46
9	SLU 79	27	4	3085		609.71	3.2	-9.46
9	SLU 80	27	4	3085		609.71	3.2	-9.46
9	SLU 81	29	5	3239		637.42	3.38	-10.14
9	SLU 82	29	5	3239		637.42	3.38	-10.14
9	SLU 83	29	5	3239		637.42	3.38	-10.14
9	SLU 84	29	5	3239		637.42	3.38	-10.14
9	SLE RA 1	17	2	2038		409.1	2.08	-5.83
9	SLE RA 2	17	2	2038		409.1	2.08	-5.83
9	SLE RA 3	17	2	2038		409.1	2.08	-5.83
9	SLE RA 4	17	2	2038		409.1	2.08	-5.83
9	SLE RA 5	17	2	2038		409.1	2.08	-5.83
9	SLE RA 6	17	2	2038		409.1	2.08	-5.83
9	SLE RA 7	17	2	2038		409.1	2.08	-5.83
9	SLE RA 8	17	2	2038		409.1	2.08	-5.83
9	SLE RA 9	17	2	2038		409.1	2.08	-5.83
9	SLE RA 10	20	3	2278		452.21	2.35	-6.88
9	SLE RA 11	20	3	2278		452.21	2.35	-6.88
9	SLE RA 12	20	3	2278		452.21	2.35	-6.88
9	SLE RA 13	20	3	2278		452.21	2.35	-6.88
9	SLE RA 14	20	3	2278		452.21	2.35	-6.88
9	SLE RA 15	20	3	2278		452.21	2.35	-6.88
9	SLE RA 16	20	3	2278		452.21	2.35	-6.88
9	SLE RA 17	20	3	2278		452.21	2.35	-6.88
9	SLE RA 18	21	3	2382		470.68	2.47	-7.33
9	SLE RA 19	21	3	2382		470.68	2.47	-7.33
9	SLE RA 20	21	3	2382		470.68	2.47	-7.33
9	SLE RA 21	21	3	2382		470.68	2.47	-7.33
9	SLE FR 1	17	2	2038		409.1	2.08	-5.83
9	SLE FR 2	17	2	2038		409.1	2.08	-5.83
9	SLE FR 3	17	2	2038		409.1	2.08	-5.83
9	SLE FR 4	18	2	2141		427.58	2.19	-6.28
9	SLE FR 5	18	2	2141		427.58	2.19	-6.28
9	SLE FR 6	19	3	2210		439.89	2.27	-6.58
9	SLE QP 1	17	2	2038		409.1	2.08	-5.83
9	SLE QP 2	18	2	2141		427.58	2.19	-6.28
9	SLD 1	155	105	2469		485.46	3.81	-54.72
9	SLD 2	196	77	2465		485.17	3.79	-68.95
9	SLD 3	179	-17	2249		451.89	3.39	-62.57
9	SLD 4	220	-45	2245		451.6	3.37	-76.8
9	SLD 5	8	228	2574		495.96	3.31	-3.87
9	SLD 6	50	201	2570		495.67	3.29	-18.22
9	SLD 7	88	-179	1842		384.06	1.93	-30.03
9	SLD 8	130	-207	1838		383.77	1.91	-44.38
9	SLD 9	-94	212	2444		471.39	2.47	31.81
9	SLD 10	-52	184	2440		471.1	2.45	17.46
9	SLD 11	-14	-196	1712		359.49	1.1	5.65
9	SLD 12	28	-224	1708		359.2	1.08	-8.69
9	SLD 13	-184	50	2037		403.55	1.01	64.23
9	SLD 14	-143	22	2033		403.27	0.99	50
9	SLD 15	-160	-72	1817		369.98	0.6	56.38
9	SLD 16	-119	-100	1813		369.7	0.58	42.16
9	SLV 1	330	238	2890		559.77	5.87	-116.45
9	SLV 2	424	175	2881		559.12	5.82	-148.8
9	SLV 3	385	-45	2382		482.02	4.91	-134.54
9	SLV 4	479	-108	2373		481.36	4.87	-166.89
9	SLV 5	-6	524	3139		585.4	4.76	-0.29
9	SLV 6	90	461	3130		584.73	4.71	-33.21



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
9	SLV 7	178	-418	1446	326.22	1.58	-60.59
9	SLV 8	273	-482	1437	325.55	1.53	-93.51
9	SLV 9	-237	487	2845	529.61	2.86	80.94
9	SLV 10	-142	423	2836	528.94	2.81	48.02
9	SLV 11	-54	-456	1152	270.42	-0.33	20.65
9	SLV 12	42	-520	1143	269.76	-0.38	-12.28
9	SLV 13	-443	113	1909	373.79	-0.48	154.32
9	SLV 14	-349	50	1900	373.14	-0.53	121.97
9	SLV 15	-388	-170	1401	296.04	-1.44	136.23
9	SLV 16	-294	-233	1392	295.38	-1.48	103.88
9	CRTFP Ux+	0	0	0	0	0	0
9	CRTFP Ux-	0	0	0	0	0	0
9	CRTFP Uy+	0	0	0	0	0	0
9	CRTFP Uy-	0	0	0	0	0	0
10	SLU 1	15	2	1923	370.83	0.69	-5.39
10	SLU 2	15	2	1923	370.83	0.69	-5.39
10	SLU 3	15	2	1923	370.83	0.69	-5.39
10	SLU 4	15	2	1923	370.83	0.69	-5.39
10	SLU 5	15	2	1923	370.83	0.69	-5.39
10	SLU 6	15	2	1923	370.83	0.69	-5.39
10	SLU 7	15	2	1923	370.83	0.69	-5.39
10	SLU 8	15	2	1923	370.83	0.69	-5.39
10	SLU 9	15	2	1923	370.83	0.69	-5.39
10	SLU 10	20	3	2276	430.52	0.81	-6.92
10	SLU 11	20	3	2276	430.52	0.81	-6.92
10	SLU 12	20	3	2276	430.52	0.81	-6.92
10	SLU 13	20	3	2276	430.52	0.81	-6.92
10	SLU 14	20	3	2276	430.52	0.81	-6.92
10	SLU 15	20	3	2276	430.52	0.81	-6.92
10	SLU 16	20	3	2276	430.52	0.81	-6.92
10	SLU 17	20	3	2276	430.52	0.81	-6.92
10	SLU 18	22	4	2428	456.11	0.86	-7.58
10	SLU 19	22	4	2428	456.11	0.86	-7.58
10	SLU 20	22	4	2428	456.11	0.86	-7.58
10	SLU 21	22	4	2428	456.11	0.86	-7.58
10	SLU 22	18	3	2178	413.17	0.81	-6.42
10	SLU 23	18	3	2178	413.17	0.81	-6.42
10	SLU 24	18	3	2178	413.17	0.81	-6.42
10	SLU 25	18	3	2178	413.17	0.81	-6.42
10	SLU 26	18	3	2178	413.17	0.81	-6.42
10	SLU 27	18	3	2178	413.17	0.81	-6.42
10	SLU 28	18	3	2178	413.17	0.81	-6.42
10	SLU 29	18	3	2178	413.17	0.81	-6.42
10	SLU 30	18	3	2178	413.17	0.81	-6.42
10	SLU 31	23	4	2531	472.87	0.93	-7.95
10	SLU 32	23	4	2531	472.87	0.93	-7.95
10	SLU 33	23	4	2531	472.87	0.93	-7.95
10	SLU 34	23	4	2531	472.87	0.93	-7.95
10	SLU 35	23	4	2531	472.87	0.93	-7.95
10	SLU 36	23	4	2531	472.87	0.93	-7.95
10	SLU 37	23	4	2531	472.87	0.93	-7.95
10	SLU 38	23	4	2531	472.87	0.93	-7.95
10	SLU 39	25	4	2682	498.45	0.98	-8.61
10	SLU 40	25	4	2682	498.45	0.98	-8.61
10	SLU 41	25	4	2682	498.45	0.98	-8.61
10	SLU 42	25	4	2682	498.45	0.98	-8.61
10	SLU 43	19	3	2413	467.55	0.86	-6.65
10	SLU 44	19	3	2413	467.55	0.86	-6.65
10	SLU 45	19	3	2413	467.55	0.86	-6.65
10	SLU 46	19	3	2413	467.55	0.86	-6.65
10	SLU 47	19	3	2413	467.55	0.86	-6.65
10	SLU 48	19	3	2413	467.55	0.86	-6.65
10	SLU 49	19	3	2413	467.55	0.86	-6.65
10	SLU 50	19	3	2413	467.55	0.86	-6.65
10	SLU 51	19	3	2413	467.55	0.86	-6.65
10	SLU 52	23	4	2766	527.25	0.98	-8.18
10	SLU 53	23	4	2766	527.25	0.98	-8.18
10	SLU 54	23	4	2766	527.25	0.98	-8.18
10	SLU 55	23	4	2766	527.25	0.98	-8.18
10	SLU 56	23	4	2766	527.25	0.98	-8.18
10	SLU 57	23	4	2766	527.25	0.98	-8.18
10	SLU 58	23	4	2766	527.25	0.98	-8.18
10	SLU 59	23	4	2766	527.25	0.98	-8.18
10	SLU 60	25	4	2918	552.83	1.03	-8.84
10	SLU 61	25	4	2918	552.83	1.03	-8.84
10	SLU 62	25	4	2918	552.83	1.03	-8.84
10	SLU 63	25	4	2918	552.83	1.03	-8.84
10	SLU 64	22	3	2668	509.9	0.98	-7.68
10	SLU 65	22	3	2668	509.9	0.98	-7.68
10	SLU 66	22	3	2668	509.9	0.98	-7.68
10	SLU 67	22	3	2668	509.9	0.98	-7.68
10	SLU 68	22	3	2668	509.9	0.98	-7.68
10	SLU 69	22	3	2668	509.9	0.98	-7.68
10	SLU 70	22	3	2668	509.9	0.98	-7.68
10	SLU 71	22	3	2668	509.9	0.98	-7.68
10	SLU 72	22	3	2668	509.9	0.98	-7.68
10	SLU 73	26	4	3021	569.6	1.09	-9.21
10	SLU 74	26	4	3021	569.6	1.09	-9.21
10	SLU 75	26	4	3021	569.6	1.09	-9.21
10	SLU 76	26	4	3021	569.6	1.09	-9.21



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
10	SLU 77	26	4	3021	569.6	1.09	-9.21	
10	SLU 78	26	4	3021	569.6	1.09	-9.21	
10	SLU 79	26	4	3021	569.6	1.09	-9.21	
10	SLU 80	26	4	3021	569.6	1.09	-9.21	
10	SLU 81	28	5	3172	595.18	1.14	-9.87	
10	SLU 82	28	5	3172	595.18	1.14	-9.87	
10	SLU 83	28	5	3172	595.18	1.14	-9.87	
10	SLU 84	28	5	3172	595.18	1.14	-9.87	
10	SLE RA 1	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 2	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 3	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 4	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 5	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 6	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 7	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 8	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 9	16	2	1996	382.93	0.73	-5.68	
10	SLE RA 10	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 11	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 12	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 13	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 14	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 15	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 16	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 17	19	3	2231	422.72	0.8	-6.7	
10	SLE RA 18	20	3	2332	439.78	0.84	-7.14	
10	SLE RA 19	20	3	2332	439.78	0.84	-7.14	
10	SLE RA 20	20	3	2332	439.78	0.84	-7.14	
10	SLE RA 21	20	3	2332	439.78	0.84	-7.14	
10	SLE FR 1	16	2	1996	382.93	0.73	-5.68	
10	SLE FR 2	16	2	1996	382.93	0.73	-5.68	
10	SLE FR 3	16	2	1996	382.93	0.73	-5.68	
10	SLE FR 4	17	3	2097	399.98	0.76	-6.12	
10	SLE FR 5	17	3	2097	399.98	0.76	-6.12	
10	SLE FR 6	18	3	2164	411.35	0.78	-6.41	
10	SLE QP 1	16	2	1996	382.93	0.73	-5.68	
10	SLE QP 2	17	3	2097	399.98	0.76	-6.12	
10	SLD 1	155	90	2381	442.46	2.1	-54.63	
10	SLD 2	196	67	2377	442.29	2.08	-68.88	
10	SLD 3	179	-15	2171	413.22	1.86	-62.45	
10	SLD 4	220	-38	2168	413.04	1.84	-76.7	
10	SLD 5	8	196	2501	457.14	1.54	-3.76	
10	SLD 6	50	172	2498	456.96	1.52	-18.13	
10	SLD 7	87	-153	1802	359.66	0.72	-29.84	
10	SLD 8	129	-176	1799	359.49	0.7	-44.21	
10	SLD 9	-94	182	2395	440.48	0.81	31.97	
10	SLD 10	-52	158	2392	440.3	0.8	17.6	
10	SLD 11	-15	-167	1696	343	0	5.89	
10	SLD 12	27	-190	1693	342.83	-0.02	-8.48	
10	SLD 13	-185	44	2026	386.92	-0.32	64.46	
10	SLD 14	-144	20	2023	386.75	-0.34	50.21	
10	SLD 15	-161	-61	1817	357.68	-0.57	56.64	
10	SLD 16	-120	-84	1813	357.5	-0.58	42.39	
10	SLV 1	330	203	2745	497.12	3.81	-116.44	
10	SLV 2	424	150	2738	496.73	3.77	-148.85	
10	SLV 3	385	-39	2260	429.36	3.24	-134.47	
10	SLV 4	478	-92	2253	428.97	3.2	-166.88	
10	SLV 5	-5	449	3030	532.03	2.55	-0.24	
10	SLV 6	90	395	3023	531.63	2.51	-33.22	
10	SLV 7	177	-358	1413	306.17	0.66	-60.35	
10	SLV 8	272	-412	1405	305.78	0.62	-93.32	
10	SLV 9	-237	417	2789	494.19	0.9	81.08	
10	SLV 10	-142	364	2781	493.79	0.86	48.11	
10	SLV 11	-55	-390	1171	268.33	-0.99	20.98	
10	SLV 12	40	-443	1164	267.94	-1.03	-12	
10	SLV 13	-443	98	1941	370.99	-1.69	154.64	
10	SLV 14	-350	45	1934	370.6	-1.73	122.23	
10	SLV 15	-389	-144	1456	303.23	-2.25	136.61	
10	SLV 16	-295	-197	1448	302.84	-2.29	104.2	
10	CRTFP Ux+	0	0	0	0	0	0	
10	CRTFP Ux-	0	0	0	0	0	0	
10	CRTFP Uy+	0	0	0	0	0	0	
10	CRTFP Uy-	0	0	0	0	0	0	
11	SLU 1	15	2	1921	373.5	-0.5	-5.24	
11	SLU 2	15	2	1921	373.5	-0.5	-5.24	
11	SLU 3	15	2	1921	373.5	-0.5	-5.24	
11	SLU 4	15	2	1921	373.5	-0.5	-5.24	
11	SLU 5	15	2	1921	373.5	-0.5	-5.24	
11	SLU 6	15	2	1921	373.5	-0.5	-5.24	
11	SLU 7	15	2	1921	373.5	-0.5	-5.24	
11	SLU 8	15	2	1921	373.5	-0.5	-5.24	
11	SLU 9	15	2	1921	373.5	-0.5	-5.24	
11	SLU 10	19	3	2274	434.39	-0.65	-6.73	
11	SLU 11	19	3	2274	434.39	-0.65	-6.73	
11	SLU 12	19	3	2274	434.39	-0.65	-6.73	
11	SLU 13	19	3	2274	434.39	-0.65	-6.73	
11	SLU 14	19	3	2274	434.39	-0.65	-6.73	
11	SLU 15	19	3	2274	434.39	-0.65	-6.73	
11	SLU 16	19	3	2274	434.39	-0.65	-6.73	
11	SLU 17	19	3	2274	434.39	-0.65	-6.73	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
11	SLU 18	21	4	2426		460.49	-0.72	-7.36
11	SLU 19	21	4	2426		460.49	-0.72	-7.36
11	SLU 20	21	4	2426		460.49	-0.72	-7.36
11	SLU 21	21	4	2426		460.49	-0.72	-7.36
11	SLU 22	18	3	2175		416.36	-0.58	-6.24
11	SLU 23	18	3	2175		416.36	-0.58	-6.24
11	SLU 24	18	3	2175		416.36	-0.58	-6.24
11	SLU 25	18	3	2175		416.36	-0.58	-6.24
11	SLU 26	18	3	2175		416.36	-0.58	-6.24
11	SLU 27	18	3	2175		416.36	-0.58	-6.24
11	SLU 28	18	3	2175		416.36	-0.58	-6.24
11	SLU 29	18	3	2175		416.36	-0.58	-6.24
11	SLU 30	18	3	2175		416.36	-0.58	-6.24
11	SLU 31	22	4	2528		477.25	-0.73	-7.72
11	SLU 32	22	4	2528		477.25	-0.73	-7.72
11	SLU 33	22	4	2528		477.25	-0.73	-7.72
11	SLU 34	22	4	2528		477.25	-0.73	-7.72
11	SLU 35	22	4	2528		477.25	-0.73	-7.72
11	SLU 36	22	4	2528		477.25	-0.73	-7.72
11	SLU 37	22	4	2528		477.25	-0.73	-7.72
11	SLU 38	22	4	2528		477.25	-0.73	-7.72
11	SLU 39	24	4	2680		503.34	-0.8	-8.36
11	SLU 40	24	4	2680		503.34	-0.8	-8.36
11	SLU 41	24	4	2680		503.34	-0.8	-8.36
11	SLU 42	24	4	2680		503.34	-0.8	-8.36
11	SLU 43	18	3	2410		470.86	-0.62	-6.47
11	SLU 44	18	3	2410		470.86	-0.62	-6.47
11	SLU 45	18	3	2410		470.86	-0.62	-6.47
11	SLU 46	18	3	2410		470.86	-0.62	-6.47
11	SLU 47	18	3	2410		470.86	-0.62	-6.47
11	SLU 48	18	3	2410		470.86	-0.62	-6.47
11	SLU 49	18	3	2410		470.86	-0.62	-6.47
11	SLU 50	18	3	2410		470.86	-0.62	-6.47
11	SLU 51	18	3	2410		470.86	-0.62	-6.47
11	SLU 52	23	4	2764		531.75	-0.77	-7.96
11	SLU 53	23	4	2764		531.75	-0.77	-7.96
11	SLU 54	23	4	2764		531.75	-0.77	-7.96
11	SLU 55	23	4	2764		531.75	-0.77	-7.96
11	SLU 56	23	4	2764		531.75	-0.77	-7.96
11	SLU 57	23	4	2764		531.75	-0.77	-7.96
11	SLU 58	23	4	2764		531.75	-0.77	-7.96
11	SLU 59	23	4	2764		531.75	-0.77	-7.96
11	SLU 60	25	4	2915		557.84	-0.84	-8.6
11	SLU 61	25	4	2915		557.84	-0.84	-8.6
11	SLU 62	25	4	2915		557.84	-0.84	-8.6
11	SLU 63	25	4	2915		557.84	-0.84	-8.6
11	SLU 64	21	3	2664		513.71	-0.7	-7.47
11	SLU 65	21	3	2664		513.71	-0.7	-7.47
11	SLU 66	21	3	2664		513.71	-0.7	-7.47
11	SLU 67	21	3	2664		513.71	-0.7	-7.47
11	SLU 68	21	3	2664		513.71	-0.7	-7.47
11	SLU 69	21	3	2664		513.71	-0.7	-7.47
11	SLU 70	21	3	2664		513.71	-0.7	-7.47
11	SLU 71	21	3	2664		513.71	-0.7	-7.47
11	SLU 72	21	3	2664		513.71	-0.7	-7.47
11	SLU 73	26	4	3017		574.6	-0.85	-8.95
11	SLU 74	26	4	3017		574.6	-0.85	-8.95
11	SLU 75	26	4	3017		574.6	-0.85	-8.95
11	SLU 76	26	4	3017		574.6	-0.85	-8.95
11	SLU 77	26	4	3017		574.6	-0.85	-8.95
11	SLU 78	26	4	3017		574.6	-0.85	-8.95
11	SLU 79	26	4	3017		574.6	-0.85	-8.95
11	SLU 80	26	4	3017		574.6	-0.85	-8.95
11	SLU 81	27	5	3169		600.7	-0.92	-9.59
11	SLU 82	27	5	3169		600.7	-0.92	-9.59
11	SLU 83	27	5	3169		600.7	-0.92	-9.59
11	SLU 84	27	5	3169		600.7	-0.92	-9.59
11	SLE RA 1	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 2	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 3	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 4	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 5	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 6	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 7	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 8	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 9	16	2	1993		385.74	-0.52	-5.52
11	SLE RA 10	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 11	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 12	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 13	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 14	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 15	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 16	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 17	19	3	2229		426.34	-0.62	-6.52
11	SLE RA 18	20	3	2330		443.74	-0.67	-6.94
11	SLE RA 19	20	3	2330		443.74	-0.67	-6.94
11	SLE RA 20	20	3	2330		443.74	-0.67	-6.94
11	SLE RA 21	20	3	2330		443.74	-0.67	-6.94
11	SLE FR 1	16	2	1993		385.74	-0.52	-5.52
11	SLE FR 2	16	2	1993		385.74	-0.52	-5.52



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
11	SLE FR 3	16	2	1993		385.74	-0.52	-5.52
11	SLE FR 4	17	3	2094		403.14	-0.56	-5.95
11	SLE FR 5	17	3	2094		403.14	-0.56	-5.95
11	SLE FR 6	18	3	2162		414.74	-0.59	-6.23
11	SLE QP 1	16	2	1993		385.74	-0.52	-5.52
11	SLE QP 2	17	3	2094		403.14	-0.56	-5.95
11	SLD 1	155	75	2342		435.15	0.54	-54.49
11	SLD 2	196	56	2339		434.95	0.53	-68.76
11	SLD 3	178	-13	2137		406.84	0.45	-62.31
11	SLD 4	219	-32	2134		406.64	0.44	-76.58
11	SLD 5	8	166	2480		455.75	-0.09	-3.6
11	SLD 6	49	146	2477		455.56	-0.11	-17.99
11	SLD 7	87	-130	1797		361.38	-0.39	-29.66
11	SLD 8	128	-149	1795		361.18	-0.4	-44.06
11	SLD 9	-94	154	2394		445.1	-0.72	32.16
11	SLD 10	-53	135	2391		444.91	-0.74	17.77
11	SLD 11	-15	-141	1711		350.73	-1.02	6.09
11	SLD 12	26	-160	1709		350.53	-1.04	-8.3
11	SLD 13	-185	38	2055		399.64	-1.56	64.69
11	SLD 14	-144	18	2052		399.45	-1.58	50.42
11	SLD 15	-162	-51	1850		371.33	-1.65	56.87
11	SLD 16	-121	-70	1847		371.14	-1.67	42.59
11	SLV 1	330	170	2660		476.52	1.95	-116.35
11	SLV 2	424	126	2654		476.08	1.91	-148.81
11	SLV 3	384	-35	2186		410.91	1.74	-134.38
11	SLV 4	478	-79	2180		410.47	1.71	-166.83
11	SLV 5	-5	379	2985		524.82	0.51	-0.09
11	SLV 6	90	335	2979		524.37	0.48	-33.11
11	SLV 7	176	-304	1405		306.12	-0.17	-60.17
11	SLV 8	271	-348	1399		305.68	-0.21	-93.2
11	SLV 9	-237	353	2790		500.61	-0.92	81.3
11	SLV 10	-142	309	2783		500.16	-0.96	48.28
11	SLV 11	-56	-329	1210		281.92	-1.61	21.21
11	SLV 12	39	-374	1203		281.47	-1.64	-11.81
11	SLV 13	-444	84	2009		395.82	-2.83	154.93
11	SLV 14	-351	40	2002		395.38	-2.87	122.48
11	SLV 15	-390	-121	1535		330.21	-3.04	136.91
11	SLV 16	-296	-164	1528		329.77	-3.07	104.45
11	CRTFP Ux+	0	0	0		0	0	0
11	CRTFP Ux-	0	0	0		0	0	0
11	CRTFP Uy+	0	0	0		0	0	0
11	CRTFP Uy-	0	0	0		0	0	0
12	SLU 1	14	2	1951		400.57	-1.52	-5.09
12	SLU 2	14	2	1951		400.57	-1.52	-5.09
12	SLU 3	14	2	1951		400.57	-1.52	-5.09
12	SLU 4	14	2	1951		400.57	-1.52	-5.09
12	SLU 5	14	2	1951		400.57	-1.52	-5.09
12	SLU 6	14	2	1951		400.57	-1.52	-5.09
12	SLU 7	14	2	1951		400.57	-1.52	-5.09
12	SLU 8	14	2	1951		400.57	-1.52	-5.09
12	SLU 9	14	2	1951		400.57	-1.52	-5.09
12	SLU 10	19	3	2313		468.11	-1.91	-6.52
12	SLU 11	19	3	2313		468.11	-1.91	-6.52
12	SLU 12	19	3	2313		468.11	-1.91	-6.52
12	SLU 13	19	3	2313		468.11	-1.91	-6.52
12	SLU 14	19	3	2313		468.11	-1.91	-6.52
12	SLU 15	19	3	2313		468.11	-1.91	-6.52
12	SLU 16	19	3	2313		468.11	-1.91	-6.52
12	SLU 17	19	3	2313		468.11	-1.91	-6.52
12	SLU 18	20	3	2468		497.05	-2.08	-7.13
12	SLU 19	20	3	2468		497.05	-2.08	-7.13
12	SLU 20	20	3	2468		497.05	-2.08	-7.13
12	SLU 21	20	3	2468		497.05	-2.08	-7.13
12	SLU 22	17	2	2210		447.83	-1.77	-6.04
12	SLU 23	17	2	2210		447.83	-1.77	-6.04
12	SLU 24	17	2	2210		447.83	-1.77	-6.04
12	SLU 25	17	2	2210		447.83	-1.77	-6.04
12	SLU 26	17	2	2210		447.83	-1.77	-6.04
12	SLU 27	17	2	2210		447.83	-1.77	-6.04
12	SLU 28	17	2	2210		447.83	-1.77	-6.04
12	SLU 29	17	2	2210		447.83	-1.77	-6.04
12	SLU 30	17	2	2210		447.83	-1.77	-6.04
12	SLU 31	21	3	2572		515.38	-2.16	-7.47
12	SLU 32	21	3	2572		515.38	-2.16	-7.47
12	SLU 33	21	3	2572		515.38	-2.16	-7.47
12	SLU 34	21	3	2572		515.38	-2.16	-7.47
12	SLU 35	21	3	2572		515.38	-2.16	-7.47
12	SLU 36	21	3	2572		515.38	-2.16	-7.47
12	SLU 37	21	3	2572		515.38	-2.16	-7.47
12	SLU 38	21	3	2572		515.38	-2.16	-7.47
12	SLU 39	23	4	2727		544.32	-2.33	-8.09
12	SLU 40	23	4	2727		544.32	-2.33	-8.09
12	SLU 41	23	4	2727		544.32	-2.33	-8.09
12	SLU 42	23	4	2727		544.32	-2.33	-8.09
12	SLU 43	18	2	2448		504.53	-1.9	-6.29
12	SLU 44	18	2	2448		504.53	-1.9	-6.29
12	SLU 45	18	2	2448		504.53	-1.9	-6.29
12	SLU 46	18	2	2448		504.53	-1.9	-6.29
12	SLU 47	18	2	2448		504.53	-1.9	-6.29
12	SLU 48	18	2	2448		504.53	-1.9	-6.29



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
12	SLU 49	18	2	2448		504.53	-1.9	-6.29	
12	SLU 50	18	2	2448		504.53	-1.9	-6.29	
12	SLU 51	18	2	2448		504.53	-1.9	-6.29	
12	SLU 52	22	3	2810		572.07	-2.29	-7.72	
12	SLU 53	22	3	2810		572.07	-2.29	-7.72	
12	SLU 54	22	3	2810		572.07	-2.29	-7.72	
12	SLU 55	22	3	2810		572.07	-2.29	-7.72	
12	SLU 56	22	3	2810		572.07	-2.29	-7.72	
12	SLU 57	22	3	2810		572.07	-2.29	-7.72	
12	SLU 58	22	3	2810		572.07	-2.29	-7.72	
12	SLU 59	22	3	2810		572.07	-2.29	-7.72	
12	SLU 60	24	4	2965		601.02	-2.45	-8.33	
12	SLU 61	24	4	2965		601.02	-2.45	-8.33	
12	SLU 62	24	4	2965		601.02	-2.45	-8.33	
12	SLU 63	24	4	2965		601.02	-2.45	-8.33	
12	SLU 64	21	3	2707		551.8	-2.14	-7.24	
12	SLU 65	21	3	2707		551.8	-2.14	-7.24	
12	SLU 66	21	3	2707		551.8	-2.14	-7.24	
12	SLU 67	21	3	2707		551.8	-2.14	-7.24	
12	SLU 68	21	3	2707		551.8	-2.14	-7.24	
12	SLU 69	21	3	2707		551.8	-2.14	-7.24	
12	SLU 70	21	3	2707		551.8	-2.14	-7.24	
12	SLU 71	21	3	2707		551.8	-2.14	-7.24	
12	SLU 72	21	3	2707		551.8	-2.14	-7.24	
12	SLU 73	25	4	3069		619.34	-2.53	-8.67	
12	SLU 74	25	4	3069		619.34	-2.53	-8.67	
12	SLU 75	25	4	3069		619.34	-2.53	-8.67	
12	SLU 76	25	4	3069		619.34	-2.53	-8.67	
12	SLU 77	25	4	3069		619.34	-2.53	-8.67	
12	SLU 78	25	4	3069		619.34	-2.53	-8.67	
12	SLU 79	25	4	3069		619.34	-2.53	-8.67	
12	SLU 80	25	4	3069		619.34	-2.53	-8.67	
12	SLU 81	26	4	3224		648.29	-2.7	-9.29	
12	SLU 82	26	4	3224		648.29	-2.7	-9.29	
12	SLU 83	26	4	3224		648.29	-2.7	-9.29	
12	SLU 84	26	4	3224		648.29	-2.7	-9.29	
12	SLE RA 1	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 2	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 3	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 4	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 5	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 6	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 7	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 8	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 9	15	2	2025		414.07	-1.59	-5.36	
12	SLE RA 10	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 11	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 12	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 13	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 14	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 15	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 16	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 17	18	3	2267		459.1	-1.85	-6.31	
12	SLE RA 18	19	3	2370		478.4	-1.97	-6.72	
12	SLE RA 19	19	3	2370		478.4	-1.97	-6.72	
12	SLE RA 20	19	3	2370		478.4	-1.97	-6.72	
12	SLE RA 21	19	3	2370		478.4	-1.97	-6.72	
12	SLE FR 1	15	2	2025		414.07	-1.59	-5.36	
12	SLE FR 2	15	2	2025		414.07	-1.59	-5.36	
12	SLE FR 3	15	2	2025		414.07	-1.59	-5.36	
12	SLE FR 4	16	2	2129		433.37	-1.7	-5.77	
12	SLE FR 5	16	2	2129		433.37	-1.7	-5.77	
12	SLE FR 6	17	2	2198		446.24	-1.78	-6.04	
12	SLE QP 1	15	2	2025		414.07	-1.59	-5.36	
12	SLE QP 2	16	2	2129		433.37	-1.7	-5.77	
12	SLD 1	154	62	2346		459.28	-0.81	-54.32	
12	SLD 2	195	47	2344		458.99	-0.82	-68.6	
12	SLD 3	178	-12	2142		428.96	-0.74	-62.15	
12	SLD 4	219	-28	2139		428.66	-0.75	-76.43	
12	SLD 5	8	139	2505		487.24	-1.53	-3.4	
12	SLD 6	49	123	2502		486.94	-1.55	-17.81	
12	SLD 7	86	-110	1823		386.16	-1.31	-29.49	
12	SLD 8	127	-125	1821		385.86	-1.32	-43.9	
12	SLD 9	-94	130	2436		480.88	-2.09	32.36	
12	SLD 10	-53	114	2434		480.58	-2.1	17.96	
12	SLD 11	-16	-119	1755		379.8	-1.86	6.27	
12	SLD 12	25	-134	1753		379.5	-1.88	-8.14	
12	SLD 13	-186	32	2118		438.08	-2.66	64.9	
12	SLD 14	-145	17	2116		437.78	-2.67	50.61	
12	SLD 15	-163	-42	1914		407.75	-2.59	57.07	
12	SLD 16	-121	-58	1911		407.46	-2.6	42.78	
12	SLV 1	330	140	2627		493.01	0.34	-116.19	
12	SLV 2	423	105	2622		492.34	0.31	-148.67	
12	SLV 3	384	-33	2154		422.75	0.49	-134.23	
12	SLV 4	477	-68	2149		422.08	0.47	-166.72	
12	SLV 5	-5	317	2998		558.06	-1.32	0.13	
12	SLV 6	90	282	2992		557.37	-1.35	-32.93	
12	SLV 7	175	-257	1421		323.87	-0.8	-60.02	
12	SLV 8	270	-292	1415		323.18	-0.83	-93.08	
12	SLV 9	-237	297	2842		543.56	-2.58	81.54	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLV 10	-142	261	2837	542.87	-2.61	48.48
12	SLV 11	-57	-277	1265	309.37	-2.06	21.39
12	SLV 12	38	-313	1260	308.68	-2.09	-11.67
12	SLV 13	-445	72	2109	444.66	-3.88	155.18
12	SLV 14	-351	37	2103	443.99	-3.9	122.69
12	SLV 15	-391	-100	1636	374.4	-3.72	137.14
12	SLV 16	-297	-135	1630	373.73	-3.75	104.65
12	CRTFP Ux+	0	0	0	0	0	0
12	CRTFP Ux-	0	0	0	0	0	0
12	CRTFP Uy+	0	0	0	0	0	0
12	CRTFP Uy-	0	0	0	0	0	0
13	SLU 1	14	1	2009	447.75	-2.3	-4.92
13	SLU 2	14	1	2009	447.75	-2.3	-4.92
13	SLU 3	14	1	2009	447.75	-2.3	-4.92
13	SLU 4	14	1	2009	447.75	-2.3	-4.92
13	SLU 5	14	1	2009	447.75	-2.3	-4.92
13	SLU 6	14	1	2009	447.75	-2.3	-4.92
13	SLU 7	14	1	2009	447.75	-2.3	-4.92
13	SLU 8	14	1	2009	447.75	-2.3	-4.92
13	SLU 9	14	1	2009	447.75	-2.3	-4.92
13	SLU 10	18	2	2386	526.5	-2.87	-6.29
13	SLU 11	18	2	2386	526.5	-2.87	-6.29
13	SLU 12	18	2	2386	526.5	-2.87	-6.29
13	SLU 13	18	2	2386	526.5	-2.87	-6.29
13	SLU 14	18	2	2386	526.5	-2.87	-6.29
13	SLU 15	18	2	2386	526.5	-2.87	-6.29
13	SLU 16	18	2	2386	526.5	-2.87	-6.29
13	SLU 17	18	2	2386	526.5	-2.87	-6.29
13	SLU 18	20	2	2547	560.25	-3.11	-6.88
13	SLU 19	20	2	2547	560.25	-3.11	-6.88
13	SLU 20	20	2	2547	560.25	-3.11	-6.88
13	SLU 21	20	2	2547	560.25	-3.11	-6.88
13	SLU 22	17	2	2277	502.67	-2.67	-5.82
13	SLU 23	17	2	2277	502.67	-2.67	-5.82
13	SLU 24	17	2	2277	502.67	-2.67	-5.82
13	SLU 25	17	2	2277	502.67	-2.67	-5.82
13	SLU 26	17	2	2277	502.67	-2.67	-5.82
13	SLU 27	17	2	2277	502.67	-2.67	-5.82
13	SLU 28	17	2	2277	502.67	-2.67	-5.82
13	SLU 29	17	2	2277	502.67	-2.67	-5.82
13	SLU 30	17	2	2277	502.67	-2.67	-5.82
13	SLU 31	20	3	2654	581.43	-3.24	-7.19
13	SLU 32	20	3	2654	581.43	-3.24	-7.19
13	SLU 33	20	3	2654	581.43	-3.24	-7.19
13	SLU 34	20	3	2654	581.43	-3.24	-7.19
13	SLU 35	20	3	2654	581.43	-3.24	-7.19
13	SLU 36	20	3	2654	581.43	-3.24	-7.19
13	SLU 37	20	3	2654	581.43	-3.24	-7.19
13	SLU 38	20	3	2654	581.43	-3.24	-7.19
13	SLU 39	22	3	2815	615.18	-3.48	-7.78
13	SLU 40	22	3	2815	615.18	-3.48	-7.78
13	SLU 41	22	3	2815	615.18	-3.48	-7.78
13	SLU 42	22	3	2815	615.18	-3.48	-7.78
13	SLU 43	17	1	2520	563.24	-2.86	-6.09
13	SLU 44	17	1	2520	563.24	-2.86	-6.09
13	SLU 45	17	1	2520	563.24	-2.86	-6.09
13	SLU 46	17	1	2520	563.24	-2.86	-6.09
13	SLU 47	17	1	2520	563.24	-2.86	-6.09
13	SLU 48	17	1	2520	563.24	-2.86	-6.09
13	SLU 49	17	1	2520	563.24	-2.86	-6.09
13	SLU 50	17	1	2520	563.24	-2.86	-6.09
13	SLU 51	17	1	2520	563.24	-2.86	-6.09
13	SLU 52	21	2	2897	641.99	-3.43	-7.46
13	SLU 53	21	2	2897	641.99	-3.43	-7.46
13	SLU 54	21	2	2897	641.99	-3.43	-7.46
13	SLU 55	21	2	2897	641.99	-3.43	-7.46
13	SLU 56	21	2	2897	641.99	-3.43	-7.46
13	SLU 57	21	2	2897	641.99	-3.43	-7.46
13	SLU 58	21	2	2897	641.99	-3.43	-7.46
13	SLU 59	21	2	2897	641.99	-3.43	-7.46
13	SLU 60	23	3	3058	675.74	-3.67	-8.04
13	SLU 61	23	3	3058	675.74	-3.67	-8.04
13	SLU 62	23	3	3058	675.74	-3.67	-8.04
13	SLU 63	23	3	3058	675.74	-3.67	-8.04
13	SLU 64	20	2	2788	618.16	-3.24	-6.99
13	SLU 65	20	2	2788	618.16	-3.24	-6.99
13	SLU 66	20	2	2788	618.16	-3.24	-6.99
13	SLU 67	20	2	2788	618.16	-3.24	-6.99
13	SLU 68	20	2	2788	618.16	-3.24	-6.99
13	SLU 69	20	2	2788	618.16	-3.24	-6.99
13	SLU 70	20	2	2788	618.16	-3.24	-6.99
13	SLU 71	20	2	2788	618.16	-3.24	-6.99
13	SLU 72	20	2	2788	618.16	-3.24	-6.99
13	SLU 73	24	3	3165	696.92	-3.8	-8.36
13	SLU 74	24	3	3165	696.92	-3.8	-8.36
13	SLU 75	24	3	3165	696.92	-3.8	-8.36
13	SLU 76	24	3	3165	696.92	-3.8	-8.36
13	SLU 77	24	3	3165	696.92	-3.8	-8.36
13	SLU 78	24	3	3165	696.92	-3.8	-8.36
13	SLU 79	24	3	3165	696.92	-3.8	-8.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 80	24	3	3165	696.92	-3.8	-8.36
13	SLU 81	25	3	3326	730.67	-4.04	-8.95
13	SLU 82	25	3	3326	730.67	-4.04	-8.95
13	SLU 83	25	3	3326	730.67	-4.04	-8.95
13	SLU 84	25	3	3326	730.67	-4.04	-8.95
13	SLE RA 1	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 2	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 3	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 4	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 5	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 6	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 7	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 8	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 9	15	1	2086	463.44	-2.41	-5.18
13	SLE RA 10	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 11	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 12	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 13	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 14	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 15	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 16	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 17	17	2	2337	515.94	-2.78	-6.09
13	SLE RA 18	18	2	2444	538.44	-2.95	-6.48
13	SLE RA 19	18	2	2444	538.44	-2.95	-6.48
13	SLE RA 20	18	2	2444	538.44	-2.95	-6.48
13	SLE RA 21	18	2	2444	538.44	-2.95	-6.48
13	SLE FR 1	15	1	2086	463.44	-2.41	-5.18
13	SLE FR 2	15	1	2086	463.44	-2.41	-5.18
13	SLE FR 3	15	1	2086	463.44	-2.41	-5.18
13	SLE FR 4	16	2	2193	485.94	-2.57	-5.57
13	SLE FR 5	16	2	2193	485.94	-2.57	-5.57
13	SLE FR 6	17	2	2265	500.94	-2.68	-5.83
13	SLE QP 1	15	1	2086	463.44	-2.41	-5.18
13	SLE QP 2	16	2	2193	485.94	-2.57	-5.57
13	SLD 1	154	50	2387	509.74	-1.82	-54.09
13	SLD 2	195	38	2385	509.34	-1.83	-68.39
13	SLD 3	177	-13	2179	475.02	-1.64	-61.94
13	SLD 4	218	-25	2176	474.62	-1.65	-76.23
13	SLD 5	7	115	2568	545.88	-2.62	-3.17
13	SLD 6	49	103	2566	545.48	-2.63	-17.58
13	SLD 7	85	-94	1874	430.15	-2.01	-29.31
13	SLD 8	126	-106	1872	429.74	-2.02	-43.73
13	SLD 9	-95	109	2515	542.14	-3.12	32.59
13	SLD 10	-53	97	2513	541.73	-3.13	18.17
13	SLD 11	-17	-100	1821	426.4	-2.51	6.45
13	SLD 12	24	-112	1819	426	-2.52	-7.97
13	SLD 13	-186	28	2210	497.26	-3.49	65.1
13	SLD 14	-145	16	2208	496.86	-3.5	50.8
13	SLD 15	-163	-35	2002	462.54	-3.31	57.25
13	SLD 16	-122	-47	2000	462.14	-3.32	42.96
13	SLV 1	329	113	2637	540.97	-0.88	-115.93
13	SLV 2	423	86	2632	540.06	-0.89	-148.44
13	SLV 3	383	-32	2155	460.55	-0.46	-134.01
13	SLV 4	477	-59	2150	459.64	-0.47	-166.52
13	SLV 5	-5	265	3059	624.74	-2.69	0.41
13	SLV 6	90	237	3054	623.82	-2.71	-32.67
13	SLV 7	174	-219	1453	356.68	-1.29	-59.86
13	SLV 8	269	-246	1448	355.76	-1.31	-92.94
13	SLV 9	-237	250	2938	616.12	-3.83	81.8
13	SLV 10	-142	222	2933	615.2	-3.85	48.72
13	SLV 11	-58	-234	1333	348.06	-2.43	21.54
13	SLV 12	37	-261	1328	347.14	-2.45	-11.55
13	SLV 13	-445	63	2236	512.24	-4.66	155.38
13	SLV 14	-351	36	2232	511.33	-4.68	122.87
13	SLV 15	-391	-83	1755	431.82	-4.24	137.3
13	SLV 16	-298	-110	1750	430.91	-4.26	104.79
13	CRTFP Ux+	0	0	0	0	0	0
13	CRTFP Ux-	0	0	0	0	0	0
13	CRTFP Uy+	0	0	0	0	0	0
13	CRTFP Uy-	0	0	0	0	0	0
14	SLU 1	13	0	2085	509.34	-2.7	-4.74
14	SLU 2	13	0	2085	509.34	-2.7	-4.74
14	SLU 3	13	0	2085	509.34	-2.7	-4.74
14	SLU 4	13	0	2085	509.34	-2.7	-4.74
14	SLU 5	13	0	2085	509.34	-2.7	-4.74
14	SLU 6	13	0	2085	509.34	-2.7	-4.74
14	SLU 7	13	0	2085	509.34	-2.7	-4.74
14	SLU 8	13	0	2085	509.34	-2.7	-4.74
14	SLU 9	13	0	2085	509.34	-2.7	-4.74
14	SLU 10	17	1	2480	602.62	-3.36	-6.03
14	SLU 11	17	1	2480	602.62	-3.36	-6.03
14	SLU 12	17	1	2480	602.62	-3.36	-6.03
14	SLU 13	17	1	2480	602.62	-3.36	-6.03
14	SLU 14	17	1	2480	602.62	-3.36	-6.03
14	SLU 15	17	1	2480	602.62	-3.36	-6.03
14	SLU 16	17	1	2480	602.62	-3.36	-6.03
14	SLU 17	17	1	2480	602.62	-3.36	-6.03
14	SLU 18	19	1	2649	642.6	-3.64	-6.59
14	SLU 19	19	1	2649	642.6	-3.64	-6.59
14	SLU 20	19	1	2649	642.6	-3.64	-6.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
14	SLU 21	19	1	2649	642.6	-3.64	-6.59
14	SLU 22	16	1	2365	574.3	-3.14	-5.59
14	SLU 23	16	1	2365	574.3	-3.14	-5.59
14	SLU 24	16	1	2365	574.3	-3.14	-5.59
14	SLU 25	16	1	2365	574.3	-3.14	-5.59
14	SLU 26	16	1	2365	574.3	-3.14	-5.59
14	SLU 27	16	1	2365	574.3	-3.14	-5.59
14	SLU 28	16	1	2365	574.3	-3.14	-5.59
14	SLU 29	16	1	2365	574.3	-3.14	-5.59
14	SLU 30	16	1	2365	574.3	-3.14	-5.59
14	SLU 31	20	2	2760	667.58	-3.79	-6.88
14	SLU 32	20	2	2760	667.58	-3.79	-6.88
14	SLU 33	20	2	2760	667.58	-3.79	-6.88
14	SLU 34	20	2	2760	667.58	-3.79	-6.88
14	SLU 35	20	2	2760	667.58	-3.79	-6.88
14	SLU 36	20	2	2760	667.58	-3.79	-6.88
14	SLU 37	20	2	2760	667.58	-3.79	-6.88
14	SLU 38	20	2	2760	667.58	-3.79	-6.88
14	SLU 39	21	2	2930	707.55	-4.07	-7.44
14	SLU 40	21	2	2930	707.55	-4.07	-7.44
14	SLU 41	21	2	2930	707.55	-4.07	-7.44
14	SLU 42	21	2	2930	707.55	-4.07	-7.44
14	SLU 43	17	0	2615	639.87	-3.37	-5.87
14	SLU 44	17	0	2615	639.87	-3.37	-5.87
14	SLU 45	17	0	2615	639.87	-3.37	-5.87
14	SLU 46	17	0	2615	639.87	-3.37	-5.87
14	SLU 47	17	0	2615	639.87	-3.37	-5.87
14	SLU 48	17	0	2615	639.87	-3.37	-5.87
14	SLU 49	17	0	2615	639.87	-3.37	-5.87
14	SLU 50	17	0	2615	639.87	-3.37	-5.87
14	SLU 51	17	0	2615	639.87	-3.37	-5.87
14	SLU 52	20	1	3009	733.15	-4.02	-7.16
14	SLU 53	20	1	3009	733.15	-4.02	-7.16
14	SLU 54	20	1	3009	733.15	-4.02	-7.16
14	SLU 55	20	1	3009	733.15	-4.02	-7.16
14	SLU 56	20	1	3009	733.15	-4.02	-7.16
14	SLU 57	20	1	3009	733.15	-4.02	-7.16
14	SLU 58	20	1	3009	733.15	-4.02	-7.16
14	SLU 59	20	1	3009	733.15	-4.02	-7.16
14	SLU 60	22	1	3179	773.13	-4.3	-7.72
14	SLU 61	22	1	3179	773.13	-4.3	-7.72
14	SLU 62	22	1	3179	773.13	-4.3	-7.72
14	SLU 63	22	1	3179	773.13	-4.3	-7.72
14	SLU 64	19	1	2895	704.83	-3.8	-6.72
14	SLU 65	19	1	2895	704.83	-3.8	-6.72
14	SLU 66	19	1	2895	704.83	-3.8	-6.72
14	SLU 67	19	1	2895	704.83	-3.8	-6.72
14	SLU 68	19	1	2895	704.83	-3.8	-6.72
14	SLU 69	19	1	2895	704.83	-3.8	-6.72
14	SLU 70	19	1	2895	704.83	-3.8	-6.72
14	SLU 71	19	1	2895	704.83	-3.8	-6.72
14	SLU 72	19	1	2895	704.83	-3.8	-6.72
14	SLU 73	23	1	3290	798.11	-4.45	-8.01
14	SLU 74	23	1	3290	798.11	-4.45	-8.01
14	SLU 75	23	1	3290	798.11	-4.45	-8.01
14	SLU 76	23	1	3290	798.11	-4.45	-8.01
14	SLU 77	23	1	3290	798.11	-4.45	-8.01
14	SLU 78	23	1	3290	798.11	-4.45	-8.01
14	SLU 79	23	1	3290	798.11	-4.45	-8.01
14	SLU 80	23	1	3290	798.11	-4.45	-8.01
14	SLU 81	24	2	3459	838.08	-4.73	-8.57
14	SLU 82	24	2	3459	838.08	-4.73	-8.57
14	SLU 83	24	2	3459	838.08	-4.73	-8.57
14	SLU 84	24	2	3459	838.08	-4.73	-8.57
14	SLE RA 1	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 2	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 3	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 4	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 5	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 6	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 7	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 8	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 9	14	0	2165	527.9	-2.83	-4.98
14	SLE RA 10	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 11	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 12	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 13	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 14	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 15	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 16	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 17	17	1	2428	590.08	-3.26	-5.84
14	SLE RA 18	18	1	2541	616.74	-3.45	-6.21
14	SLE RA 19	18	1	2541	616.74	-3.45	-6.21
14	SLE RA 20	18	1	2541	616.74	-3.45	-6.21
14	SLE RA 21	18	1	2541	616.74	-3.45	-6.21
14	SLE FR 1	14	0	2165	527.9	-2.83	-4.98
14	SLE FR 2	14	0	2165	527.9	-2.83	-4.98
14	SLE FR 3	14	0	2165	527.9	-2.83	-4.98
14	SLE FR 4	15	1	2278	554.55	-3.01	-5.35
14	SLE FR 5	15	1	2278	554.55	-3.01	-5.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
14	SLE FR 6	16	1	2353	572.32	-3.14	-5.6
14	SLE QP 1	14	0	2165	527.9	-2.83	-4.98
14	SLE QP 2	15	1	2278	554.55	-3.01	-5.35
14	SLD 1	153	24	2451	579.61	-2.37	-53.82
14	SLD 2	194	16	2449	579.15	-2.38	-68.13
14	SLD 3	176	-29	2236	538.75	-2.11	-61.68
14	SLD 4	217	-38	2235	538.3	-2.12	-75.98
14	SLD 5	7	92	2656	624.19	-3.21	-2.91
14	SLD 6	48	83	2654	623.73	-3.22	-17.33
14	SLD 7	84	-87	1941	488.01	-2.35	-29.1
14	SLD 8	125	-95	1939	487.55	-2.36	-43.53
14	SLD 9	-95	96	2617	621.55	-3.67	32.82
14	SLD 10	-54	88	2615	621.09	-3.68	18.4
14	SLD 11	-18	-82	1902	485.37	-2.81	6.63
14	SLD 12	23	-91	1900	484.91	-2.82	-7.79
14	SLD 13	-187	39	2322	570.8	-3.91	65.28
14	SLD 14	-146	31	2320	570.34	-3.91	50.98
14	SLD 15	-164	-14	2107	529.95	-3.65	57.42
14	SLD 16	-123	-23	2105	529.49	-3.66	43.12
14	SLV 1	329	55	2676	612.67	-1.56	-115.6
14	SLV 2	422	36	2671	611.63	-1.57	-148.11
14	SLV 3	382	-69	2179	518.08	-0.96	-133.71
14	SLV 4	475	-88	2175	517.04	-0.97	-166.23
14	SLV 5	-5	212	3152	715.83	-3.48	0.72
14	SLV 6	90	192	3148	714.77	-3.49	-32.37
14	SLV 7	172	-201	1497	400.51	-1.49	-59.66
14	SLV 8	268	-221	1492	399.46	-1.5	-92.76
14	SLV 9	-237	222	3064	709.64	-4.53	82.05
14	SLV 10	-142	202	3060	708.58	-4.54	48.96
14	SLV 11	-60	-191	1408	394.33	-2.54	21.67
14	SLV 12	36	-211	1404	393.27	-2.55	-11.42
14	SLV 13	-445	89	2381	592.06	-5.05	155.53
14	SLV 14	-352	70	2377	591.02	-5.06	123.01
14	SLV 15	-392	-34	1885	497.46	-4.46	137.41
14	SLV 16	-298	-54	1880	496.42	-4.47	104.89
14	CRTFP Ux+	0	0	0	0	0	0
14	CRTFP Ux-	0	0	0	0	0	0
14	CRTFP Uy+	0	0	0	0	0	0
14	CRTFP Uy-	0	0	0	0	0	0
15	SLU 1	13	-1	2165	577.44	-2.54	-4.55
15	SLU 2	13	-1	2165	577.44	-2.54	-4.55
15	SLU 3	13	-1	2165	577.44	-2.54	-4.55
15	SLU 4	13	-1	2165	577.44	-2.54	-4.55
15	SLU 5	13	-1	2165	577.44	-2.54	-4.55
15	SLU 6	13	-1	2165	577.44	-2.54	-4.55
15	SLU 7	13	-1	2165	577.44	-2.54	-4.55
15	SLU 8	13	-1	2165	577.44	-2.54	-4.55
15	SLU 9	13	-1	2165	577.44	-2.54	-4.55
15	SLU 10	16	0	2579	686.73	-3.15	-5.76
15	SLU 11	16	0	2579	686.73	-3.15	-5.76
15	SLU 12	16	0	2579	686.73	-3.15	-5.76
15	SLU 13	16	0	2579	686.73	-3.15	-5.76
15	SLU 14	16	0	2579	686.73	-3.15	-5.76
15	SLU 15	16	0	2579	686.73	-3.15	-5.76
15	SLU 16	16	0	2579	686.73	-3.15	-5.76
15	SLU 17	16	0	2579	686.73	-3.15	-5.76
15	SLU 18	18	0	2757	733.57	-3.41	-6.28
15	SLU 19	18	0	2757	733.57	-3.41	-6.28
15	SLU 20	18	0	2757	733.57	-3.41	-6.28
15	SLU 21	18	0	2757	733.57	-3.41	-6.28
15	SLU 22	15	-1	2458	653.51	-2.94	-5.33
15	SLU 23	15	-1	2458	653.51	-2.94	-5.33
15	SLU 24	15	-1	2458	653.51	-2.94	-5.33
15	SLU 25	15	-1	2458	653.51	-2.94	-5.33
15	SLU 26	15	-1	2458	653.51	-2.94	-5.33
15	SLU 27	15	-1	2458	653.51	-2.94	-5.33
15	SLU 28	15	-1	2458	653.51	-2.94	-5.33
15	SLU 29	15	-1	2458	653.51	-2.94	-5.33
15	SLU 30	15	-1	2458	653.51	-2.94	-5.33
15	SLU 31	19	0	2872	762.8	-3.55	-6.55
15	SLU 32	19	0	2872	762.8	-3.55	-6.55
15	SLU 33	19	0	2872	762.8	-3.55	-6.55
15	SLU 34	19	0	2872	762.8	-3.55	-6.55
15	SLU 35	19	0	2872	762.8	-3.55	-6.55
15	SLU 36	19	0	2872	762.8	-3.55	-6.55
15	SLU 37	19	0	2872	762.8	-3.55	-6.55
15	SLU 38	19	0	2872	762.8	-3.55	-6.55
15	SLU 39	20	0	3050	809.64	-3.81	-7.07
15	SLU 40	20	0	3050	809.64	-3.81	-7.07
15	SLU 41	20	0	3050	809.64	-3.81	-7.07
15	SLU 42	20	0	3050	809.64	-3.81	-7.07
15	SLU 43	16	-1	2714	724.59	-3.17	-5.64
15	SLU 44	16	-1	2714	724.59	-3.17	-5.64
15	SLU 45	16	-1	2714	724.59	-3.17	-5.64
15	SLU 46	16	-1	2714	724.59	-3.17	-5.64
15	SLU 47	16	-1	2714	724.59	-3.17	-5.64
15	SLU 48	16	-1	2714	724.59	-3.17	-5.64
15	SLU 49	16	-1	2714	724.59	-3.17	-5.64
15	SLU 50	16	-1	2714	724.59	-3.17	-5.64
15	SLU 51	16	-1	2714	724.59	-3.17	-5.64



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
15	SLU 52	19	-1	3128		833.88	-3.77	-6.85
15	SLU 53	19	-1	3128		833.88	-3.77	-6.85
15	SLU 54	19	-1	3128		833.88	-3.77	-6.85
15	SLU 55	19	-1	3128		833.88	-3.77	-6.85
15	SLU 56	19	-1	3128		833.88	-3.77	-6.85
15	SLU 57	19	-1	3128		833.88	-3.77	-6.85
15	SLU 58	19	-1	3128		833.88	-3.77	-6.85
15	SLU 59	19	-1	3128		833.88	-3.77	-6.85
15	SLU 60	21	0	3306		880.72	-4.03	-7.37
15	SLU 61	21	0	3306		880.72	-4.03	-7.37
15	SLU 62	21	0	3306		880.72	-4.03	-7.37
15	SLU 63	21	0	3306		880.72	-4.03	-7.37
15	SLU 64	18	-1	3007		800.66	-3.57	-6.43
15	SLU 65	18	-1	3007		800.66	-3.57	-6.43
15	SLU 66	18	-1	3007		800.66	-3.57	-6.43
15	SLU 67	18	-1	3007		800.66	-3.57	-6.43
15	SLU 68	18	-1	3007		800.66	-3.57	-6.43
15	SLU 69	18	-1	3007		800.66	-3.57	-6.43
15	SLU 70	18	-1	3007		800.66	-3.57	-6.43
15	SLU 71	18	-1	3007		800.66	-3.57	-6.43
15	SLU 72	18	-1	3007		800.66	-3.57	-6.43
15	SLU 73	22	0	3421		909.95	-4.17	-7.64
15	SLU 74	22	0	3421		909.95	-4.17	-7.64
15	SLU 75	22	0	3421		909.95	-4.17	-7.64
15	SLU 76	22	0	3421		909.95	-4.17	-7.64
15	SLU 77	22	0	3421		909.95	-4.17	-7.64
15	SLU 78	22	0	3421		909.95	-4.17	-7.64
15	SLU 79	22	0	3421		909.95	-4.17	-7.64
15	SLU 80	22	0	3421		909.95	-4.17	-7.64
15	SLU 81	23	0	3599		956.79	-4.43	-8.16
15	SLU 82	23	0	3599		956.79	-4.43	-8.16
15	SLU 83	23	0	3599		956.79	-4.43	-8.16
15	SLU 84	23	0	3599		956.79	-4.43	-8.16
15	SLE RA 1	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 2	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 3	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 4	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 5	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 6	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 7	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 8	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 9	13	-1	2249		599.17	-2.66	-4.77
15	SLE RA 10	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 11	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 12	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 13	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 14	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 15	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 16	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 17	16	0	2525		672.04	-3.06	-5.58
15	SLE RA 18	17	0	2643		703.26	-3.23	-5.93
15	SLE RA 19	17	0	2643		703.26	-3.23	-5.93
15	SLE RA 20	17	0	2643		703.26	-3.23	-5.93
15	SLE RA 21	17	0	2643		703.26	-3.23	-5.93
15	SLE FR 1	13	-1	2249		599.17	-2.66	-4.77
15	SLE FR 2	13	-1	2249		599.17	-2.66	-4.77
15	SLE FR 3	13	-1	2249		599.17	-2.66	-4.77
15	SLE FR 4	14	-1	2367		630.4	-2.83	-5.12
15	SLE FR 5	14	-1	2367		630.4	-2.83	-5.12
15	SLE FR 6	15	-1	2446		651.22	-2.95	-5.35
15	SLE QP 1	13	-1	2249		599.17	-2.66	-4.77
15	SLE QP 2	14	-1	2367		630.4	-2.83	-5.12
15	SLD 1	152	21	2523		658.63	-2.24	-53.52
15	SLD 2	193	16	2521		658.16	-2.24	-67.82
15	SLD 3	175	-26	2300		610.73	-1.96	-61.4
15	SLD 4	216	-31	2298		610.27	-1.97	-75.7
15	SLD 5	6	79	2752		711.68	-3.06	-2.63
15	SLD 6	48	74	2750		711.21	-3.07	-17.05
15	SLD 7	83	-78	2010		552.02	-2.16	-28.88
15	SLD 8	124	-83	2008		551.55	-2.16	-43.3
15	SLD 9	-95	82	2726		709.25	-3.5	33.07
15	SLD 10	-54	76	2724		708.78	-3.5	18.65
15	SLD 11	-19	-75	1984		549.6	-2.59	6.81
15	SLD 12	23	-81	1982		549.13	-2.6	-7.61
15	SLD 13	-187	30	2436		650.53	-3.69	65.46
15	SLD 14	-146	25	2434		650.07	-3.7	51.16
15	SLD 15	-164	-17	2213		602.64	-3.42	57.58
15	SLD 16	-123	-23	2211		602.17	-3.42	43.28
15	SLV 1	328	50	2726		695.89	-1.49	-115.2
15	SLV 2	421	37	2722		694.83	-1.49	-147.71
15	SLV 3	381	-59	2210		585.01	-0.86	-133.35
15	SLV 4	474	-72	2206		583.95	-0.87	-165.87
15	SLV 5	-5	184	3257		818.59	-3.38	1.06
15	SLV 6	90	172	3253		817.51	-3.38	-32.03
15	SLV 7	171	-179	1540		449	-1.28	-59.46
15	SLV 8	266	-192	1536		447.92	-1.29	-92.55
15	SLV 9	-237	190	3198		812.88	-4.37	82.31
15	SLV 10	-142	178	3194		811.8	-4.38	49.22
15	SLV 11	-61	-173	1481		443.29	-2.28	21.79
15	SLV 12	34	-186	1477		442.21	-2.28	-11.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLV 13	-445	70	2528	676.85	-4.79	155.63
15	SLV 14	-352	58	2524	675.79	-4.8	123.12
15	SLV 15	-392	-39	2013	565.97	-4.17	137.48
15	SLV 16	-299	-51	2009	564.91	-4.17	104.96
15	CRTFP Ux+	0	0	0	0	0	0
15	CRTFP Ux-	0	0	0	0	0	0
15	CRTFP Uy+	0	0	0	0	0	0
15	CRTFP Uy-	0	0	0	0	0	0
16	SLU 1	12	-2	2105	605.95	22.15	-4.11
16	SLU 2	12	-2	2105	605.95	22.15	-4.11
16	SLU 3	12	-2	2105	605.95	22.15	-4.11
16	SLU 4	12	-2	2105	605.95	22.15	-4.11
16	SLU 5	12	-2	2105	605.95	22.15	-4.11
16	SLU 6	12	-2	2105	605.95	22.15	-4.11
16	SLU 7	12	-2	2105	605.95	22.15	-4.11
16	SLU 8	12	-2	2105	605.95	22.15	-4.11
16	SLU 9	12	-2	2105	605.95	22.15	-4.11
16	SLU 10	15	-2	2510	723.31	26.36	-5.18
16	SLU 11	15	-2	2510	723.31	26.36	-5.18
16	SLU 12	15	-2	2510	723.31	26.36	-5.18
16	SLU 13	15	-2	2510	723.31	26.36	-5.18
16	SLU 14	15	-2	2510	723.31	26.36	-5.18
16	SLU 15	15	-2	2510	723.31	26.36	-5.18
16	SLU 16	15	-2	2510	723.31	26.36	-5.18
16	SLU 17	15	-2	2510	723.31	26.36	-5.18
16	SLU 18	16	-2	2684	773.61	28.17	-5.64
16	SLU 19	16	-2	2684	773.61	28.17	-5.64
16	SLU 20	16	-2	2684	773.61	28.17	-5.64
16	SLU 21	16	-2	2684	773.61	28.17	-5.64
16	SLU 22	14	-2	2391	687.66	25.14	-4.79
16	SLU 23	14	-2	2391	687.66	25.14	-4.79
16	SLU 24	14	-2	2391	687.66	25.14	-4.79
16	SLU 25	14	-2	2391	687.66	25.14	-4.79
16	SLU 26	14	-2	2391	687.66	25.14	-4.79
16	SLU 27	14	-2	2391	687.66	25.14	-4.79
16	SLU 28	14	-2	2391	687.66	25.14	-4.79
16	SLU 29	14	-2	2391	687.66	25.14	-4.79
16	SLU 30	14	-2	2391	687.66	25.14	-4.79
16	SLU 31	17	-2	2797	805.02	29.35	-5.86
16	SLU 32	17	-2	2797	805.02	29.35	-5.86
16	SLU 33	17	-2	2797	805.02	29.35	-5.86
16	SLU 34	17	-2	2797	805.02	29.35	-5.86
16	SLU 35	17	-2	2797	805.02	29.35	-5.86
16	SLU 36	17	-2	2797	805.02	29.35	-5.86
16	SLU 37	17	-2	2797	805.02	29.35	-5.86
16	SLU 38	17	-2	2797	805.02	29.35	-5.86
16	SLU 39	18	-2	2970	855.32	31.16	-6.32
16	SLU 40	18	-2	2970	855.32	31.16	-6.32
16	SLU 41	18	-2	2970	855.32	31.16	-6.32
16	SLU 42	18	-2	2970	855.32	31.16	-6.32
16	SLU 43	15	-3	2639	759.72	27.77	-5.1
16	SLU 44	15	-3	2639	759.72	27.77	-5.1
16	SLU 45	15	-3	2639	759.72	27.77	-5.1
16	SLU 46	15	-3	2639	759.72	27.77	-5.1
16	SLU 47	15	-3	2639	759.72	27.77	-5.1
16	SLU 48	15	-3	2639	759.72	27.77	-5.1
16	SLU 49	15	-3	2639	759.72	27.77	-5.1
16	SLU 50	15	-3	2639	759.72	27.77	-5.1
16	SLU 51	15	-3	2639	759.72	27.77	-5.1
16	SLU 52	18	-3	3044	877.08	31.98	-6.17
16	SLU 53	18	-3	3044	877.08	31.98	-6.17
16	SLU 54	18	-3	3044	877.08	31.98	-6.17
16	SLU 55	18	-3	3044	877.08	31.98	-6.17
16	SLU 56	18	-3	3044	877.08	31.98	-6.17
16	SLU 57	18	-3	3044	877.08	31.98	-6.17
16	SLU 58	18	-3	3044	877.08	31.98	-6.17
16	SLU 59	18	-3	3044	877.08	31.98	-6.17
16	SLU 60	19	-2	3218	927.38	33.79	-6.63
16	SLU 61	19	-2	3218	927.38	33.79	-6.63
16	SLU 62	19	-2	3218	927.38	33.79	-6.63
16	SLU 63	19	-2	3218	927.38	33.79	-6.63
16	SLU 64	16	-3	2925	841.42	30.76	-5.79
16	SLU 65	16	-3	2925	841.42	30.76	-5.79
16	SLU 66	16	-3	2925	841.42	30.76	-5.79
16	SLU 67	16	-3	2925	841.42	30.76	-5.79
16	SLU 68	16	-3	2925	841.42	30.76	-5.79
16	SLU 69	16	-3	2925	841.42	30.76	-5.79
16	SLU 70	16	-3	2925	841.42	30.76	-5.79
16	SLU 71	16	-3	2925	841.42	30.76	-5.79
16	SLU 72	16	-3	2925	841.42	30.76	-5.79
16	SLU 73	19	-3	3330	958.79	34.97	-6.86
16	SLU 74	19	-3	3330	958.79	34.97	-6.86
16	SLU 75	19	-3	3330	958.79	34.97	-6.86
16	SLU 76	19	-3	3330	958.79	34.97	-6.86
16	SLU 77	19	-3	3330	958.79	34.97	-6.86
16	SLU 78	19	-3	3330	958.79	34.97	-6.86
16	SLU 79	19	-3	3330	958.79	34.97	-6.86
16	SLU 80	19	-3	3330	958.79	34.97	-6.86
16	SLU 81	21	-2	3504	1009.09	36.78	-7.32
16	SLU 82	21	-2	3504	1009.09	36.78	-7.32



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
16	SLU 83	21	-2	3504		1009.09	36.78	-7.32	
16	SLU 84	21	-2	3504		1009.09	36.78	-7.32	
16	SLE RA 1	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 2	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 3	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 4	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 5	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 6	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 7	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 8	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 9	12	-2	2187		629.29	23.01	-4.3	
16	SLE RA 10	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 11	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 12	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 13	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 14	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 15	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 16	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 17	14	-2	2457		707.54	25.81	-5.02	
16	SLE RA 18	15	-2	2573		741.07	27.02	-5.32	
16	SLE RA 19	15	-2	2573		741.07	27.02	-5.32	
16	SLE RA 20	15	-2	2573		741.07	27.02	-5.32	
16	SLE RA 21	15	-2	2573		741.07	27.02	-5.32	
16	SLE FR 1	12	-2	2187		629.29	23.01	-4.3	
16	SLE FR 2	12	-2	2187		629.29	23.01	-4.3	
16	SLE FR 3	12	-2	2187		629.29	23.01	-4.3	
16	SLE FR 4	13	-2	2303		662.83	24.21	-4.61	
16	SLE FR 5	13	-2	2303		662.83	24.21	-4.61	
16	SLE FR 6	14	-2	2380		685.18	25.01	-4.81	
16	SLE QP 1	12	-2	2187		629.29	23.01	-4.3	
16	SLE QP 2	13	-2	2303		662.83	24.21	-4.61	
16	SLD 1	143	17	2436		692.77	26.17	-50.45	
16	SLD 2	182	14	2434		692.35	26.15	-63.95	
16	SLD 3	165	-24	2219		641.08	23.91	-57.54	
16	SLD 4	204	-27	2217		640.65	23.89	-71.03	
16	SLD 5	6	67	2672		750.37	28.23	-2.84	
16	SLD 6	45	64	2671		749.94	28.21	-16.45	
16	SLD 7	77	-70	1949		578.04	20.7	-26.45	
16	SLD 8	117	-73	1947		577.62	20.68	-40.06	
16	SLD 9	-90	69	2658		748.03	27.74	30.84	
16	SLD 10	-51	66	2656		747.61	27.72	17.23	
16	SLD 11	-19	-69	1935		575.71	20.21	7.23	
16	SLD 12	20	-71	1933		575.28	20.19	-6.38	
16	SLD 13	-177	23	2388		685	24.53	61.81	
16	SLD 14	-139	20	2387		684.57	24.51	48.32	
16	SLD 15	-156	-19	2171		633.3	22.27	54.73	
16	SLD 16	-117	-21	2170		632.88	22.25	41.24	
16	SLV 1	309	41	2610		732.26	28.71	-108.88	
16	SLV 2	397	36	2606		731.3	28.67	-139.56	
16	SLV 3	359	-54	2108		612.6	23.49	-125.21	
16	SLV 4	447	-59	2104		611.64	23.44	-155.89	
16	SLV 5	-5	157	3158		865.48	33.5	-0.12	
16	SLV 6	85	152	3154		864.51	33.46	-31.34	
16	SLV 7	160	-160	1484		466.62	16.08	-54.54	
16	SLV 8	250	-166	1480		465.64	16.04	-85.76	
16	SLV 9	-224	161	3125		860.01	32.38	76.54	
16	SLV 10	-134	156	3121		859.03	32.34	45.32	
16	SLV 11	-59	-156	1451		461.14	14.96	22.13	
16	SLV 12	31	-162	1448		460.17	14.92	-9.09	
16	SLV 13	-421	55	2501		714.01	24.98	146.67	
16	SLV 14	-332	50	2497		713.05	24.93	115.99	
16	SLV 15	-371	-40	1999		594.35	19.75	130.35	
16	SLV 16	-283	-46	1995		593.39	19.71	99.67	
16	CRTFP Ux+	0	0	0		0	0	0	
16	CRTFP Ux-	0	0	0		0	0	0	
16	CRTFP Uy+	0	0	0		0	0	0	
16	CRTFP Uy-	0	0	0		0	0	0	
17	SLU 1	19	-5	3674		913.45	11.98	-5.4	
17	SLU 2	19	-5	3674		913.45	11.98	-5.4	
17	SLU 3	19	-5	3674		913.45	11.98	-5.4	
17	SLU 4	19	-5	3674		913.45	11.98	-5.4	
17	SLU 5	19	-5	3674		913.45	11.98	-5.4	
17	SLU 6	19	-5	3674		913.45	11.98	-5.4	
17	SLU 7	19	-5	3674		913.45	11.98	-5.4	
17	SLU 8	19	-5	3674		913.45	11.98	-5.4	
17	SLU 9	19	-5	3674		913.45	11.98	-5.4	
17	SLU 10	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 11	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 12	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 13	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 14	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 15	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 16	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 17	24	-5	4380		1092.21	14.43	-6.75	
17	SLU 18	26	-5	4683		1168.82	15.47	-7.33	
17	SLU 19	26	-5	4683		1168.82	15.47	-7.33	
17	SLU 20	26	-5	4683		1168.82	15.47	-7.33	
17	SLU 21	26	-5	4683		1168.82	15.47	-7.33	
17	SLU 22	22	-6	4173		1038.36	13.77	-6.26	
17	SLU 23	22	-6	4173		1038.36	13.77	-6.26	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
17	SLU 24	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 25	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 26	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 27	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 28	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 29	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 30	22	-6	4173	1038.36	13.77	-6.26		
17	SLU 31	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 32	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 33	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 34	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 35	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 36	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 37	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 38	27	-5	4879	1217.11	16.22	-7.61		
17	SLU 39	29	-5	5181	1293.72	17.26	-8.18		
17	SLU 40	29	-5	5181	1293.72	17.26	-8.18		
17	SLU 41	29	-5	5181	1293.72	17.26	-8.18		
17	SLU 42	29	-5	5181	1293.72	17.26	-8.18		
17	SLU 43	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 44	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 45	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 46	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 47	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 48	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 49	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 50	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 51	24	-7	4606	1144.66	14.97	-6.72		
17	SLU 52	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 53	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 54	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 55	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 56	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 57	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 58	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 59	29	-7	5312	1323.42	17.41	-8.07		
17	SLU 60	31	-7	5614	1400.03	18.45	-8.65		
17	SLU 61	31	-7	5614	1400.03	18.45	-8.65		
17	SLU 62	31	-7	5614	1400.03	18.45	-8.65		
17	SLU 63	31	-7	5614	1400.03	18.45	-8.65		
17	SLU 64	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 65	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 66	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 67	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 68	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 69	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 70	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 71	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 72	27	-7	5104	1269.57	16.76	-7.58		
17	SLU 73	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 74	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 75	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 76	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 77	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 78	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 79	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 80	32	-7	5810	1448.32	19.2	-8.93		
17	SLU 81	34	-7	6112	1524.93	20.24	-9.51		
17	SLU 82	34	-7	6112	1524.93	20.24	-9.51		
17	SLU 83	34	-7	6112	1524.93	20.24	-9.51		
17	SLU 84	34	-7	6112	1524.93	20.24	-9.51		
17	SLE RA 1	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 2	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 3	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 4	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 5	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 6	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 7	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 8	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 9	20	-5	3817	949.14	12.5	-5.64		
17	SLE RA 10	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 11	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 12	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 13	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 14	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 15	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 16	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 17	23	-5	4287	1068.31	14.12	-6.54		
17	SLE RA 18	25	-5	4489	1119.38	14.82	-6.93		
17	SLE RA 19	25	-5	4489	1119.38	14.82	-6.93		
17	SLE RA 20	25	-5	4489	1119.38	14.82	-6.93		
17	SLE RA 21	25	-5	4489	1119.38	14.82	-6.93		
17	SLE FR 1	20	-5	3817	949.14	12.5	-5.64		
17	SLE FR 2	20	-5	3817	949.14	12.5	-5.64		
17	SLE FR 3	20	-5	3817	949.14	12.5	-5.64		
17	SLE FR 4	22	-5	4019	1000.21	13.19	-6.03		
17	SLE FR 5	22	-5	4019	1000.21	13.19	-6.03		
17	SLE FR 6	22	-5	4153	1034.26	13.66	-6.29		
17	SLE QP 1	20	-5	3817	949.14	12.5	-5.64		
17	SLE QP 2	22	-5	4019	1000.21	13.19	-6.03		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLD 1	242	21	4241	1047.97	17.17	-67.42
17	SLD 2	309	22	4238	1047.38	17.15	-85.69
17	SLD 3	278	-47		964.49	16.14	-77.3
17	SLD 4	345	-46	3848	963.9	16.13	-95.57
17	SLD 5	9	106	4678	1141.35	15.95	-2.98
17	SLD 6	76	108	4675	1140.76	15.93	-21.41
17	SLD 7	130	-123	3378	863.1	12.53	-35.93
17	SLD 8	197	-122	3375	862.51	12.51	-54.35
17	SLD 9	-154	111	4662	1137.92	13.88	42.3
17	SLD 10	-87	112	4659	1137.32	13.86	23.87
17	SLD 11	-33	-118	3362	859.67	10.45	9.35
17	SLD 12	34	-117	3359	859.07	10.44	-9.07
17	SLD 13	-302	36	4189	1036.52	10.26	83.51
17	SLD 14	-235	37	4186	1035.93	10.24	65.25
17	SLD 15	-265	-33	3799	953.05	9.23	73.63
17	SLD 16	-198	-32	3796	952.46	9.22	55.36
17	SLV 1	522	56	4535	1110.89	22.25	-145.65
17	SLV 2	674	59	4528	1109.55	22.2	-187.19
17	SLV 3	606	-103	3632	917.69	19.87	-168.43
17	SLV 4	758	-100	3626	916.36	19.83	-209.97
17	SLV 5	-9	253	5544	1326.9	19.53	1.54
17	SLV 6	145	256	5538	1325.54	19.49	-40.73
17	SLV 7	269	-277	2536	682.93	11.61	-74.4
17	SLV 8	423	-274	2530	681.57	11.56	-116.67
17	SLV 9	-380	263	5507	1318.86	14.82	104.61
17	SLV 10	-226	266	5501	1317.49	14.78	62.34
17	SLV 11	-102	-267	2499	674.88	6.9	28.67
17	SLV 12	53	-264	2493	673.52	6.86	-13.6
17	SLV 13	-714	89	4411	1084.07	6.56	197.92
17	SLV 14	-562	92	4405	1082.73	6.52	156.38
17	SLV 15	-631	-69	3509	890.87	4.18	175.14
17	SLV 16	-479	-67	3502	889.54	4.14	133.6
17	CRTFP Ux+	0	0	0	0	0	0
17	CRTFP Ux-	0	0	0	0	0	0
17	CRTFP Uy+	0	0	0	-0.01	0	0
17	CRTFP Uy-	0	0	0	0.01	0	0
18	SLU 1	11	-3	1998	579.91	-20.88	-3.8
18	SLU 2	11	-3	1998	579.91	-20.88	-3.8
18	SLU 3	11	-3	1998	579.91	-20.88	-3.8
18	SLU 4	11	-3	1998	579.91	-20.88	-3.8
18	SLU 5	11	-3	1998	579.91	-20.88	-3.8
18	SLU 6	11	-3	1998	579.91	-20.88	-3.8
18	SLU 7	11	-3	1998	579.91	-20.88	-3.8
18	SLU 8	11	-3	1998	579.91	-20.88	-3.8
18	SLU 9	11	-3	1998	579.91	-20.88	-3.8
18	SLU 10	13	-3	2381	692.34	-24.8	-4.7
18	SLU 11	13	-3	2381	692.34	-24.8	-4.7
18	SLU 12	13	-3	2381	692.34	-24.8	-4.7
18	SLU 13	13	-3	2381	692.34	-24.8	-4.7
18	SLU 14	13	-3	2381	692.34	-24.8	-4.7
18	SLU 15	13	-3	2381	692.34	-24.8	-4.7
18	SLU 16	13	-3	2381	692.34	-24.8	-4.7
18	SLU 17	13	-3	2381	692.34	-24.8	-4.7
18	SLU 18	14	-3	2545	740.53	-26.48	-5.09
18	SLU 19	14	-3	2545	740.53	-26.48	-5.09
18	SLU 20	14	-3	2545	740.53	-26.48	-5.09
18	SLU 21	14	-3	2545	740.53	-26.48	-5.09
18	SLU 22	12	-3	2268	658.16	-23.64	-4.37
18	SLU 23	12	-3	2268	658.16	-23.64	-4.37
18	SLU 24	12	-3	2268	658.16	-23.64	-4.37
18	SLU 25	12	-3	2268	658.16	-23.64	-4.37
18	SLU 26	12	-3	2268	658.16	-23.64	-4.37
18	SLU 27	12	-3	2268	658.16	-23.64	-4.37
18	SLU 28	12	-3	2268	658.16	-23.64	-4.37
18	SLU 29	12	-3	2268	658.16	-23.64	-4.37
18	SLU 30	12	-3	2268	658.16	-23.64	-4.37
18	SLU 31	15	-3	2651	770.6	-27.56	-5.27
18	SLU 32	15	-3	2651	770.6	-27.56	-5.27
18	SLU 33	15	-3	2651	770.6	-27.56	-5.27
18	SLU 34	15	-3	2651	770.6	-27.56	-5.27
18	SLU 35	15	-3	2651	770.6	-27.56	-5.27
18	SLU 36	15	-3	2651	770.6	-27.56	-5.27
18	SLU 37	15	-3	2651	770.6	-27.56	-5.27
18	SLU 38	15	-3	2651	770.6	-27.56	-5.27
18	SLU 39	16	-3	2815	818.79	-29.24	-5.66
18	SLU 40	16	-3	2815	818.79	-29.24	-5.66
18	SLU 41	16	-3	2815	818.79	-29.24	-5.66
18	SLU 42	16	-3	2815	818.79	-29.24	-5.66
18	SLU 43	13	-4	2505	727.05	-26.2	-4.74
18	SLU 44	13	-4	2505	727.05	-26.2	-4.74
18	SLU 45	13	-4	2505	727.05	-26.2	-4.74
18	SLU 46	13	-4	2505	727.05	-26.2	-4.74
18	SLU 47	13	-4	2505	727.05	-26.2	-4.74
18	SLU 48	13	-4	2505	727.05	-26.2	-4.74
18	SLU 49	13	-4	2505	727.05	-26.2	-4.74
18	SLU 50	13	-4	2505	727.05	-26.2	-4.74
18	SLU 51	13	-4	2505	727.05	-26.2	-4.74
18	SLU 52	16	-4	2888	839.48	-30.12	-5.64
18	SLU 53	16	-4	2888	839.48	-30.12	-5.64
18	SLU 54	16	-4	2888	839.48	-30.12	-5.64



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
18	SLU 55	16	-4	2888		839.48	-30.12	-5.64
18	SLU 56	16	-4	2888		839.48	-30.12	-5.64
18	SLU 57	16	-4	2888		839.48	-30.12	-5.64
18	SLU 58	16	-4	2888		839.48	-30.12	-5.64
18	SLU 59	16	-4	2888		839.48	-30.12	-5.64
18	SLU 60	17	-4	3052		887.67	-31.8	-6.03
18	SLU 61	17	-4	3052		887.67	-31.8	-6.03
18	SLU 62	17	-4	3052		887.67	-31.8	-6.03
18	SLU 63	17	-4	3052		887.67	-31.8	-6.03
18	SLU 64	15	-4	2775		805.3	-28.96	-5.31
18	SLU 65	15	-4	2775		805.3	-28.96	-5.31
18	SLU 66	15	-4	2775		805.3	-28.96	-5.31
18	SLU 67	15	-4	2775		805.3	-28.96	-5.31
18	SLU 68	15	-4	2775		805.3	-28.96	-5.31
18	SLU 69	15	-4	2775		805.3	-28.96	-5.31
18	SLU 70	15	-4	2775		805.3	-28.96	-5.31
18	SLU 71	15	-4	2775		805.3	-28.96	-5.31
18	SLU 72	15	-4	2775		805.3	-28.96	-5.31
18	SLU 73	18	-4	3158		917.74	-32.88	-6.22
18	SLU 74	18	-4	3158		917.74	-32.88	-6.22
18	SLU 75	18	-4	3158		917.74	-32.88	-6.22
18	SLU 76	18	-4	3158		917.74	-32.88	-6.22
18	SLU 77	18	-4	3158		917.74	-32.88	-6.22
18	SLU 78	18	-4	3158		917.74	-32.88	-6.22
18	SLU 79	18	-4	3158		917.74	-32.88	-6.22
18	SLU 80	18	-4	3158		917.74	-32.88	-6.22
18	SLU 81	19	-4	3322		965.93	-34.56	-6.6
18	SLU 82	19	-4	3322		965.93	-34.56	-6.6
18	SLU 83	19	-4	3322		965.93	-34.56	-6.6
18	SLU 84	19	-4	3322		965.93	-34.56	-6.6
18	SLE RA 1	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 2	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 3	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 4	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 5	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 6	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 7	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 8	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 9	11	-3	2075		602.26	-21.67	-3.96
18	SLE RA 10	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 11	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 12	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 13	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 14	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 15	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 16	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 17	13	-3	2331		677.22	-24.28	-4.56
18	SLE RA 18	14	-3	2440		709.35	-25.4	-4.82
18	SLE RA 19	14	-3	2440		709.35	-25.4	-4.82
18	SLE RA 20	14	-3	2440		709.35	-25.4	-4.82
18	SLE RA 21	14	-3	2440		709.35	-25.4	-4.82
18	SLE FR 1	11	-3	2075		602.26	-21.67	-3.96
18	SLE FR 2	11	-3	2075		602.26	-21.67	-3.96
18	SLE FR 3	11	-3	2075		602.26	-21.67	-3.96
18	SLE FR 4	12	-3	2185		634.39	-22.79	-4.22
18	SLE FR 5	12	-3	2185		634.39	-22.79	-4.22
18	SLE FR 6	12	-3	2258		655.81	-23.54	-4.39
18	SLE QP 1	11	-3	2075		602.26	-21.67	-3.96
18	SLE QP 2	12	-3	2185		634.39	-22.79	-4.22
18	SLD 1	136	9	2264		663.01	-23.13	-47.54
18	SLD 2	173	12	2263		662.73	-23.12	-60.39
18	SLD 3	156	-32	2056		613.34	-20.91	-55.05
18	SLD 4	193	-28	2055		613.06	-20.89	-67.9
18	SLD 5	5	60	2525		718.41	-26.27	-1.27
18	SLD 6	43	64	2524		718.12	-26.26	-14.23
18	SLD 7	73	-74	1830		552.84	-18.86	-26.31
18	SLD 8	110	-71	1829		552.56	-18.84	-39.27
18	SLD 9	-86	64	2540		716.22	-26.74	30.83
18	SLD 10	-49	68	2539		715.94	-26.72	17.87
18	SLD 11	-19	-70	1845		550.66	-19.32	5.79
18	SLD 12	19	-67	1844		550.37	-19.31	-7.17
18	SLD 13	-169	22	2314		655.72	-24.69	59.46
18	SLD 14	-132	25	2313		655.44	-24.67	46.61
18	SLD 15	-149	-18	2106		606.05	-22.46	51.95
18	SLD 16	-112	-15	2105		605.77	-22.45	39.1
18	SLV 1	294	25	2370		700.69	-23.61	-102.72
18	SLV 2	378	32	2367		700.05	-23.58	-131.96
18	SLV 3	341	-69	1888		585.73	-18.46	-120.05
18	SLV 4	425	-61	1884		585.09	-18.43	-149.28
18	SLV 5	-4	144	2973		828.87	-30.85	2.99
18	SLV 6	81	151	2969		828.22	-30.82	-26.76
18	SLV 7	151	-167	1365		445.66	-13.7	-54.75
18	SLV 8	237	-159	1362		445.01	-13.67	-84.49
18	SLV 9	-213	153	3007		823.77	-31.91	76.06
18	SLV 10	-127	161	3004		823.12	-31.88	46.31
18	SLV 11	-58	-158	1400		440.56	-14.76	18.32
18	SLV 12	28	-150	1396		439.91	-14.73	-11.42
18	SLV 13	-401	55	2485		683.69	-27.15	140.84
18	SLV 14	-317	62	2481		683.05	-27.12	111.61
18	SLV 15	-354	-39	2002		568.73	-22	123.52



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
18	SLV 16	-270	-31	1999		568.08	-21.97	94.29
18	CRTFP Ux+	0	0	0	0	0	0	0
18	CRTFP Ux-	0	0	0	0	0	0	0
18	CRTFP Uy+	0	0	0	0	0	0	0
18	CRTFP Uy-	0	0	0	0	0	0	0
19	SLU 1	11	-3	2053		557.16	2.54	-3.84
19	SLU 2	11	-3	2053		557.16	2.54	-3.84
19	SLU 3	11	-3	2053		557.16	2.54	-3.84
19	SLU 4	11	-3	2053		557.16	2.54	-3.84
19	SLU 5	11	-3	2053		557.16	2.54	-3.84
19	SLU 6	11	-3	2053		557.16	2.54	-3.84
19	SLU 7	11	-3	2053		557.16	2.54	-3.84
19	SLU 8	11	-3	2053		557.16	2.54	-3.84
19	SLU 9	11	-3	2053		557.16	2.54	-3.84
19	SLU 10	14	-3	2443		662.87	3.18	-4.73
19	SLU 11	14	-3	2443		662.87	3.18	-4.73
19	SLU 12	14	-3	2443		662.87	3.18	-4.73
19	SLU 13	14	-3	2443		662.87	3.18	-4.73
19	SLU 14	14	-3	2443		662.87	3.18	-4.73
19	SLU 15	14	-3	2443		662.87	3.18	-4.73
19	SLU 16	14	-3	2443		662.87	3.18	-4.73
19	SLU 17	14	-3	2443		662.87	3.18	-4.73
19	SLU 18	15	-3	2610		708.17	3.46	-5.11
19	SLU 19	15	-3	2610		708.17	3.46	-5.11
19	SLU 20	15	-3	2610		708.17	3.46	-5.11
19	SLU 21	15	-3	2610		708.17	3.46	-5.11
19	SLU 22	13	-3	2328		630.68	3	-4.4
19	SLU 23	13	-3	2328		630.68	3	-4.4
19	SLU 24	13	-3	2328		630.68	3	-4.4
19	SLU 25	13	-3	2328		630.68	3	-4.4
19	SLU 26	13	-3	2328		630.68	3	-4.4
19	SLU 27	13	-3	2328		630.68	3	-4.4
19	SLU 28	13	-3	2328		630.68	3	-4.4
19	SLU 29	13	-3	2328		630.68	3	-4.4
19	SLU 30	13	-3	2328		630.68	3	-4.4
19	SLU 31	15	-4	2718		736.39	3.64	-5.28
19	SLU 32	15	-4	2718		736.39	3.64	-5.28
19	SLU 33	15	-4	2718		736.39	3.64	-5.28
19	SLU 34	15	-4	2718		736.39	3.64	-5.28
19	SLU 35	15	-4	2718		736.39	3.64	-5.28
19	SLU 36	15	-4	2718		736.39	3.64	-5.28
19	SLU 37	15	-4	2718		736.39	3.64	-5.28
19	SLU 38	15	-4	2718		736.39	3.64	-5.28
19	SLU 39	16	-4	2885		781.69	3.91	-5.66
19	SLU 40	16	-4	2885		781.69	3.91	-5.66
19	SLU 41	16	-4	2885		781.69	3.91	-5.66
19	SLU 42	16	-4	2885		781.69	3.91	-5.66
19	SLU 43	14	-4	2575		699.11	3.15	-4.81
19	SLU 44	14	-4	2575		699.11	3.15	-4.81
19	SLU 45	14	-4	2575		699.11	3.15	-4.81
19	SLU 46	14	-4	2575		699.11	3.15	-4.81
19	SLU 47	14	-4	2575		699.11	3.15	-4.81
19	SLU 48	14	-4	2575		699.11	3.15	-4.81
19	SLU 49	14	-4	2575		699.11	3.15	-4.81
19	SLU 50	14	-4	2575		699.11	3.15	-4.81
19	SLU 51	14	-4	2575		699.11	3.15	-4.81
19	SLU 52	16	-4	2965		804.81	3.79	-5.7
19	SLU 53	16	-4	2965		804.81	3.79	-5.7
19	SLU 54	16	-4	2965		804.81	3.79	-5.7
19	SLU 55	16	-4	2965		804.81	3.79	-5.7
19	SLU 56	16	-4	2965		804.81	3.79	-5.7
19	SLU 57	16	-4	2965		804.81	3.79	-5.7
19	SLU 58	16	-4	2965		804.81	3.79	-5.7
19	SLU 59	16	-4	2965		804.81	3.79	-5.7
19	SLU 60	17	-4	3132		850.11	4.06	-6.08
19	SLU 61	17	-4	3132		850.11	4.06	-6.08
19	SLU 62	17	-4	3132		850.11	4.06	-6.08
19	SLU 63	17	-4	3132		850.11	4.06	-6.08
19	SLU 64	15	-4	2850		772.63	3.61	-5.36
19	SLU 65	15	-4	2850		772.63	3.61	-5.36
19	SLU 66	15	-4	2850		772.63	3.61	-5.36
19	SLU 67	15	-4	2850		772.63	3.61	-5.36
19	SLU 68	15	-4	2850		772.63	3.61	-5.36
19	SLU 69	15	-4	2850		772.63	3.61	-5.36
19	SLU 70	15	-4	2850		772.63	3.61	-5.36
19	SLU 71	15	-4	2850		772.63	3.61	-5.36
19	SLU 72	15	-4	2850		772.63	3.61	-5.36
19	SLU 73	18	-4	3240		878.33	4.25	-6.25
19	SLU 74	18	-4	3240		878.33	4.25	-6.25
19	SLU 75	18	-4	3240		878.33	4.25	-6.25
19	SLU 76	18	-4	3240		878.33	4.25	-6.25
19	SLU 77	18	-4	3240		878.33	4.25	-6.25
19	SLU 78	18	-4	3240		878.33	4.25	-6.25
19	SLU 79	18	-4	3240		878.33	4.25	-6.25
19	SLU 80	18	-4	3240		878.33	4.25	-6.25
19	SLU 81	19	-5	3407		923.63	4.52	-6.63
19	SLU 82	19	-5	3407		923.63	4.52	-6.63
19	SLU 83	19	-5	3407		923.63	4.52	-6.63
19	SLU 84	19	-5	3407		923.63	4.52	-6.63
19	SLE RA 1	11	-3	2132		578.17	2.67	-4



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
19	SLE RA 2	11	-3	2132		578.17	2.67	-4
19	SLE RA 3	11	-3	2132		578.17	2.67	-4
19	SLE RA 4	11	-3	2132		578.17	2.67	-4
19	SLE RA 5	11	-3	2132		578.17	2.67	-4
19	SLE RA 6	11	-3	2132		578.17	2.67	-4
19	SLE RA 7	11	-3	2132		578.17	2.67	-4
19	SLE RA 8	11	-3	2132		578.17	2.67	-4
19	SLE RA 9	11	-3	2132		578.17	2.67	-4
19	SLE RA 10	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 11	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 12	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 13	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 14	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 15	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 16	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 17	13	-3	2392		648.64	3.1	-4.59
19	SLE RA 18	14	-3	2503		678.84	3.28	-4.85
19	SLE RA 19	14	-3	2503		678.84	3.28	-4.85
19	SLE RA 20	14	-3	2503		678.84	3.28	-4.85
19	SLE RA 21	14	-3	2503		678.84	3.28	-4.85
19	SLE FR 1	11	-3	2132		578.17	2.67	-4
19	SLE FR 2	11	-3	2132		578.17	2.67	-4
19	SLE FR 3	11	-3	2132		578.17	2.67	-4
19	SLE FR 4	12	-3	2243		608.37	2.86	-4.26
19	SLE FR 5	12	-3	2243		608.37	2.86	-4.26
19	SLE FR 6	13	-3	2317		628.51	2.98	-4.42
19	SLE QP 1	11	-3	2132		578.17	2.67	-4
19	SLE QP 2	12	-3	2243		608.37	2.86	-4.26
19	SLD 1	144	7	2308		635.53	3.62	-50.36
19	SLD 2	183	13	2306		635.34	3.62	-64.03
19	SLD 3	165	-40	2092		588.89	3.43	-57.95
19	SLD 4	204	-34	2090		588.71	3.43	-71.62
19	SLD 5	5	69	2591		687.32	3.37	-1.73
19	SLD 6	45	75	2589		687.13	3.37	-15.52
19	SLD 7	76	-88	1870		531.86	2.75	-27.03
19	SLD 8	116	-82	1869		531.67	2.74	-40.82
19	SLD 9	-92	75	2617		685.07	2.97	32.31
19	SLD 10	-52	81	2616		684.88	2.97	18.52
19	SLD 11	-21	-82	1897		529.61	2.34	7.01
19	SLD 12	19	-76	1895		529.42	2.34	-6.78
19	SLD 13	-180	27	2396		628.03	2.29	63.11
19	SLD 14	-141	33	2395		627.85	2.28	49.44
19	SLD 15	-159	-20	2180		581.4	2.1	55.52
19	SLD 16	-119	-14	2179		581.21	2.09	41.85
19	SLV 1	311	21	2394		671.32	4.6	-109.11
19	SLV 2	401	35	2391		670.89	4.59	-140.2
19	SLV 3	361	-88	1894		563.36	4.16	-126.61
19	SLV 4	450	-74	1891		562.94	4.15	-157.7
19	SLV 5	-5	164	3048		791.14	4.04	1.98
19	SLV 6	86	178	3045		790.71	4.03	-29.65
19	SLV 7	159	-199	1381		431.29	2.59	-56.35
19	SLV 8	250	-185	1378		430.86	2.58	-87.98
19	SLV 9	-226	178	3109		785.89	3.13	79.47
19	SLV 10	-135	192	3105		785.45	3.12	47.84
19	SLV 11	-62	-185	1441		426.04	1.68	21.14
19	SLV 12	29	-171	1438		425.6	1.67	-10.49
19	SLV 13	-426	68	2596		653.81	1.56	149.19
19	SLV 14	-336	81	2592		653.38	1.55	118.1
19	SLV 15	-377	-42	2095		545.85	1.13	131.69
19	SLV 16	-287	-28	2092		545.43	1.12	100.6
19	CRTFP Ux+	0	0	0		0	0	0
19	CRTFP Ux-	0	0	0		0	0	0
19	CRTFP Uy+	0	0	0		0	0	0
19	CRTFP Uy-	0	0	0		0	0	0
20	SLU 1	10	-4	1969		494.44	2.75	-3.67
20	SLU 2	10	-4	1969		494.44	2.75	-3.67
20	SLU 3	10	-4	1969		494.44	2.75	-3.67
20	SLU 4	10	-4	1969		494.44	2.75	-3.67
20	SLU 5	10	-4	1969		494.44	2.75	-3.67
20	SLU 6	10	-4	1969		494.44	2.75	-3.67
20	SLU 7	10	-4	1969		494.44	2.75	-3.67
20	SLU 8	10	-4	1969		494.44	2.75	-3.67
20	SLU 9	10	-4	1969		494.44	2.75	-3.67
20	SLU 10	13	-4	2338		585.3	3.45	-4.48
20	SLU 11	13	-4	2338		585.3	3.45	-4.48
20	SLU 12	13	-4	2338		585.3	3.45	-4.48
20	SLU 13	13	-4	2338		585.3	3.45	-4.48
20	SLU 14	13	-4	2338		585.3	3.45	-4.48
20	SLU 15	13	-4	2338		585.3	3.45	-4.48
20	SLU 16	13	-4	2338		585.3	3.45	-4.48
20	SLU 17	13	-4	2338		585.3	3.45	-4.48
20	SLU 18	14	-4	2496		624.24	3.75	-4.83
20	SLU 19	14	-4	2496		624.24	3.75	-4.83
20	SLU 20	14	-4	2496		624.24	3.75	-4.83
20	SLU 21	14	-4	2496		624.24	3.75	-4.83
20	SLU 22	12	-4	2228		557.59	3.25	-4.16
20	SLU 23	12	-4	2228		557.59	3.25	-4.16
20	SLU 24	12	-4	2228		557.59	3.25	-4.16
20	SLU 25	12	-4	2228		557.59	3.25	-4.16
20	SLU 26	12	-4	2228		557.59	3.25	-4.16



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
20	SLU 27	12	-4	2228		557.59	3.25	-4.16	
20	SLU 28	12	-4	2228		557.59	3.25	-4.16	
20	SLU 29	12	-4	2228		557.59	3.25	-4.16	
20	SLU 30	12	-4	2228		557.59	3.25	-4.16	
20	SLU 31	14	-4	2597		648.45	3.95	-4.98	
20	SLU 32	14	-4	2597		648.45	3.95	-4.98	
20	SLU 33	14	-4	2597		648.45	3.95	-4.98	
20	SLU 34	14	-4	2597		648.45	3.95	-4.98	
20	SLU 35	14	-4	2597		648.45	3.95	-4.98	
20	SLU 36	14	-4	2597		648.45	3.95	-4.98	
20	SLU 37	14	-4	2597		648.45	3.95	-4.98	
20	SLU 38	14	-4	2597		648.45	3.95	-4.98	
20	SLU 39	15	-4	2755		687.39	4.25	-5.32	
20	SLU 40	15	-4	2755		687.39	4.25	-5.32	
20	SLU 41	15	-4	2755		687.39	4.25	-5.32	
20	SLU 42	15	-4	2755		687.39	4.25	-5.32	
20	SLU 43	13	-5	2471		621.12	3.41	-4.6	
20	SLU 44	13	-5	2471		621.12	3.41	-4.6	
20	SLU 45	13	-5	2471		621.12	3.41	-4.6	
20	SLU 46	13	-5	2471		621.12	3.41	-4.6	
20	SLU 47	13	-5	2471		621.12	3.41	-4.6	
20	SLU 48	13	-5	2471		621.12	3.41	-4.6	
20	SLU 49	13	-5	2471		621.12	3.41	-4.6	
20	SLU 50	13	-5	2471		621.12	3.41	-4.6	
20	SLU 51	13	-5	2471		621.12	3.41	-4.6	
20	SLU 52	15	-5	2840		711.98	4.11	-5.41	
20	SLU 53	15	-5	2840		711.98	4.11	-5.41	
20	SLU 54	15	-5	2840		711.98	4.11	-5.41	
20	SLU 55	15	-5	2840		711.98	4.11	-5.41	
20	SLU 56	15	-5	2840		711.98	4.11	-5.41	
20	SLU 57	15	-5	2840		711.98	4.11	-5.41	
20	SLU 58	15	-5	2840		711.98	4.11	-5.41	
20	SLU 59	15	-5	2840		711.98	4.11	-5.41	
20	SLU 60	16	-5	2998		750.92	4.41	-5.76	
20	SLU 61	16	-5	2998		750.92	4.41	-5.76	
20	SLU 62	16	-5	2998		750.92	4.41	-5.76	
20	SLU 63	16	-5	2998		750.92	4.41	-5.76	
20	SLU 64	14	-5	2730		684.27	3.91	-5.1	
20	SLU 65	14	-5	2730		684.27	3.91	-5.1	
20	SLU 66	14	-5	2730		684.27	3.91	-5.1	
20	SLU 67	14	-5	2730		684.27	3.91	-5.1	
20	SLU 68	14	-5	2730		684.27	3.91	-5.1	
20	SLU 69	14	-5	2730		684.27	3.91	-5.1	
20	SLU 70	14	-5	2730		684.27	3.91	-5.1	
20	SLU 71	14	-5	2730		684.27	3.91	-5.1	
20	SLU 72	14	-5	2730		684.27	3.91	-5.1	
20	SLU 73	17	-5	3099		775.13	4.6	-5.91	
20	SLU 74	17	-5	3099		775.13	4.6	-5.91	
20	SLU 75	17	-5	3099		775.13	4.6	-5.91	
20	SLU 76	17	-5	3099		775.13	4.6	-5.91	
20	SLU 77	17	-5	3099		775.13	4.6	-5.91	
20	SLU 78	17	-5	3099		775.13	4.6	-5.91	
20	SLU 79	17	-5	3099		775.13	4.6	-5.91	
20	SLU 80	17	-5	3099		775.13	4.6	-5.91	
20	SLU 81	18	-5	3257		814.07	4.9	-6.25	
20	SLU 82	18	-5	3257		814.07	4.9	-6.25	
20	SLU 83	18	-5	3257		814.07	4.9	-6.25	
20	SLU 84	18	-5	3257		814.07	4.9	-6.25	
20	SLE RA 1	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 2	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 3	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 4	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 5	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 6	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 7	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 8	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 9	11	-4	2043		512.48	2.89	-3.81	
20	SLE RA 10	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 11	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 12	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 13	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 14	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 15	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 16	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 17	12	-4	2289		573.06	3.36	-4.35	
20	SLE RA 18	13	-4	2394		599.02	3.56	-4.58	
20	SLE RA 19	13	-4	2394		599.02	3.56	-4.58	
20	SLE RA 20	13	-4	2394		599.02	3.56	-4.58	
20	SLE RA 21	13	-4	2394		599.02	3.56	-4.58	
20	SLE FR 1	11	-4	2043		512.48	2.89	-3.81	
20	SLE FR 2	11	-4	2043		512.48	2.89	-3.81	
20	SLE FR 3	11	-4	2043		512.48	2.89	-3.81	
20	SLE FR 4	11	-4	2149		538.44	3.09	-4.04	
20	SLE FR 5	11	-4	2149		538.44	3.09	-4.04	
20	SLE FR 6	12	-4	2219		555.75	3.23	-4.2	
20	SLE QP 1	11	-4	2043		512.48	2.89	-3.81	
20	SLE QP 2	11	-4	2149		538.44	3.09	-4.04	
20	SLD 1	143	5	2189		562.49	3.9	-50.15	
20	SLD 2	182	14	2188		562.4	3.9	-63.82	
20	SLD 3	164	-49	1979		522.08	3.72	-57.74	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
20	SLD 4	204	-40	1978	522	3.72	-71.41
20	SLD 5	5	78	2480	606.97	3.61	-1.51
20	SLD 6	45	87	2479	606.88	3.61	-15.3
20	SLD 7	75	-103	1779	472.28	3.01	-26.83
20	SLD 8	115	-94	1778	472.2	3.01	-40.61
20	SLD 9	-92	86	2519	604.69	3.18	32.53
20	SLD 10	-52	95	2518	604.6	3.18	18.74
20	SLD 11	-22	-94	1818	470	2.58	7.22
20	SLD 12	18	-85	1817	469.91	2.58	-6.57
20	SLD 13	-181	33	2319	554.89	2.47	63.33
20	SLD 14	-141	42	2318	554.8	2.47	49.66
20	SLD 15	-159	-21	2109	514.48	2.29	55.73
20	SLD 16	-120	-12	2108	514.39	2.29	42.06
20	SLV 1	311	17	2245	594.21	4.93	-108.9
20	SLV 2	400	37	2243	594.01	4.92	-139.99
20	SLV 3	360	-108	1759	500.67	4.52	-126.4
20	SLV 4	449	-88	1756	500.47	4.5	-157.49
20	SLV 5	-5	185	2917	697.12	4.28	2.21
20	SLV 6	86	205	2914	696.92	4.27	-29.43
20	SLV 7	158	-232	1295	385.3	2.89	-56.15
20	SLV 8	249	-212	1292	385.1	2.88	-87.78
20	SLV 9	-226	204	3005	691.78	3.31	79.7
20	SLV 10	-135	225	3003	691.58	3.29	48.06
20	SLV 11	-63	-213	1383	379.96	1.92	21.35
20	SLV 12	28	-192	1380	379.76	1.91	-10.29
20	SLV 13	-426	81	2541	576.41	1.68	149.41
20	SLV 14	-337	101	2538	576.22	1.67	118.32
20	SLV 15	-377	-44	2055	482.87	1.27	131.9
20	SLV 16	-288	-24	2052	482.67	1.25	100.81
20	CRTFP Ux+	0	0	0	0	0	0
20	CRTFP Ux-	0	0	0	0	0	0
20	CRTFP Uy+	0	0	0	0	0	0
20	CRTFP Uy-	0	0	0	0	0	0
21	SLU 1	10	-4	1886	436.23	2.49	-3.49
21	SLU 2	10	-4	1886	436.23	2.49	-3.49
21	SLU 3	10	-4	1886	436.23	2.49	-3.49
21	SLU 4	10	-4	1886	436.23	2.49	-3.49
21	SLU 5	10	-4	1886	436.23	2.49	-3.49
21	SLU 6	10	-4	1886	436.23	2.49	-3.49
21	SLU 7	10	-4	1886	436.23	2.49	-3.49
21	SLU 8	10	-4	1886	436.23	2.49	-3.49
21	SLU 9	10	-4	1886	436.23	2.49	-3.49
21	SLU 10	12	-5	2234	513.15	3.13	-4.23
21	SLU 11	12	-5	2234	513.15	3.13	-4.23
21	SLU 12	12	-5	2234	513.15	3.13	-4.23
21	SLU 13	12	-5	2234	513.15	3.13	-4.23
21	SLU 14	12	-5	2234	513.15	3.13	-4.23
21	SLU 15	12	-5	2234	513.15	3.13	-4.23
21	SLU 16	12	-5	2234	513.15	3.13	-4.23
21	SLU 17	12	-5	2234	513.15	3.13	-4.23
21	SLU 18	13	-5	2383	546.12	3.41	-4.55
21	SLU 19	13	-5	2383	546.12	3.41	-4.55
21	SLU 20	13	-5	2383	546.12	3.41	-4.55
21	SLU 21	13	-5	2383	546.12	3.41	-4.55
21	SLU 22	11	-5	2130	489.65	2.95	-3.94
21	SLU 23	11	-5	2130	489.65	2.95	-3.94
21	SLU 24	11	-5	2130	489.65	2.95	-3.94
21	SLU 25	11	-5	2130	489.65	2.95	-3.94
21	SLU 26	11	-5	2130	489.65	2.95	-3.94
21	SLU 27	11	-5	2130	489.65	2.95	-3.94
21	SLU 28	11	-5	2130	489.65	2.95	-3.94
21	SLU 29	11	-5	2130	489.65	2.95	-3.94
21	SLU 30	11	-5	2130	489.65	2.95	-3.94
21	SLU 31	13	-5	2478	566.58	3.6	-4.68
21	SLU 32	13	-5	2478	566.58	3.6	-4.68
21	SLU 33	13	-5	2478	566.58	3.6	-4.68
21	SLU 34	13	-5	2478	566.58	3.6	-4.68
21	SLU 35	13	-5	2478	566.58	3.6	-4.68
21	SLU 36	13	-5	2478	566.58	3.6	-4.68
21	SLU 37	13	-5	2478	566.58	3.6	-4.68
21	SLU 38	13	-5	2478	566.58	3.6	-4.68
21	SLU 39	14	-5	2627	599.55	3.87	-5
21	SLU 40	14	-5	2627	599.55	3.87	-5
21	SLU 41	14	-5	2627	599.55	3.87	-5
21	SLU 42	14	-5	2627	599.55	3.87	-5
21	SLU 43	12	-6	2368	548.78	3.07	-4.39
21	SLU 44	12	-6	2368	548.78	3.07	-4.39
21	SLU 45	12	-6	2368	548.78	3.07	-4.39
21	SLU 46	12	-6	2368	548.78	3.07	-4.39
21	SLU 47	12	-6	2368	548.78	3.07	-4.39
21	SLU 48	12	-6	2368	548.78	3.07	-4.39
21	SLU 49	12	-6	2368	548.78	3.07	-4.39
21	SLU 50	12	-6	2368	548.78	3.07	-4.39
21	SLU 51	12	-6	2368	548.78	3.07	-4.39
21	SLU 52	15	-6	2716	625.7	3.72	-5.13
21	SLU 53	15	-6	2716	625.7	3.72	-5.13
21	SLU 54	15	-6	2716	625.7	3.72	-5.13
21	SLU 55	15	-6	2716	625.7	3.72	-5.13
21	SLU 56	15	-6	2716	625.7	3.72	-5.13
21	SLU 57	15	-6	2716	625.7	3.72	-5.13



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
21	SLU 58	15	-6	2716		625.7	3.72	-5.13
21	SLU 59	15	-6	2716		625.7	3.72	-5.13
21	SLU 60	15	-6	2865		658.67	4	-5.45
21	SLU 61	15	-6	2865		658.67	4	-5.45
21	SLU 62	15	-6	2865		658.67	4	-5.45
21	SLU 63	15	-6	2865		658.67	4	-5.45
21	SLU 64	14	-6	2613		602.2	3.54	-4.83
21	SLU 65	14	-6	2613		602.2	3.54	-4.83
21	SLU 66	14	-6	2613		602.2	3.54	-4.83
21	SLU 67	14	-6	2613		602.2	3.54	-4.83
21	SLU 68	14	-6	2613		602.2	3.54	-4.83
21	SLU 69	14	-6	2613		602.2	3.54	-4.83
21	SLU 70	14	-6	2613		602.2	3.54	-4.83
21	SLU 71	14	-6	2613		602.2	3.54	-4.83
21	SLU 72	14	-6	2613		602.2	3.54	-4.83
21	SLU 73	16	-6	2960		679.13	4.19	-5.57
21	SLU 74	16	-6	2960		679.13	4.19	-5.57
21	SLU 75	16	-6	2960		679.13	4.19	-5.57
21	SLU 76	16	-6	2960		679.13	4.19	-5.57
21	SLU 77	16	-6	2960		679.13	4.19	-5.57
21	SLU 78	16	-6	2960		679.13	4.19	-5.57
21	SLU 79	16	-6	2960		679.13	4.19	-5.57
21	SLU 80	16	-6	2960		679.13	4.19	-5.57
21	SLU 81	17	-7	3109		712.1	4.46	-5.89
21	SLU 82	17	-7	3109		712.1	4.46	-5.89
21	SLU 83	17	-7	3109		712.1	4.46	-5.89
21	SLU 84	17	-7	3109		712.1	4.46	-5.89
21	SLE RA 1	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 2	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 3	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 4	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 5	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 6	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 7	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 8	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 9	10	-5	1956		451.49	2.62	-3.62
21	SLE RA 10	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 11	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 12	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 13	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 14	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 15	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 16	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 17	12	-5	2188		502.78	3.05	-4.11
21	SLE RA 18	12	-5	2287		524.75	3.24	-4.33
21	SLE RA 19	12	-5	2287		524.75	3.24	-4.33
21	SLE RA 20	12	-5	2287		524.75	3.24	-4.33
21	SLE RA 21	12	-5	2287		524.75	3.24	-4.33
21	SLE FR 1	10	-5	1956		451.49	2.62	-3.62
21	SLE FR 2	10	-5	1956		451.49	2.62	-3.62
21	SLE FR 3	10	-5	1956		451.49	2.62	-3.62
21	SLE FR 4	11	-5	2055		473.47	2.8	-3.83
21	SLE FR 5	11	-5	2055		473.47	2.8	-3.83
21	SLE FR 6	11	-5	2121		488.12	2.93	-3.97
21	SLE QP 1	10	-5	1956		451.49	2.62	-3.62
21	SLE QP 2	11	-5	2055		473.47	2.8	-3.83
21	SLD 1	143	3	2071		485.77	3.65	-49.93
21	SLD 2	182	14	2070		485.73	3.64	-63.6
21	SLD 3	163	-60	1865		450.74	3.53	-57.51
21	SLD 4	203	-49	1864		450.7	3.52	-71.18
21	SLD 5	5	89	2372		530.29	3.24	-1.32
21	SLD 6	44	101	2371		530.25	3.23	-15.11
21	SLD 7	74	-121	1687		413.55	2.85	-26.59
21	SLD 8	114	-110	1686		413.5	2.84	-40.37
21	SLD 9	-92	100	2425		533.43	2.77	32.71
21	SLD 10	-53	112	2424		533.39	2.76	18.93
21	SLD 11	-23	-110	1740		416.69	2.38	7.44
21	SLD 12	17	-99	1738		416.65	2.37	-6.34
21	SLD 13	-181	39	2246		496.24	2.09	63.51
21	SLD 14	-142	51	2245		496.2	2.08	49.85
21	SLD 15	-160	-24	2041		461.21	1.97	55.93
21	SLD 16	-121	-12	2040		461.17	1.96	42.27
21	SLV 1	310	14	2094		501.95	4.72	-108.67
21	SLV 2	400	40	2092		501.86	4.7	-139.75
21	SLV 3	359	-133	1619		420.85	4.45	-126.14
21	SLV 4	448	-106	1616		420.76	4.43	-157.23
21	SLV 5	-5	213	2789		605.05	3.8	2.37
21	SLV 6	86	240	2787		604.95	3.78	-29.26
21	SLV 7	156	-274	1204		334.72	2.89	-55.87
21	SLV 8	247	-247	1201		334.62	2.87	-87.5
21	SLV 9	-226	238	2909		612.32	2.73	79.84
21	SLV 10	-135	265	2907		612.22	2.72	48.21
21	SLV 11	-65	-249	1323		341.99	1.83	21.59
21	SLV 12	26	-222	1321		341.89	1.81	-10.03
21	SLV 13	-426	97	2494		526.18	1.18	149.56
21	SLV 14	-337	123	2492		526.09	1.16	118.48
21	SLV 15	-378	-49	2018		445.08	0.9	132.09
21	SLV 16	-289	-23	2016		444.99	0.89	101.01
21	CRTFP Ux+	0	0	0		0	0	0
21	CRTFP Ux-	0	0	0		0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	CRTFP Uy+	0	0	0	0	0	0
21	CRTFP Uy-	0	0	0	0	0	0
22	SLU 1	9	-6	1817	389.59	1.9	-3.32
22	SLU 2	9	-6	1817	389.59	1.9	-3.32
22	SLU 3	9	-6	1817	389.59	1.9	-3.32
22	SLU 4	9	-6	1817	389.59	1.9	-3.32
22	SLU 5	9	-6	1817	389.59	1.9	-3.32
22	SLU 6	9	-6	1817	389.59	1.9	-3.32
22	SLU 7	9	-6	1817	389.59	1.9	-3.32
22	SLU 8	9	-6	1817	389.59	1.9	-3.32
22	SLU 9	9	-6	1817	389.59	1.9	-3.32
22	SLU 10	11	-6	2146	455.1	2.42	-4
22	SLU 11	11	-6	2146	455.1	2.42	-4
22	SLU 12	11	-6	2146	455.1	2.42	-4
22	SLU 13	11	-6	2146	455.1	2.42	-4
22	SLU 14	11	-6	2146	455.1	2.42	-4
22	SLU 15	11	-6	2146	455.1	2.42	-4
22	SLU 16	11	-6	2146	455.1	2.42	-4
22	SLU 17	11	-6	2146	455.1	2.42	-4
22	SLU 18	12	-7	2287	483.18	2.64	-4.29
22	SLU 19	12	-7	2287	483.18	2.64	-4.29
22	SLU 20	12	-7	2287	483.18	2.64	-4.29
22	SLU 21	12	-7	2287	483.18	2.64	-4.29
22	SLU 22	10	-6	2048	435.03	2.28	-3.72
22	SLU 23	10	-6	2048	435.03	2.28	-3.72
22	SLU 24	10	-6	2048	435.03	2.28	-3.72
22	SLU 25	10	-6	2048	435.03	2.28	-3.72
22	SLU 26	10	-6	2048	435.03	2.28	-3.72
22	SLU 27	10	-6	2048	435.03	2.28	-3.72
22	SLU 28	10	-6	2048	435.03	2.28	-3.72
22	SLU 29	10	-6	2048	435.03	2.28	-3.72
22	SLU 30	10	-6	2048	435.03	2.28	-3.72
22	SLU 31	12	-7	2377	500.55	2.8	-4.4
22	SLU 32	12	-7	2377	500.55	2.8	-4.4
22	SLU 33	12	-7	2377	500.55	2.8	-4.4
22	SLU 34	12	-7	2377	500.55	2.8	-4.4
22	SLU 35	12	-7	2377	500.55	2.8	-4.4
22	SLU 36	12	-7	2377	500.55	2.8	-4.4
22	SLU 37	12	-7	2377	500.55	2.8	-4.4
22	SLU 38	12	-7	2377	500.55	2.8	-4.4
22	SLU 39	13	-7	2518	528.62	3.02	-4.69
22	SLU 40	13	-7	2518	528.62	3.02	-4.69
22	SLU 41	13	-7	2518	528.62	3.02	-4.69
22	SLU 42	13	-7	2518	528.62	3.02	-4.69
22	SLU 43	12	-7	2283	490.88	2.34	-4.18
22	SLU 44	12	-7	2283	490.88	2.34	-4.18
22	SLU 45	12	-7	2283	490.88	2.34	-4.18
22	SLU 46	12	-7	2283	490.88	2.34	-4.18
22	SLU 47	12	-7	2283	490.88	2.34	-4.18
22	SLU 48	12	-7	2283	490.88	2.34	-4.18
22	SLU 49	12	-7	2283	490.88	2.34	-4.18
22	SLU 50	12	-7	2283	490.88	2.34	-4.18
22	SLU 51	12	-7	2283	490.88	2.34	-4.18
22	SLU 52	14	-8	2612	556.39	2.86	-4.86
22	SLU 53	14	-8	2612	556.39	2.86	-4.86
22	SLU 54	14	-8	2612	556.39	2.86	-4.86
22	SLU 55	14	-8	2612	556.39	2.86	-4.86
22	SLU 56	14	-8	2612	556.39	2.86	-4.86
22	SLU 57	14	-8	2612	556.39	2.86	-4.86
22	SLU 58	14	-8	2612	556.39	2.86	-4.86
22	SLU 59	14	-8	2612	556.39	2.86	-4.86
22	SLU 60	15	-8	2753	584.47	3.08	-5.15
22	SLU 61	15	-8	2753	584.47	3.08	-5.15
22	SLU 62	15	-8	2753	584.47	3.08	-5.15
22	SLU 63	15	-8	2753	584.47	3.08	-5.15
22	SLU 64	13	-8	2514	536.33	2.72	-4.58
22	SLU 65	13	-8	2514	536.33	2.72	-4.58
22	SLU 66	13	-8	2514	536.33	2.72	-4.58
22	SLU 67	13	-8	2514	536.33	2.72	-4.58
22	SLU 68	13	-8	2514	536.33	2.72	-4.58
22	SLU 69	13	-8	2514	536.33	2.72	-4.58
22	SLU 70	13	-8	2514	536.33	2.72	-4.58
22	SLU 71	13	-8	2514	536.33	2.72	-4.58
22	SLU 72	13	-8	2514	536.33	2.72	-4.58
22	SLU 73	15	-8	2843	601.84	3.24	-5.26
22	SLU 74	15	-8	2843	601.84	3.24	-5.26
22	SLU 75	15	-8	2843	601.84	3.24	-5.26
22	SLU 76	15	-8	2843	601.84	3.24	-5.26
22	SLU 77	15	-8	2843	601.84	3.24	-5.26
22	SLU 78	15	-8	2843	601.84	3.24	-5.26
22	SLU 79	15	-8	2843	601.84	3.24	-5.26
22	SLU 80	15	-8	2843	601.84	3.24	-5.26
22	SLU 81	16	-9	2984	629.92	3.46	-5.55
22	SLU 82	16	-9	2984	629.92	3.46	-5.55
22	SLU 83	16	-9	2984	629.92	3.46	-5.55
22	SLU 84	16	-9	2984	629.92	3.46	-5.55
22	SLE RA 1	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 2	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 3	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 4	10	-6	1883	402.57	2.01	-3.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLE RA 5	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 6	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 7	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 8	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 9	10	-6	1883	402.57	2.01	-3.44
22	SLE RA 10	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 11	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 12	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 13	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 14	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 15	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 16	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 17	11	-6	2102	446.25	2.35	-3.89
22	SLE RA 18	12	-7	2196	464.96	2.5	-4.08
22	SLE RA 19	12	-7	2196	464.96	2.5	-4.08
22	SLE RA 20	12	-7	2196	464.96	2.5	-4.08
22	SLE RA 21	12	-7	2196	464.96	2.5	-4.08
22	SLE FR 1	10	-6	1883	402.57	2.01	-3.44
22	SLE FR 2	10	-6	1883	402.57	2.01	-3.44
22	SLE FR 3	10	-6	1883	402.57	2.01	-3.44
22	SLE FR 4	10	-6	1977	421.29	2.16	-3.63
22	SLE FR 5	10	-6	1977	421.29	2.16	-3.63
22	SLE FR 6	11	-6	2040	433.77	2.25	-3.76
22	SLE QP 1	10	-6	1883	402.57	2.01	-3.44
22	SLE QP 2	10	-6	1977	421.29	2.16	-3.63
22	SLD 1	142	1	1966	427.66	3.04	-49.71
22	SLD 2	181	16	1965	427.61	3.03	-63.37
22	SLD 3	163	-73	1762	396.38	3.01	-57.25
22	SLD 4	202	-59	1761	396.33	3.01	-70.91
22	SLD 5	4	103	2282	470.66	2.47	-1.17
22	SLD 6	44	118	2282	470.61	2.46	-14.95
22	SLD 7	73	-144	1604	366.39	2.38	-26.32
22	SLD 8	113	-129	1603	366.34	2.37	-40.1
22	SLD 9	-93	117	2350	476.24	1.94	32.84
22	SLD 10	-53	132	2350	476.18	1.94	19.06
22	SLD 11	-24	-130	1672	371.97	1.86	7.69
22	SLD 12	16	-115	1671	371.91	1.85	-6.09
22	SLD 13	-181	47	2192	446.25	1.31	63.66
22	SLD 14	-142	61	2192	446.19	1.3	50
22	SLD 15	-161	-27	1989	414.97	1.28	56.11
22	SLD 16	-121	-13	1988	414.91	1.27	42.45
22	SLV 1	310	11	1956	436.33	4.17	-108.43
22	SLV 2	399	45	1954	436.2	4.15	-139.49
22	SLV 3	357	-160	1485	363.88	4.11	-125.82
22	SLV 4	447	-127	1483	363.75	4.09	-156.89
22	SLV 5	-4	248	2685	535.72	2.86	2.46
22	SLV 6	87	281	2684	535.59	2.84	-29.15
22	SLV 7	155	-324	1116	294.24	2.65	-55.52
22	SLV 8	246	-291	1114	294.1	2.63	-87.13
22	SLV 9	-225	279	2840	548.47	1.68	79.87
22	SLV 10	-134	313	2838	548.34	1.66	48.27
22	SLV 11	-66	-293	1270	306.99	1.47	21.89
22	SLV 12	25	-260	1268	306.85	1.45	-9.72
22	SLV 13	-426	115	2471	478.83	0.23	149.63
22	SLV 14	-337	148	2469	478.7	0.2	118.56
22	SLV 15	-379	-56	2000	406.38	0.16	132.23
22	SLV 16	-289	-23	1998	406.25	0.14	101.17
22	CRTFP Ux+	0	0	0	0	0	0
22	CRTFP Ux-	0	0	0	0	0	0
22	CRTFP Uy+	0	0	0	0	0	0
22	CRTFP Uy-	0	0	0	0	0	0
23	SLU 1	9	-7	1770	359.59	1.09	-3.16
23	SLU 2	9	-7	1770	359.59	1.09	-3.16
23	SLU 3	9	-7	1770	359.59	1.09	-3.16
23	SLU 4	9	-7	1770	359.59	1.09	-3.16
23	SLU 5	9	-7	1770	359.59	1.09	-3.16
23	SLU 6	9	-7	1770	359.59	1.09	-3.16
23	SLU 7	9	-7	1770	359.59	1.09	-3.16
23	SLU 8	9	-7	1770	359.59	1.09	-3.16
23	SLU 9	9	-7	1770	359.59	1.09	-3.16
23	SLU 10	11	-8	2085	417.31	1.44	-3.78
23	SLU 11	11	-8	2085	417.31	1.44	-3.78
23	SLU 12	11	-8	2085	417.31	1.44	-3.78
23	SLU 13	11	-8	2085	417.31	1.44	-3.78
23	SLU 14	11	-8	2085	417.31	1.44	-3.78
23	SLU 15	11	-8	2085	417.31	1.44	-3.78
23	SLU 16	11	-8	2085	417.31	1.44	-3.78
23	SLU 17	11	-8	2085	417.31	1.44	-3.78
23	SLU 18	11	-9	2220	442.05	1.59	-4.05
23	SLU 19	11	-9	2220	442.05	1.59	-4.05
23	SLU 20	11	-9	2220	442.05	1.59	-4.05
23	SLU 21	11	-9	2220	442.05	1.59	-4.05
23	SLU 22	10	-8	1991	399.57	1.35	-3.51
23	SLU 23	10	-8	1991	399.57	1.35	-3.51
23	SLU 24	10	-8	1991	399.57	1.35	-3.51
23	SLU 25	10	-8	1991	399.57	1.35	-3.51
23	SLU 26	10	-8	1991	399.57	1.35	-3.51
23	SLU 27	10	-8	1991	399.57	1.35	-3.51
23	SLU 28	10	-8	1991	399.57	1.35	-3.51
23	SLU 29	10	-8	1991	399.57	1.35	-3.51



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
23	SLU 30	10	-8	1991	399.57	1.35	-3.51	
23	SLU 31	12	-9	2306	457.3	1.69	-4.13	
23	SLU 32	12	-9	2306	457.3	1.69	-4.13	
23	SLU 33	12	-9	2306	457.3	1.69	-4.13	
23	SLU 34	12	-9	2306	457.3	1.69	-4.13	
23	SLU 35	12	-9	2306	457.3	1.69	-4.13	
23	SLU 36	12	-9	2306	457.3	1.69	-4.13	
23	SLU 37	12	-9	2306	457.3	1.69	-4.13	
23	SLU 38	12	-9	2306	457.3	1.69	-4.13	
23	SLU 39	12	-10	2441	482.04	1.84	-4.4	
23	SLU 40	12	-10	2441	482.04	1.84	-4.4	
23	SLU 41	12	-10	2441	482.04	1.84	-4.4	
23	SLU 42	12	-10	2441	482.04	1.84	-4.4	
23	SLU 43	11	-9	2225	453.75	1.34	-3.98	
23	SLU 44	11	-9	2225	453.75	1.34	-3.98	
23	SLU 45	11	-9	2225	453.75	1.34	-3.98	
23	SLU 46	11	-9	2225	453.75	1.34	-3.98	
23	SLU 47	11	-9	2225	453.75	1.34	-3.98	
23	SLU 48	11	-9	2225	453.75	1.34	-3.98	
23	SLU 49	11	-9	2225	453.75	1.34	-3.98	
23	SLU 50	11	-9	2225	453.75	1.34	-3.98	
23	SLU 51	11	-9	2225	453.75	1.34	-3.98	
23	SLU 52	13	-10	2540	511.48	1.68	-4.61	
23	SLU 53	13	-10	2540	511.48	1.68	-4.61	
23	SLU 54	13	-10	2540	511.48	1.68	-4.61	
23	SLU 55	13	-10	2540	511.48	1.68	-4.61	
23	SLU 56	13	-10	2540	511.48	1.68	-4.61	
23	SLU 57	13	-10	2540	511.48	1.68	-4.61	
23	SLU 58	13	-10	2540	511.48	1.68	-4.61	
23	SLU 59	13	-10	2540	511.48	1.68	-4.61	
23	SLU 60	14	-10	2675	536.22	1.83	-4.88	
23	SLU 61	14	-10	2675	536.22	1.83	-4.88	
23	SLU 62	14	-10	2675	536.22	1.83	-4.88	
23	SLU 63	14	-10	2675	536.22	1.83	-4.88	
23	SLU 64	12	-10	2446	493.74	1.59	-4.34	
23	SLU 65	12	-10	2446	493.74	1.59	-4.34	
23	SLU 66	12	-10	2446	493.74	1.59	-4.34	
23	SLU 67	12	-10	2446	493.74	1.59	-4.34	
23	SLU 68	12	-10	2446	493.74	1.59	-4.34	
23	SLU 69	12	-10	2446	493.74	1.59	-4.34	
23	SLU 70	12	-10	2446	493.74	1.59	-4.34	
23	SLU 71	12	-10	2446	493.74	1.59	-4.34	
23	SLU 72	12	-10	2446	493.74	1.59	-4.34	
23	SLU 73	14	-11	2761	551.46	1.94	-4.96	
23	SLU 74	14	-11	2761	551.46	1.94	-4.96	
23	SLU 75	14	-11	2761	551.46	1.94	-4.96	
23	SLU 76	14	-11	2761	551.46	1.94	-4.96	
23	SLU 77	14	-11	2761	551.46	1.94	-4.96	
23	SLU 78	14	-11	2761	551.46	1.94	-4.96	
23	SLU 79	14	-11	2761	551.46	1.94	-4.96	
23	SLU 80	14	-11	2761	551.46	1.94	-4.96	
23	SLU 81	15	-11	2896	576.2	2.08	-5.23	
23	SLU 82	15	-11	2896	576.2	2.08	-5.23	
23	SLU 83	15	-11	2896	576.2	2.08	-5.23	
23	SLU 84	15	-11	2896	576.2	2.08	-5.23	
23	SLE RA 1	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 2	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 3	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 4	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 5	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 6	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 7	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 8	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 9	9	-7	1833	371.01	1.17	-3.26	
23	SLE RA 10	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 11	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 12	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 13	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 14	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 15	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 16	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 17	10	-8	2043	409.49	1.4	-3.67	
23	SLE RA 18	11	-8	2133	425.99	1.5	-3.85	
23	SLE RA 19	11	-8	2133	425.99	1.5	-3.85	
23	SLE RA 20	11	-8	2133	425.99	1.5	-3.85	
23	SLE RA 21	11	-8	2133	425.99	1.5	-3.85	
23	SLE FR 1	9	-7	1833	371.01	1.17	-3.26	
23	SLE FR 2	9	-7	1833	371.01	1.17	-3.26	
23	SLE FR 3	9	-7	1833	371.01	1.17	-3.26	
23	SLE FR 4	10	-7	1923	387.5	1.27	-3.44	
23	SLE FR 5	10	-7	1923	387.5	1.27	-3.44	
23	SLE FR 6	10	-8	1983	398.5	1.33	-3.56	
23	SLE QP 1	9	-7	1833	371.01	1.17	-3.26	
23	SLE QP 2	10	-7	1923	387.5	1.27	-3.44	
23	SLD 1	141	-1	1884	386.27	2.2	-49.49	
23	SLD 2	181	17	1883	386.15	2.19	-63.14	
23	SLD 3	162	-87	1679	356.49	2.31	-56.98	
23	SLD 4	201	-70	1678	356.37	2.3	-70.63	
23	SLD 5	4	120	2222	432.34	1.38	-1.06	
23	SLD 6	44	138	2222	432.23	1.37	-14.82	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLD 7	72	-169	1539	333.07	1.76	-26.03
23	SLD 8	112	-151	1539	332.95	1.75	-39.79
23	SLD 9	-93	136	2307	442.05	0.79	32.92
23	SLD 10	-53	154	2307	441.94	0.78	19.15
23	SLD 11	-25	-153	1624	342.78	1.17	7.95
23	SLD 12	15	-135	1624	342.66	1.16	-5.82
23	SLD 13	-182	55	2168	418.64	0.23	63.75
23	SLD 14	-142	72	2167	418.52	0.22	50.11
23	SLD 15	-161	-32	1963	388.85	0.35	56.26
23	SLD 16	-122	-14	1962	388.74	0.34	42.62
23	SLV 1	309	10	1838	385.28	3.38	-108.18
23	SLV 2	398	50	1837	385.02	3.35	-139.21
23	SLV 3	356	-191	1363	316.3	3.64	-125.44
23	SLV 4	446	-150	1362	316.04	3.62	-156.48
23	SLV 5	-4	287	2617	491.55	1.51	2.46
23	SLV 6	87	328	2616	491.28	1.48	-29.11
23	SLV 7	153	-381	1036	261.62	2.39	-55.09
23	SLV 8	244	-340	1035	261.35	2.36	-86.67
23	SLV 9	-225	325	2811	513.65	0.17	79.8
23	SLV 10	-134	366	2810	513.39	0.15	48.22
23	SLV 11	-68	-343	1230	283.73	1.05	22.24
23	SLV 12	23	-302	1229	283.46	1.02	-9.34
23	SLV 13	-426	135	2484	458.97	-1.08	149.6
23	SLV 14	-337	176	2482	458.7	-1.11	118.57
23	SLV 15	-379	-65	2009	389.99	-0.82	132.34
23	SLV 16	-290	-25	2008	389.73	-0.84	101.3
23	CRTFP Ux+	0	0	0	0	0	0
23	CRTFP Ux-	0	0	0	0	0	0
23	CRTFP Uy+	0	0	0	0	0	0
23	CRTFP Uy-	0	0	0	0	0	0
24	SLU 1	8	-8	1750	349.95	0.15	-2.99
24	SLU 2	8	-8	1750	349.95	0.15	-2.99
24	SLU 3	8	-8	1750	349.95	0.15	-2.99
24	SLU 4	8	-8	1750	349.95	0.15	-2.99
24	SLU 5	8	-8	1750	349.95	0.15	-2.99
24	SLU 6	8	-8	1750	349.95	0.15	-2.99
24	SLU 7	8	-8	1750	349.95	0.15	-2.99
24	SLU 8	8	-8	1750	349.95	0.15	-2.99
24	SLU 9	8	-8	1750	349.95	0.15	-2.99
24	SLU 10	10	-10	2058	404.28	0.28	-3.57
24	SLU 11	10	-10	2058	404.28	0.28	-3.57
24	SLU 12	10	-10	2058	404.28	0.28	-3.57
24	SLU 13	10	-10	2058	404.28	0.28	-3.57
24	SLU 14	10	-10	2058	404.28	0.28	-3.57
24	SLU 15	10	-10	2058	404.28	0.28	-3.57
24	SLU 16	10	-10	2058	404.28	0.28	-3.57
24	SLU 17	10	-10	2058	404.28	0.28	-3.57
24	SLU 18	11	-11	2190	427.57	0.34	-3.81
24	SLU 19	11	-11	2190	427.57	0.34	-3.81
24	SLU 20	11	-11	2190	427.57	0.34	-3.81
24	SLU 21	11	-11	2190	427.57	0.34	-3.81
24	SLU 22	9	-10	1965	387.52	0.26	-3.31
24	SLU 23	9	-10	1965	387.52	0.26	-3.31
24	SLU 24	9	-10	1965	387.52	0.26	-3.31
24	SLU 25	9	-10	1965	387.52	0.26	-3.31
24	SLU 26	9	-10	1965	387.52	0.26	-3.31
24	SLU 27	9	-10	1965	387.52	0.26	-3.31
24	SLU 28	9	-10	1965	387.52	0.26	-3.31
24	SLU 29	9	-10	1965	387.52	0.26	-3.31
24	SLU 30	9	-10	1965	387.52	0.26	-3.31
24	SLU 31	11	-11	2273	441.85	0.39	-3.88
24	SLU 32	11	-11	2273	441.85	0.39	-3.88
24	SLU 33	11	-11	2273	441.85	0.39	-3.88
24	SLU 34	11	-11	2273	441.85	0.39	-3.88
24	SLU 35	11	-11	2273	441.85	0.39	-3.88
24	SLU 36	11	-11	2273	441.85	0.39	-3.88
24	SLU 37	11	-11	2273	441.85	0.39	-3.88
24	SLU 38	11	-11	2273	441.85	0.39	-3.88
24	SLU 39	12	-12	2405	465.13	0.45	-4.13
24	SLU 40	12	-12	2405	465.13	0.45	-4.13
24	SLU 41	12	-12	2405	465.13	0.45	-4.13
24	SLU 42	12	-12	2405	465.13	0.45	-4.13
24	SLU 43	11	-10	2201	442.06	0.15	-3.79
24	SLU 44	11	-10	2201	442.06	0.15	-3.79
24	SLU 45	11	-10	2201	442.06	0.15	-3.79
24	SLU 46	11	-10	2201	442.06	0.15	-3.79
24	SLU 47	11	-10	2201	442.06	0.15	-3.79
24	SLU 48	11	-10	2201	442.06	0.15	-3.79
24	SLU 49	11	-10	2201	442.06	0.15	-3.79
24	SLU 50	11	-10	2201	442.06	0.15	-3.79
24	SLU 51	11	-10	2201	442.06	0.15	-3.79
24	SLU 52	12	-12	2509	496.39	0.29	-4.36
24	SLU 53	12	-12	2509	496.39	0.29	-4.36
24	SLU 54	12	-12	2509	496.39	0.29	-4.36
24	SLU 55	12	-12	2509	496.39	0.29	-4.36
24	SLU 56	12	-12	2509	496.39	0.29	-4.36
24	SLU 57	12	-12	2509	496.39	0.29	-4.36
24	SLU 58	12	-12	2509	496.39	0.29	-4.36
24	SLU 59	12	-12	2509	496.39	0.29	-4.36
24	SLU 60	13	-13	2641	519.67	0.35	-4.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
24	SLU 61	13	-13	2641	519.67	0.35	-4.61
24	SLU 62	13	-13	2641	519.67	0.35	-4.61
24	SLU 63	13	-13	2641	519.67	0.35	-4.61
24	SLU 64	12	-12	2416	479.62	0.26	-4.1
24	SLU 65	12	-12	2416	479.62	0.26	-4.1
24	SLU 66	12	-12	2416	479.62	0.26	-4.1
24	SLU 67	12	-12	2416	479.62	0.26	-4.1
24	SLU 68	12	-12	2416	479.62	0.26	-4.1
24	SLU 69	12	-12	2416	479.62	0.26	-4.1
24	SLU 70	12	-12	2416	479.62	0.26	-4.1
24	SLU 71	12	-12	2416	479.62	0.26	-4.1
24	SLU 72	12	-12	2416	479.62	0.26	-4.1
24	SLU 73	13	-13	2724	533.96	0.4	-4.67
24	SLU 74	13	-13	2724	533.96	0.4	-4.67
24	SLU 75	13	-13	2724	533.96	0.4	-4.67
24	SLU 76	13	-13	2724	533.96	0.4	-4.67
24	SLU 77	13	-13	2724	533.96	0.4	-4.67
24	SLU 78	13	-13	2724	533.96	0.4	-4.67
24	SLU 79	13	-13	2724	533.96	0.4	-4.67
24	SLU 80	13	-13	2724	533.96	0.4	-4.67
24	SLU 81	14	-14	2856	557.24	0.46	-4.92
24	SLU 82	14	-14	2856	557.24	0.46	-4.92
24	SLU 83	14	-14	2856	557.24	0.46	-4.92
24	SLU 84	14	-14	2856	557.24	0.46	-4.92
24	SLE RA 1	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 2	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 3	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 4	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 5	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 6	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 7	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 8	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 9	9	-9	1812	360.68	0.18	-3.08
24	SLE RA 10	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 11	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 12	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 13	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 14	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 15	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 16	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 17	10	-10	2017	396.91	0.27	-3.47
24	SLE RA 18	10	-10	2105	412.43	0.31	-3.63
24	SLE RA 19	10	-10	2105	412.43	0.31	-3.63
24	SLE RA 20	10	-10	2105	412.43	0.31	-3.63
24	SLE RA 21	10	-10	2105	412.43	0.31	-3.63
24	SLE FR 1	9	-9	1812	360.68	0.18	-3.08
24	SLE FR 2	9	-9	1812	360.68	0.18	-3.08
24	SLE FR 3	9	-9	1812	360.68	0.18	-3.08
24	SLE FR 4	9	-9	1899	376.21	0.22	-3.25
24	SLE FR 5	9	-9	1899	376.21	0.22	-3.25
24	SLE FR 6	9	-10	1958	386.56	0.24	-3.36
24	SLE QP 1	9	-9	1812	360.68	0.18	-3.08
24	SLE QP 2	9	-9	1899	376.21	0.22	-3.25
24	SLD 1	141	-2	1830	365.85	1.22	-49.26
24	SLD 2	180	19	1830	365.68	1.21	-62.89
24	SLD 3	161	-102	1619	334.85	1.47	-56.68
24	SLD 4	200	-81	1619	334.69	1.46	-70.31
24	SLD 5	4	137	2198	420.17	0.13	-0.98
24	SLD 6	44	159	2198	420	0.12	-14.73
24	SLD 7	71	-196	1496	316.85	0.98	-25.69
24	SLD 8	111	-175	1496	316.68	0.97	-39.43
24	SLD 9	-93	157	2303	435.73	-0.54	32.94
24	SLD 10	-53	178	2303	435.56	-0.55	19.19
24	SLD 11	-25	-177	1601	332.42	0.31	8.23
24	SLD 12	14	-156	1601	332.25	0.3	-5.51
24	SLD 13	-182	63	2180	417.73	-1.03	63.81
24	SLD 14	-143	84	2180	417.56	-1.04	50.18
24	SLD 15	-162	-37	1969	386.74	-0.77	56.4
24	SLD 16	-122	-16	1969	386.57	-0.78	42.77
24	SLV 1	308	9	1746	353.31	2.48	-107.9
24	SLV 2	398	57	1746	352.93	2.46	-138.9
24	SLV 3	355	-223	1259	281.53	3.07	-124.99
24	SLV 4	444	-175	1258	281.15	3.05	-155.98
24	SLV 5	-4	331	2593	478.34	0.01	2.39
24	SLV 6	87	379	2593	477.96	-0.02	-29.15
24	SLV 7	151	-442	968	239.07	1.98	-54.56
24	SLV 8	242	-393	968	238.69	1.95	-86.1
24	SLV 9	-224	375	2831	513.73	-1.52	79.6
24	SLV 10	-133	424	2831	513.34	-1.55	48.06
24	SLV 11	-69	-398	1206	274.46	0.45	22.66
24	SLV 12	22	-349	1206	274.07	0.42	-8.88
24	SLV 13	-426	157	2541	471.27	-2.62	149.49
24	SLV 14	-337	204	2540	470.89	-2.64	118.49
24	SLV 15	-379	-75	2053	399.48	-2.03	132.4
24	SLV 16	-290	-27	2053	399.1	-2.05	101.41
24	CRTFP Ux+	0	0	0	0	0	0
24	CRTFP Ux-	0	0	0	0	0	0
24	CRTFP Uy+	0	0	0	0	0	0
24	CRTFP Uy-	0	0	0	0	0	0
25	SLU 1	8	-10	1762	363.66	-0.9	-2.83



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
25	SLU 2	8	-10	1762	363.66	-0.9	-2.83
25	SLU 3	8	-10	1762	363.66	-0.9	-2.83
25	SLU 4	8	-10	1762	363.66	-0.9	-2.83
25	SLU 5	8	-10	1762	363.66	-0.9	-2.83
25	SLU 6	8	-10	1762	363.66	-0.9	-2.83
25	SLU 7	8	-10	1762	363.66	-0.9	-2.83
25	SLU 8	8	-10	1762	363.66	-0.9	-2.83
25	SLU 9	8	-10	1762	363.66	-0.9	-2.83
25	SLU 10	9	-12	2069	419.59	-0.99	-3.36
25	SLU 11	9	-12	2069	419.59	-0.99	-3.36
25	SLU 12	9	-12	2069	419.59	-0.99	-3.36
25	SLU 13	9	-12	2069	419.59	-0.99	-3.36
25	SLU 14	9	-12	2069	419.59	-0.99	-3.36
25	SLU 15	9	-12	2069	419.59	-0.99	-3.36
25	SLU 16	9	-12	2069	419.59	-0.99	-3.36
25	SLU 17	9	-12	2069	419.59	-0.99	-3.36
25	SLU 18	10	-13	2200	443.56	-1.03	-3.58
25	SLU 19	10	-13	2200	443.56	-1.03	-3.58
25	SLU 20	10	-13	2200	443.56	-1.03	-3.58
25	SLU 21	10	-13	2200	443.56	-1.03	-3.58
25	SLU 22	9	-12	1976	402.28	-0.95	-3.11
25	SLU 23	9	-12	1976	402.28	-0.95	-3.11
25	SLU 24	9	-12	1976	402.28	-0.95	-3.11
25	SLU 25	9	-12	1976	402.28	-0.95	-3.11
25	SLU 26	9	-12	1976	402.28	-0.95	-3.11
25	SLU 27	9	-12	1976	402.28	-0.95	-3.11
25	SLU 28	9	-12	1976	402.28	-0.95	-3.11
25	SLU 29	9	-12	1976	402.28	-0.95	-3.11
25	SLU 30	9	-12	1976	402.28	-0.95	-3.11
25	SLU 31	10	-14	2283	458.2	-1.04	-3.64
25	SLU 32	10	-14	2283	458.2	-1.04	-3.64
25	SLU 33	10	-14	2283	458.2	-1.04	-3.64
25	SLU 34	10	-14	2283	458.2	-1.04	-3.64
25	SLU 35	10	-14	2283	458.2	-1.04	-3.64
25	SLU 36	10	-14	2283	458.2	-1.04	-3.64
25	SLU 37	10	-14	2283	458.2	-1.04	-3.64
25	SLU 38	10	-14	2283	458.2	-1.04	-3.64
25	SLU 39	11	-15	2415	482.17	-1.08	-3.86
25	SLU 40	11	-15	2415	482.17	-1.08	-3.86
25	SLU 41	11	-15	2415	482.17	-1.08	-3.86
25	SLU 42	11	-15	2415	482.17	-1.08	-3.86
25	SLU 43	10	-12	2217	459.52	-1.15	-3.58
25	SLU 44	10	-12	2217	459.52	-1.15	-3.58
25	SLU 45	10	-12	2217	459.52	-1.15	-3.58
25	SLU 46	10	-12	2217	459.52	-1.15	-3.58
25	SLU 47	10	-12	2217	459.52	-1.15	-3.58
25	SLU 48	10	-12	2217	459.52	-1.15	-3.58
25	SLU 49	10	-12	2217	459.52	-1.15	-3.58
25	SLU 50	10	-12	2217	459.52	-1.15	-3.58
25	SLU 51	10	-12	2217	459.52	-1.15	-3.58
25	SLU 52	12	-14	2524	515.44	-1.24	-4.11
25	SLU 53	12	-14	2524	515.44	-1.24	-4.11
25	SLU 54	12	-14	2524	515.44	-1.24	-4.11
25	SLU 55	12	-14	2524	515.44	-1.24	-4.11
25	SLU 56	12	-14	2524	515.44	-1.24	-4.11
25	SLU 57	12	-14	2524	515.44	-1.24	-4.11
25	SLU 58	12	-14	2524	515.44	-1.24	-4.11
25	SLU 59	12	-14	2524	515.44	-1.24	-4.11
25	SLU 60	12	-15	2656	539.41	-1.28	-4.34
25	SLU 61	12	-15	2656	539.41	-1.28	-4.34
25	SLU 62	12	-15	2656	539.41	-1.28	-4.34
25	SLU 63	12	-15	2656	539.41	-1.28	-4.34
25	SLU 64	11	-14	2431	498.13	-1.2	-3.86
25	SLU 65	11	-14	2431	498.13	-1.2	-3.86
25	SLU 66	11	-14	2431	498.13	-1.2	-3.86
25	SLU 67	11	-14	2431	498.13	-1.2	-3.86
25	SLU 68	11	-14	2431	498.13	-1.2	-3.86
25	SLU 69	11	-14	2431	498.13	-1.2	-3.86
25	SLU 70	11	-14	2431	498.13	-1.2	-3.86
25	SLU 71	11	-14	2431	498.13	-1.2	-3.86
25	SLU 72	11	-14	2431	498.13	-1.2	-3.86
25	SLU 73	12	-16	2738	554.06	-1.29	-4.39
25	SLU 74	12	-16	2738	554.06	-1.29	-4.39
25	SLU 75	12	-16	2738	554.06	-1.29	-4.39
25	SLU 76	12	-16	2738	554.06	-1.29	-4.39
25	SLU 77	12	-16	2738	554.06	-1.29	-4.39
25	SLU 78	12	-16	2738	554.06	-1.29	-4.39
25	SLU 79	12	-16	2738	554.06	-1.29	-4.39
25	SLU 80	12	-16	2738	554.06	-1.29	-4.39
25	SLU 81	13	-17	2870	578.03	-1.33	-4.61
25	SLU 82	13	-17	2870	578.03	-1.33	-4.61
25	SLU 83	13	-17	2870	578.03	-1.33	-4.61
25	SLU 84	13	-17	2870	578.03	-1.33	-4.61
25	SLE RA 1	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 2	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 3	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 4	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 5	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 6	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 7	8	-10	1823	374.69	-0.91	-2.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
25	SLE RA 8	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 9	8	-10	1823	374.69	-0.91	-2.91
25	SLE RA 10	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 11	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 12	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 13	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 14	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 15	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 16	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 17	9	-12	2028	411.98	-0.97	-3.26
25	SLE RA 18	10	-12	2115	427.96	-1	-3.41
25	SLE RA 19	10	-12	2115	427.96	-1	-3.41
25	SLE RA 20	10	-12	2115	427.96	-1	-3.41
25	SLE RA 21	10	-12	2115	427.96	-1	-3.41
25	SLE FR 1	8	-10	1823	374.69	-0.91	-2.91
25	SLE FR 2	8	-10	1823	374.69	-0.91	-2.91
25	SLE FR 3	8	-10	1823	374.69	-0.91	-2.91
25	SLE FR 4	9	-11	1911	390.67	-0.94	-3.06
25	SLE FR 5	9	-11	1911	390.67	-0.94	-3.06
25	SLE FR 6	9	-11	1969	401.32	-0.96	-3.16
25	SLE QP 1	8	-10	1823	374.69	-0.91	-2.91
25	SLE QP 2	9	-11	1911	390.67	-0.94	-3.06
25	SLD 1	140	-4	1809	369.54	0.15	-49.03
25	SLD 2	179	21	1809	369.38	0.14	-62.64
25	SLD 3	160	-118	1588	334.2	0.56	-56.34
25	SLD 4	199	-93	1588	334.04	0.55	-69.95
25	SLD 5	4	155	2215	437.98	-1.23	-0.95
25	SLD 6	44	180	2215	437.82	-1.24	-14.67
25	SLD 7	70	-225	1479	320.19	0.13	-25.3
25	SLD 8	110	-200	1479	320.03	0.12	-39.03
25	SLD 9	-93	178	2343	461.31	-2	32.91
25	SLD 10	-53	203	2343	461.15	-2.01	19.19
25	SLD 11	-26	-202	1606	343.52	-0.64	8.55
25	SLD 12	13	-177	1606	343.36	-0.65	-5.17
25	SLD 13	-182	71	2233	447.3	-2.43	63.83
25	SLD 14	-143	96	2234	447.14	-2.44	50.22
25	SLD 15	-162	-43	2013	411.97	-2.02	56.52
25	SLD 16	-123	-18	2013	411.81	-2.03	42.91
25	SLV 1	308	8	1683	343.41	1.53	-107.61
25	SLV 2	397	64	1684	343.05	1.51	-138.56
25	SLV 3	353	-256	1172	261.59	2.48	-124.46
25	SLV 4	443	-200	1173	261.22	2.45	-155.4
25	SLV 5	-3	375	2618	500.72	-1.62	2.23
25	SLV 6	88	432	2618	500.35	-1.64	-29.27
25	SLV 7	150	-505	913	227.98	1.53	-53.92
25	SLV 8	240	-448	914	227.61	1.5	-85.41
25	SLV 9	-223	426	2907	553.73	-3.38	79.3
25	SLV 10	-132	483	2908	553.36	-3.4	47.8
25	SLV 11	-70	-454	1203	280.99	-0.23	23.15
25	SLV 12	20	-397	1203	280.62	-0.26	-8.34
25	SLV 13	-425	178	2649	520.12	-4.33	149.29
25	SLV 14	-336	234	2649	519.75	-4.35	118.34
25	SLV 15	-380	-86	2137	438.3	-3.38	132.44
25	SLV 16	-290	-30	2138	437.93	-3.41	101.49
25	CRTFP Ux+	0	0	0	0	0	0
25	CRTFP Ux-	0	0	0	0	0	0
25	CRTFP Uy+	0	0	0	0	0	0
25	CRTFP Uy-	0	0	0	0	0	0
26	SLU 1	7	-12	1807	403.08	-1.99	-2.66
26	SLU 2	7	-12	1807	403.08	-1.99	-2.66
26	SLU 3	7	-12	1807	403.08	-1.99	-2.66
26	SLU 4	7	-12	1807	403.08	-1.99	-2.66
26	SLU 5	7	-12	1807	403.08	-1.99	-2.66
26	SLU 6	7	-12	1807	403.08	-1.99	-2.66
26	SLU 7	7	-12	1807	403.08	-1.99	-2.66
26	SLU 8	7	-12	1807	403.08	-1.99	-2.66
26	SLU 9	7	-12	1807	403.08	-1.99	-2.66
26	SLU 10	9	-14	2121	466.07	-2.32	-3.15
26	SLU 11	9	-14	2121	466.07	-2.32	-3.15
26	SLU 12	9	-14	2121	466.07	-2.32	-3.15
26	SLU 13	9	-14	2121	466.07	-2.32	-3.15
26	SLU 14	9	-14	2121	466.07	-2.32	-3.15
26	SLU 15	9	-14	2121	466.07	-2.32	-3.15
26	SLU 16	9	-14	2121	466.07	-2.32	-3.15
26	SLU 17	9	-14	2121	466.07	-2.32	-3.15
26	SLU 18	9	-15	2255	493.07	-2.46	-3.35
26	SLU 19	9	-15	2255	493.07	-2.46	-3.35
26	SLU 20	9	-15	2255	493.07	-2.46	-3.35
26	SLU 21	9	-15	2255	493.07	-2.46	-3.35
26	SLU 22	8	-14	2025	446.55	-2.2	-2.9
26	SLU 23	8	-14	2025	446.55	-2.2	-2.9
26	SLU 24	8	-14	2025	446.55	-2.2	-2.9
26	SLU 25	8	-14	2025	446.55	-2.2	-2.9
26	SLU 26	8	-14	2025	446.55	-2.2	-2.9
26	SLU 27	8	-14	2025	446.55	-2.2	-2.9
26	SLU 28	8	-14	2025	446.55	-2.2	-2.9
26	SLU 29	8	-14	2025	446.55	-2.2	-2.9
26	SLU 30	8	-14	2025	446.55	-2.2	-2.9
26	SLU 31	9	-16	2339	509.55	-2.53	-3.39
26	SLU 32	9	-16	2339	509.55	-2.53	-3.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
26	SLU 33	9	-16	2339	509.55	-2.53	-3.39
26	SLU 34	9	-16	2339	509.55	-2.53	-3.39
26	SLU 35	9	-16	2339	509.55	-2.53	-3.39
26	SLU 36	9	-16	2339	509.55	-2.53	-3.39
26	SLU 37	9	-16	2339	509.55	-2.53	-3.39
26	SLU 38	9	-16	2339	509.55	-2.53	-3.39
26	SLU 39	10	-17	2473	536.55	-2.67	-3.6
26	SLU 40	10	-17	2473	536.55	-2.67	-3.6
26	SLU 41	10	-17	2473	536.55	-2.67	-3.6
26	SLU 42	10	-17	2473	536.55	-2.67	-3.6
26	SLU 43	9	-14	2274	509.09	-2.52	-3.37
26	SLU 44	9	-14	2274	509.09	-2.52	-3.37
26	SLU 45	9	-14	2274	509.09	-2.52	-3.37
26	SLU 46	9	-14	2274	509.09	-2.52	-3.37
26	SLU 47	9	-14	2274	509.09	-2.52	-3.37
26	SLU 48	9	-14	2274	509.09	-2.52	-3.37
26	SLU 49	9	-14	2274	509.09	-2.52	-3.37
26	SLU 50	9	-14	2274	509.09	-2.52	-3.37
26	SLU 51	9	-14	2274	509.09	-2.52	-3.37
26	SLU 52	11	-17	2588	572.09	-2.85	-3.86
26	SLU 53	11	-17	2588	572.09	-2.85	-3.86
26	SLU 54	11	-17	2588	572.09	-2.85	-3.86
26	SLU 55	11	-17	2588	572.09	-2.85	-3.86
26	SLU 56	11	-17	2588	572.09	-2.85	-3.86
26	SLU 57	11	-17	2588	572.09	-2.85	-3.86
26	SLU 58	11	-17	2588	572.09	-2.85	-3.86
26	SLU 59	11	-17	2588	572.09	-2.85	-3.86
26	SLU 60	11	-18	2722	599.09	-2.99	-4.07
26	SLU 61	11	-18	2722	599.09	-2.99	-4.07
26	SLU 62	11	-18	2722	599.09	-2.99	-4.07
26	SLU 63	11	-18	2722	599.09	-2.99	-4.07
26	SLU 64	10	-16	2492	552.57	-2.73	-3.62
26	SLU 65	10	-16	2492	552.57	-2.73	-3.62
26	SLU 66	10	-16	2492	552.57	-2.73	-3.62
26	SLU 67	10	-16	2492	552.57	-2.73	-3.62
26	SLU 68	10	-16	2492	552.57	-2.73	-3.62
26	SLU 69	10	-16	2492	552.57	-2.73	-3.62
26	SLU 70	10	-16	2492	552.57	-2.73	-3.62
26	SLU 71	10	-16	2492	552.57	-2.73	-3.62
26	SLU 72	10	-16	2492	552.57	-2.73	-3.62
26	SLU 73	11	-19	2806	615.57	-3.06	-4.1
26	SLU 74	11	-19	2806	615.57	-3.06	-4.1
26	SLU 75	11	-19	2806	615.57	-3.06	-4.1
26	SLU 76	11	-19	2806	615.57	-3.06	-4.1
26	SLU 77	11	-19	2806	615.57	-3.06	-4.1
26	SLU 78	11	-19	2806	615.57	-3.06	-4.1
26	SLU 79	11	-19	2806	615.57	-3.06	-4.1
26	SLU 80	11	-19	2806	615.57	-3.06	-4.1
26	SLU 81	12	-20	2941	642.57	-3.2	-4.31
26	SLU 82	12	-20	2941	642.57	-3.2	-4.31
26	SLU 83	12	-20	2941	642.57	-3.2	-4.31
26	SLU 84	12	-20	2941	642.57	-3.2	-4.31
26	SLE RA 1	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 2	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 3	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 4	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 5	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 6	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 7	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 8	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 9	8	-12	1869	415.5	-2.05	-2.73
26	SLE RA 10	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 11	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 12	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 13	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 14	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 15	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 16	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 17	9	-14	2078	457.5	-2.27	-3.05
26	SLE RA 18	9	-15	2168	475.5	-2.37	-3.19
26	SLE RA 19	9	-15	2168	475.5	-2.37	-3.19
26	SLE RA 20	9	-15	2168	475.5	-2.37	-3.19
26	SLE RA 21	9	-15	2168	475.5	-2.37	-3.19
26	SLE FR 1	8	-12	1869	415.5	-2.05	-2.73
26	SLE FR 2	8	-12	1869	415.5	-2.05	-2.73
26	SLE FR 3	8	-12	1869	415.5	-2.05	-2.73
26	SLE FR 4	8	-13	1959	433.5	-2.15	-2.87
26	SLE FR 5	8	-13	1959	433.5	-2.15	-2.87
26	SLE FR 6	8	-13	2019	445.5	-2.21	-2.96
26	SLE QP 1	8	-12	1869	415.5	-2.05	-2.73
26	SLE QP 2	8	-13	1959	433.5	-2.15	-2.87
26	SLD 1	139	-5	1821	399.61	-0.94	-48.79
26	SLD 2	179	23	1822	399.53	-0.95	-62.38
26	SLD 3	159	-133	1585	356.47	-0.38	-55.96
26	SLD 4	198	-105	1586	356.4	-0.39	-69.55
26	SLD 5	4	173	2275	488.78	-2.64	-0.94
26	SLD 6	43	202	2276	488.7	-2.65	-14.65
26	SLD 7	69	-253	1488	345	-0.76	-24.87
26	SLD 8	109	-224	1489	344.92	-0.77	-38.57
26	SLD 9	-93	198	2429	522.08	-3.52	32.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
26	SLD 10	-53	227	2429	522	-3.53	19.13
26	SLD 11	-27	-228	1642	378.29	-1.64	8.91
26	SLD 12	12	-199	1642	378.21	-1.66	-4.79
26	SLD 13	-182	79	2332	510.6	-3.9	63.82
26	SLD 14	-143	107	2333	510.52	-3.91	50.23
26	SLD 15	-162	-49	2096	467.46	-3.34	56.64
26	SLD 16	-123	-20	2097	467.39	-3.35	43.05
26	SLV 1	307	7	1651	357.44	0.57	-107.31
26	SLV 2	396	72	1652	357.26	0.55	-138.21
26	SLV 3	352	-289	1104	257.58	1.88	-123.85
26	SLV 4	441	-224	1106	257.4	1.85	-154.75
26	SLV 5	-3	419	2695	562.19	-3.3	1.97
26	SLV 6	88	484	2696	562.01	-3.32	-29.47
26	SLV 7	148	-568	873	229.34	1.05	-53.16
26	SLV 8	238	-502	875	229.16	1.02	-84.61
26	SLV 9	-222	476	3043	637.84	-5.31	78.87
26	SLV 10	-132	542	3044	637.66	-5.34	47.43
26	SLV 11	-72	-510	1222	304.98	-0.97	23.73
26	SLV 12	19	-444	1223	304.8	-0.99	-7.71
26	SLV 13	-425	198	2812	609.59	-6.14	149.01
26	SLV 14	-336	263	2814	609.42	-6.17	118.11
26	SLV 15	-380	-97	2266	509.74	-4.84	132.47
26	SLV 16	-291	-33	2267	509.56	-4.86	101.57
26	CRTFP Ux+	0	0	0	0	0	0
26	CRTFP Ux-	0	0	0	0	0	0
26	CRTFP Uy+	0	0	0	0	0	0
26	CRTFP Uy-	0	0	0	0	0	0
27	SLU 1	7	-13	1887	469.88	-3.08	-2.49
27	SLU 2	7	-13	1887	469.88	-3.08	-2.49
27	SLU 3	7	-13	1887	469.88	-3.08	-2.49
27	SLU 4	7	-13	1887	469.88	-3.08	-2.49
27	SLU 5	7	-13	1887	469.88	-3.08	-2.49
27	SLU 6	7	-13	1887	469.88	-3.08	-2.49
27	SLU 7	7	-13	1887	469.88	-3.08	-2.49
27	SLU 8	7	-13	1887	469.88	-3.08	-2.49
27	SLU 9	7	-13	1887	469.88	-3.08	-2.49
27	SLU 10	8	-16	2214	545.74	-3.64	-2.94
27	SLU 11	8	-16	2214	545.74	-3.64	-2.94
27	SLU 12	8	-16	2214	545.74	-3.64	-2.94
27	SLU 13	8	-16	2214	545.74	-3.64	-2.94
27	SLU 14	8	-16	2214	545.74	-3.64	-2.94
27	SLU 15	8	-16	2214	545.74	-3.64	-2.94
27	SLU 16	8	-16	2214	545.74	-3.64	-2.94
27	SLU 17	8	-16	2214	545.74	-3.64	-2.94
27	SLU 18	9	-18	2355	578.26	-3.88	-3.13
27	SLU 19	9	-18	2355	578.26	-3.88	-3.13
27	SLU 20	9	-18	2355	578.26	-3.88	-3.13
27	SLU 21	9	-18	2355	578.26	-3.88	-3.13
27	SLU 22	8	-16	2114	522.25	-3.45	-2.7
27	SLU 23	8	-16	2114	522.25	-3.45	-2.7
27	SLU 24	8	-16	2114	522.25	-3.45	-2.7
27	SLU 25	8	-16	2114	522.25	-3.45	-2.7
27	SLU 26	8	-16	2114	522.25	-3.45	-2.7
27	SLU 27	8	-16	2114	522.25	-3.45	-2.7
27	SLU 28	8	-16	2114	522.25	-3.45	-2.7
27	SLU 29	8	-16	2114	522.25	-3.45	-2.7
27	SLU 30	8	-16	2114	522.25	-3.45	-2.7
27	SLU 31	9	-19	2441	598.12	-4.01	-3.15
27	SLU 32	9	-19	2441	598.12	-4.01	-3.15
27	SLU 33	9	-19	2441	598.12	-4.01	-3.15
27	SLU 34	9	-19	2441	598.12	-4.01	-3.15
27	SLU 35	9	-19	2441	598.12	-4.01	-3.15
27	SLU 36	9	-19	2441	598.12	-4.01	-3.15
27	SLU 37	9	-19	2441	598.12	-4.01	-3.15
27	SLU 38	9	-19	2441	598.12	-4.01	-3.15
27	SLU 39	9	-20	2582	630.63	-4.25	-3.34
27	SLU 40	9	-20	2582	630.63	-4.25	-3.34
27	SLU 41	9	-20	2582	630.63	-4.25	-3.34
27	SLU 42	9	-20	2582	630.63	-4.25	-3.34
27	SLU 43	9	-17	2375	592.88	-3.87	-3.16
27	SLU 44	9	-17	2375	592.88	-3.87	-3.16
27	SLU 45	9	-17	2375	592.88	-3.87	-3.16
27	SLU 46	9	-17	2375	592.88	-3.87	-3.16
27	SLU 47	9	-17	2375	592.88	-3.87	-3.16
27	SLU 48	9	-17	2375	592.88	-3.87	-3.16
27	SLU 49	9	-17	2375	592.88	-3.87	-3.16
27	SLU 50	9	-17	2375	592.88	-3.87	-3.16
27	SLU 51	9	-17	2375	592.88	-3.87	-3.16
27	SLU 52	10	-20	2702	668.75	-4.44	-3.61
27	SLU 53	10	-20	2702	668.75	-4.44	-3.61
27	SLU 54	10	-20	2702	668.75	-4.44	-3.61
27	SLU 55	10	-20	2702	668.75	-4.44	-3.61
27	SLU 56	10	-20	2702	668.75	-4.44	-3.61
27	SLU 57	10	-20	2702	668.75	-4.44	-3.61
27	SLU 58	10	-20	2702	668.75	-4.44	-3.61
27	SLU 59	10	-20	2702	668.75	-4.44	-3.61
27	SLU 60	11	-21	2843	701.27	-4.68	-3.8
27	SLU 61	11	-21	2843	701.27	-4.68	-3.8
27	SLU 62	11	-21	2843	701.27	-4.68	-3.8
27	SLU 63	11	-21	2843	701.27	-4.68	-3.8



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
27	SLU 64	9	-19	2602		645.25	-4.24	-3.38
27	SLU 65	9	-19	2602		645.25	-4.24	-3.38
27	SLU 66	9	-19	2602		645.25	-4.24	-3.38
27	SLU 67	9	-19	2602		645.25	-4.24	-3.38
27	SLU 68	9	-19	2602		645.25	-4.24	-3.38
27	SLU 69	9	-19	2602		645.25	-4.24	-3.38
27	SLU 70	9	-19	2602		645.25	-4.24	-3.38
27	SLU 71	9	-19	2602		645.25	-4.24	-3.38
27	SLU 72	9	-19	2602		645.25	-4.24	-3.38
27	SLU 73	11	-22	2929		721.12	-4.81	-3.82
27	SLU 74	11	-22	2929		721.12	-4.81	-3.82
27	SLU 75	11	-22	2929		721.12	-4.81	-3.82
27	SLU 76	11	-22	2929		721.12	-4.81	-3.82
27	SLU 77	11	-22	2929		721.12	-4.81	-3.82
27	SLU 78	11	-22	2929		721.12	-4.81	-3.82
27	SLU 79	11	-22	2929		721.12	-4.81	-3.82
27	SLU 80	11	-22	2929		721.12	-4.81	-3.82
27	SLU 81	11	-23	3070		753.64	-5.05	-4.02
27	SLU 82	11	-23	3070		753.64	-5.05	-4.02
27	SLU 83	11	-23	3070		753.64	-5.05	-4.02
27	SLU 84	11	-23	3070		753.64	-5.05	-4.02
27	SLE RA 1	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 2	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 3	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 4	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 5	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 6	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 7	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 8	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 9	7	-14	1951		484.84	-3.18	-2.55
27	SLE RA 10	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 11	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 12	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 13	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 14	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 15	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 16	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 17	8	-16	2170		535.42	-3.56	-2.85
27	SLE RA 18	8	-17	2263		557.09	-3.72	-2.98
27	SLE RA 19	8	-17	2263		557.09	-3.72	-2.98
27	SLE RA 20	8	-17	2263		557.09	-3.72	-2.98
27	SLE RA 21	8	-17	2263		557.09	-3.72	-2.98
27	SLE FR 1	7	-14	1951		484.84	-3.18	-2.55
27	SLE FR 2	7	-14	1951		484.84	-3.18	-2.55
27	SLE FR 3	7	-14	1951		484.84	-3.18	-2.55
27	SLE FR 4	7	-15	2045		506.52	-3.34	-2.68
27	SLE FR 5	7	-15	2045		506.52	-3.34	-2.68
27	SLE FR 6	8	-16	2107		520.97	-3.45	-2.76
27	SLE QP 1	7	-14	1951		484.84	-3.18	-2.55
27	SLE QP 2	7	-15	2045		506.52	-3.34	-2.68
27	SLD 1	139	-7	1868		457.38	-2.02	-48.54
27	SLD 2	178	25	1869		457.45	-2.03	-62.11
27	SLD 3	158	-148	1612		402.72	-1.3	-55.56
27	SLD 4	197	-115	1612		402.8	-1.32	-69.13
27	SLD 5	4	189	2380		574.64	-4.03	-0.99
27	SLD 6	43	221	2381		574.72	-4.04	-14.67
27	SLD 7	68	-279	1526		392.45	-1.65	-24.38
27	SLD 8	107	-247	1527		392.53	-1.66	-38.07
27	SLD 9	-92	217	2563		620.5	-5.03	32.71
27	SLD 10	-53	249	2564		620.58	-5.04	19.03
27	SLD 11	-28	-251	1709		438.31	-2.65	9.31
27	SLD 12	11	-219	1710		438.39	-2.66	-4.37
27	SLD 13	-182	85	2478		610.23	-5.37	63.78
27	SLD 14	-143	118	2479		610.31	-5.38	50.21
27	SLD 15	-163	-55	2222		555.58	-4.66	56.76
27	SLD 16	-124	-23	2222		555.65	-4.67	43.19
27	SLV 1	306	5	1647		396.05	-0.35	-107
27	SLV 2	395	79	1649		396.23	-0.37	-137.85
27	SLV 3	350	-320	1055		269.55	1.3	-123.18
27	SLV 4	439	-246	1057		269.73	1.28	-154.03
27	SLV 5	-2	458	2824		665.18	-4.94	1.63
27	SLV 6	88	532	2826		665.36	-4.97	-29.77
27	SLV 7	146	-626	848		243.5	0.57	-52.29
27	SLV 8	236	-551	850		243.68	0.54	-83.69
27	SLV 9	-221	521	3240		769.35	-7.23	78.33
27	SLV 10	-131	596	3242		769.53	-7.25	46.94
27	SLV 11	-73	-562	1264		347.67	-1.72	24.41
27	SLV 12	17	-488	1266		347.86	-1.75	-6.99
27	SLV 13	-424	216	3033		743.3	-7.97	148.68
27	SLV 14	-335	290	3035		743.48	-7.99	117.82
27	SLV 15	-380	-109	2441		616.8	-6.32	132.5
27	SLV 16	-291	-35	2443		616.98	-6.34	101.64
27	CRTFP Ux+	0	0	0		0	0	0
27	CRTFP Ux-	0	0	0		0	0	0
27	CRTFP Uy+	0	0	0		0	0	0
27	CRTFP Uy-	0	0	0		0	0	0
28	SLU 1	6	-13	1704		478.63	45.05	-1.63
28	SLU 2	6	-13	1704		478.63	45.05	-1.63
28	SLU 3	6	-13	1704		478.63	45.05	-1.63
28	SLU 4	6	-13	1704		478.63	45.05	-1.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
28	SLU 5	6	-13	1704	478.63	45.05	-1.63
28	SLU 6	6	-13	1704	478.63	45.05	-1.63
28	SLU 7	6	-13	1704	478.63	45.05	-1.63
28	SLU 8	6	-13	1704	478.63	45.05	-1.63
28	SLU 9	6	-13	1704	478.63	45.05	-1.63
28	SLU 10	7	-16	2001	558.71	52.87	-1.9
28	SLU 11	7	-16	2001	558.71	52.87	-1.9
28	SLU 12	7	-16	2001	558.71	52.87	-1.9
28	SLU 13	7	-16	2001	558.71	52.87	-1.9
28	SLU 14	7	-16	2001	558.71	52.87	-1.9
28	SLU 15	7	-16	2001	558.71	52.87	-1.9
28	SLU 16	7	-16	2001	558.71	52.87	-1.9
28	SLU 17	7	-16	2001	558.71	52.87	-1.9
28	SLU 18	7	-17	2129	593.03	56.22	-2.02
28	SLU 19	7	-17	2129	593.03	56.22	-2.02
28	SLU 20	7	-17	2129	593.03	56.22	-2.02
28	SLU 21	7	-17	2129	593.03	56.22	-2.02
28	SLU 22	6	-15	1910	533.95	50.47	-1.72
28	SLU 23	6	-15	1910	533.95	50.47	-1.72
28	SLU 24	6	-15	1910	533.95	50.47	-1.72
28	SLU 25	6	-15	1910	533.95	50.47	-1.72
28	SLU 26	6	-15	1910	533.95	50.47	-1.72
28	SLU 27	6	-15	1910	533.95	50.47	-1.72
28	SLU 28	6	-15	1910	533.95	50.47	-1.72
28	SLU 29	6	-15	1910	533.95	50.47	-1.72
28	SLU 30	6	-15	1910	533.95	50.47	-1.72
28	SLU 31	7	-18	2207	614.03	58.29	-1.99
28	SLU 32	7	-18	2207	614.03	58.29	-1.99
28	SLU 33	7	-18	2207	614.03	58.29	-1.99
28	SLU 34	7	-18	2207	614.03	58.29	-1.99
28	SLU 35	7	-18	2207	614.03	58.29	-1.99
28	SLU 36	7	-18	2207	614.03	58.29	-1.99
28	SLU 37	7	-18	2207	614.03	58.29	-1.99
28	SLU 38	7	-18	2207	614.03	58.29	-1.99
28	SLU 39	7	-20	2334	648.35	61.63	-2.11
28	SLU 40	7	-20	2334	648.35	61.63	-2.11
28	SLU 41	7	-20	2334	648.35	61.63	-2.11
28	SLU 42	7	-20	2334	648.35	61.63	-2.11
28	SLU 43	7	-16	2145	603.25	56.71	-2.08
28	SLU 44	7	-16	2145	603.25	56.71	-2.08
28	SLU 45	7	-16	2145	603.25	56.71	-2.08
28	SLU 46	7	-16	2145	603.25	56.71	-2.08
28	SLU 47	7	-16	2145	603.25	56.71	-2.08
28	SLU 48	7	-16	2145	603.25	56.71	-2.08
28	SLU 49	7	-16	2145	603.25	56.71	-2.08
28	SLU 50	7	-16	2145	603.25	56.71	-2.08
28	SLU 51	7	-16	2145	603.25	56.71	-2.08
28	SLU 52	8	-19	2442	683.33	64.52	-2.35
28	SLU 53	8	-19	2442	683.33	64.52	-2.35
28	SLU 54	8	-19	2442	683.33	64.52	-2.35
28	SLU 55	8	-19	2442	683.33	64.52	-2.35
28	SLU 56	8	-19	2442	683.33	64.52	-2.35
28	SLU 57	8	-19	2442	683.33	64.52	-2.35
28	SLU 58	8	-19	2442	683.33	64.52	-2.35
28	SLU 59	8	-19	2442	683.33	64.52	-2.35
28	SLU 60	9	-20	2569	717.65	67.87	-2.47
28	SLU 61	9	-20	2569	717.65	67.87	-2.47
28	SLU 62	9	-20	2569	717.65	67.87	-2.47
28	SLU 63	9	-20	2569	717.65	67.87	-2.47
28	SLU 64	8	-18	2351	658.57	62.13	-2.18
28	SLU 65	8	-18	2351	658.57	62.13	-2.18
28	SLU 66	8	-18	2351	658.57	62.13	-2.18
28	SLU 67	8	-18	2351	658.57	62.13	-2.18
28	SLU 68	8	-18	2351	658.57	62.13	-2.18
28	SLU 69	8	-18	2351	658.57	62.13	-2.18
28	SLU 70	8	-18	2351	658.57	62.13	-2.18
28	SLU 71	8	-18	2351	658.57	62.13	-2.18
28	SLU 72	8	-18	2351	658.57	62.13	-2.18
28	SLU 73	9	-21	2648	738.65	69.94	-2.45
28	SLU 74	9	-21	2648	738.65	69.94	-2.45
28	SLU 75	9	-21	2648	738.65	69.94	-2.45
28	SLU 76	9	-21	2648	738.65	69.94	-2.45
28	SLU 77	9	-21	2648	738.65	69.94	-2.45
28	SLU 78	9	-21	2648	738.65	69.94	-2.45
28	SLU 79	9	-21	2648	738.65	69.94	-2.45
28	SLU 80	9	-21	2648	738.65	69.94	-2.45
28	SLU 81	9	-23	2775	772.97	73.29	-2.57
28	SLU 82	9	-23	2775	772.97	73.29	-2.57
28	SLU 83	9	-23	2775	772.97	73.29	-2.57
28	SLU 84	9	-23	2775	772.97	73.29	-2.57
28	SLE RA 1	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 2	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 3	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 4	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 5	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 6	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 7	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 8	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 9	6	-14	1763	494.43	46.6	-1.65
28	SLE RA 10	6	-16	1961	547.82	51.81	-1.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
28	SLE RA 11	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 12	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 13	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 14	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 15	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 16	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 17	6	-16	1961	547.82	51.81	-1.84
28	SLE RA 18	7	-16	2046	570.7	54.04	-1.91
28	SLE RA 19	7	-16	2046	570.7	54.04	-1.91
28	SLE RA 20	7	-16	2046	570.7	54.04	-1.91
28	SLE RA 21	7	-16	2046	570.7	54.04	-1.91
28	SLE FR 1	6	-14	1763	494.43	46.6	-1.65
28	SLE FR 2	6	-14	1763	494.43	46.6	-1.65
28	SLE FR 3	6	-14	1763	494.43	46.6	-1.65
28	SLE FR 4	6	-15	1848	517.31	48.83	-1.73
28	SLE FR 5	6	-15	1848	517.31	48.83	-1.73
28	SLE FR 6	6	-15	1904	532.57	50.32	-1.78
28	SLE QP 1	6	-14	1763	494.43	46.6	-1.65
28	SLE QP 2	6	-15	1848	517.31	48.83	-1.73
28	SLD 1	118	-8	1661	460.67	44.53	-44.79
28	SLD 2	152	23	1662	460.89	44.56	-57.3
28	SLD 3	134	-137	1423	401.48	38.4	-40.96
28	SLD 4	168	-106	1424	401.7	38.42	-53.46
28	SLD 5	3	171	2154	590.01	56.84	-16.04
28	SLD 6	37	203	2155	590.23	56.86	-28.65
28	SLD 7	57	-257	1358	392.72	36.39	-3.25
28	SLD 8	91	-226	1359	392.94	36.41	-15.86
28	SLD 9	-79	197	2337	641.68	61.25	12.4
28	SLD 10	-45	228	2338	641.91	61.28	-0.21
28	SLD 11	-25	-232	1541	444.4	40.8	25.18
28	SLD 12	9	-201	1542	444.62	40.82	12.57
28	SLD 13	-156	77	2272	632.93	59.24	50
28	SLD 14	-123	108	2273	633.14	59.26	37.49
28	SLD 15	-140	-52	2033	573.74	53.11	53.83
28	SLD 16	-106	-21	2034	573.96	53.13	41.33
28	SLV 1	261	2	1430	389.88	39.2	-99.84
28	SLV 2	338	73	1432	390.38	39.25	-128.27
28	SLV 3	299	-296	877	252.92	25	-91.01
28	SLV 4	375	-225	879	253.42	25.05	-119.44
28	SLV 5	-1	417	2559	686.64	67.46	-34.36
28	SLV 6	76	489	2562	687.15	67.51	-63.29
28	SLV 7	123	-576	718	230.08	20.13	-4.92
28	SLV 8	201	-504	720	230.59	20.18	-33.85
28	SLV 9	-189	475	2975	804.04	77.48	30.39
28	SLV 10	-111	547	2978	804.54	77.53	1.45
28	SLV 11	-64	-518	1134	347.48	30.15	59.82
28	SLV 12	13	-446	1136	347.99	30.2	30.89
28	SLV 13	-363	196	2816	781.21	72.62	115.97
28	SLV 14	-287	267	2818	781.71	72.66	87.54
28	SLV 15	-326	-102	2264	644.24	58.42	124.8
28	SLV 16	-249	-31	2266	644.74	58.46	96.37
28	CRTFP Ux+	0	0	0	0	0	0
28	CRTFP Ux-	0	0	0	0	0	0
28	CRTFP Uy+	0	0	0	0	0	0
28	CRTFP Uy-	0	0	0	0	0	0
30	SLU 1	7	-21	2687	595.04	596.87	2.96
30	SLU 2	7	-21	2687	595.04	596.87	2.96
30	SLU 3	7	-21	2687	595.04	596.87	2.96
30	SLU 4	7	-21	2687	595.04	596.87	2.96
30	SLU 5	7	-21	2687	595.04	596.87	2.96
30	SLU 6	7	-21	2687	595.04	596.87	2.96
30	SLU 7	7	-21	2687	595.04	596.87	2.96
30	SLU 8	7	-21	2687	595.04	596.87	2.96
30	SLU 9	7	-21	2687	595.04	596.87	2.96
30	SLU 10	9	-25	3158	698.31	700.66	3.74
30	SLU 11	9	-25	3158	698.31	700.66	3.74
30	SLU 12	9	-25	3158	698.31	700.66	3.74
30	SLU 13	9	-25	3158	698.31	700.66	3.74
30	SLU 14	9	-25	3158	698.31	700.66	3.74
30	SLU 15	9	-25	3158	698.31	700.66	3.74
30	SLU 16	9	-25	3158	698.31	700.66	3.74
30	SLU 17	9	-25	3158	698.31	700.66	3.74
30	SLU 18	9	-27	3360	742.57	745.15	4.07
30	SLU 19	9	-27	3360	742.57	745.15	4.07
30	SLU 20	9	-27	3360	742.57	745.15	4.07
30	SLU 21	9	-27	3360	742.57	745.15	4.07
30	SLU 22	8	-24	3012	666.43	668.7	3.71
30	SLU 23	8	-24	3012	666.43	668.7	3.71
30	SLU 24	8	-24	3012	666.43	668.7	3.71
30	SLU 25	8	-24	3012	666.43	668.7	3.71
30	SLU 26	8	-24	3012	666.43	668.7	3.71
30	SLU 27	8	-24	3012	666.43	668.7	3.71
30	SLU 28	8	-24	3012	666.43	668.7	3.71
30	SLU 29	8	-24	3012	666.43	668.7	3.71
30	SLU 30	8	-24	3012	666.43	668.7	3.71
30	SLU 31	9	-29	3483	769.71	772.49	4.49
30	SLU 32	9	-29	3483	769.71	772.49	4.49
30	SLU 33	9	-29	3483	769.71	772.49	4.49
30	SLU 34	9	-29	3483	769.71	772.49	4.49
30	SLU 35	9	-29	3483	769.71	772.49	4.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLU 36	9	-29	3483	769.71	772.49	4.49
30	SLU 37	9	-29	3483	769.71	772.49	4.49
30	SLU 38	9	-29	3483	769.71	772.49	4.49
30	SLU 39	10	-31	3685	813.97	816.98	4.82
30	SLU 40	10	-31	3685	813.97	816.98	4.82
30	SLU 41	10	-31	3685	813.97	816.98	4.82
30	SLU 42	10	-31	3685	813.97	816.98	4.82
30	SLU 43	10	-25	3381	749.07	751.31	3.59
30	SLU 44	10	-25	3381	749.07	751.31	3.59
30	SLU 45	10	-25	3381	749.07	751.31	3.59
30	SLU 46	10	-25	3381	749.07	751.31	3.59
30	SLU 47	10	-25	3381	749.07	751.31	3.59
30	SLU 48	10	-25	3381	749.07	751.31	3.59
30	SLU 49	10	-25	3381	749.07	751.31	3.59
30	SLU 50	10	-25	3381	749.07	751.31	3.59
30	SLU 51	10	-25	3381	749.07	751.31	3.59
30	SLU 52	11	-30	3852	852.34	855.1	4.37
30	SLU 53	11	-30	3852	852.34	855.1	4.37
30	SLU 54	11	-30	3852	852.34	855.1	4.37
30	SLU 55	11	-30	3852	852.34	855.1	4.37
30	SLU 56	11	-30	3852	852.34	855.1	4.37
30	SLU 57	11	-30	3852	852.34	855.1	4.37
30	SLU 58	11	-30	3852	852.34	855.1	4.37
30	SLU 59	11	-30	3852	852.34	855.1	4.37
30	SLU 60	11	-32	4054	896.6	899.58	4.7
30	SLU 61	11	-32	4054	896.6	899.58	4.7
30	SLU 62	11	-32	4054	896.6	899.58	4.7
30	SLU 63	11	-32	4054	896.6	899.58	4.7
30	SLU 64	10	-29	3707	820.47	823.13	4.34
30	SLU 65	10	-29	3707	820.47	823.13	4.34
30	SLU 66	10	-29	3707	820.47	823.13	4.34
30	SLU 67	10	-29	3707	820.47	823.13	4.34
30	SLU 68	10	-29	3707	820.47	823.13	4.34
30	SLU 69	10	-29	3707	820.47	823.13	4.34
30	SLU 70	10	-29	3707	820.47	823.13	4.34
30	SLU 71	10	-29	3707	820.47	823.13	4.34
30	SLU 72	10	-29	3707	820.47	823.13	4.34
30	SLU 73	11	-34	4178	923.74	926.93	5.12
30	SLU 74	11	-34	4178	923.74	926.93	5.12
30	SLU 75	11	-34	4178	923.74	926.93	5.12
30	SLU 76	11	-34	4178	923.74	926.93	5.12
30	SLU 77	11	-34	4178	923.74	926.93	5.12
30	SLU 78	11	-34	4178	923.74	926.93	5.12
30	SLU 79	11	-34	4178	923.74	926.93	5.12
30	SLU 80	11	-34	4178	923.74	926.93	5.12
30	SLU 81	12	-36	4379	968	971.41	5.45
30	SLU 82	12	-36	4379	968	971.41	5.45
30	SLU 83	12	-36	4379	968	971.41	5.45
30	SLU 84	12	-36	4379	968	971.41	5.45
30	SLE RA 1	8	-22	2780	615.44	617.39	3.18
30	SLE RA 2	8	-22	2780	615.44	617.39	3.18
30	SLE RA 3	8	-22	2780	615.44	617.39	3.18
30	SLE RA 4	8	-22	2780	615.44	617.39	3.18
30	SLE RA 5	8	-22	2780	615.44	617.39	3.18
30	SLE RA 6	8	-22	2780	615.44	617.39	3.18
30	SLE RA 7	8	-22	2780	615.44	617.39	3.18
30	SLE RA 8	8	-22	2780	615.44	617.39	3.18
30	SLE RA 9	8	-22	2780	615.44	617.39	3.18
30	SLE RA 10	8	-25	3094	684.28	686.59	3.69
30	SLE RA 11	8	-25	3094	684.28	686.59	3.69
30	SLE RA 12	8	-25	3094	684.28	686.59	3.69
30	SLE RA 13	8	-25	3094	684.28	686.59	3.69
30	SLE RA 14	8	-25	3094	684.28	686.59	3.69
30	SLE RA 15	8	-25	3094	684.28	686.59	3.69
30	SLE RA 16	8	-25	3094	684.28	686.59	3.69
30	SLE RA 17	8	-25	3094	684.28	686.59	3.69
30	SLE RA 18	9	-26	3228	713.79	716.24	3.92
30	SLE RA 19	9	-26	3228	713.79	716.24	3.92
30	SLE RA 20	9	-26	3228	713.79	716.24	3.92
30	SLE RA 21	9	-26	3228	713.79	716.24	3.92
30	SLE FR 1	8	-22	2780	615.44	617.39	3.18
30	SLE FR 2	8	-22	2780	615.44	617.39	3.18
30	SLE FR 3	8	-22	2780	615.44	617.39	3.18
30	SLE FR 4	8	-23	2914	644.94	647.05	3.4
30	SLE FR 5	8	-23	2914	644.94	647.05	3.4
30	SLE FR 6	8	-24	3004	664.61	666.82	3.55
30	SLE QP 1	8	-22	2780	615.44	617.39	3.18
30	SLE QP 2	8	-23	2914	644.94	647.05	3.4
30	SLD 1	177	-14	2604	572.62	587.09	-49.75
30	SLD 2	228	35	2606	572.99	587.43	-73.24
30	SLD 3	199	-212	2213	492.76	501.07	-6.8
30	SLD 4	251	-164	2215	493.13	501.41	-30.29
30	SLD 5	6	263	3414	744.23	759.4	-69.36
30	SLD 6	58	312	3416	744.61	759.75	-93.05
30	SLD 7	81	-398	2110	478.03	472.67	73.8
30	SLD 8	133	-348	2112	478.41	473.01	50.1
30	SLD 9	-117	302	3717	811.47	821.08	-43.31
30	SLD 10	-65	352	3719	811.85	821.43	-67
30	SLD 11	-42	-358	2413	545.27	534.35	99.85
30	SLD 12	10	-309	2415	545.65	534.69	76.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLD 13	-235	118	3614	796.75	792.68	37.09
30	SLD 14	-183	166	3616	797.13	793.03	13.59
30	SLD 15	-212	-81	3223	716.89	706.66	80.04
30	SLD 16	-161	-32	3224	717.27	707.01	56.54
30	SLV 1	392	1	2218	482.33	512.66	-118.72
30	SLV 2	509	112	2222	483.19	513.44	-172.15
30	SLV 3	444	-458	1313	297.53	313.59	-19.21
30	SLV 4	561	-347	1317	298.38	314.37	-72.65
30	SLV 5	2	641	4077	876.14	908.37	-164.99
30	SLV 6	122	754	4081	877.01	909.17	-219.36
30	SLV 7	175	-889	1060	260.12	244.81	166.7
30	SLV 8	295	-776	1064	261	245.61	112.33
30	SLV 9	-279	730	4765	1028.89	1048.49	-105.54
30	SLV 10	-159	843	4769	1029.76	1049.29	-159.91
30	SLV 11	-106	-800	1748	412.87	384.93	226.15
30	SLV 12	14	-687	1752	413.75	385.73	171.78
30	SLV 13	-545	301	4512	991.5	979.72	79.44
30	SLV 14	-428	412	4516	992.36	980.51	26.01
30	SLV 15	-493	-158	3607	806.69	780.66	178.95
30	SLV 16	-376	-47	3611	807.55	781.44	125.52
30	CRTFP Ux+	0	0	0	0.01	0.01	0
30	CRTFP Ux-	0	0	0	-0.01	-0.01	0
30	CRTFP Uy+	0	0	0	-0.01	-0.01	0
30	CRTFP Uy-	0	0	0	0.01	0.01	0
56	SLU 1	12	-3	1624	42.81	-311.29	-0.95
56	SLU 2	12	-3	1624	42.81	-311.29	-0.95
56	SLU 3	12	-3	1624	42.81	-311.29	-0.95
56	SLU 4	12	-3	1624	42.81	-311.29	-0.95
56	SLU 5	12	-3	1624	42.81	-311.29	-0.95
56	SLU 6	12	-3	1624	42.81	-311.29	-0.95
56	SLU 7	12	-3	1624	42.81	-311.29	-0.95
56	SLU 8	12	-3	1624	42.81	-311.29	-0.95
56	SLU 9	12	-3	1624	42.81	-311.29	-0.95
56	SLU 10	15	-2	1932	50.91	-367.7	-0.88
56	SLU 11	15	-2	1932	50.91	-367.7	-0.88
56	SLU 12	15	-2	1932	50.91	-367.7	-0.88
56	SLU 13	15	-2	1932	50.91	-367.7	-0.88
56	SLU 14	15	-2	1932	50.91	-367.7	-0.88
56	SLU 15	15	-2	1932	50.91	-367.7	-0.88
56	SLU 16	15	-2	1932	50.91	-367.7	-0.88
56	SLU 17	15	-2	1932	50.91	-367.7	-0.88
56	SLU 18	16	-2	2064	54.38	-391.88	-0.86
56	SLU 19	16	-2	2064	54.38	-391.88	-0.86
56	SLU 20	16	-2	2064	54.38	-391.88	-0.86
56	SLU 21	16	-2	2064	54.38	-391.88	-0.86
56	SLU 22	14	-3	1848	48.71	-352.31	-1.07
56	SLU 23	14	-3	1848	48.71	-352.31	-1.07
56	SLU 24	14	-3	1848	48.71	-352.31	-1.07
56	SLU 25	14	-3	1848	48.71	-352.31	-1.07
56	SLU 26	14	-3	1848	48.71	-352.31	-1.07
56	SLU 27	14	-3	1848	48.71	-352.31	-1.07
56	SLU 28	14	-3	1848	48.71	-352.31	-1.07
56	SLU 29	14	-3	1848	48.71	-352.31	-1.07
56	SLU 30	14	-3	1848	48.71	-352.31	-1.07
56	SLU 31	17	-2	2157	56.81	-408.73	-1
56	SLU 32	17	-2	2157	56.81	-408.73	-1
56	SLU 33	17	-2	2157	56.81	-408.73	-1
56	SLU 34	17	-2	2157	56.81	-408.73	-1
56	SLU 35	17	-2	2157	56.81	-408.73	-1
56	SLU 36	17	-2	2157	56.81	-408.73	-1
56	SLU 37	17	-2	2157	56.81	-408.73	-1
56	SLU 38	17	-2	2157	56.81	-408.73	-1
56	SLU 39	18	-2	2289	60.28	-432.9	-0.98
56	SLU 40	18	-2	2289	60.28	-432.9	-0.98
56	SLU 41	18	-2	2289	60.28	-432.9	-0.98
56	SLU 42	18	-2	2289	60.28	-432.9	-0.98
56	SLU 43	14	-3	2034	53.64	-390.61	-1.19
56	SLU 44	14	-3	2034	53.64	-390.61	-1.19
56	SLU 45	14	-3	2034	53.64	-390.61	-1.19
56	SLU 46	14	-3	2034	53.64	-390.61	-1.19
56	SLU 47	14	-3	2034	53.64	-390.61	-1.19
56	SLU 48	14	-3	2034	53.64	-390.61	-1.19
56	SLU 49	14	-3	2034	53.64	-390.61	-1.19
56	SLU 50	14	-3	2034	53.64	-390.61	-1.19
56	SLU 51	14	-3	2034	53.64	-390.61	-1.19
56	SLU 52	17	-3	2342	61.73	-447.02	-1.13
56	SLU 53	17	-3	2342	61.73	-447.02	-1.13
56	SLU 54	17	-3	2342	61.73	-447.02	-1.13
56	SLU 55	17	-3	2342	61.73	-447.02	-1.13
56	SLU 56	17	-3	2342	61.73	-447.02	-1.13
56	SLU 57	17	-3	2342	61.73	-447.02	-1.13
56	SLU 58	17	-3	2342	61.73	-447.02	-1.13
56	SLU 59	17	-3	2342	61.73	-447.02	-1.13
56	SLU 60	19	-3	2475	65.2	-471.2	-1.1
56	SLU 61	19	-3	2475	65.2	-471.2	-1.1
56	SLU 62	19	-3	2475	65.2	-471.2	-1.1
56	SLU 63	19	-3	2475	65.2	-471.2	-1.1
56	SLU 64	16	-4	2258	59.53	-431.63	-1.31
56	SLU 65	16	-4	2258	59.53	-431.63	-1.31
56	SLU 66	16	-4	2258	59.53	-431.63	-1.31



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
56	SLU 67	16	-4	2258		59.53	-431.63	-1.31
56	SLU 68	16	-4	2258		59.53	-431.63	-1.31
56	SLU 69	16	-4	2258		59.53	-431.63	-1.31
56	SLU 70	16	-4	2258		59.53	-431.63	-1.31
56	SLU 71	16	-4	2258		59.53	-431.63	-1.31
56	SLU 72	16	-4	2258		59.53	-431.63	-1.31
56	SLU 73	20	-3	2567		67.63	-488.05	-1.25
56	SLU 74	20	-3	2567		67.63	-488.05	-1.25
56	SLU 75	20	-3	2567		67.63	-488.05	-1.25
56	SLU 76	20	-3	2567		67.63	-488.05	-1.25
56	SLU 77	20	-3	2567		67.63	-488.05	-1.25
56	SLU 78	20	-3	2567		67.63	-488.05	-1.25
56	SLU 79	20	-3	2567		67.63	-488.05	-1.25
56	SLU 80	20	-3	2567		67.63	-488.05	-1.25
56	SLU 81	21	-3	2699		71.1	-512.22	-1.22
56	SLU 82	21	-3	2699		71.1	-512.22	-1.22
56	SLU 83	21	-3	2699		71.1	-512.22	-1.22
56	SLU 84	21	-3	2699		71.1	-512.22	-1.22
56	SLE RA 1	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 2	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 3	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 4	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 5	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 6	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 7	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 8	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 9	12	-3	1688		44.5	-323.01	-0.98
56	SLE RA 10	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 11	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 12	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 13	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 14	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 15	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 16	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 17	14	-2	1894		49.9	-360.62	-0.94
56	SLE RA 18	15	-2	1982		52.21	-376.74	-0.92
56	SLE RA 19	15	-2	1982		52.21	-376.74	-0.92
56	SLE RA 20	15	-2	1982		52.21	-376.74	-0.92
56	SLE RA 21	15	-2	1982		52.21	-376.74	-0.92
56	SLE FR 1	12	-3	1688		44.5	-323.01	-0.98
56	SLE FR 2	12	-3	1688		44.5	-323.01	-0.98
56	SLE FR 3	12	-3	1688		44.5	-323.01	-0.98
56	SLE FR 4	13	-3	1776		46.81	-339.13	-0.96
56	SLE FR 5	13	-3	1776		46.81	-339.13	-0.96
56	SLE FR 6	14	-2	1835		48.35	-349.87	-0.95
56	SLE QP 1	12	-3	1688		44.5	-323.01	-0.98
56	SLE QP 2	13	-3	1776		46.81	-339.13	-0.96
56	SLD 1	106	105	2142		56.14	-404.08	12.66
56	SLD 2	134	74	2138		56.04	-403.23	4.38
56	SLD 3	123	-22	1949		51.51	-366.74	-19.39
56	SLD 4	150	-53	1944		51.41	-365.89	-27.67
56	SLD 5	6	233	2180		56.66	-415.53	54.66
56	SLD 6	34	203	2176		56.56	-414.68	46.31
56	SLD 7	61	-191	1536		41.24	-291.09	-52.16
56	SLD 8	89	-221	1532		41.14	-290.23	-60.51
56	SLD 9	-63	216	2020		52.48	-388.02	58.58
56	SLD 10	-35	185	2016		52.39	-387.16	50.23
56	SLD 11	-8	-208	1376		37.06	-263.57	-48.23
56	SLD 12	20	-238	1372		36.96	-262.72	-56.58
56	SLD 13	-124	48	1608		42.21	-312.36	25.74
56	SLD 14	-96	17	1603		42.11	-311.51	17.46
56	SLD 15	-107	-80	1415		37.58	-275.03	-6.3
56	SLD 16	-80	-110	1410		37.49	-274.18	-14.58
56	SLV 1	224	244	2611		68.09	-487.47	30.53
56	SLV 2	287	175	2601		67.87	-485.54	11.7
56	SLV 3	263	-50	2164		57.38	-401.08	-43.59
56	SLV 4	325	-119	2154		57.16	-399.15	-62.42
56	SLV 5	-4	542	2708		69.51	-515.35	127.66
56	SLV 6	60	472	2698		69.29	-513.39	108.5
56	SLV 7	124	-438	1218		33.82	-227.37	-119.41
56	SLV 8	187	-508	1208		33.6	-225.41	-138.57
56	SLV 9	-161	503	2344		60.03	-452.84	136.65
56	SLV 10	-97	433	2334		59.8	-450.88	117.49
56	SLV 11	-33	-477	854		24.33	-164.86	-110.42
56	SLV 12	30	-547	844		24.11	-162.9	-129.58
56	SLV 13	-299	114	1398		36.46	-279.11	60.5
56	SLV 14	-236	45	1388		36.24	-277.17	41.67
56	SLV 15	-261	-180	951		25.75	-192.71	-13.63
56	SLV 16	-198	-249	941		25.53	-190.78	-32.45
56	CRTFP Ux+	0	0	0		0	0	0
56	CRTFP Ux-	0	0	0		0	0	0
56	CRTFP Uy+	0	0	0		0	0	0
56	CRTFP Uy-	0	0	0		0	0	0
58	SLU 1	8	-2	1543		40.81	0.59	-0.23
58	SLU 2	8	-2	1543		40.81	0.59	-0.23
58	SLU 3	8	-2	1543		40.81	0.59	-0.23
58	SLU 4	8	-2	1543		40.81	0.59	-0.23
58	SLU 5	8	-2	1543		40.81	0.59	-0.23
58	SLU 6	8	-2	1543		40.81	0.59	-0.23
58	SLU 7	8	-2	1543		40.81	0.59	-0.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
58	SLU 8	8	-2	1543	40.81	0.59	-0.23
58	SLU 9	8	-2	1543	40.81	0.59	-0.23
58	SLU 10	10	-2	1843	48.91	0.79	-0.28
58	SLU 11	10	-2	1843	48.91	0.79	-0.28
58	SLU 12	10	-2	1843	48.91	0.79	-0.28
58	SLU 13	10	-2	1843	48.91	0.79	-0.28
58	SLU 14	10	-2	1843	48.91	0.79	-0.28
58	SLU 15	10	-2	1843	48.91	0.79	-0.28
58	SLU 16	10	-2	1843	48.91	0.79	-0.28
58	SLU 17	10	-2	1843	48.91	0.79	-0.28
58	SLU 18	11	-2	1971	52.39	0.87	-0.31
58	SLU 19	11	-2	1971	52.39	0.87	-0.31
58	SLU 20	11	-2	1971	52.39	0.87	-0.31
58	SLU 21	11	-2	1971	52.39	0.87	-0.31
58	SLU 22	9	-2	1754	46.47	0.77	-0.26
58	SLU 23	9	-2	1754	46.47	0.77	-0.26
58	SLU 24	9	-2	1754	46.47	0.77	-0.26
58	SLU 25	9	-2	1754	46.47	0.77	-0.26
58	SLU 26	9	-2	1754	46.47	0.77	-0.26
58	SLU 27	9	-2	1754	46.47	0.77	-0.26
58	SLU 28	9	-2	1754	46.47	0.77	-0.26
58	SLU 29	9	-2	1754	46.47	0.77	-0.26
58	SLU 30	9	-2	1754	46.47	0.77	-0.26
58	SLU 31	12	-2	2053	54.56	0.97	-0.32
58	SLU 32	12	-2	2053	54.56	0.97	-0.32
58	SLU 33	12	-2	2053	54.56	0.97	-0.32
58	SLU 34	12	-2	2053	54.56	0.97	-0.32
58	SLU 35	12	-2	2053	54.56	0.97	-0.32
58	SLU 36	12	-2	2053	54.56	0.97	-0.32
58	SLU 37	12	-2	2053	54.56	0.97	-0.32
58	SLU 38	12	-2	2053	54.56	0.97	-0.32
58	SLU 39	12	-2	2182	58.04	1.05	-0.34
58	SLU 40	12	-2	2182	58.04	1.05	-0.34
58	SLU 41	12	-2	2182	58.04	1.05	-0.34
58	SLU 42	12	-2	2182	58.04	1.05	-0.34
58	SLU 43	10	-3	1934	51.12	0.71	-0.28
58	SLU 44	10	-3	1934	51.12	0.71	-0.28
58	SLU 45	10	-3	1934	51.12	0.71	-0.28
58	SLU 46	10	-3	1934	51.12	0.71	-0.28
58	SLU 47	10	-3	1934	51.12	0.71	-0.28
58	SLU 48	10	-3	1934	51.12	0.71	-0.28
58	SLU 49	10	-3	1934	51.12	0.71	-0.28
58	SLU 50	10	-3	1934	51.12	0.71	-0.28
58	SLU 51	10	-3	1934	51.12	0.71	-0.28
58	SLU 52	12	-3	2233	59.22	0.91	-0.34
58	SLU 53	12	-3	2233	59.22	0.91	-0.34
58	SLU 54	12	-3	2233	59.22	0.91	-0.34
58	SLU 55	12	-3	2233	59.22	0.91	-0.34
58	SLU 56	12	-3	2233	59.22	0.91	-0.34
58	SLU 57	12	-3	2233	59.22	0.91	-0.34
58	SLU 58	12	-3	2233	59.22	0.91	-0.34
58	SLU 59	12	-3	2233	59.22	0.91	-0.34
58	SLU 60	13	-3	2362	62.69	0.99	-0.36
58	SLU 61	13	-3	2362	62.69	0.99	-0.36
58	SLU 62	13	-3	2362	62.69	0.99	-0.36
58	SLU 63	13	-3	2362	62.69	0.99	-0.36
58	SLU 64	11	-3	2145	56.77	0.89	-0.32
58	SLU 65	11	-3	2145	56.77	0.89	-0.32
58	SLU 66	11	-3	2145	56.77	0.89	-0.32
58	SLU 67	11	-3	2145	56.77	0.89	-0.32
58	SLU 68	11	-3	2145	56.77	0.89	-0.32
58	SLU 69	11	-3	2145	56.77	0.89	-0.32
58	SLU 70	11	-3	2145	56.77	0.89	-0.32
58	SLU 71	11	-3	2145	56.77	0.89	-0.32
58	SLU 72	11	-3	2145	56.77	0.89	-0.32
58	SLU 73	14	-3	2444	64.87	1.09	-0.37
58	SLU 74	14	-3	2444	64.87	1.09	-0.37
58	SLU 75	14	-3	2444	64.87	1.09	-0.37
58	SLU 76	14	-3	2444	64.87	1.09	-0.37
58	SLU 77	14	-3	2444	64.87	1.09	-0.37
58	SLU 78	14	-3	2444	64.87	1.09	-0.37
58	SLU 79	14	-3	2444	64.87	1.09	-0.37
58	SLU 80	14	-3	2444	64.87	1.09	-0.37
58	SLU 81	14	-3	2572	68.34	1.17	-0.4
58	SLU 82	14	-3	2572	68.34	1.17	-0.4
58	SLU 83	14	-3	2572	68.34	1.17	-0.4
58	SLU 84	14	-3	2572	68.34	1.17	-0.4
58	SLE RA 1	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 2	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 3	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 4	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 5	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 6	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 7	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 8	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 9	9	-2	1603	42.43	0.65	-0.24
58	SLE RA 10	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 11	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 12	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 13	10	-2	1803	47.83	0.78	-0.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLE RA 14	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 15	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 16	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 17	10	-2	1803	47.83	0.78	-0.27
58	SLE RA 18	11	-2	1889	50.14	0.83	-0.29
58	SLE RA 19	11	-2	1889	50.14	0.83	-0.29
58	SLE RA 20	11	-2	1889	50.14	0.83	-0.29
58	SLE RA 21	11	-2	1889	50.14	0.83	-0.29
58	SLE FR 1	9	-2	1603	42.43	0.65	-0.24
58	SLE FR 2	9	-2	1603	42.43	0.65	-0.24
58	SLE FR 3	9	-2	1603	42.43	0.65	-0.24
58	SLE FR 4	9	-2	1689	44.74	0.7	-0.25
58	SLE FR 5	9	-2	1689	44.74	0.7	-0.25
58	SLE FR 6	10	-2	1746	46.29	0.74	-0.26
58	SLE QP 1	9	-2	1603	42.43	0.65	-0.24
58	SLE QP 2	9	-2	1689	44.74	0.7	-0.25
58	SLD 1	103	9	1778	46.83	3.01	-2.87
58	SLD 2	131	10	1777	46.8	3	-3.58
58	SLD 3	118	-20	1622	43.18	3.12	-3.28
58	SLD 4	146	-20	1621	43.15	3.12	-4
58	SLD 5	4	45	1953	50.91	1.21	-0.16
58	SLD 6	32	46	1952	50.89	1.21	-0.88
58	SLD 7	55	-52	1432	38.75	1.61	-1.53
58	SLD 8	83	-52	1431	38.72	1.6	-2.25
58	SLD 9	-65	47	1947	50.77	-0.2	1.75
58	SLD 10	-37	48	1946	50.74	-0.21	1.03
58	SLD 11	-14	-51	1426	38.6	0.19	0.37
58	SLD 12	14	-50	1425	38.57	0.19	-0.35
58	SLD 13	-128	15	1757	46.33	-1.72	3.49
58	SLD 14	-100	16	1756	46.31	-1.72	2.78
58	SLD 15	-113	-14	1601	42.68	-1.6	3.08
58	SLD 16	-85	-14	1600	42.66	-1.6	2.37
58	SLV 1	223	24	1896	49.58	5.93	-6.2
58	SLV 2	286	25	1893	49.52	5.92	-7.83
58	SLV 3	258	-44	1534	41.13	6.22	-7.16
58	SLV 4	321	-43	1531	41.07	6.21	-8.78
58	SLV 5	-3	108	2301	59.03	1.84	-0.01
58	SLV 6	61	109	2299	58.97	1.83	-1.66
58	SLV 7	115	-118	1094	30.87	2.79	-3.18
58	SLV 8	179	-117	1092	30.81	2.78	-4.84
58	SLV 9	-160	113	2286	58.68	-1.38	4.34
58	SLV 10	-96	114	2284	58.62	-1.39	2.68
58	SLV 11	-43	-114	1080	30.52	-0.43	1.16
58	SLV 12	21	-113	1077	30.46	-0.44	-0.49
58	SLV 13	-303	38	1847	48.42	-4.8	8.28
58	SLV 14	-240	39	1844	48.36	-4.82	6.65
58	SLV 15	-268	-30	1485	39.97	-4.52	7.32
58	SLV 16	-205	-29	1482	39.91	-4.53	5.7
58	CRTFP Ux+	0	0	0	0	0	0
58	CRTFP Ux-	0	0	0	0	0	0
58	CRTFP Uy+	0	0	0	0	0	0
58	CRTFP Uy-	0	0	0	0	0	0
60	SLU 1	5	-13	1691	44.61	479.07	4.51
60	SLU 2	5	-13	1691	44.61	479.07	4.51
60	SLU 3	5	-13	1691	44.61	479.07	4.51
60	SLU 4	5	-13	1691	44.61	479.07	4.51
60	SLU 5	5	-13	1691	44.61	479.07	4.51
60	SLU 6	5	-13	1691	44.61	479.07	4.51
60	SLU 7	5	-13	1691	44.61	479.07	4.51
60	SLU 8	5	-13	1691	44.61	479.07	4.51
60	SLU 9	5	-13	1691	44.61	479.07	4.51
60	SLU 10	6	-16	1986	52.34	559.6	5.54
60	SLU 11	6	-16	1986	52.34	559.6	5.54
60	SLU 12	6	-16	1986	52.34	559.6	5.54
60	SLU 13	6	-16	1986	52.34	559.6	5.54
60	SLU 14	6	-16	1986	52.34	559.6	5.54
60	SLU 15	6	-16	1986	52.34	559.6	5.54
60	SLU 16	6	-16	1986	52.34	559.6	5.54
60	SLU 17	6	-16	1986	52.34	559.6	5.54
60	SLU 18	7	-18	2112	55.65	594.12	5.98
60	SLU 19	7	-18	2112	55.65	594.12	5.98
60	SLU 20	7	-18	2112	55.65	594.12	5.98
60	SLU 21	7	-18	2112	55.65	594.12	5.98
60	SLU 22	6	-16	1895	49.96	534.91	5.34
60	SLU 23	6	-16	1895	49.96	534.91	5.34
60	SLU 24	6	-16	1895	49.96	534.91	5.34
60	SLU 25	6	-16	1895	49.96	534.91	5.34
60	SLU 26	6	-16	1895	49.96	534.91	5.34
60	SLU 27	6	-16	1895	49.96	534.91	5.34
60	SLU 28	6	-16	1895	49.96	534.91	5.34
60	SLU 29	6	-16	1895	49.96	534.91	5.34
60	SLU 30	6	-16	1895	49.96	534.91	5.34
60	SLU 31	7	-19	2190	57.69	615.45	6.37
60	SLU 32	7	-19	2190	57.69	615.45	6.37
60	SLU 33	7	-19	2190	57.69	615.45	6.37
60	SLU 34	7	-19	2190	57.69	615.45	6.37
60	SLU 35	7	-19	2190	57.69	615.45	6.37
60	SLU 36	7	-19	2190	57.69	615.45	6.37
60	SLU 37	7	-19	2190	57.69	615.45	6.37
60	SLU 38	7	-19	2190	57.69	615.45	6.37



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
60	SLU 39	7	-20	2316		61	649.96	6.82
60	SLU 40	7	-20	2316		61	649.96	6.82
60	SLU 41	7	-20	2316		61	649.96	6.82
60	SLU 42	7	-20	2316		61	649.96	6.82
60	SLU 43	7	-17	2128		56.16	603.64	5.58
60	SLU 44	7	-17	2128		56.16	603.64	5.58
60	SLU 45	7	-17	2128		56.16	603.64	5.58
60	SLU 46	7	-17	2128		56.16	603.64	5.58
60	SLU 47	7	-17	2128		56.16	603.64	5.58
60	SLU 48	7	-17	2128		56.16	603.64	5.58
60	SLU 49	7	-17	2128		56.16	603.64	5.58
60	SLU 50	7	-17	2128		56.16	603.64	5.58
60	SLU 51	7	-17	2128		56.16	603.64	5.58
60	SLU 52	8	-20	2423		63.89	684.18	6.61
60	SLU 53	8	-20	2423		63.89	684.18	6.61
60	SLU 54	8	-20	2423		63.89	684.18	6.61
60	SLU 55	8	-20	2423		63.89	684.18	6.61
60	SLU 56	8	-20	2423		63.89	684.18	6.61
60	SLU 57	8	-20	2423		63.89	684.18	6.61
60	SLU 58	8	-20	2423		63.89	684.18	6.61
60	SLU 59	8	-20	2423		63.89	684.18	6.61
60	SLU 60	8	-21	2549		67.2	718.69	7.05
60	SLU 61	8	-21	2549		67.2	718.69	7.05
60	SLU 62	8	-21	2549		67.2	718.69	7.05
60	SLU 63	8	-21	2549		67.2	718.69	7.05
60	SLU 64	7	-19	2332		61.51	659.48	6.41
60	SLU 65	7	-19	2332		61.51	659.48	6.41
60	SLU 66	7	-19	2332		61.51	659.48	6.41
60	SLU 67	7	-19	2332		61.51	659.48	6.41
60	SLU 68	7	-19	2332		61.51	659.48	6.41
60	SLU 69	7	-19	2332		61.51	659.48	6.41
60	SLU 70	7	-19	2332		61.51	659.48	6.41
60	SLU 71	7	-19	2332		61.51	659.48	6.41
60	SLU 72	7	-19	2332		61.51	659.48	6.41
60	SLU 73	8	-22	2627		69.24	740.02	7.44
60	SLU 74	8	-22	2627		69.24	740.02	7.44
60	SLU 75	8	-22	2627		69.24	740.02	7.44
60	SLU 76	8	-22	2627		69.24	740.02	7.44
60	SLU 77	8	-22	2627		69.24	740.02	7.44
60	SLU 78	8	-22	2627		69.24	740.02	7.44
60	SLU 79	8	-22	2627		69.24	740.02	7.44
60	SLU 80	8	-22	2627		69.24	740.02	7.44
60	SLU 81	9	-23	2753		72.55	774.54	7.88
60	SLU 82	9	-23	2753		72.55	774.54	7.88
60	SLU 83	9	-23	2753		72.55	774.54	7.88
60	SLU 84	9	-23	2753		72.55	774.54	7.88
60	SLE RA 1	5	-14	1749		46.14	495.02	4.75
60	SLE RA 2	5	-14	1749		46.14	495.02	4.75
60	SLE RA 3	5	-14	1749		46.14	495.02	4.75
60	SLE RA 4	5	-14	1749		46.14	495.02	4.75
60	SLE RA 5	5	-14	1749		46.14	495.02	4.75
60	SLE RA 6	5	-14	1749		46.14	495.02	4.75
60	SLE RA 7	5	-14	1749		46.14	495.02	4.75
60	SLE RA 8	5	-14	1749		46.14	495.02	4.75
60	SLE RA 9	5	-14	1749		46.14	495.02	4.75
60	SLE RA 10	6	-16	1946		51.29	548.71	5.44
60	SLE RA 11	6	-16	1946		51.29	548.71	5.44
60	SLE RA 12	6	-16	1946		51.29	548.71	5.44
60	SLE RA 13	6	-16	1946		51.29	548.71	5.44
60	SLE RA 14	6	-16	1946		51.29	548.71	5.44
60	SLE RA 15	6	-16	1946		51.29	548.71	5.44
60	SLE RA 16	6	-16	1946		51.29	548.71	5.44
60	SLE RA 17	6	-16	1946		51.29	548.71	5.44
60	SLE RA 18	6	-17	2030		53.5	571.72	5.73
60	SLE RA 19	6	-17	2030		53.5	571.72	5.73
60	SLE RA 20	6	-17	2030		53.5	571.72	5.73
60	SLE RA 21	6	-17	2030		53.5	571.72	5.73
60	SLE FR 1	5	-14	1749		46.14	495.02	4.75
60	SLE FR 2	5	-14	1749		46.14	495.02	4.75
60	SLE FR 3	5	-14	1749		46.14	495.02	4.75
60	SLE FR 4	6	-15	1833		48.35	518.03	5.04
60	SLE FR 5	6	-15	1833		48.35	518.03	5.04
60	SLE FR 6	6	-16	1890		49.82	533.37	5.24
60	SLE QP 1	5	-14	1749		46.14	495.02	4.75
60	SLE QP 2	6	-15	1833		48.35	518.03	5.04
60	SLD 1	117	-9	1643		43.18	474.19	-25.19
60	SLD 2	149	23	1644		43.21	474.52	-37
60	SLD 3	132	-139	1409		37.52	408.78	19.94
60	SLD 4	165	-107	1410		37.55	409.12	8.14
60	SLD 5	4	173	2131		55.38	603.96	-68.29
60	SLD 6	37	205	2132		55.41	604.3	-80.2
60	SLD 7	56	-260	1350		36.5	385.94	82.15
60	SLD 8	89	-229	1351		36.53	386.27	70.24
60	SLD 9	-77	199	2316		60.17	649.79	-60.15
60	SLD 10	-44	231	2317		60.2	650.12	-72.06
60	SLD 11	-25	-235	1534		41.29	431.77	90.29
60	SLD 12	8	-203	1536		41.32	432.1	78.38
60	SLD 13	-153	78	2257		59.15	626.95	1.95
60	SLD 14	-121	109	2258		59.18	627.28	-9.85
60	SLD 15	-138	-52	2023		53.49	561.54	47.09



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
60	SLD 16	-105	-21	2024		53.51	561.87	35.28	
60	SLV 1	258	2	1406		36.74	419.8	-64.68	
60	SLV 2	332	73	1408		36.79	420.56	-91.53	
60	SLV 3	294	-299	863		23.63	268.45	39.84	
60	SLV 4	368	-228	866		23.69	269.2	12.99	
60	SLV 5	0	421	2527		64.72	717.85	-164.75	
60	SLV 6	76	494	2529		64.78	718.62	-192.07	
60	SLV 7	120	-583	719		21.03	213.33	183.63	
60	SLV 8	196	-510	721		21.1	214.1	156.31	
60	SLV 9	-184	480	2946		75.6	821.97	-146.22	
60	SLV 10	-109	553	2948		75.66	822.74	-173.54	
60	SLV 11	-64	-524	1138		31.92	317.44	202.16	
60	SLV 12	11	-451	1140		31.98	318.21	174.84	
60	SLV 13	-357	198	2801		73.01	766.86	-2.9	
60	SLV 14	-283	269	2804		73.07	767.62	-29.75	
60	SLV 15	-321	-103	2259		59.9	615.5	101.61	
60	SLV 16	-247	-32	2261		59.96	616.26	74.77	
60	CRTFP Ux+	0	0	0		0	0	0	
60	CRTFP Ux-	0	0	0		0	0	0	
60	CRTFP Uy+	0	0	0		0	-0.01	0	
60	CRTFP Uy-	0	0	0		0	0.01	0	
61	SLU 1	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 2	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 3	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 4	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 5	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 6	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 7	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 8	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 9	11	-3	1795		-3.03	-291.52	-0.72	
61	SLU 10	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 11	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 12	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 13	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 14	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 15	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 16	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 17	15	-3	2135		-3.62	-342.24	-0.54	
61	SLU 18	16	-2	2281		-3.88	-363.98	-0.46	
61	SLU 19	16	-2	2281		-3.88	-363.98	-0.46	
61	SLU 20	16	-2	2281		-3.88	-363.98	-0.46	
61	SLU 21	16	-2	2281		-3.88	-363.98	-0.46	
61	SLU 22	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 23	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 24	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 25	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 26	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 27	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 28	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 29	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 30	13	-3	2043		-3.45	-328.5	-0.78	
61	SLU 31	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 32	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 33	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 34	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 35	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 36	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 37	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 38	17	-3	2382		-4.05	-379.23	-0.6	
61	SLU 39	18	-3	2528		-4.3	-400.97	-0.52	
61	SLU 40	18	-3	2528		-4.3	-400.97	-0.52	
61	SLU 41	18	-3	2528		-4.3	-400.97	-0.52	
61	SLU 42	18	-3	2528		-4.3	-400.97	-0.52	
61	SLU 43	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 44	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 45	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 46	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 47	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 48	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 49	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 50	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 51	14	-4	2249		-3.79	-366.29	-0.91	
61	SLU 52	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 53	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 54	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 55	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 56	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 57	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 58	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 59	17	-3	2589		-4.38	-417.02	-0.73	
61	SLU 60	19	-3	2734		-4.64	-438.76	-0.65	
61	SLU 61	19	-3	2734		-4.64	-438.76	-0.65	
61	SLU 62	19	-3	2734		-4.64	-438.76	-0.65	
61	SLU 63	19	-3	2734		-4.64	-438.76	-0.65	
61	SLU 64	16	-4	2496		-4.22	-403.28	-0.97	
61	SLU 65	16	-4	2496		-4.22	-403.28	-0.97	
61	SLU 66	16	-4	2496		-4.22	-403.28	-0.97	
61	SLU 67	16	-4	2496		-4.22	-403.28	-0.97	
61	SLU 68	16	-4	2496		-4.22	-403.28	-0.97	
61	SLU 69	16	-4	2496		-4.22	-403.28	-0.97	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
61	SLU 70	16	-4	2496		-4.22	-403.28	-0.97
61	SLU 71	16	-4	2496		-4.22	-403.28	-0.97
61	SLU 72	16	-4	2496		-4.22	-403.28	-0.97
61	SLU 73	19	-4	2836		-4.81	-454	-0.79
61	SLU 74	19	-4	2836		-4.81	-454	-0.79
61	SLU 75	19	-4	2836		-4.81	-454	-0.79
61	SLU 76	19	-4	2836		-4.81	-454	-0.79
61	SLU 77	19	-4	2836		-4.81	-454	-0.79
61	SLU 78	19	-4	2836		-4.81	-454	-0.79
61	SLU 79	19	-4	2836		-4.81	-454	-0.79
61	SLU 80	19	-4	2836		-4.81	-454	-0.79
61	SLU 81	21	-3	2982		-5.06	-475.74	-0.71
61	SLU 82	21	-3	2982		-5.06	-475.74	-0.71
61	SLU 83	21	-3	2982		-5.06	-475.74	-0.71
61	SLU 84	21	-3	2982		-5.06	-475.74	-0.71
61	SLE RA 1	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 2	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 3	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 4	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 5	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 6	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 7	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 8	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 9	12	-3	1866		-3.15	-302.08	-0.74
61	SLE RA 10	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 11	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 12	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 13	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 14	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 15	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 16	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 17	14	-3	2092		-3.55	-335.9	-0.61
61	SLE RA 18	15	-3	2189		-3.71	-350.4	-0.56
61	SLE RA 19	15	-3	2189		-3.71	-350.4	-0.56
61	SLE RA 20	15	-3	2189		-3.71	-350.4	-0.56
61	SLE RA 21	15	-3	2189		-3.71	-350.4	-0.56
61	SLE FR 1	12	-3	1866		-3.15	-302.08	-0.74
61	SLE FR 2	12	-3	1866		-3.15	-302.08	-0.74
61	SLE FR 3	12	-3	1866		-3.15	-302.08	-0.74
61	SLE FR 4	13	-3	1963		-3.32	-316.58	-0.68
61	SLE FR 5	13	-3	1963		-3.32	-316.58	-0.68
61	SLE FR 6	14	-3	2028		-3.43	-326.24	-0.65
61	SLE QP 1	12	-3	1866		-3.15	-302.08	-0.74
61	SLE QP 2	13	-3	1963		-3.32	-316.58	-0.68
61	SLD 1	122	123	2352		-4.51	-373.99	30.66
61	SLD 2	150	87	2348		-4.48	-373.29	21.9
61	SLD 3	136	-26	2161		-3.4	-342.53	-6.47
61	SLD 4	165	-62	2157		-3.37	-341.83	-15.22
61	SLD 5	13	273	2372		-5.37	-381.75	68.13
61	SLD 6	42	237	2368		-5.34	-381.05	59.3
61	SLD 7	62	-223	1733		-1.67	-276.91	-55.63
61	SLD 8	91	-259	1729		-1.64	-276.2	-64.46
61	SLD 9	-65	253	2197		-5	-356.95	63.09
61	SLD 10	-36	217	2193		-4.97	-356.25	54.26
61	SLD 11	-17	-244	1558		-1.3	-252.11	-60.67
61	SLD 12	12	-279	1554		-1.27	-251.4	-69.5
61	SLD 13	-139	56	1769		-3.27	-291.32	13.86
61	SLD 14	-111	20	1765		-3.23	-290.62	5.1
61	SLD 15	-125	-93	1577		-2.16	-259.87	-23.27
61	SLD 16	-96	-129	1573		-2.12	-259.17	-32.03
61	SLV 1	260	286	2851		-6.06	-447.8	71.33
61	SLV 2	325	205	2842		-5.98	-446.21	51.42
61	SLV 3	294	-59	2408		-3.49	-375.01	-14.55
61	SLV 4	359	-139	2399		-3.42	-373.43	-34.47
61	SLV 5	13	636	2906		-8.06	-466.9	158.33
61	SLV 6	79	553	2896		-7.99	-465.28	138.06
61	SLV 7	125	-514	1427		0.5	-224.29	-127.96
61	SLV 8	191	-596	1417		0.57	-222.68	-148.22
61	SLV 9	-165	590	2508		-7.21	-410.48	146.86
61	SLV 10	-99	507	2499		-7.14	-408.86	126.59
61	SLV 11	-54	-559	1029		1.35	-167.87	-139.43
61	SLV 12	13	-642	1020		1.42	-166.26	-159.7
61	SLV 13	-333	133	1527		-3.22	-259.73	33.1
61	SLV 14	-268	52	1518		-3.15	-258.14	13.18
61	SLV 15	-300	-212	1083		-0.65	-186.95	-52.79
61	SLV 16	-235	-292	1074		-0.58	-185.36	-72.7
61	CRTFP Ux+	0	0	0		0	0	0
61	CRTFP Ux-	0	0	0		0	0	0
61	CRTFP Uy+	0	0	0		0	0	0
61	CRTFP Uy-	0	0	0		0	0	0
63	SLU 1	9	-3	1723		-2.03	0.37	0.02
63	SLU 2	9	-3	1723		-2.03	0.37	0.02
63	SLU 3	9	-3	1723		-2.03	0.37	0.02
63	SLU 4	9	-3	1723		-2.03	0.37	0.02
63	SLU 5	9	-3	1723		-2.03	0.37	0.02
63	SLU 6	9	-3	1723		-2.03	0.37	0.02
63	SLU 7	9	-3	1723		-2.03	0.37	0.02
63	SLU 8	9	-3	1723		-2.03	0.37	0.02
63	SLU 9	9	-3	1723		-2.03	0.37	0.02
63	SLU 10	11	-3	2066		-2.1	0.48	0.03



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
63	SLU 11	11	-3	2066		-2.1	0.48	0.03	
63	SLU 12	11	-3	2066		-2.1	0.48	0.03	
63	SLU 13	11	-3	2066		-2.1	0.48	0.03	
63	SLU 14	11	-3	2066		-2.1	0.48	0.03	
63	SLU 15	11	-3	2066		-2.1	0.48	0.03	
63	SLU 16	11	-3	2066		-2.1	0.48	0.03	
63	SLU 17	11	-3	2066		-2.1	0.48	0.03	
63	SLU 18	12	-3	2213		-2.13	0.54	0.03	
63	SLU 19	12	-3	2213		-2.13	0.54	0.03	
63	SLU 20	12	-3	2213		-2.13	0.54	0.03	
63	SLU 21	12	-3	2213		-2.13	0.54	0.03	
63	SLU 22	11	-3	1962		-2.15	0.48	0.02	
63	SLU 23	11	-3	1962		-2.15	0.48	0.02	
63	SLU 24	11	-3	1962		-2.15	0.48	0.02	
63	SLU 25	11	-3	1962		-2.15	0.48	0.02	
63	SLU 26	11	-3	1962		-2.15	0.48	0.02	
63	SLU 27	11	-3	1962		-2.15	0.48	0.02	
63	SLU 28	11	-3	1962		-2.15	0.48	0.02	
63	SLU 29	11	-3	1962		-2.15	0.48	0.02	
63	SLU 30	11	-3	1962		-2.15	0.48	0.02	
63	SLU 31	13	-3	2306		-2.22	0.59	0.03	
63	SLU 32	13	-3	2306		-2.22	0.59	0.03	
63	SLU 33	13	-3	2306		-2.22	0.59	0.03	
63	SLU 34	13	-3	2306		-2.22	0.59	0.03	
63	SLU 35	13	-3	2306		-2.22	0.59	0.03	
63	SLU 36	13	-3	2306		-2.22	0.59	0.03	
63	SLU 37	13	-3	2306		-2.22	0.59	0.03	
63	SLU 38	13	-3	2306		-2.22	0.59	0.03	
63	SLU 39	14	-3	2453		-2.25	0.65	0.03	
63	SLU 40	14	-3	2453		-2.25	0.65	0.03	
63	SLU 41	14	-3	2453		-2.25	0.65	0.03	
63	SLU 42	14	-3	2453		-2.25	0.65	0.03	
63	SLU 43	11	-3	2158		-2.6	0.44	0.03	
63	SLU 44	11	-3	2158		-2.6	0.44	0.03	
63	SLU 45	11	-3	2158		-2.6	0.44	0.03	
63	SLU 46	11	-3	2158		-2.6	0.44	0.03	
63	SLU 47	11	-3	2158		-2.6	0.44	0.03	
63	SLU 48	11	-3	2158		-2.6	0.44	0.03	
63	SLU 49	11	-3	2158		-2.6	0.44	0.03	
63	SLU 50	11	-3	2158		-2.6	0.44	0.03	
63	SLU 51	11	-3	2158		-2.6	0.44	0.03	
63	SLU 52	14	-3	2501		-2.67	0.56	0.03	
63	SLU 53	14	-3	2501		-2.67	0.56	0.03	
63	SLU 54	14	-3	2501		-2.67	0.56	0.03	
63	SLU 55	14	-3	2501		-2.67	0.56	0.03	
63	SLU 56	14	-3	2501		-2.67	0.56	0.03	
63	SLU 57	14	-3	2501		-2.67	0.56	0.03	
63	SLU 58	14	-3	2501		-2.67	0.56	0.03	
63	SLU 59	14	-3	2501		-2.67	0.56	0.03	
63	SLU 60	15	-3	2648		-2.7	0.61	0.03	
63	SLU 61	15	-3	2648		-2.7	0.61	0.03	
63	SLU 62	15	-3	2648		-2.7	0.61	0.03	
63	SLU 63	15	-3	2648		-2.7	0.61	0.03	
63	SLU 64	13	-4	2397		-2.72	0.55	0.03	
63	SLU 65	13	-4	2397		-2.72	0.55	0.03	
63	SLU 66	13	-4	2397		-2.72	0.55	0.03	
63	SLU 67	13	-4	2397		-2.72	0.55	0.03	
63	SLU 68	13	-4	2397		-2.72	0.55	0.03	
63	SLU 69	13	-4	2397		-2.72	0.55	0.03	
63	SLU 70	13	-4	2397		-2.72	0.55	0.03	
63	SLU 71	13	-4	2397		-2.72	0.55	0.03	
63	SLU 72	13	-4	2397		-2.72	0.55	0.03	
63	SLU 73	15	-4	2740		-2.79	0.67	0.04	
63	SLU 74	15	-4	2740		-2.79	0.67	0.04	
63	SLU 75	15	-4	2740		-2.79	0.67	0.04	
63	SLU 76	15	-4	2740		-2.79	0.67	0.04	
63	SLU 77	15	-4	2740		-2.79	0.67	0.04	
63	SLU 78	15	-4	2740		-2.79	0.67	0.04	
63	SLU 79	15	-4	2740		-2.79	0.67	0.04	
63	SLU 80	15	-4	2740		-2.79	0.67	0.04	
63	SLU 81	16	-4	2887		-2.82	0.72	0.04	
63	SLU 82	16	-4	2887		-2.82	0.72	0.04	
63	SLU 83	16	-4	2887		-2.82	0.72	0.04	
63	SLU 84	16	-4	2887		-2.82	0.72	0.04	
63	SLE RA 1	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 2	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 3	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 4	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 5	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 6	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 7	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 8	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 9	10	-3	1791		-2.06	0.4	0.02	
63	SLE RA 10	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 11	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 12	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 13	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 14	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 15	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 16	11	-3	2020		-2.11	0.48	0.03	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
63	SLE RA 17	11	-3	2020		-2.11	0.48	0.03	
63	SLE RA 18	12	-3	2118		-2.13	0.51	0.03	
63	SLE RA 19	12	-3	2118		-2.13	0.51	0.03	
63	SLE RA 20	12	-3	2118		-2.13	0.51	0.03	
63	SLE RA 21	12	-3	2118		-2.13	0.51	0.03	
63	SLE FR 1	10	-3	1791		-2.06	0.4	0.02	
63	SLE FR 2	10	-3	1791		-2.06	0.4	0.02	
63	SLE FR 3	10	-3	1791		-2.06	0.4	0.02	
63	SLE FR 4	10	-3	1889		-2.09	0.43	0.02	
63	SLE FR 5	10	-3	1889		-2.09	0.43	0.02	
63	SLE FR 6	11	-3	1955		-2.1	0.45	0.03	
63	SLE QP 1	10	-3	1791		-2.06	0.4	0.02	
63	SLE QP 2	10	-3	1889		-2.09	0.43	0.02	
63	SLD 1	119	11	1976		-2.46	2.6	0.1	
63	SLD 2	148	11	1975		-2.45	2.6	0.2	
63	SLD 3	136	-24	1824		-1.51	2.82	0.14	
63	SLD 4	165	-23	1823		-1.5	2.81	0.25	
63	SLD 5	7	53	2147		-3.64	0.75	-0.05	
63	SLD 6	36	54	2146		-3.63	0.75	0.05	
63	SLD 7	63	-61	1639		-0.47	1.48	0.08	
63	SLD 8	93	-61	1638		-0.47	1.47	0.19	
63	SLD 9	-72	55	2141		-3.7	-0.61	-0.14	
63	SLD 10	-43	56	2140		-3.7	-0.61	-0.04	
63	SLD 11	-16	-59	1633		-0.54	0.11	0	
63	SLD 12	14	-58	1632		-0.53	0.11	0.1	
63	SLD 13	-145	18	1956		-2.67	-1.95	-0.2	
63	SLD 14	-115	18	1955		-2.66	-1.95	-0.09	
63	SLD 15	-128	-16	1803		-1.72	-1.74	-0.16	
63	SLD 16	-99	-16	1802		-1.71	-1.74	-0.05	
63	SLV 1	257	28	2091		-2.95	5.49	0.19	
63	SLV 2	324	29	2089		-2.93	5.48	0.43	
63	SLV 3	296	-51	1738		-0.75	6.03	0.29	
63	SLV 4	363	-50	1736		-0.73	6.03	0.53	
63	SLV 5	1	126	2486		-5.68	1.12	-0.16	
63	SLV 6	69	128	2483		-5.66	1.11	0.09	
63	SLV 7	131	-138	1310		1.64	2.94	0.16	
63	SLV 8	199	-137	1308		1.66	2.94	0.41	
63	SLV 9	-179	131	2471		-5.83	-2.08	-0.36	
63	SLV 10	-111	133	2469		-5.81	-2.08	-0.11	
63	SLV 11	-49	-133	1296		1.49	-0.25	-0.04	
63	SLV 12	19	-132	1293		1.51	-0.26	0.21	
63	SLV 13	-343	45	2043		-3.44	-5.17	-0.48	
63	SLV 14	-276	46	2040		-3.42	-5.17	-0.24	
63	SLV 15	-304	-35	1690		-1.24	-4.62	-0.39	
63	SLV 16	-237	-33	1688		-1.22	-4.62	-0.14	
63	CRTFP Ux+	0	0	0		0	0	0	
63	CRTFP Ux-	0	0	0		0	0	0	
63	CRTFP Uy+	0	0	0		0	0	0	
63	CRTFP Uy-	0	0	0		0	0	0	
65	SLU 1	7	-16	1869		-3.23	472.03	5.5	
65	SLU 2	7	-16	1869		-3.23	472.03	5.5	
65	SLU 3	7	-16	1869		-3.23	472.03	5.5	
65	SLU 4	7	-16	1869		-3.23	472.03	5.5	
65	SLU 5	7	-16	1869		-3.23	472.03	5.5	
65	SLU 6	7	-16	1869		-3.23	472.03	5.5	
65	SLU 7	7	-16	1869		-3.23	472.03	5.5	
65	SLU 8	7	-16	1869		-3.23	472.03	5.5	
65	SLU 9	7	-16	1869		-3.23	472.03	5.5	
65	SLU 10	8	-19	2193		-3.83	548.76	6.75	
65	SLU 11	8	-19	2193		-3.83	548.76	6.75	
65	SLU 12	8	-19	2193		-3.83	548.76	6.75	
65	SLU 13	8	-19	2193		-3.83	548.76	6.75	
65	SLU 14	8	-19	2193		-3.83	548.76	6.75	
65	SLU 15	8	-19	2193		-3.83	548.76	6.75	
65	SLU 16	8	-19	2193		-3.83	548.76	6.75	
65	SLU 17	8	-19	2193		-3.83	548.76	6.75	
65	SLU 18	9	-21	2331		-4.09	581.64	7.28	
65	SLU 19	9	-21	2331		-4.09	581.64	7.28	
65	SLU 20	9	-21	2331		-4.09	581.64	7.28	
65	SLU 21	9	-21	2331		-4.09	581.64	7.28	
65	SLU 22	8	-19	2093		-3.63	525.36	6.49	
65	SLU 23	8	-19	2093		-3.63	525.36	6.49	
65	SLU 24	8	-19	2093		-3.63	525.36	6.49	
65	SLU 25	8	-19	2093		-3.63	525.36	6.49	
65	SLU 26	8	-19	2093		-3.63	525.36	6.49	
65	SLU 27	8	-19	2093		-3.63	525.36	6.49	
65	SLU 28	8	-19	2093		-3.63	525.36	6.49	
65	SLU 29	8	-19	2093		-3.63	525.36	6.49	
65	SLU 30	8	-19	2093		-3.63	525.36	6.49	
65	SLU 31	9	-22	2417		-4.23	602.09	7.74	
65	SLU 32	9	-22	2417		-4.23	602.09	7.74	
65	SLU 33	9	-22	2417		-4.23	602.09	7.74	
65	SLU 34	9	-22	2417		-4.23	602.09	7.74	
65	SLU 35	9	-22	2417		-4.23	602.09	7.74	
65	SLU 36	9	-22	2417		-4.23	602.09	7.74	
65	SLU 37	9	-22	2417		-4.23	602.09	7.74	
65	SLU 38	9	-22	2417		-4.23	602.09	7.74	
65	SLU 39	9	-24	2556		-4.49	634.97	8.27	
65	SLU 40	9	-24	2556		-4.49	634.97	8.27	
65	SLU 41	9	-24	2556		-4.49	634.97	8.27	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
65	SLU 42	9	-24	2556	-4.49	634.97	8.27
65	SLU 43	9	-20	2352	-4.06	595.35	6.82
65	SLU 44	9	-20	2352	-4.06	595.35	6.82
65	SLU 45	9	-20	2352	-4.06	595.35	6.82
65	SLU 46	9	-20	2352	-4.06	595.35	6.82
65	SLU 47	9	-20	2352	-4.06	595.35	6.82
65	SLU 48	9	-20	2352	-4.06	595.35	6.82
65	SLU 49	9	-20	2352	-4.06	595.35	6.82
65	SLU 50	9	-20	2352	-4.06	595.35	6.82
65	SLU 51	9	-20	2352	-4.06	595.35	6.82
65	SLU 52	10	-23	2676	-4.66	672.08	8.06
65	SLU 53	10	-23	2676	-4.66	672.08	8.06
65	SLU 54	10	-23	2676	-4.66	672.08	8.06
65	SLU 55	10	-23	2676	-4.66	672.08	8.06
65	SLU 56	10	-23	2676	-4.66	672.08	8.06
65	SLU 57	10	-23	2676	-4.66	672.08	8.06
65	SLU 58	10	-23	2676	-4.66	672.08	8.06
65	SLU 59	10	-23	2676	-4.66	672.08	8.06
65	SLU 60	11	-25	2815	-4.92	704.96	8.59
65	SLU 61	11	-25	2815	-4.92	704.96	8.59
65	SLU 62	11	-25	2815	-4.92	704.96	8.59
65	SLU 63	11	-25	2815	-4.92	704.96	8.59
65	SLU 64	9	-22	2577	-4.46	648.68	7.81
65	SLU 65	9	-22	2577	-4.46	648.68	7.81
65	SLU 66	9	-22	2577	-4.46	648.68	7.81
65	SLU 67	9	-22	2577	-4.46	648.68	7.81
65	SLU 68	9	-22	2577	-4.46	648.68	7.81
65	SLU 69	9	-22	2577	-4.46	648.68	7.81
65	SLU 70	9	-22	2577	-4.46	648.68	7.81
65	SLU 71	9	-22	2577	-4.46	648.68	7.81
65	SLU 72	9	-22	2577	-4.46	648.68	7.81
65	SLU 73	11	-26	2901	-5.06	725.41	9.05
65	SLU 74	11	-26	2901	-5.06	725.41	9.05
65	SLU 75	11	-26	2901	-5.06	725.41	9.05
65	SLU 76	11	-26	2901	-5.06	725.41	9.05
65	SLU 77	11	-26	2901	-5.06	725.41	9.05
65	SLU 78	11	-26	2901	-5.06	725.41	9.05
65	SLU 79	11	-26	2901	-5.06	725.41	9.05
65	SLU 80	11	-26	2901	-5.06	725.41	9.05
65	SLU 81	11	-27	3040	-5.32	758.29	9.58
65	SLU 82	11	-27	3040	-5.32	758.29	9.58
65	SLU 83	11	-27	3040	-5.32	758.29	9.58
65	SLU 84	11	-27	3040	-5.32	758.29	9.58
65	SLE RA 1	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 2	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 3	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 4	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 5	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 6	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 7	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 8	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 9	7	-17	1933	-3.34	487.27	5.79
65	SLE RA 10	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 11	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 12	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 13	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 14	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 15	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 16	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 17	8	-19	2149	-3.74	538.42	6.62
65	SLE RA 18	8	-20	2241	-3.92	560.34	6.97
65	SLE RA 19	8	-20	2241	-3.92	560.34	6.97
65	SLE RA 20	8	-20	2241	-3.92	560.34	6.97
65	SLE RA 21	8	-20	2241	-3.92	560.34	6.97
65	SLE FR 1	7	-17	1933	-3.34	487.27	5.79
65	SLE FR 2	7	-17	1933	-3.34	487.27	5.79
65	SLE FR 3	7	-17	1933	-3.34	487.27	5.79
65	SLE FR 4	7	-18	2025	-3.51	509.19	6.14
65	SLE FR 5	7	-18	2025	-3.51	509.19	6.14
65	SLE FR 6	8	-18	2087	-3.63	523.8	6.38
65	SLE QP 1	7	-17	1933	-3.34	487.27	5.79
65	SLE QP 2	7	-18	2025	-3.51	509.19	6.14
65	SLD 1	135	-10	1808	-3.37	466.24	3.53
65	SLD 2	170	26	1809	-3.38	466.66	-9.18
65	SLD 3	154	-163	1574	-2.1	407.89	56.86
65	SLD 4	189	-126	1575	-2.1	408.31	44.15
65	SLD 5	5	203	2316	-5.4	584.66	-71.02
65	SLD 6	40	240	2317	-5.41	585.08	-83.83
65	SLD 7	68	-305	1533	-1.15	390.14	106.74
65	SLD 8	103	-268	1534	-1.16	390.57	93.92
65	SLD 9	-88	233	2516	-5.87	627.81	-81.63
65	SLD 10	-53	270	2517	-5.87	628.23	-94.45
65	SLD 11	-25	-275	1734	-1.62	433.29	96.12
65	SLD 12	10	-238	1735	-1.62	433.71	83.3
65	SLD 13	-174	91	2476	-4.93	610.07	-31.86
65	SLD 14	-139	128	2477	-4.93	610.49	-44.57
65	SLD 15	-155	-62	2241	-3.65	551.71	21.46
65	SLD 16	-120	-25	2242	-3.66	552.13	8.75
65	SLV 1	298	2	1537	-3.22	412.82	-0.94
65	SLV 2	376	86	1540	-3.23	413.77	-29.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
65	SLV 3	342	-351	994	-0.27	277.8	122.55
65	SLV 4	420	-267	996	-0.27	278.75	93.64
65	SLV 5	1	494	2702	-7.9	684.72	-172.9
65	SLV 6	80	578	2704	-7.91	685.69	-202.31
65	SLV 7	146	-683	891	1.94	234.64	238.72
65	SLV 8	225	-598	894	1.93	235.61	209.31
65	SLV 9	-210	563	3157	-8.96	782.77	-197.03
65	SLV 10	-131	647	3160	-8.97	783.74	-226.44
65	SLV 11	-65	-614	1346	0.88	332.68	214.59
65	SLV 12	14	-529	1349	0.87	333.65	185.18
65	SLV 13	-405	232	3054	-6.75	739.63	-81.36
65	SLV 14	-327	315	3057	-6.76	740.58	-110.26
65	SLV 15	-361	-121	2511	-3.8	604.6	42.13
65	SLV 16	-283	-37	2513	-3.81	605.55	13.22
65	CRTFP Ux+	0	0	0	0	0	0
65	CRTFP Ux-	0	0	0	0	0	0
65	CRTFP Uy+	0	0	0	0	0	0
65	CRTFP Uy-	0	0	0	0	0	0
66	SLU 1	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 2	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 3	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 4	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 5	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 6	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 7	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 8	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 9	9	-3	1716	-1.97	-238.17	-0.71
66	SLU 10	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 11	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 12	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 13	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 14	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 15	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 16	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 17	12	-2	2041	-2.33	-277.87	-0.53
66	SLU 18	13	-2	2180	-2.48	-294.89	-0.45
66	SLU 19	13	-2	2180	-2.48	-294.89	-0.45
66	SLU 20	13	-2	2180	-2.48	-294.89	-0.45
66	SLU 21	13	-2	2180	-2.48	-294.89	-0.45
66	SLU 22	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 23	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 24	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 25	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 26	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 27	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 28	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 29	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 30	11	-3	1953	-2.22	-267.23	-0.77
66	SLU 31	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 32	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 33	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 34	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 35	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 36	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 37	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 38	13	-3	2278	-2.58	-306.94	-0.58
66	SLU 39	15	-2	2417	-2.74	-323.95	-0.5
66	SLU 40	15	-2	2417	-2.74	-323.95	-0.5
66	SLU 41	15	-2	2417	-2.74	-323.95	-0.5
66	SLU 42	15	-2	2417	-2.74	-323.95	-0.5
66	SLU 43	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 44	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 45	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 46	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 47	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 48	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 49	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 50	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 51	11	-4	2150	-2.47	-299.65	-0.91
66	SLU 52	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 53	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 54	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 55	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 56	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 57	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 58	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 59	14	-3	2475	-2.83	-339.35	-0.72
66	SLU 60	15	-3	2614	-2.99	-356.37	-0.64
66	SLU 61	15	-3	2614	-2.99	-356.37	-0.64
66	SLU 62	15	-3	2614	-2.99	-356.37	-0.64
66	SLU 63	15	-3	2614	-2.99	-356.37	-0.64
66	SLU 64	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 65	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 66	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 67	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 68	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 69	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 70	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 71	13	-4	2387	-2.73	-328.72	-0.97
66	SLU 72	13	-4	2387	-2.73	-328.72	-0.97



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
66	SLU 73	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 74	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 75	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 76	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 77	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 78	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 79	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 80	15	-4	2712		-3.09	-368.42	-0.78
66	SLU 81	17	-3	2851		-3.24	-385.44	-0.7
66	SLU 82	17	-3	2851		-3.24	-385.44	-0.7
66	SLU 83	17	-3	2851		-3.24	-385.44	-0.7
66	SLU 84	17	-3	2851		-3.24	-385.44	-0.7
66	SLE RA 1	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 2	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 3	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 4	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 5	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 6	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 7	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 8	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 9	9	-3	1784		-2.04	-246.47	-0.73
66	SLE RA 10	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 11	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 12	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 13	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 14	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 15	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 16	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 17	11	-3	2000		-2.28	-272.94	-0.61
66	SLE RA 18	12	-3	2093		-2.39	-284.28	-0.55
66	SLE RA 19	12	-3	2093		-2.39	-284.28	-0.55
66	SLE RA 20	12	-3	2093		-2.39	-284.28	-0.55
66	SLE RA 21	12	-3	2093		-2.39	-284.28	-0.55
66	SLE FR 1	9	-3	1784		-2.04	-246.47	-0.73
66	SLE FR 2	9	-3	1784		-2.04	-246.47	-0.73
66	SLE FR 3	9	-3	1784		-2.04	-246.47	-0.73
66	SLE FR 4	10	-3	1877		-2.15	-257.82	-0.68
66	SLE FR 5	10	-3	1877		-2.15	-257.82	-0.68
66	SLE FR 6	11	-3	1939		-2.21	-265.38	-0.64
66	SLE QP 1	9	-3	1784		-2.04	-246.47	-0.73
66	SLE QP 2	10	-3	1877		-2.15	-257.82	-0.68
66	SLD 1	117	123	2233		-3.1	-300.93	30.82
66	SLD 2	142	88	2229		-3.07	-300.51	22.05
66	SLD 3	129	-26	2074		-2.1	-279.74	-6.51
66	SLD 4	154	-62	2071		-2.07	-279.31	-15.29
66	SLD 5	15	274	2225		-3.95	-303.04	68.5
66	SLD 6	40	238	2222		-3.92	-302.61	59.65
66	SLD 7	55	-224	1696		-0.63	-232.4	-55.94
66	SLD 8	80	-260	1693		-0.6	-231.97	-64.79
66	SLD 9	-60	254	2060		-3.69	-283.66	63.43
66	SLD 10	-35	218	2057		-3.66	-283.23	54.58
66	SLD 11	-20	-244	1531		-0.37	-213.02	-61
66	SLD 12	5	-280	1528		-0.34	-212.59	-69.85
66	SLD 13	-134	56	1683		-2.22	-236.32	13.93
66	SLD 14	-109	20	1680		-2.19	-235.89	5.16
66	SLD 15	-122	-94	1524		-1.22	-215.12	-23.4
66	SLD 16	-97	-129	1521		-1.19	-214.7	-32.17
66	SLV 1	253	287	2688		-4.34	-356.53	71.69
66	SLV 2	309	206	2681		-4.27	-355.56	51.74
66	SLV 3	281	-59	2321		-2.03	-307.5	-14.66
66	SLV 4	337	-140	2314		-1.96	-306.53	-34.62
66	SLV 5	20	637	2679		-6.33	-362.13	159.17
66	SLV 6	78	555	2672		-6.26	-361.15	138.86
66	SLV 7	113	-515	1456		1.36	-198.71	-128.69
66	SLV 8	171	-597	1449		1.43	-197.72	-148.99
66	SLV 9	-151	591	2304		-5.72	-317.91	147.64
66	SLV 10	-93	509	2297		-5.65	-316.92	127.33
66	SLV 11	-58	-561	1081		1.97	-154.49	-140.21
66	SLV 12	0	-643	1074		2.04	-153.5	-160.52
66	SLV 13	-317	133	1439		-2.33	-209.1	33.27
66	SLV 14	-261	53	1432		-2.26	-208.13	13.31
66	SLV 15	-289	-212	1072		-0.02	-160.08	-53.09
66	SLV 16	-233	-293	1065		0.05	-159.1	-73.04
66	CRTFP Ux+	0	0	0		0	0	0
66	CRTFP Ux-	0	0	0		0	0	0
66	CRTFP Uy+	0	0	0		0	0	0
66	CRTFP Uy-	0	0	0		0	0	0
68	SLU 1	8	-3	1677		-0.94	0.19	0.03
68	SLU 2	8	-3	1677		-0.94	0.19	0.03
68	SLU 3	8	-3	1677		-0.94	0.19	0.03
68	SLU 4	8	-3	1677		-0.94	0.19	0.03
68	SLU 5	8	-3	1677		-0.94	0.19	0.03
68	SLU 6	8	-3	1677		-0.94	0.19	0.03
68	SLU 7	8	-3	1677		-0.94	0.19	0.03
68	SLU 8	8	-3	1677		-0.94	0.19	0.03
68	SLU 9	8	-3	1677		-0.94	0.19	0.03
68	SLU 10	10	-3	2022		-0.81	0.25	0.04
68	SLU 11	10	-3	2022		-0.81	0.25	0.04
68	SLU 12	10	-3	2022		-0.81	0.25	0.04
68	SLU 13	10	-3	2022		-0.81	0.25	0.04



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
68	SLU 14	10	-3	2022		-0.81	0.25	0.04	
68	SLU 15	10	-3	2022		-0.81	0.25	0.04	
68	SLU 16	10	-3	2022		-0.81	0.25	0.04	
68	SLU 17	10	-3	2022		-0.81	0.25	0.04	
68	SLU 18	11	-3	2170		-0.75	0.27	0.05	
68	SLU 19	11	-3	2170		-0.75	0.27	0.05	
68	SLU 20	11	-3	2170		-0.75	0.27	0.05	
68	SLU 21	11	-3	2170		-0.75	0.27	0.05	
68	SLU 22	10	-3	1916		-0.9	0.24	0.04	
68	SLU 23	10	-3	1916		-0.9	0.24	0.04	
68	SLU 24	10	-3	1916		-0.9	0.24	0.04	
68	SLU 25	10	-3	1916		-0.9	0.24	0.04	
68	SLU 26	10	-3	1916		-0.9	0.24	0.04	
68	SLU 27	10	-3	1916		-0.9	0.24	0.04	
68	SLU 28	10	-3	1916		-0.9	0.24	0.04	
68	SLU 29	10	-3	1916		-0.9	0.24	0.04	
68	SLU 30	10	-3	1916		-0.9	0.24	0.04	
68	SLU 31	12	-3	2260		-0.77	0.3	0.05	
68	SLU 32	12	-3	2260		-0.77	0.3	0.05	
68	SLU 33	12	-3	2260		-0.77	0.3	0.05	
68	SLU 34	12	-3	2260		-0.77	0.3	0.05	
68	SLU 35	12	-3	2260		-0.77	0.3	0.05	
68	SLU 36	12	-3	2260		-0.77	0.3	0.05	
68	SLU 37	12	-3	2260		-0.77	0.3	0.05	
68	SLU 38	12	-3	2260		-0.77	0.3	0.05	
68	SLU 39	13	-3	2408		-0.71	0.33	0.05	
68	SLU 40	13	-3	2408		-0.71	0.33	0.05	
68	SLU 41	13	-3	2408		-0.71	0.33	0.05	
68	SLU 42	13	-3	2408		-0.71	0.33	0.05	
68	SLU 43	10	-3	2099		-1.23	0.22	0.04	
68	SLU 44	10	-3	2099		-1.23	0.22	0.04	
68	SLU 45	10	-3	2099		-1.23	0.22	0.04	
68	SLU 46	10	-3	2099		-1.23	0.22	0.04	
68	SLU 47	10	-3	2099		-1.23	0.22	0.04	
68	SLU 48	10	-3	2099		-1.23	0.22	0.04	
68	SLU 49	10	-3	2099		-1.23	0.22	0.04	
68	SLU 50	10	-3	2099		-1.23	0.22	0.04	
68	SLU 51	10	-3	2099		-1.23	0.22	0.04	
68	SLU 52	12	-3	2443		-1.1	0.28	0.05	
68	SLU 53	12	-3	2443		-1.1	0.28	0.05	
68	SLU 54	12	-3	2443		-1.1	0.28	0.05	
68	SLU 55	12	-3	2443		-1.1	0.28	0.05	
68	SLU 56	12	-3	2443		-1.1	0.28	0.05	
68	SLU 57	12	-3	2443		-1.1	0.28	0.05	
68	SLU 58	12	-3	2443		-1.1	0.28	0.05	
68	SLU 59	12	-3	2443		-1.1	0.28	0.05	
68	SLU 60	13	-3	2591		-1.05	0.31	0.05	
68	SLU 61	13	-3	2591		-1.05	0.31	0.05	
68	SLU 62	13	-3	2591		-1.05	0.31	0.05	
68	SLU 63	13	-3	2591		-1.05	0.31	0.05	
68	SLU 64	12	-4	2337		-1.19	0.28	0.05	
68	SLU 65	12	-4	2337		-1.19	0.28	0.05	
68	SLU 66	12	-4	2337		-1.19	0.28	0.05	
68	SLU 67	12	-4	2337		-1.19	0.28	0.05	
68	SLU 68	12	-4	2337		-1.19	0.28	0.05	
68	SLU 69	12	-4	2337		-1.19	0.28	0.05	
68	SLU 70	12	-4	2337		-1.19	0.28	0.05	
68	SLU 71	12	-4	2337		-1.19	0.28	0.05	
68	SLU 72	12	-4	2337		-1.19	0.28	0.05	
68	SLU 73	14	-4	2682		-1.06	0.34	0.06	
68	SLU 74	14	-4	2682		-1.06	0.34	0.06	
68	SLU 75	14	-4	2682		-1.06	0.34	0.06	
68	SLU 76	14	-4	2682		-1.06	0.34	0.06	
68	SLU 77	14	-4	2682		-1.06	0.34	0.06	
68	SLU 78	14	-4	2682		-1.06	0.34	0.06	
68	SLU 79	14	-4	2682		-1.06	0.34	0.06	
68	SLU 80	14	-4	2682		-1.06	0.34	0.06	
68	SLU 81	15	-4	2829		-1.01	0.36	0.06	
68	SLU 82	15	-4	2829		-1.01	0.36	0.06	
68	SLU 83	15	-4	2829		-1.01	0.36	0.06	
68	SLU 84	15	-4	2829		-1.01	0.36	0.06	
68	SLE RA 1	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 2	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 3	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 4	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 5	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 6	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 7	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 8	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 9	9	-3	1745		-0.93	0.2	0.04	
68	SLE RA 10	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 11	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 12	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 13	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 14	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 15	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 16	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 17	10	-3	1975		-0.84	0.24	0.04	
68	SLE RA 18	11	-3	2074		-0.8	0.26	0.04	
68	SLE RA 19	11	-3	2074		-0.8	0.26	0.04	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
68	SLE RA 20	11	-3	2074		-0.8	0.26	0.04
68	SLE RA 21	11	-3	2074		-0.8	0.26	0.04
68	SLE FR 1	9	-3	1745		-0.93	0.2	0.04
68	SLE FR 2	9	-3	1745		-0.93	0.2	0.04
68	SLE FR 3	9	-3	1745		-0.93	0.2	0.04
68	SLE FR 4	9	-3	1844		-0.89	0.22	0.04
68	SLE FR 5	9	-3	1844		-0.89	0.22	0.04
68	SLE FR 6	10	-3	1910		-0.86	0.23	0.04
68	SLE QP 1	9	-3	1745		-0.93	0.2	0.04
68	SLE QP 2	9	-3	1844		-0.89	0.22	0.04
68	SLD 1	116	11	1916		-1.21	-2.61	0.13
68	SLD 2	142	11	1915		-1.2	-2.61	0.24
68	SLD 3	131	-24	1791		-0.41	-2.26	0.18
68	SLD 4	157	-23	1790		-0.4	-2.26	0.3
68	SLD 5	9	53	2055		-2.2	-1.15	-0.06
68	SLD 6	35	54	2055		-2.19	-1.15	0.05
68	SLD 7	60	-61	1639		0.46	0	0.13
68	SLD 8	86	-61	1638		0.47	0	0.24
68	SLD 9	-68	55	2050		-2.25	0.44	-0.16
68	SLD 10	-41	56	2049		-2.24	0.44	-0.05
68	SLD 11	-16	-59	1633		0.41	1.59	0.02
68	SLD 12	10	-58	1632		0.42	1.59	0.14
68	SLD 13	-139	18	1898		-1.38	2.7	-0.22
68	SLD 14	-113	18	1897		-1.37	2.7	-0.11
68	SLD 15	-123	-16	1773		-0.58	3.04	-0.16
68	SLD 16	-97	-16	1772		-0.57	3.04	-0.05
68	SLV 1	251	28	2011		-1.62	-6.64	0.24
68	SLV 2	310	29	2009		-1.61	-6.64	0.5
68	SLV 3	287	-51	1722		0.22	-5.77	0.37
68	SLV 4	346	-50	1720		0.24	-5.77	0.63
68	SLV 5	7	126	2333		-3.92	-3.17	-0.19
68	SLV 6	67	128	2331		-3.9	-3.17	0.07
68	SLV 7	125	-138	1369		2.24	-0.25	0.24
68	SLV 8	185	-137	1367		2.25	-0.25	0.5
68	SLV 9	-167	131	2321		-4.03	0.69	-0.43
68	SLV 10	-107	133	2319		-4.02	0.69	-0.17
68	SLV 11	-49	-133	1356		2.12	3.6	0.01
68	SLV 12	11	-132	1354		2.14	3.6	0.27
68	SLV 13	-327	45	1968		-2.02	6.2	-0.55
68	SLV 14	-268	46	1966		-2	6.2	-0.29
68	SLV 15	-292	-35	1679		-0.17	7.08	-0.42
68	SLV 16	-233	-33	1677		-0.16	7.08	-0.16
68	CRTFP Ux+	0	0	0		0	0	0
68	CRTFP Ux-	0	0	0		0	0	0
68	CRTFP Uy+	0	0	0		0	0	0
68	CRTFP Uy-	0	0	0		0	0	0
70	SLU 1	7	-16	1784		-2.16	405.88	5.55
70	SLU 2	7	-16	1784		-2.16	405.88	5.55
70	SLU 3	7	-16	1784		-2.16	405.88	5.55
70	SLU 4	7	-16	1784		-2.16	405.88	5.55
70	SLU 5	7	-16	1784		-2.16	405.88	5.55
70	SLU 6	7	-16	1784		-2.16	405.88	5.55
70	SLU 7	7	-16	1784		-2.16	405.88	5.55
70	SLU 8	7	-16	1784		-2.16	405.88	5.55
70	SLU 9	7	-16	1784		-2.16	405.88	5.55
70	SLU 10	9	-19	2092		-2.54	469.85	6.8
70	SLU 11	9	-19	2092		-2.54	469.85	6.8
70	SLU 12	9	-19	2092		-2.54	469.85	6.8
70	SLU 13	9	-19	2092		-2.54	469.85	6.8
70	SLU 14	9	-19	2092		-2.54	469.85	6.8
70	SLU 15	9	-19	2092		-2.54	469.85	6.8
70	SLU 16	9	-19	2092		-2.54	469.85	6.8
70	SLU 17	9	-19	2092		-2.54	469.85	6.8
70	SLU 18	10	-21	2224		-2.7	497.27	7.33
70	SLU 19	10	-21	2224		-2.7	497.27	7.33
70	SLU 20	10	-21	2224		-2.7	497.27	7.33
70	SLU 21	10	-21	2224		-2.7	497.27	7.33
70	SLU 22	8	-19	1998		-2.4	450.52	6.54
70	SLU 23	8	-19	1998		-2.4	450.52	6.54
70	SLU 24	8	-19	1998		-2.4	450.52	6.54
70	SLU 25	8	-19	1998		-2.4	450.52	6.54
70	SLU 26	8	-19	1998		-2.4	450.52	6.54
70	SLU 27	8	-19	1998		-2.4	450.52	6.54
70	SLU 28	8	-19	1998		-2.4	450.52	6.54
70	SLU 29	8	-19	1998		-2.4	450.52	6.54
70	SLU 30	8	-19	1998		-2.4	450.52	6.54
70	SLU 31	10	-22	2306		-2.78	514.49	7.79
70	SLU 32	10	-22	2306		-2.78	514.49	7.79
70	SLU 33	10	-22	2306		-2.78	514.49	7.79
70	SLU 34	10	-22	2306		-2.78	514.49	7.79
70	SLU 35	10	-22	2306		-2.78	514.49	7.79
70	SLU 36	10	-22	2306		-2.78	514.49	7.79
70	SLU 37	10	-22	2306		-2.78	514.49	7.79
70	SLU 38	10	-22	2306		-2.78	514.49	7.79
70	SLU 39	10	-24	2439		-2.94	541.9	8.33
70	SLU 40	10	-24	2439		-2.94	541.9	8.33
70	SLU 41	10	-24	2439		-2.94	541.9	8.33
70	SLU 42	10	-24	2439		-2.94	541.9	8.33
70	SLU 43	9	-20	2245		-2.73	512.34	6.87
70	SLU 44	9	-20	2245		-2.73	512.34	6.87



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
70	SLU 45	9	-20	2245		-2.73	512.34	6.87
70	SLU 46	9	-20	2245		-2.73	512.34	6.87
70	SLU 47	9	-20	2245		-2.73	512.34	6.87
70	SLU 48	9	-20	2245		-2.73	512.34	6.87
70	SLU 49	9	-20	2245		-2.73	512.34	6.87
70	SLU 50	9	-20	2245		-2.73	512.34	6.87
70	SLU 51	9	-20	2245		-2.73	512.34	6.87
70	SLU 52	11	-23	2554		-3.1	576.31	8.12
70	SLU 53	11	-23	2554		-3.1	576.31	8.12
70	SLU 54	11	-23	2554		-3.1	576.31	8.12
70	SLU 55	11	-23	2554		-3.1	576.31	8.12
70	SLU 56	11	-23	2554		-3.1	576.31	8.12
70	SLU 57	11	-23	2554		-3.1	576.31	8.12
70	SLU 58	11	-23	2554		-3.1	576.31	8.12
70	SLU 59	11	-23	2554		-3.1	576.31	8.12
70	SLU 60	11	-25	2686		-3.26	603.73	8.66
70	SLU 61	11	-25	2686		-3.26	603.73	8.66
70	SLU 62	11	-25	2686		-3.26	603.73	8.66
70	SLU 63	11	-25	2686		-3.26	603.73	8.66
70	SLU 64	10	-23	2459		-2.97	556.98	7.86
70	SLU 65	10	-23	2459		-2.97	556.98	7.86
70	SLU 66	10	-23	2459		-2.97	556.98	7.86
70	SLU 67	10	-23	2459		-2.97	556.98	7.86
70	SLU 68	10	-23	2459		-2.97	556.98	7.86
70	SLU 69	10	-23	2459		-2.97	556.98	7.86
70	SLU 70	10	-23	2459		-2.97	556.98	7.86
70	SLU 71	10	-23	2459		-2.97	556.98	7.86
70	SLU 72	10	-23	2459		-2.97	556.98	7.86
70	SLU 73	12	-26	2768		-3.34	620.95	9.11
70	SLU 74	12	-26	2768		-3.34	620.95	9.11
70	SLU 75	12	-26	2768		-3.34	620.95	9.11
70	SLU 76	12	-26	2768		-3.34	620.95	9.11
70	SLU 77	12	-26	2768		-3.34	620.95	9.11
70	SLU 78	12	-26	2768		-3.34	620.95	9.11
70	SLU 79	12	-26	2768		-3.34	620.95	9.11
70	SLU 80	12	-26	2768		-3.34	620.95	9.11
70	SLU 81	12	-28	2900		-3.5	648.36	9.65
70	SLU 82	12	-28	2900		-3.5	648.36	9.65
70	SLU 83	12	-28	2900		-3.5	648.36	9.65
70	SLU 84	12	-28	2900		-3.5	648.36	9.65
70	SLE RA 1	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 2	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 3	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 4	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 5	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 6	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 7	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 8	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 9	8	-17	1845		-2.23	418.63	5.83
70	SLE RA 10	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 11	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 12	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 13	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 14	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 15	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 16	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 17	9	-19	2050		-2.48	461.28	6.66
70	SLE RA 18	9	-20	2139		-2.59	479.56	7.02
70	SLE RA 19	9	-20	2139		-2.59	479.56	7.02
70	SLE RA 20	9	-20	2139		-2.59	479.56	7.02
70	SLE RA 21	9	-20	2139		-2.59	479.56	7.02
70	SLE FR 1	8	-17	1845		-2.23	418.63	5.83
70	SLE FR 2	8	-17	1845		-2.23	418.63	5.83
70	SLE FR 3	8	-17	1845		-2.23	418.63	5.83
70	SLE FR 4	8	-18	1933		-2.34	436.91	6.19
70	SLE FR 5	8	-18	1933		-2.34	436.91	6.19
70	SLE FR 6	8	-18	1992		-2.41	449.1	6.42
70	SLE QP 1	8	-17	1845		-2.23	418.63	5.83
70	SLE QP 2	8	-18	1933		-2.34	436.91	6.19
70	SLD 1	135	-10	1718		-2.33	399.58	3.53
70	SLD 2	165	26	1719		-2.33	400.03	-9.19
70	SLD 3	152	-163	1521		-1.2	356.87	57.07
70	SLD 4	182	-126	1522		-1.2	357.32	44.34
70	SLD 5	9	203	2167		-4.05	490.34	-71.3
70	SLD 6	39	240	2168		-4.05	490.78	-84.13
70	SLD 7	67	-306	1510		-0.28	347.96	107.15
70	SLD 8	98	-269	1512		-0.28	348.41	94.32
70	SLD 9	-82	234	2354		-4.39	525.41	-81.95
70	SLD 10	-51	271	2355		-4.39	525.86	-94.78
70	SLD 11	-23	-276	1698		-0.63	383.04	96.5
70	SLD 12	8	-239	1699		-0.63	383.49	83.67
70	SLD 13	-166	91	2344		-3.48	516.51	-31.97
70	SLD 14	-136	128	2345		-3.48	516.95	-44.69
70	SLD 15	-148	-62	2147		-2.35	473.8	21.56
70	SLD 16	-118	-25	2148		-2.35	474.24	8.84
70	SLV 1	296	2	1449		-2.34	352.95	-1
70	SLV 2	364	86	1452		-2.34	353.96	-29.93
70	SLV 3	336	-352	994		0.27	254.13	122.97
70	SLV 4	405	-268	996		0.27	255.14	94.04
70	SLV 5	8	495	2478		-6.31	561.23	-173.61



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
70	SLV 6	78	580	2480		-6.31	562.26	-203.05	
70	SLV 7	144	-684	959		2.41	231.84	239.62	
70	SLV 8	213	-600	962		2.41	232.87	210.18	
70	SLV 9	-197	564	2904		-7.09	640.95	-197.81	
70	SLV 10	-127	649	2907		-7.09	641.98	-227.25	
70	SLV 11	-62	-615	1386		1.63	311.56	215.42	
70	SLV 12	8	-530	1388		1.63	312.59	185.98	
70	SLV 13	-388	233	2870		-4.95	618.68	-81.67	
70	SLV 14	-320	316	2872		-4.95	619.69	-110.6	
70	SLV 15	-348	-121	2414		-2.33	519.86	42.3	
70	SLV 16	-279	-38	2417		-2.33	520.88	13.37	
70	CRTFP Ux+	0	0	0		0	0	0	
70	CRTFP Ux-	0	0	0		0	0	0	
70	CRTFP Uy+	0	0	0		0	0	0	
70	CRTFP Uy-	0	0	0		0	0	0	
71	SLU 1	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 2	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 3	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 4	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 5	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 6	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 7	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 8	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 9	6	-3	1670		-0.97	-206.78	-0.69	
71	SLU 10	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 11	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 12	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 13	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 14	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 15	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 16	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 17	8	-2	1987		-1.1	-240.27	-0.49	
71	SLU 18	10	-2	2123		-1.16	-254.62	-0.41	
71	SLU 19	10	-2	2123		-1.16	-254.62	-0.41	
71	SLU 20	10	-2	2123		-1.16	-254.62	-0.41	
71	SLU 21	10	-2	2123		-1.16	-254.62	-0.41	
71	SLU 22	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 23	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 24	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 25	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 26	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 27	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 28	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 29	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 30	8	-3	1902		-1.06	-231.45	-0.74	
71	SLU 31	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 32	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 33	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 34	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 35	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 36	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 37	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 38	10	-3	2219		-1.19	-264.94	-0.55	
71	SLU 39	11	-2	2354		-1.25	-279.29	-0.47	
71	SLU 40	11	-2	2354		-1.25	-279.29	-0.47	
71	SLU 41	11	-2	2354		-1.25	-279.29	-0.47	
71	SLU 42	11	-2	2354		-1.25	-279.29	-0.47	
71	SLU 43	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 44	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 45	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 46	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 47	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 48	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 49	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 50	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 51	7	-4	2092		-1.23	-260.35	-0.87	
71	SLU 52	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 53	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 54	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 55	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 56	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 57	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 58	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 59	10	-3	2409		-1.36	-293.84	-0.68	
71	SLU 60	11	-3	2545		-1.42	-308.2	-0.6	
71	SLU 61	11	-3	2545		-1.42	-308.2	-0.6	
71	SLU 62	11	-3	2545		-1.42	-308.2	-0.6	
71	SLU 63	11	-3	2545		-1.42	-308.2	-0.6	
71	SLU 64	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 65	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 66	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 67	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 68	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 69	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 70	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 71	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 72	9	-4	2323		-1.32	-285.02	-0.93	
71	SLU 73	11	-3	2640		-1.45	-318.51	-0.74	
71	SLU 74	11	-3	2640		-1.45	-318.51	-0.74	
71	SLU 75	11	-3	2640		-1.45	-318.51	-0.74	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
71	SLU 76	11	-3	2640		-1.45	-318.51	-0.74
71	SLU 77	11	-3	2640		-1.45	-318.51	-0.74
71	SLU 78	11	-3	2640		-1.45	-318.51	-0.74
71	SLU 79	11	-3	2640		-1.45	-318.51	-0.74
71	SLU 80	11	-3	2640		-1.45	-318.51	-0.74
71	SLU 81	12	-3	2776		-1.51	-332.87	-0.65
71	SLU 82	12	-3	2776		-1.51	-332.87	-0.65
71	SLU 83	12	-3	2776		-1.51	-332.87	-0.65
71	SLU 84	12	-3	2776		-1.51	-332.87	-0.65
71	SLE RA 1	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 2	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 3	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 4	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 5	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 6	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 7	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 8	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 9	6	-3	1736		-0.99	-213.82	-0.7
71	SLE RA 10	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 11	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 12	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 13	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 14	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 15	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 16	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 17	8	-3	1948		-1.08	-236.15	-0.57
71	SLE RA 18	9	-2	2038		-1.12	-245.72	-0.52
71	SLE RA 19	9	-2	2038		-1.12	-245.72	-0.52
71	SLE RA 20	9	-2	2038		-1.12	-245.72	-0.52
71	SLE RA 21	9	-2	2038		-1.12	-245.72	-0.52
71	SLE FR 1	6	-3	1736		-0.99	-213.82	-0.7
71	SLE FR 2	6	-3	1736		-0.99	-213.82	-0.7
71	SLE FR 3	6	-3	1736		-0.99	-213.82	-0.7
71	SLE FR 4	7	-3	1827		-1.03	-223.39	-0.65
71	SLE FR 5	7	-3	1827		-1.03	-223.39	-0.65
71	SLE FR 6	8	-3	1887		-1.06	-229.77	-0.61
71	SLE QP 1	6	-3	1736		-0.99	-213.82	-0.7
71	SLE QP 2	7	-3	1827		-1.03	-223.39	-0.65
71	SLD 1	111	124	2156		-1.76	-257.13	30.98
71	SLD 2	132	88	2154		-1.73	-256.93	22.18
71	SLD 3	123	-26	2028		-0.86	-243.93	-6.51
71	SLD 4	144	-62	2025		-0.83	-243.73	-15.3
71	SLD 5	13	275	2122		-2.62	-253.61	68.81
71	SLD 6	34	239	2120		-2.59	-253.41	59.94
71	SLD 7	52	-224	1692		0.37	-209.6	-56.14
71	SLD 8	74	-260	1690		0.4	-209.4	-65.01
71	SLD 9	-59	254	1963		-2.46	-237.38	63.72
71	SLD 10	-38	219	1961		-2.44	-237.18	54.85
71	SLD 11	-20	-245	1534		0.53	-193.38	-61.23
71	SLD 12	2	-281	1532		0.56	-193.18	-70.1
71	SLD 13	-130	56	1628		-1.23	-203.05	14.01
71	SLD 14	-108	20	1626		-1.2	-202.86	5.21
71	SLD 15	-118	-94	1499		-0.33	-189.85	-23.48
71	SLD 16	-97	-130	1497		-0.31	-189.66	-32.27
71	SLV 1	243	288	2578		-2.7	-300.82	72.01
71	SLV 2	292	207	2573		-2.63	-300.37	52.01
71	SLV 3	270	-59	2280		-0.62	-270.29	-14.7
71	SLV 4	319	-140	2275		-0.56	-269.84	-34.7
71	SLV 5	19	639	2506		-4.71	-293.1	159.83
71	SLV 6	69	556	2501		-4.64	-292.64	139.48
71	SLV 7	110	-516	1513		2.22	-191.31	-129.2
71	SLV 8	159	-598	1508		2.29	-190.85	-149.55
71	SLV 9	-145	593	2146		-4.35	-255.93	148.25
71	SLV 10	-95	510	2141		-4.28	-255.48	127.9
71	SLV 11	-54	-562	1153		2.58	-154.15	-140.78
71	SLV 12	-5	-645	1148		2.64	-153.69	-161.13
71	SLV 13	-304	134	1378		-1.51	-176.95	33.41
71	SLV 14	-256	53	1374		-1.44	-176.5	13.41
71	SLV 15	-277	-213	1080		0.57	-146.42	-53.3
71	SLV 16	-229	-294	1076		0.64	-145.96	-73.3
71	CRTFP Ux+	0	0	0		0	0	0
71	CRTFP Ux-	0	0	0		0	0	0
71	CRTFP Uy+	0	0	0		0	0	0
71	CRTFP Uy-	0	0	0		0	0	0
73	SLU 1	7	-3	1658		-0.37	0.1	0.04
73	SLU 2	7	-3	1658		-0.37	0.1	0.04
73	SLU 3	7	-3	1658		-0.37	0.1	0.04
73	SLU 4	7	-3	1658		-0.37	0.1	0.04
73	SLU 5	7	-3	1658		-0.37	0.1	0.04
73	SLU 6	7	-3	1658		-0.37	0.1	0.04
73	SLU 7	7	-3	1658		-0.37	0.1	0.04
73	SLU 8	7	-3	1658		-0.37	0.1	0.04
73	SLU 9	7	-3	1658		-0.37	0.1	0.04
73	SLU 10	9	-3	2008		-0.18	0.13	0.05
73	SLU 11	9	-3	2008		-0.18	0.13	0.05
73	SLU 12	9	-3	2008		-0.18	0.13	0.05
73	SLU 13	9	-3	2008		-0.18	0.13	0.05
73	SLU 14	9	-3	2008		-0.18	0.13	0.05
73	SLU 15	9	-3	2008		-0.18	0.13	0.05
73	SLU 16	9	-3	2008		-0.18	0.13	0.05



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
73	SLU 17	9	-3	2008		-0.18	0.13	0.05	
73	SLU 18	10	-3	2158		-0.09	0.14	0.06	
73	SLU 19	10	-3	2158		-0.09	0.14	0.06	
73	SLU 20	10	-3	2158		-0.09	0.14	0.06	
73	SLU 21	10	-3	2158		-0.09	0.14	0.06	
73	SLU 22	8	-3	1899		-0.26	0.13	0.05	
73	SLU 23	8	-3	1899		-0.26	0.13	0.05	
73	SLU 24	8	-3	1899		-0.26	0.13	0.05	
73	SLU 25	8	-3	1899		-0.26	0.13	0.05	
73	SLU 26	8	-3	1899		-0.26	0.13	0.05	
73	SLU 27	8	-3	1899		-0.26	0.13	0.05	
73	SLU 28	8	-3	1899		-0.26	0.13	0.05	
73	SLU 29	8	-3	1899		-0.26	0.13	0.05	
73	SLU 30	8	-3	1899		-0.26	0.13	0.05	
73	SLU 31	10	-3	2248		-0.06	0.16	0.06	
73	SLU 32	10	-3	2248		-0.06	0.16	0.06	
73	SLU 33	10	-3	2248		-0.06	0.16	0.06	
73	SLU 34	10	-3	2248		-0.06	0.16	0.06	
73	SLU 35	10	-3	2248		-0.06	0.16	0.06	
73	SLU 36	10	-3	2248		-0.06	0.16	0.06	
73	SLU 37	10	-3	2248		-0.06	0.16	0.06	
73	SLU 38	10	-3	2248		-0.06	0.16	0.06	
73	SLU 39	11	-3	2398		0.02	0.18	0.06	
73	SLU 40	11	-3	2398		0.02	0.18	0.06	
73	SLU 41	11	-3	2398		0.02	0.18	0.06	
73	SLU 42	11	-3	2398		0.02	0.18	0.06	
73	SLU 43	9	-3	2072		-0.52	0.12	0.05	
73	SLU 44	9	-3	2072		-0.52	0.12	0.05	
73	SLU 45	9	-3	2072		-0.52	0.12	0.05	
73	SLU 46	9	-3	2072		-0.52	0.12	0.05	
73	SLU 47	9	-3	2072		-0.52	0.12	0.05	
73	SLU 48	9	-3	2072		-0.52	0.12	0.05	
73	SLU 49	9	-3	2072		-0.52	0.12	0.05	
73	SLU 50	9	-3	2072		-0.52	0.12	0.05	
73	SLU 51	9	-3	2072		-0.52	0.12	0.05	
73	SLU 52	11	-3	2422		-0.33	0.15	0.06	
73	SLU 53	11	-3	2422		-0.33	0.15	0.06	
73	SLU 54	11	-3	2422		-0.33	0.15	0.06	
73	SLU 55	11	-3	2422		-0.33	0.15	0.06	
73	SLU 56	11	-3	2422		-0.33	0.15	0.06	
73	SLU 57	11	-3	2422		-0.33	0.15	0.06	
73	SLU 58	11	-3	2422		-0.33	0.15	0.06	
73	SLU 59	11	-3	2422		-0.33	0.15	0.06	
73	SLU 60	11	-3	2572		-0.24	0.16	0.07	
73	SLU 61	11	-3	2572		-0.24	0.16	0.07	
73	SLU 62	11	-3	2572		-0.24	0.16	0.07	
73	SLU 63	11	-3	2572		-0.24	0.16	0.07	
73	SLU 64	10	-3	2313		-0.41	0.15	0.06	
73	SLU 65	10	-3	2313		-0.41	0.15	0.06	
73	SLU 66	10	-3	2313		-0.41	0.15	0.06	
73	SLU 67	10	-3	2313		-0.41	0.15	0.06	
73	SLU 68	10	-3	2313		-0.41	0.15	0.06	
73	SLU 69	10	-3	2313		-0.41	0.15	0.06	
73	SLU 70	10	-3	2313		-0.41	0.15	0.06	
73	SLU 71	10	-3	2313		-0.41	0.15	0.06	
73	SLU 72	10	-3	2313		-0.41	0.15	0.06	
73	SLU 73	12	-4	2663		-0.21	0.18	0.07	
73	SLU 74	12	-4	2663		-0.21	0.18	0.07	
73	SLU 75	12	-4	2663		-0.21	0.18	0.07	
73	SLU 76	12	-4	2663		-0.21	0.18	0.07	
73	SLU 77	12	-4	2663		-0.21	0.18	0.07	
73	SLU 78	12	-4	2663		-0.21	0.18	0.07	
73	SLU 79	12	-4	2663		-0.21	0.18	0.07	
73	SLU 80	12	-4	2663		-0.21	0.18	0.07	
73	SLU 81	13	-4	2813		-0.13	0.19	0.07	
73	SLU 82	13	-4	2813		-0.13	0.19	0.07	
73	SLU 83	13	-4	2813		-0.13	0.19	0.07	
73	SLU 84	13	-4	2813		-0.13	0.19	0.07	
73	SLE RA 1	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 2	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 3	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 4	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 5	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 6	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 7	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 8	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 9	7	-3	1726		-0.34	0.11	0.04	
73	SLE RA 10	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 11	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 12	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 13	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 14	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 15	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 16	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 17	9	-3	1960		-0.21	0.13	0.05	
73	SLE RA 18	9	-3	2060		-0.15	0.14	0.05	
73	SLE RA 19	9	-3	2060		-0.15	0.14	0.05	
73	SLE RA 20	9	-3	2060		-0.15	0.14	0.05	
73	SLE RA 21	9	-3	2060		-0.15	0.14	0.05	
73	SLE FR 1	7	-3	1726		-0.34	0.11	0.04	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
73	SLE FR 2	7	-3	1726	-0.34	0.11	0.04
73	SLE FR 3	7	-3	1726	-0.34	0.11	0.04
73	SLE FR 4	8	-3	1826	-0.29	0.12	0.05
73	SLE FR 5	8	-3	1826	-0.29	0.12	0.05
73	SLE FR 6	8	-3	1893	-0.25	0.12	0.05
73	SLE QP 1	7	-3	1726	-0.34	0.11	0.04
73	SLE QP 2	8	-3	1826	-0.29	0.12	0.05
73	SLD 1	112	11	1886	-0.57	-3.41	0.12
73	SLD 2	135	11	1886	-0.57	-3.41	0.24
73	SLD 3	126	-24	1785	0.12	-2.94	0.19
73	SLD 4	148	-23	1784	0.12	-2.94	0.3
73	SLD 5	11	53	1999	-1.42	-1.64	-0.07
73	SLD 6	33	54	1998	-1.42	-1.64	0.05
73	SLD 7	56	-61	1660	0.88	-0.1	0.15
73	SLD 8	78	-61	1659	0.89	-0.1	0.26
73	SLD 9	-63	55	1994	-1.46	0.33	-0.17
73	SLD 10	-40	56	1993	-1.45	0.33	-0.05
73	SLD 11	-18	-59	1655	0.85	1.88	0.05
73	SLD 12	5	-58	1654	0.85	1.88	0.16
73	SLD 13	-132	18	1869	-0.69	3.17	-0.21
73	SLD 14	-110	18	1868	-0.69	3.18	-0.1
73	SLD 15	-119	-16	1767	0	3.64	-0.14
73	SLD 16	-96	-16	1767	0	3.64	-0.03
73	SLV 1	245	28	1965	-0.95	-8.55	0.22
73	SLV 2	296	29	1963	-0.94	-8.55	0.48
73	SLV 3	276	-51	1730	0.65	-7.37	0.37
73	SLV 4	327	-50	1728	0.66	-7.37	0.63
73	SLV 5	14	126	2225	-2.92	-4.28	-0.22
73	SLV 6	65	127	2224	-2.9	-4.27	0.04
73	SLV 7	117	-138	1441	2.42	-0.34	0.28
73	SLV 8	169	-137	1440	2.43	-0.34	0.54
73	SLV 9	-153	131	2213	-3	0.57	-0.45
73	SLV 10	-101	132	2212	-2.99	0.57	-0.18
73	SLV 11	-50	-133	1429	2.33	4.51	0.05
73	SLV 12	2	-132	1428	2.35	4.51	0.31
73	SLV 13	-311	45	1925	-1.23	7.6	-0.54
73	SLV 14	-260	46	1923	-1.22	7.6	-0.28
73	SLV 15	-280	-35	1689	0.37	8.78	-0.39
73	SLV 16	-229	-33	1688	0.38	8.79	-0.13
73	CRTFP Ux+	0	0	0	0	0	0
73	CRTFP Ux-	0	0	0	0	0	0
73	CRTFP Uy+	0	0	0	0	0	0
73	CRTFP Uy-	0	0	0	0	0	0
75	SLU 1	8	-16	1732	-1.09	367.23	5.55
75	SLU 2	8	-16	1732	-1.09	367.23	5.55
75	SLU 3	8	-16	1732	-1.09	367.23	5.55
75	SLU 4	8	-16	1732	-1.09	367.23	5.55
75	SLU 5	8	-16	1732	-1.09	367.23	5.55
75	SLU 6	8	-16	1732	-1.09	367.23	5.55
75	SLU 7	8	-16	1732	-1.09	367.23	5.55
75	SLU 8	8	-16	1732	-1.09	367.23	5.55
75	SLU 9	8	-16	1732	-1.09	367.23	5.55
75	SLU 10	10	-19	2033	-1.23	424.23	6.8
75	SLU 11	10	-19	2033	-1.23	424.23	6.8
75	SLU 12	10	-19	2033	-1.23	424.23	6.8
75	SLU 13	10	-19	2033	-1.23	424.23	6.8
75	SLU 14	10	-19	2033	-1.23	424.23	6.8
75	SLU 15	10	-19	2033	-1.23	424.23	6.8
75	SLU 16	10	-19	2033	-1.23	424.23	6.8
75	SLU 17	10	-19	2033	-1.23	424.23	6.8
75	SLU 18	10	-21	2162	-1.28	448.66	7.34
75	SLU 19	10	-21	2162	-1.28	448.66	7.34
75	SLU 20	10	-21	2162	-1.28	448.66	7.34
75	SLU 21	10	-21	2162	-1.28	448.66	7.34
75	SLU 22	9	-19	1942	-1.16	407.21	6.54
75	SLU 23	9	-19	1942	-1.16	407.21	6.54
75	SLU 24	9	-19	1942	-1.16	407.21	6.54
75	SLU 25	9	-19	1942	-1.16	407.21	6.54
75	SLU 26	9	-19	1942	-1.16	407.21	6.54
75	SLU 27	9	-19	1942	-1.16	407.21	6.54
75	SLU 28	9	-19	1942	-1.16	407.21	6.54
75	SLU 29	9	-19	1942	-1.16	407.21	6.54
75	SLU 30	9	-19	1942	-1.16	407.21	6.54
75	SLU 31	11	-22	2242	-1.3	464.22	7.79
75	SLU 32	11	-22	2242	-1.3	464.22	7.79
75	SLU 33	11	-22	2242	-1.3	464.22	7.79
75	SLU 34	11	-22	2242	-1.3	464.22	7.79
75	SLU 35	11	-22	2242	-1.3	464.22	7.79
75	SLU 36	11	-22	2242	-1.3	464.22	7.79
75	SLU 37	11	-22	2242	-1.3	464.22	7.79
75	SLU 38	11	-22	2242	-1.3	464.22	7.79
75	SLU 39	11	-24	2371	-1.36	488.65	8.33
75	SLU 40	11	-24	2371	-1.36	488.65	8.33
75	SLU 41	11	-24	2371	-1.36	488.65	8.33
75	SLU 42	11	-24	2371	-1.36	488.65	8.33
75	SLU 43	10	-20	2180	-1.38	463.69	6.87
75	SLU 44	10	-20	2180	-1.38	463.69	6.87
75	SLU 45	10	-20	2180	-1.38	463.69	6.87
75	SLU 46	10	-20	2180	-1.38	463.69	6.87
75	SLU 47	10	-20	2180	-1.38	463.69	6.87



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
75	SLU 48	10	-20	2180	-1.38	463.69	6.87
75	SLU 49	10	-20	2180	-1.38	463.69	6.87
75	SLU 50	10	-20	2180	-1.38	463.69	6.87
75	SLU 51	10	-20	2180	-1.38	463.69	6.87
75	SLU 52	12	-23	2481	-1.52	520.69	8.12
75	SLU 53	12	-23	2481	-1.52	520.69	8.12
75	SLU 54	12	-23	2481	-1.52	520.69	8.12
75	SLU 55	12	-23	2481	-1.52	520.69	8.12
75	SLU 56	12	-23	2481	-1.52	520.69	8.12
75	SLU 57	12	-23	2481	-1.52	520.69	8.12
75	SLU 58	12	-23	2481	-1.52	520.69	8.12
75	SLU 59	12	-23	2481	-1.52	520.69	8.12
75	SLU 60	12	-25	2610	-1.58	545.12	8.66
75	SLU 61	12	-25	2610	-1.58	545.12	8.66
75	SLU 62	12	-25	2610	-1.58	545.12	8.66
75	SLU 63	12	-25	2610	-1.58	545.12	8.66
75	SLU 64	11	-23	2390	-1.46	503.67	7.86
75	SLU 65	11	-23	2390	-1.46	503.67	7.86
75	SLU 66	11	-23	2390	-1.46	503.67	7.86
75	SLU 67	11	-23	2390	-1.46	503.67	7.86
75	SLU 68	11	-23	2390	-1.46	503.67	7.86
75	SLU 69	11	-23	2390	-1.46	503.67	7.86
75	SLU 70	11	-23	2390	-1.46	503.67	7.86
75	SLU 71	11	-23	2390	-1.46	503.67	7.86
75	SLU 72	11	-23	2390	-1.46	503.67	7.86
75	SLU 73	13	-26	2690	-1.6	560.68	9.11
75	SLU 74	13	-26	2690	-1.6	560.68	9.11
75	SLU 75	13	-26	2690	-1.6	560.68	9.11
75	SLU 76	13	-26	2690	-1.6	560.68	9.11
75	SLU 77	13	-26	2690	-1.6	560.68	9.11
75	SLU 78	13	-26	2690	-1.6	560.68	9.11
75	SLU 79	13	-26	2690	-1.6	560.68	9.11
75	SLU 80	13	-26	2690	-1.6	560.68	9.11
75	SLU 81	13	-28	2819	-1.66	585.1	9.65
75	SLU 82	13	-28	2819	-1.66	585.1	9.65
75	SLU 83	13	-28	2819	-1.66	585.1	9.65
75	SLU 84	13	-28	2819	-1.66	585.1	9.65
75	SLE RA 1	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 2	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 3	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 4	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 5	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 6	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 7	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 8	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 9	8	-17	1792	-1.11	378.65	5.83
75	SLE RA 10	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 11	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 12	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 13	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 14	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 15	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 16	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 17	9	-19	1992	-1.2	416.65	6.66
75	SLE RA 18	10	-20	2078	-1.24	432.94	7.02
75	SLE RA 19	10	-20	2078	-1.24	432.94	7.02
75	SLE RA 20	10	-20	2078	-1.24	432.94	7.02
75	SLE RA 21	10	-20	2078	-1.24	432.94	7.02
75	SLE FR 1	8	-17	1792	-1.11	378.65	5.83
75	SLE FR 2	8	-17	1792	-1.11	378.65	5.83
75	SLE FR 3	8	-17	1792	-1.11	378.65	5.83
75	SLE FR 4	9	-18	1878	-1.15	394.94	6.19
75	SLE FR 5	9	-18	1878	-1.15	394.94	6.19
75	SLE FR 6	9	-18	1935	-1.17	405.8	6.43
75	SLE QP 1	8	-17	1792	-1.11	378.65	5.83
75	SLE QP 2	9	-18	1878	-1.15	394.94	6.19
75	SLD 1	134	-10	1661	-1.28	359.79	3.51
75	SLD 2	161	26	1662	-1.28	360.23	-9.22
75	SLD 3	149	-164	1498	-0.29	329.55	57.21
75	SLD 4	176	-127	1499	-0.29	330	44.48
75	SLD 5	14	204	2061	-2.69	430.09	-71.55
75	SLD 6	41	241	2062	-2.69	430.54	-84.39
75	SLD 7	64	-307	1516	0.61	329.31	107.45
75	SLD 8	91	-270	1517	0.61	329.76	94.61
75	SLD 9	-73	234	2239	-2.91	460.12	-82.23
75	SLD 10	-47	271	2241	-2.91	460.57	-95.08
75	SLD 11	-23	-276	1694	0.39	359.34	96.77
75	SLD 12	3	-239	1695	0.39	359.79	83.92
75	SLD 13	-158	91	2257	-2.01	459.88	-32.1
75	SLD 14	-132	128	2258	-2	460.32	-44.84
75	SLD 15	-143	-62	2094	-1.02	429.65	21.6
75	SLD 16	-117	-25	2095	-1.01	430.09	8.86
75	SLV 1	294	2	1389	-1.47	315.64	-1.05
75	SLV 2	354	86	1391	-1.47	316.65	-30.01
75	SLV 3	329	-352	1010	0.82	245.7	123.31
75	SLV 4	388	-269	1013	0.82	246.71	94.34
75	SLV 5	21	496	2304	-4.72	476.86	-174.19
75	SLV 6	81	581	2307	-4.72	477.88	-203.67
75	SLV 7	136	-686	1043	2.92	243.74	240.32
75	SLV 8	196	-601	1046	2.92	244.76	210.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
75	SLV 9	-179	565	2711	-5.21	545.11	-198.47
75	SLV 10	-118	650	2713	-5.21	546.14	-227.95
75	SLV 11	-64	-617	1449	2.42	311.99	216.04
75	SLV 12	-3	-532	1452	2.42	313.02	186.57
75	SLV 13	-371	233	2743	-3.12	543.17	-81.97
75	SLV 14	-311	317	2746	-3.12	544.18	-110.93
75	SLV 15	-336	-121	2365	-0.83	473.23	42.39
75	SLV 16	-277	-38	2367	-0.82	474.24	13.42
75	CRTFP Ux+	0	0	0	0	0	0
75	CRTFP Ux-	0	0	0	0	0	0
75	CRTFP Uy+	0	0	0	0	0	0
75	CRTFP Uy-	0	0	0	0	0	0
76	SLU 1	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 2	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 3	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 4	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 5	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 6	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 7	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 8	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 9	3	-3	1654	-0.04	-195.42	-0.64
76	SLU 10	5	-2	1970	0.02	-227.11	-0.44
76	SLU 11	5	-2	1970	0.02	-227.11	-0.44
76	SLU 12	5	-2	1970	0.02	-227.11	-0.44
76	SLU 13	5	-2	1970	0.02	-227.11	-0.44
76	SLU 14	5	-2	1970	0.02	-227.11	-0.44
76	SLU 15	5	-2	1970	0.02	-227.11	-0.44
76	SLU 16	5	-2	1970	0.02	-227.11	-0.44
76	SLU 17	5	-2	1970	0.02	-227.11	-0.44
76	SLU 18	6	-2	2106	0.05	-240.69	-0.35
76	SLU 19	6	-2	2106	0.05	-240.69	-0.35
76	SLU 20	6	-2	2106	0.05	-240.69	-0.35
76	SLU 21	6	-2	2106	0.05	-240.69	-0.35
76	SLU 22	4	-3	1885	0.02	-218.92	-0.68
76	SLU 23	4	-3	1885	0.02	-218.92	-0.68
76	SLU 24	4	-3	1885	0.02	-218.92	-0.68
76	SLU 25	4	-3	1885	0.02	-218.92	-0.68
76	SLU 26	4	-3	1885	0.02	-218.92	-0.68
76	SLU 27	4	-3	1885	0.02	-218.92	-0.68
76	SLU 28	4	-3	1885	0.02	-218.92	-0.68
76	SLU 29	4	-3	1885	0.02	-218.92	-0.68
76	SLU 30	4	-3	1885	0.02	-218.92	-0.68
76	SLU 31	6	-2	2201	0.09	-250.61	-0.48
76	SLU 32	6	-2	2201	0.09	-250.61	-0.48
76	SLU 33	6	-2	2201	0.09	-250.61	-0.48
76	SLU 34	6	-2	2201	0.09	-250.61	-0.48
76	SLU 35	6	-2	2201	0.09	-250.61	-0.48
76	SLU 36	6	-2	2201	0.09	-250.61	-0.48
76	SLU 37	6	-2	2201	0.09	-250.61	-0.48
76	SLU 38	6	-2	2201	0.09	-250.61	-0.48
76	SLU 39	7	-2	2337	0.12	-264.19	-0.4
76	SLU 40	7	-2	2337	0.12	-264.19	-0.4
76	SLU 41	7	-2	2337	0.12	-264.19	-0.4
76	SLU 42	7	-2	2337	0.12	-264.19	-0.4
76	SLU 43	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 44	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 45	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 46	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 47	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 48	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 49	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 50	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 51	4	-4	2071	-0.08	-245.98	-0.81
76	SLU 52	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 53	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 54	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 55	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 56	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 57	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 58	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 59	6	-3	2387	-0.01	-277.67	-0.61
76	SLU 60	7	-3	2523	0.02	-291.25	-0.53
76	SLU 61	7	-3	2523	0.02	-291.25	-0.53
76	SLU 62	7	-3	2523	0.02	-291.25	-0.53
76	SLU 63	7	-3	2523	0.02	-291.25	-0.53
76	SLU 64	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 65	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 66	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 67	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 68	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 69	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 70	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 71	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 72	5	-4	2302	-0.02	-269.49	-0.86
76	SLU 73	7	-3	2618	0.05	-301.18	-0.66
76	SLU 74	7	-3	2618	0.05	-301.18	-0.66
76	SLU 75	7	-3	2618	0.05	-301.18	-0.66
76	SLU 76	7	-3	2618	0.05	-301.18	-0.66
76	SLU 77	7	-3	2618	0.05	-301.18	-0.66
76	SLU 78	7	-3	2618	0.05	-301.18	-0.66



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
76	SLU 79	7	-3	2618		0.05	-301.18	-0.66
76	SLU 80	7	-3	2618		0.05	-301.18	-0.66
76	SLU 81	8	-3	2754		0.08	-314.76	-0.57
76	SLU 82	8	-3	2754		0.08	-314.76	-0.57
76	SLU 83	8	-3	2754		0.08	-314.76	-0.57
76	SLU 84	8	-3	2754		0.08	-314.76	-0.57
76	SLE RA 1	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 2	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 3	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 4	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 5	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 6	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 7	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 8	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 9	4	-3	1720		-0.03	-202.13	-0.65
76	SLE RA 10	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 11	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 12	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 13	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 14	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 15	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 16	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 17	5	-2	1931		0.02	-223.26	-0.52
76	SLE RA 18	5	-2	2021		0.04	-232.31	-0.46
76	SLE RA 19	5	-2	2021		0.04	-232.31	-0.46
76	SLE RA 20	5	-2	2021		0.04	-232.31	-0.46
76	SLE RA 21	5	-2	2021		0.04	-232.31	-0.46
76	SLE FR 1	4	-3	1720		-0.03	-202.13	-0.65
76	SLE FR 2	4	-3	1720		-0.03	-202.13	-0.65
76	SLE FR 3	4	-3	1720		-0.03	-202.13	-0.65
76	SLE FR 4	4	-3	1811		-0.01	-211.19	-0.59
76	SLE FR 5	4	-3	1811		-0.01	-211.19	-0.59
76	SLE FR 6	5	-3	1871		0.01	-217.22	-0.55
76	SLE QP 1	4	-3	1720		-0.03	-202.13	-0.65
76	SLE QP 2	4	-3	1811		-0.01	-211.19	-0.59
76	SLD 1	105	124	2121		-0.53	-239.81	31.12
76	SLD 2	123	88	2120		-0.5	-239.82	22.3
76	SLD 3	118	-26	2019		0.29	-232.75	-6.47
76	SLD 4	136	-62	2018		0.31	-232.75	-15.28
76	SLD 5	8	275	2059		-1.41	-230.49	69.05
76	SLD 6	27	240	2057		-1.38	-230.49	60.16
76	SLD 7	52	-225	1719		1.31	-206.94	-56.24
76	SLD 8	70	-261	1718		1.34	-206.94	-65.13
76	SLD 9	-62	255	1903		-1.35	-215.43	63.94
76	SLD 10	-43	219	1902		-1.32	-215.43	55.06
76	SLD 11	-18	-245	1564		1.37	-191.88	-61.35
76	SLD 12	0	-281	1563		1.4	-191.88	-70.24
76	SLD 13	-128	56	1603		-0.33	-189.62	14.1
76	SLD 14	-110	20	1602		-0.3	-189.62	5.28
76	SLD 15	-115	-94	1502		0.49	-182.56	-23.49
76	SLD 16	-97	-130	1500		0.51	-182.56	-32.3
76	SLV 1	233	289	2518		-1.21	-277.02	72.26
76	SLV 2	274	208	2515		-1.15	-277.02	52.22
76	SLV 3	263	-58	2282		0.68	-260.67	-14.68
76	SLV 4	305	-139	2279		0.74	-260.67	-34.72
76	SLV 5	12	640	2381		-3.25	-255.73	160.33
76	SLV 6	55	558	2378		-3.19	-255.73	139.93
76	SLV 7	113	-517	1595		3.04	-201.23	-129.5
76	SLV 8	155	-599	1593		3.1	-201.24	-149.89
76	SLV 9	-146	594	2029		-3.12	-221.14	148.71
76	SLV 10	-104	511	2026		-3.05	-221.14	128.31
76	SLV 11	-46	-563	1243		3.18	-166.64	-141.12
76	SLV 12	-4	-646	1240		3.24	-166.64	-161.51
76	SLV 13	-296	134	1342		-0.75	-161.7	33.54
76	SLV 14	-255	53	1339		-0.69	-161.7	13.5
76	SLV 15	-266	-213	1106		1.13	-145.35	-53.41
76	SLV 16	-225	-294	1103		1.2	-145.36	-73.45
76	CRTFP Ux+	0	0	0		0	0	0
76	CRTFP Ux-	0	0	0		0	0	0
76	CRTFP Uy+	0	0	0		0	0	0
76	CRTFP Uy-	0	0	0		0	0	0
78	SLU 1	6	-3	1649		-0.21	0.06	0.05
78	SLU 2	6	-3	1649		-0.21	0.06	0.05
78	SLU 3	6	-3	1649		-0.21	0.06	0.05
78	SLU 4	6	-3	1649		-0.21	0.06	0.05
78	SLU 5	6	-3	1649		-0.21	0.06	0.05
78	SLU 6	6	-3	1649		-0.21	0.06	0.05
78	SLU 7	6	-3	1649		-0.21	0.06	0.05
78	SLU 8	6	-3	1649		-0.21	0.06	0.05
78	SLU 9	6	-3	1649		-0.21	0.06	0.05
78	SLU 10	7	-3	2005		-0.04	0.08	0.06
78	SLU 11	7	-3	2005		-0.04	0.08	0.06
78	SLU 12	7	-3	2005		-0.04	0.08	0.06
78	SLU 13	7	-3	2005		-0.04	0.08	0.06
78	SLU 14	7	-3	2005		-0.04	0.08	0.06
78	SLU 15	7	-3	2005		-0.04	0.08	0.06
78	SLU 16	7	-3	2005		-0.04	0.08	0.06
78	SLU 17	7	-3	2005		-0.04	0.08	0.06
78	SLU 18	8	-3	2157		0.03	0.08	0.06
78	SLU 19	8	-3	2157		0.03	0.08	0.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
78	SLU 20	8	-3	2157	0.03	0.08	0.06
78	SLU 21	8	-3	2157	0.03	0.08	0.06
78	SLU 22	7	-3	1894	-0.09	0.08	0.05
78	SLU 23	7	-3	1894	-0.09	0.08	0.05
78	SLU 24	7	-3	1894	-0.09	0.08	0.05
78	SLU 25	7	-3	1894	-0.09	0.08	0.05
78	SLU 26	7	-3	1894	-0.09	0.08	0.05
78	SLU 27	7	-3	1894	-0.09	0.08	0.05
78	SLU 28	7	-3	1894	-0.09	0.08	0.05
78	SLU 29	7	-3	1894	-0.09	0.08	0.05
78	SLU 30	7	-3	1894	-0.09	0.08	0.05
78	SLU 31	8	-3	2250	0.07	0.1	0.06
78	SLU 32	8	-3	2250	0.07	0.1	0.06
78	SLU 33	8	-3	2250	0.07	0.1	0.06
78	SLU 34	8	-3	2250	0.07	0.1	0.06
78	SLU 35	8	-3	2250	0.07	0.1	0.06
78	SLU 36	8	-3	2250	0.07	0.1	0.06
78	SLU 37	8	-3	2250	0.07	0.1	0.06
78	SLU 38	8	-3	2250	0.07	0.1	0.06
78	SLU 39	9	-3	2402	0.14	0.1	0.07
78	SLU 40	9	-3	2402	0.14	0.1	0.07
78	SLU 41	9	-3	2402	0.14	0.1	0.07
78	SLU 42	9	-3	2402	0.14	0.1	0.07
78	SLU 43	7	-3	2060	-0.31	0.07	0.06
78	SLU 44	7	-3	2060	-0.31	0.07	0.06
78	SLU 45	7	-3	2060	-0.31	0.07	0.06
78	SLU 46	7	-3	2060	-0.31	0.07	0.06
78	SLU 47	7	-3	2060	-0.31	0.07	0.06
78	SLU 48	7	-3	2060	-0.31	0.07	0.06
78	SLU 49	7	-3	2060	-0.31	0.07	0.06
78	SLU 50	7	-3	2060	-0.31	0.07	0.06
78	SLU 51	7	-3	2060	-0.31	0.07	0.06
78	SLU 52	8	-3	2416	-0.14	0.09	0.07
78	SLU 53	8	-3	2416	-0.14	0.09	0.07
78	SLU 54	8	-3	2416	-0.14	0.09	0.07
78	SLU 55	8	-3	2416	-0.14	0.09	0.07
78	SLU 56	8	-3	2416	-0.14	0.09	0.07
78	SLU 57	8	-3	2416	-0.14	0.09	0.07
78	SLU 58	8	-3	2416	-0.14	0.09	0.07
78	SLU 59	8	-3	2416	-0.14	0.09	0.07
78	SLU 60	9	-3	2568	-0.07	0.09	0.07
78	SLU 61	9	-3	2568	-0.07	0.09	0.07
78	SLU 62	9	-3	2568	-0.07	0.09	0.07
78	SLU 63	9	-3	2568	-0.07	0.09	0.07
78	SLU 64	8	-3	2305	-0.19	0.09	0.06
78	SLU 65	8	-3	2305	-0.19	0.09	0.06
78	SLU 66	8	-3	2305	-0.19	0.09	0.06
78	SLU 67	8	-3	2305	-0.19	0.09	0.06
78	SLU 68	8	-3	2305	-0.19	0.09	0.06
78	SLU 69	8	-3	2305	-0.19	0.09	0.06
78	SLU 70	8	-3	2305	-0.19	0.09	0.06
78	SLU 71	8	-3	2305	-0.19	0.09	0.06
78	SLU 72	8	-3	2305	-0.19	0.09	0.06
78	SLU 73	9	-4	2661	-0.03	0.11	0.07
78	SLU 74	9	-4	2661	-0.03	0.11	0.07
78	SLU 75	9	-4	2661	-0.03	0.11	0.07
78	SLU 76	9	-4	2661	-0.03	0.11	0.07
78	SLU 77	9	-4	2661	-0.03	0.11	0.07
78	SLU 78	9	-4	2661	-0.03	0.11	0.07
78	SLU 79	9	-4	2661	-0.03	0.11	0.07
78	SLU 80	9	-4	2661	-0.03	0.11	0.07
78	SLU 81	10	-4	2813	0.04	0.11	0.08
78	SLU 82	10	-4	2813	0.04	0.11	0.08
78	SLU 83	10	-4	2813	0.04	0.11	0.08
78	SLU 84	10	-4	2813	0.04	0.11	0.08
78	SLE RA 1	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 2	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 3	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 4	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 5	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 6	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 7	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 8	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 9	6	-3	1719	-0.17	0.06	0.05
78	SLE RA 10	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 11	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 12	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 13	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 14	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 15	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 16	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 17	7	-3	1956	-0.06	0.07	0.05
78	SLE RA 18	7	-3	2058	-0.02	0.08	0.06
78	SLE RA 19	7	-3	2058	-0.02	0.08	0.06
78	SLE RA 20	7	-3	2058	-0.02	0.08	0.06
78	SLE RA 21	7	-3	2058	-0.02	0.08	0.06
78	SLE FR 1	6	-3	1719	-0.17	0.06	0.05
78	SLE FR 2	6	-3	1719	-0.17	0.06	0.05
78	SLE FR 3	6	-3	1719	-0.17	0.06	0.05
78	SLE FR 4	6	-3	1821	-0.13	0.07	0.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
78	SLE FR 5	6	-3	1821	-0.13	0.07	0.05
78	SLE FR 6	7	-3	1889	-0.1	0.07	0.05
78	SLE QP 1	6	-3	1719	-0.17	0.06	0.05
78	SLE QP 2	6	-3	1821	-0.13	0.07	0.05
78	SLD 1	109	11	1870	-0.48	-4.03	0.1
78	SLD 2	128	11	1869	-0.47	-4.02	0.21
78	SLD 3	121	-24	1789	0.13	-3.47	0.17
78	SLD 4	140	-23	1788	0.14	-3.47	0.28
78	SLD 5	13	53	1959	-1.16	-2	-0.08
78	SLD 6	32	54	1958	-1.16	-2	0.04
78	SLD 7	51	-61	1688	0.88	-0.16	0.15
78	SLD 8	70	-61	1688	0.88	-0.16	0.26
78	SLD 9	-58	55	1954	-1.14	0.29	-0.16
78	SLD 10	-39	56	1953	-1.13	0.29	-0.05
78	SLD 11	-19	-59	1683	0.9	2.13	0.07
78	SLD 12	0	-58	1683	0.91	2.13	0.18
78	SLD 13	-127	18	1853	-0.39	3.61	-0.18
78	SLD 14	-108	18	1853	-0.39	3.61	-0.07
78	SLD 15	-115	-16	1772	0.22	4.16	-0.11
78	SLD 16	-96	-16	1772	0.23	4.16	0
78	SLV 1	240	28	1934	-0.94	-10.06	0.16
78	SLV 2	283	29	1933	-0.93	-10.05	0.41
78	SLV 3	267	-51	1746	0.47	-8.65	0.32
78	SLV 4	309	-50	1745	0.49	-8.64	0.57
78	SLV 5	21	126	2140	-2.52	-5.11	-0.24
78	SLV 6	65	127	2139	-2.51	-5.1	0.01
78	SLV 7	109	-138	1514	2.2	-0.41	0.28
78	SLV 8	153	-137	1513	2.21	-0.41	0.53
78	SLV 9	-140	131	2129	-2.46	0.54	-0.43
78	SLV 10	-96	132	2127	-2.45	0.55	-0.18
78	SLV 11	-52	-133	1503	2.26	5.24	0.09
78	SLV 12	-8	-132	1502	2.27	5.24	0.34
78	SLV 13	-297	45	1896	-0.74	8.78	-0.47
78	SLV 14	-254	46	1895	-0.73	8.78	-0.22
78	SLV 15	-270	-35	1709	0.68	10.19	-0.31
78	SLV 16	-227	-33	1708	0.69	10.19	-0.06
78	CRTFP Ux+	0	0	0	0	0	0
78	CRTFP Ux-	0	0	0	0	0	0
78	CRTFP Uy+	0	0	0	0	0	0
78	CRTFP Uy-	0	0	0	0	0	0
80	SLU 1	9	-16	1715	-0.05	354.83	5.5
80	SLU 2	9	-16	1715	-0.05	354.83	5.5
80	SLU 3	9	-16	1715	-0.05	354.83	5.5
80	SLU 4	9	-16	1715	-0.05	354.83	5.5
80	SLU 5	9	-16	1715	-0.05	354.83	5.5
80	SLU 6	9	-16	1715	-0.05	354.83	5.5
80	SLU 7	9	-16	1715	-0.05	354.83	5.5
80	SLU 8	9	-16	1715	-0.05	354.83	5.5
80	SLU 9	9	-16	1715	-0.05	354.83	5.5
80	SLU 10	10	-19	2014	0.03	410.4	6.75
80	SLU 11	10	-19	2014	0.03	410.4	6.75
80	SLU 12	10	-19	2014	0.03	410.4	6.75
80	SLU 13	10	-19	2014	0.03	410.4	6.75
80	SLU 14	10	-19	2014	0.03	410.4	6.75
80	SLU 15	10	-19	2014	0.03	410.4	6.75
80	SLU 16	10	-19	2014	0.03	410.4	6.75
80	SLU 17	10	-19	2014	0.03	410.4	6.75
80	SLU 18	11	-21	2143	0.07	434.21	7.28
80	SLU 19	11	-21	2143	0.07	434.21	7.28
80	SLU 20	11	-21	2143	0.07	434.21	7.28
80	SLU 21	11	-21	2143	0.07	434.21	7.28
80	SLU 22	10	-19	1924	0.03	394.04	6.48
80	SLU 23	10	-19	1924	0.03	394.04	6.48
80	SLU 24	10	-19	1924	0.03	394.04	6.48
80	SLU 25	10	-19	1924	0.03	394.04	6.48
80	SLU 26	10	-19	1924	0.03	394.04	6.48
80	SLU 27	10	-19	1924	0.03	394.04	6.48
80	SLU 28	10	-19	1924	0.03	394.04	6.48
80	SLU 29	10	-19	1924	0.03	394.04	6.48
80	SLU 30	10	-19	1924	0.03	394.04	6.48
80	SLU 31	11	-22	2223	0.11	449.61	7.73
80	SLU 32	11	-22	2223	0.11	449.61	7.73
80	SLU 33	11	-22	2223	0.11	449.61	7.73
80	SLU 34	11	-22	2223	0.11	449.61	7.73
80	SLU 35	11	-22	2223	0.11	449.61	7.73
80	SLU 36	11	-22	2223	0.11	449.61	7.73
80	SLU 37	11	-22	2223	0.11	449.61	7.73
80	SLU 38	11	-22	2223	0.11	449.61	7.73
80	SLU 39	12	-24	2352	0.15	473.42	8.26
80	SLU 40	12	-24	2352	0.15	473.42	8.26
80	SLU 41	12	-24	2352	0.15	473.42	8.26
80	SLU 42	12	-24	2352	0.15	473.42	8.26
80	SLU 43	11	-20	2157	-0.1	447.84	6.81
80	SLU 44	11	-20	2157	-0.1	447.84	6.81
80	SLU 45	11	-20	2157	-0.1	447.84	6.81
80	SLU 46	11	-20	2157	-0.1	447.84	6.81
80	SLU 47	11	-20	2157	-0.1	447.84	6.81
80	SLU 48	11	-20	2157	-0.1	447.84	6.81
80	SLU 49	11	-20	2157	-0.1	447.84	6.81
80	SLU 50	11	-20	2157	-0.1	447.84	6.81



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
80	SLU 51	11	-20	2157		-0.1	447.84	6.81	
80	SLU 52	12	-23	2457		-0.01	503.4	8.06	
80	SLU 53	12	-23	2457		-0.01	503.4	8.06	
80	SLU 54	12	-23	2457		-0.01	503.4	8.06	
80	SLU 55	12	-23	2457		-0.01	503.4	8.06	
80	SLU 56	12	-23	2457		-0.01	503.4	8.06	
80	SLU 57	12	-23	2457		-0.01	503.4	8.06	
80	SLU 58	12	-23	2457		-0.01	503.4	8.06	
80	SLU 59	12	-23	2457		-0.01	503.4	8.06	
80	SLU 60	13	-25	2585		0.03	527.22	8.6	
80	SLU 61	13	-25	2585		0.03	527.22	8.6	
80	SLU 62	13	-25	2585		0.03	527.22	8.6	
80	SLU 63	13	-25	2585		0.03	527.22	8.6	
80	SLU 64	12	-22	2366		-0.02	487.05	7.79	
80	SLU 65	12	-22	2366		-0.02	487.05	7.79	
80	SLU 66	12	-22	2366		-0.02	487.05	7.79	
80	SLU 67	12	-22	2366		-0.02	487.05	7.79	
80	SLU 68	12	-22	2366		-0.02	487.05	7.79	
80	SLU 69	12	-22	2366		-0.02	487.05	7.79	
80	SLU 70	12	-22	2366		-0.02	487.05	7.79	
80	SLU 71	12	-22	2366		-0.02	487.05	7.79	
80	SLU 72	12	-22	2366		-0.02	487.05	7.79	
80	SLU 73	14	-26	2666		0.07	542.61	9.04	
80	SLU 74	14	-26	2666		0.07	542.61	9.04	
80	SLU 75	14	-26	2666		0.07	542.61	9.04	
80	SLU 76	14	-26	2666		0.07	542.61	9.04	
80	SLU 77	14	-26	2666		0.07	542.61	9.04	
80	SLU 78	14	-26	2666		0.07	542.61	9.04	
80	SLU 79	14	-26	2666		0.07	542.61	9.04	
80	SLU 80	14	-26	2666		0.07	542.61	9.04	
80	SLU 81	14	-27	2795		0.11	566.43	9.58	
80	SLU 82	14	-27	2795		0.11	566.43	9.58	
80	SLU 83	14	-27	2795		0.11	566.43	9.58	
80	SLU 84	14	-27	2795		0.11	566.43	9.58	
80	SLE RA 1	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 2	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 3	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 4	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 5	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 6	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 7	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 8	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 9	9	-17	1774		-0.03	366.03	5.78	
80	SLE RA 10	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 11	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 12	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 13	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 14	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 15	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 16	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 17	10	-19	1974		0.03	403.08	6.61	
80	SLE RA 18	10	-20	2060		0.05	418.96	6.97	
80	SLE RA 19	10	-20	2060		0.05	418.96	6.97	
80	SLE RA 20	10	-20	2060		0.05	418.96	6.97	
80	SLE RA 21	10	-20	2060		0.05	418.96	6.97	
80	SLE FR 1	9	-17	1774		-0.03	366.03	5.78	
80	SLE FR 2	9	-17	1774		-0.03	366.03	5.78	
80	SLE FR 3	9	-17	1774		-0.03	366.03	5.78	
80	SLE FR 4	9	-18	1860		-0.01	381.91	6.14	
80	SLE FR 5	9	-18	1860		-0.01	381.91	6.14	
80	SLE FR 6	10	-18	1917		0.01	392.49	6.37	
80	SLE QP 1	9	-17	1774		-0.03	366.03	5.78	
80	SLE QP 2	9	-18	1860		-0.01	381.91	6.14	
80	SLD 1	135	-10	1636		-0.28	345.52	3.45	
80	SLD 2	158	26	1638		-0.28	345.91	-9.3	
80	SLD 3	147	-164	1502		0.58	325.16	57.27	
80	SLD 4	169	-127	1503		0.58	325.55	44.52	
80	SLD 5	22	204	1996		-1.4	401.73	-71.77	
80	SLD 6	44	241	1998		-1.39	402.13	-84.63	
80	SLD 7	60	-307	1548		1.48	333.87	107.62	
80	SLD 8	83	-270	1549		1.48	334.26	94.75	
80	SLD 9	-64	235	2170		-1.49	429.56	-82.48	
80	SLD 10	-42	272	2172		-1.49	429.96	-95.34	
80	SLD 11	-25	-277	1722		1.38	361.69	96.91	
80	SLD 12	-3	-239	1724		1.38	362.09	84.05	
80	SLD 13	-150	92	2217		-0.6	438.27	-32.24	
80	SLD 14	-128	129	2218		-0.59	438.67	-45	
80	SLD 15	-139	-62	2082		0.26	417.91	21.57	
80	SLD 16	-116	-25	2083		0.27	418.3	8.82	
80	SLV 1	295	2	1355		-0.64	299.58	-1.12	
80	SLV 2	346	86	1358		-0.64	300.47	-30.12	
80	SLV 3	322	-353	1044		1.35	252.48	123.5	
80	SLV 4	373	-269	1047		1.35	253.37	94.5	
80	SLV 5	36	497	2179		-3.22	428.32	-174.65	
80	SLV 6	88	582	2182		-3.22	429.22	-204.16	
80	SLV 7	126	-687	1143		3.42	271.34	240.76	
80	SLV 8	177	-602	1145		3.43	272.24	211.26	
80	SLV 9	-158	567	2575		-3.44	491.58	-198.98	
80	SLV 10	-107	652	2577		-3.43	492.48	-228.49	
80	SLV 11	-69	-617	1538		3.2	334.6	216.43	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
80	SLV 12	-17	-532	1541	3.21	335.5	186.92
80	SLV 13	-354	234	2673	-1.37	510.45	-82.23
80	SLV 14	-303	318	2676	-1.36	511.34	-111.23
80	SLV 15	-327	-121	2362	0.63	463.36	42.39
80	SLV 16	-276	-37	2365	0.63	464.25	13.4
80	CRTFP Ux+	0	0	0	0	0	0
80	CRTFP Ux-	0	0	0	0	0	0
80	CRTFP Uy+	0	0	0	0	0	0
80	CRTFP Uy-	0	0	0	0	0	0
81	SLU 1	0	-3	1666	0.78	-202.21	-0.56
81	SLU 2	0	-3	1666	0.78	-202.21	-0.56
81	SLU 3	0	-3	1666	0.78	-202.21	-0.56
81	SLU 4	0	-3	1666	0.78	-202.21	-0.56
81	SLU 5	0	-3	1666	0.78	-202.21	-0.56
81	SLU 6	0	-3	1666	0.78	-202.21	-0.56
81	SLU 7	0	-3	1666	0.78	-202.21	-0.56
81	SLU 8	0	-3	1666	0.78	-202.21	-0.56
81	SLU 9	0	-3	1666	0.78	-202.21	-0.56
81	SLU 10	2	-2	1987	1.03	-236.11	-0.35
81	SLU 11	2	-2	1987	1.03	-236.11	-0.35
81	SLU 12	2	-2	1987	1.03	-236.11	-0.35
81	SLU 13	2	-2	1987	1.03	-236.11	-0.35
81	SLU 14	2	-2	1987	1.03	-236.11	-0.35
81	SLU 15	2	-2	1987	1.03	-236.11	-0.35
81	SLU 16	2	-2	1987	1.03	-236.11	-0.35
81	SLU 17	2	-2	1987	1.03	-236.11	-0.35
81	SLU 18	2	-2	2125	1.14	-250.64	-0.26
81	SLU 19	2	-2	2125	1.14	-250.64	-0.26
81	SLU 20	2	-2	2125	1.14	-250.64	-0.26
81	SLU 21	2	-2	2125	1.14	-250.64	-0.26
81	SLU 22	1	-3	1901	0.98	-227.5	-0.6
81	SLU 23	1	-3	1901	0.98	-227.5	-0.6
81	SLU 24	1	-3	1901	0.98	-227.5	-0.6
81	SLU 25	1	-3	1901	0.98	-227.5	-0.6
81	SLU 26	1	-3	1901	0.98	-227.5	-0.6
81	SLU 27	1	-3	1901	0.98	-227.5	-0.6
81	SLU 28	1	-3	1901	0.98	-227.5	-0.6
81	SLU 29	1	-3	1901	0.98	-227.5	-0.6
81	SLU 30	1	-3	1901	0.98	-227.5	-0.6
81	SLU 31	3	-2	2222	1.23	-261.4	-0.38
81	SLU 32	3	-2	2222	1.23	-261.4	-0.38
81	SLU 33	3	-2	2222	1.23	-261.4	-0.38
81	SLU 34	3	-2	2222	1.23	-261.4	-0.38
81	SLU 35	3	-2	2222	1.23	-261.4	-0.38
81	SLU 36	3	-2	2222	1.23	-261.4	-0.38
81	SLU 37	3	-2	2222	1.23	-261.4	-0.38
81	SLU 38	3	-2	2222	1.23	-261.4	-0.38
81	SLU 39	3	-2	2360	1.34	-275.93	-0.29
81	SLU 40	3	-2	2360	1.34	-275.93	-0.29
81	SLU 41	3	-2	2360	1.34	-275.93	-0.29
81	SLU 42	3	-2	2360	1.34	-275.93	-0.29
81	SLU 43	0	-3	2085	0.94	-254.21	-0.72
81	SLU 44	0	-3	2085	0.94	-254.21	-0.72
81	SLU 45	0	-3	2085	0.94	-254.21	-0.72
81	SLU 46	0	-3	2085	0.94	-254.21	-0.72
81	SLU 47	0	-3	2085	0.94	-254.21	-0.72
81	SLU 48	0	-3	2085	0.94	-254.21	-0.72
81	SLU 49	0	-3	2085	0.94	-254.21	-0.72
81	SLU 50	0	-3	2085	0.94	-254.21	-0.72
81	SLU 51	0	-3	2085	0.94	-254.21	-0.72
81	SLU 52	2	-3	2406	1.2	-288.11	-0.51
81	SLU 53	2	-3	2406	1.2	-288.11	-0.51
81	SLU 54	2	-3	2406	1.2	-288.11	-0.51
81	SLU 55	2	-3	2406	1.2	-288.11	-0.51
81	SLU 56	2	-3	2406	1.2	-288.11	-0.51
81	SLU 57	2	-3	2406	1.2	-288.11	-0.51
81	SLU 58	2	-3	2406	1.2	-288.11	-0.51
81	SLU 59	2	-3	2406	1.2	-288.11	-0.51
81	SLU 60	2	-2	2544	1.3	-302.64	-0.42
81	SLU 61	2	-2	2544	1.3	-302.64	-0.42
81	SLU 62	2	-2	2544	1.3	-302.64	-0.42
81	SLU 63	2	-2	2544	1.3	-302.64	-0.42
81	SLU 64	1	-4	2321	1.14	-279.49	-0.75
81	SLU 65	1	-4	2321	1.14	-279.49	-0.75
81	SLU 66	1	-4	2321	1.14	-279.49	-0.75
81	SLU 67	1	-4	2321	1.14	-279.49	-0.75
81	SLU 68	1	-4	2321	1.14	-279.49	-0.75
81	SLU 69	1	-4	2321	1.14	-279.49	-0.75
81	SLU 70	1	-4	2321	1.14	-279.49	-0.75
81	SLU 71	1	-4	2321	1.14	-279.49	-0.75
81	SLU 72	1	-4	2321	1.14	-279.49	-0.75
81	SLU 73	2	-3	2642	1.4	-313.39	-0.54
81	SLU 74	2	-3	2642	1.4	-313.39	-0.54
81	SLU 75	2	-3	2642	1.4	-313.39	-0.54
81	SLU 76	2	-3	2642	1.4	-313.39	-0.54
81	SLU 77	2	-3	2642	1.4	-313.39	-0.54
81	SLU 78	2	-3	2642	1.4	-313.39	-0.54
81	SLU 79	2	-3	2642	1.4	-313.39	-0.54
81	SLU 80	2	-3	2642	1.4	-313.39	-0.54
81	SLU 81	3	-2	2779	1.51	-327.92	-0.45



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
81	SLU 82	3	-2	2779		1.51	-327.92	-0.45
81	SLU 83	3	-2	2779		1.51	-327.92	-0.45
81	SLU 84	3	-2	2779		1.51	-327.92	-0.45
81	SLE RA 1	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 2	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 3	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 4	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 5	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 6	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 7	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 8	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 9	1	-3	1733		0.84	-209.44	-0.57
81	SLE RA 10	2	-2	1947		1	-232.04	-0.43
81	SLE RA 11	2	-2	1947		1	-232.04	-0.43
81	SLE RA 12	2	-2	1947		1	-232.04	-0.43
81	SLE RA 13	2	-2	1947		1	-232.04	-0.43
81	SLE RA 14	2	-2	1947		1	-232.04	-0.43
81	SLE RA 15	2	-2	1947		1	-232.04	-0.43
81	SLE RA 16	2	-2	1947		1	-232.04	-0.43
81	SLE RA 17	2	-2	1947		1	-232.04	-0.43
81	SLE RA 18	2	-2	2039		1.08	-241.72	-0.37
81	SLE RA 19	2	-2	2039		1.08	-241.72	-0.37
81	SLE RA 20	2	-2	2039		1.08	-241.72	-0.37
81	SLE RA 21	2	-2	2039		1.08	-241.72	-0.37
81	SLE FR 1	1	-3	1733		0.84	-209.44	-0.57
81	SLE FR 2	1	-3	1733		0.84	-209.44	-0.57
81	SLE FR 3	1	-3	1733		0.84	-209.44	-0.57
81	SLE FR 4	1	-2	1825		0.91	-219.12	-0.51
81	SLE FR 5	1	-2	1825		0.91	-219.12	-0.51
81	SLE FR 6	1	-2	1886		0.96	-225.58	-0.47
81	SLE QP 1	1	-3	1733		0.84	-209.44	-0.57
81	SLE QP 2	1	-2	1825		0.91	-219.12	-0.51
81	SLD 1	100	125	2123		0.61	-246.39	31.24
81	SLD 2	115	89	2122		0.64	-246.57	22.41
81	SLD 3	115	-26	2045		1.36	-243.74	-6.4
81	SLD 4	130	-61	2045		1.39	-243.92	-15.23
81	SLD 5	2	276	2032		-0.32	-231.26	69.23
81	SLD 6	17	240	2032		-0.3	-231.44	60.33
81	SLD 7	53	-225	1774		2.17	-222.42	-56.24
81	SLD 8	69	-260	1773		2.2	-222.6	-65.14
81	SLD 9	-66	256	1877		-0.38	-215.64	64.12
81	SLD 10	-51	220	1876		-0.35	-215.82	55.22
81	SLD 11	-15	-245	1619		2.11	-206.8	-61.35
81	SLD 12	0	-281	1618		2.14	-206.98	-70.25
81	SLD 13	-128	56	1605		0.43	-194.32	14.21
81	SLD 14	-113	21	1605		0.45	-194.5	5.38
81	SLD 15	-113	-94	1528		1.17	-191.67	-23.43
81	SLD 16	-97	-130	1528		1.2	-191.85	-32.26
81	SLV 1	225	290	2503		0.23	-281.82	72.44
81	SLV 2	260	208	2502		0.29	-282.22	52.36
81	SLV 3	260	-58	2324		1.96	-275.61	-14.63
81	SLV 4	295	-139	2323		2.02	-276.01	-34.71
81	SLV 5	2	641	2300		-1.94	-247.2	160.63
81	SLV 6	37	559	2299		-1.88	-247.62	140.2
81	SLV 7	120	-517	1703		3.83	-226.5	-129.6
81	SLV 8	155	-599	1702		3.89	-226.92	-150.03
81	SLV 9	-153	594	1948		-2.07	-211.33	149.01
81	SLV 10	-118	512	1947		-2.01	-211.74	128.58
81	SLV 11	-35	-564	1351		3.7	-190.63	-141.23
81	SLV 12	0	-646	1350		3.76	-191.04	-161.66
81	SLV 13	-293	134	1328		-0.2	-162.23	33.69
81	SLV 14	-258	53	1327		-0.14	-162.64	13.61
81	SLV 15	-258	-213	1148		1.53	-156.02	-53.38
81	SLV 16	-223	-294	1148		1.59	-156.43	-73.46
81	CRTFP Ux+	0	0	0		0	0	0
81	CRTFP Ux-	0	0	0		0	0	0
81	CRTFP Uy+	0	0	0		0	0	0
81	CRTFP Uy-	0	0	0		0	0	0
83	SLU 1	4	-3	1642		-0.31	0.03	0.05
83	SLU 2	4	-3	1642		-0.31	0.03	0.05
83	SLU 3	4	-3	1642		-0.31	0.03	0.05
83	SLU 4	4	-3	1642		-0.31	0.03	0.05
83	SLU 5	4	-3	1642		-0.31	0.03	0.05
83	SLU 6	4	-3	1642		-0.31	0.03	0.05
83	SLU 7	4	-3	1642		-0.31	0.03	0.05
83	SLU 8	4	-3	1642		-0.31	0.03	0.05
83	SLU 9	4	-3	1642		-0.31	0.03	0.05
83	SLU 10	5	-3	2001		-0.25	0.05	0.06
83	SLU 11	5	-3	2001		-0.25	0.05	0.06
83	SLU 12	5	-3	2001		-0.25	0.05	0.06
83	SLU 13	5	-3	2001		-0.25	0.05	0.06
83	SLU 14	5	-3	2001		-0.25	0.05	0.06
83	SLU 15	5	-3	2001		-0.25	0.05	0.06
83	SLU 16	5	-3	2001		-0.25	0.05	0.06
83	SLU 17	5	-3	2001		-0.25	0.05	0.06
83	SLU 18	6	-3	2155		-0.22	0.06	0.06
83	SLU 19	6	-3	2155		-0.22	0.06	0.06
83	SLU 20	6	-3	2155		-0.22	0.06	0.06
83	SLU 21	6	-3	2155		-0.22	0.06	0.06
83	SLU 22	5	-3	1889		-0.23	0.05	0.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
83	SLU 23	5	-3	1889	-0.23	0.05	0.05
83	SLU 24	5	-3	1889	-0.23	0.05	0.05
83	SLU 25	5	-3	1889	-0.23	0.05	0.05
83	SLU 26	5	-3	1889	-0.23	0.05	0.05
83	SLU 27	5	-3	1889	-0.23	0.05	0.05
83	SLU 28	5	-3	1889	-0.23	0.05	0.05
83	SLU 29	5	-3	1889	-0.23	0.05	0.05
83	SLU 30	5	-3	1889	-0.23	0.05	0.05
83	SLU 31	6	-3	2249	-0.17	0.07	0.06
83	SLU 32	6	-3	2249	-0.17	0.07	0.06
83	SLU 33	6	-3	2249	-0.17	0.07	0.06
83	SLU 34	6	-3	2249	-0.17	0.07	0.06
83	SLU 35	6	-3	2249	-0.17	0.07	0.06
83	SLU 36	6	-3	2249	-0.17	0.07	0.06
83	SLU 37	6	-3	2249	-0.17	0.07	0.06
83	SLU 38	6	-3	2249	-0.17	0.07	0.06
83	SLU 39	7	-3	2403	-0.15	0.07	0.07
83	SLU 40	7	-3	2403	-0.15	0.07	0.07
83	SLU 41	7	-3	2403	-0.15	0.07	0.07
83	SLU 42	7	-3	2403	-0.15	0.07	0.07
83	SLU 43	5	-3	2049	-0.43	0.04	0.06
83	SLU 44	5	-3	2049	-0.43	0.04	0.06
83	SLU 45	5	-3	2049	-0.43	0.04	0.06
83	SLU 46	5	-3	2049	-0.43	0.04	0.06
83	SLU 47	5	-3	2049	-0.43	0.04	0.06
83	SLU 48	5	-3	2049	-0.43	0.04	0.06
83	SLU 49	5	-3	2049	-0.43	0.04	0.06
83	SLU 50	5	-3	2049	-0.43	0.04	0.06
83	SLU 51	5	-3	2049	-0.43	0.04	0.06
83	SLU 52	6	-3	2409	-0.37	0.05	0.07
83	SLU 53	6	-3	2409	-0.37	0.05	0.07
83	SLU 54	6	-3	2409	-0.37	0.05	0.07
83	SLU 55	6	-3	2409	-0.37	0.05	0.07
83	SLU 56	6	-3	2409	-0.37	0.05	0.07
83	SLU 57	6	-3	2409	-0.37	0.05	0.07
83	SLU 58	6	-3	2409	-0.37	0.05	0.07
83	SLU 59	6	-3	2409	-0.37	0.05	0.07
83	SLU 60	7	-3	2563	-0.34	0.06	0.07
83	SLU 61	7	-3	2563	-0.34	0.06	0.07
83	SLU 62	7	-3	2563	-0.34	0.06	0.07
83	SLU 63	7	-3	2563	-0.34	0.06	0.07
83	SLU 64	6	-3	2297	-0.35	0.06	0.06
83	SLU 65	6	-3	2297	-0.35	0.06	0.06
83	SLU 66	6	-3	2297	-0.35	0.06	0.06
83	SLU 67	6	-3	2297	-0.35	0.06	0.06
83	SLU 68	6	-3	2297	-0.35	0.06	0.06
83	SLU 69	6	-3	2297	-0.35	0.06	0.06
83	SLU 70	6	-3	2297	-0.35	0.06	0.06
83	SLU 71	6	-3	2297	-0.35	0.06	0.06
83	SLU 72	6	-3	2297	-0.35	0.06	0.06
83	SLU 73	7	-4	2656	-0.29	0.07	0.07
83	SLU 74	7	-4	2656	-0.29	0.07	0.07
83	SLU 75	7	-4	2656	-0.29	0.07	0.07
83	SLU 76	7	-4	2656	-0.29	0.07	0.07
83	SLU 77	7	-4	2656	-0.29	0.07	0.07
83	SLU 78	7	-4	2656	-0.29	0.07	0.07
83	SLU 79	7	-4	2656	-0.29	0.07	0.07
83	SLU 80	7	-4	2656	-0.29	0.07	0.07
83	SLU 81	8	-4	2810	-0.26	0.08	0.08
83	SLU 82	8	-4	2810	-0.26	0.08	0.08
83	SLU 83	8	-4	2810	-0.26	0.08	0.08
83	SLU 84	8	-4	2810	-0.26	0.08	0.08
83	SLE RA 1	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 2	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 3	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 4	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 5	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 6	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 7	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 8	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 9	4	-3	1712	-0.29	0.04	0.05
83	SLE RA 10	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 11	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 12	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 13	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 14	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 15	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 16	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 17	5	-3	1952	-0.25	0.05	0.05
83	SLE RA 18	6	-3	2055	-0.23	0.05	0.06
83	SLE RA 19	6	-3	2055	-0.23	0.05	0.06
83	SLE RA 20	6	-3	2055	-0.23	0.05	0.06
83	SLE RA 21	6	-3	2055	-0.23	0.05	0.06
83	SLE FR 1	4	-3	1712	-0.29	0.04	0.05
83	SLE FR 2	4	-3	1712	-0.29	0.04	0.05
83	SLE FR 3	4	-3	1712	-0.29	0.04	0.05
83	SLE FR 4	5	-3	1815	-0.27	0.04	0.05
83	SLE FR 5	5	-3	1815	-0.27	0.04	0.05
83	SLE FR 6	5	-3	1883	-0.26	0.05	0.05
83	SLE QP 1	4	-3	1712	-0.29	0.04	0.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
83	SLE QP 2	5	-3	1815	-0.27	0.04	0.05
83	SLD 1	107	11	1854	-0.6	-4.3	0.07
83	SLD 2	123	11	1853	-0.59	-4.3	0.17
83	SLD 3	117	-24	1791	-0.05	-3.71	0.13
83	SLD 4	132	-23	1790	-0.05	-3.71	0.24
83	SLD 5	16	53	1922	-1.19	-2.16	-0.08
83	SLD 6	31	54	1922	-1.19	-2.16	0.02
83	SLD 7	47	-61	1712	0.62	-0.18	0.14
83	SLD 8	63	-61	1712	0.62	-0.18	0.24
83	SLD 9	-53	55	1918	-1.16	0.27	-0.14
83	SLD 10	-38	56	1918	-1.15	0.27	-0.04
83	SLD 11	-22	-59	1708	0.65	2.25	0.08
83	SLD 12	-6	-58	1708	0.66	2.25	0.18
83	SLD 13	-123	18	1840	-0.49	3.79	-0.13
83	SLD 14	-107	18	1839	-0.48	3.8	-0.03
83	SLD 15	-113	-16	1777	0.05	4.39	-0.07
83	SLD 16	-98	-16	1776	0.06	4.39	0.03
83	SLV 1	238	28	1904	-1.03	-10.73	0.09
83	SLV 2	273	29	1903	-1.02	-10.72	0.32
83	SLV 3	260	-51	1758	0.23	-9.21	0.24
83	SLV 4	295	-50	1758	0.24	-9.21	0.47
83	SLV 5	29	126	2063	-2.41	-5.48	-0.25
83	SLV 6	65	128	2062	-2.39	-5.48	-0.01
83	SLV 7	102	-138	1577	1.78	-0.44	0.25
83	SLV 8	138	-137	1577	1.79	-0.43	0.49
83	SLV 9	-128	131	2053	-2.33	0.52	-0.39
83	SLV 10	-92	133	2053	-2.32	0.53	-0.15
83	SLV 11	-55	-133	1568	1.86	5.57	0.11
83	SLV 12	-19	-132	1567	1.87	5.57	0.35
83	SLV 13	-286	45	1872	-0.78	9.3	-0.37
83	SLV 14	-250	46	1872	-0.77	9.3	-0.14
83	SLV 15	-264	-35	1727	0.48	10.81	-0.22
83	SLV 16	-228	-33	1726	0.49	10.82	0.01
83	CRTFP Ux+	0	0	0	0	0	0
83	CRTFP Ux-	0	0	0	0	0	0
83	CRTFP Uy+	0	0	0	0	0	0
83	CRTFP Uy-	0	0	0	0	0	0
85	SLU 1	9	-15	1728	0.89	366.49	5.4
85	SLU 2	9	-15	1728	0.89	366.49	5.4
85	SLU 3	9	-15	1728	0.89	366.49	5.4
85	SLU 4	9	-15	1728	0.89	366.49	5.4
85	SLU 5	9	-15	1728	0.89	366.49	5.4
85	SLU 6	9	-15	1728	0.89	366.49	5.4
85	SLU 7	9	-15	1728	0.89	366.49	5.4
85	SLU 8	9	-15	1728	0.89	366.49	5.4
85	SLU 9	9	-15	1728	0.89	366.49	5.4
85	SLU 10	11	-19	2034	1.19	425.71	6.64
85	SLU 11	11	-19	2034	1.19	425.71	6.64
85	SLU 12	11	-19	2034	1.19	425.71	6.64
85	SLU 13	11	-19	2034	1.19	425.71	6.64
85	SLU 14	11	-19	2034	1.19	425.71	6.64
85	SLU 15	11	-19	2034	1.19	425.71	6.64
85	SLU 16	11	-19	2034	1.19	425.71	6.64
85	SLU 17	11	-19	2034	1.19	425.71	6.64
85	SLU 18	12	-21	2165	1.31	451.09	7.17
85	SLU 19	12	-21	2165	1.31	451.09	7.17
85	SLU 20	12	-21	2165	1.31	451.09	7.17
85	SLU 21	12	-21	2165	1.31	451.09	7.17
85	SLU 22	11	-18	1942	1.12	408.51	6.37
85	SLU 23	11	-18	1942	1.12	408.51	6.37
85	SLU 24	11	-18	1942	1.12	408.51	6.37
85	SLU 25	11	-18	1942	1.12	408.51	6.37
85	SLU 26	11	-18	1942	1.12	408.51	6.37
85	SLU 27	11	-18	1942	1.12	408.51	6.37
85	SLU 28	11	-18	1942	1.12	408.51	6.37
85	SLU 29	11	-18	1942	1.12	408.51	6.37
85	SLU 30	11	-18	1942	1.12	408.51	6.37
85	SLU 31	12	-22	2248	1.41	467.72	7.61
85	SLU 32	12	-22	2248	1.41	467.72	7.61
85	SLU 33	12	-22	2248	1.41	467.72	7.61
85	SLU 34	12	-22	2248	1.41	467.72	7.61
85	SLU 35	12	-22	2248	1.41	467.72	7.61
85	SLU 36	12	-22	2248	1.41	467.72	7.61
85	SLU 37	12	-22	2248	1.41	467.72	7.61
85	SLU 38	12	-22	2248	1.41	467.72	7.61
85	SLU 39	13	-23	2379	1.54	493.1	8.14
85	SLU 40	13	-23	2379	1.54	493.1	8.14
85	SLU 41	13	-23	2379	1.54	493.1	8.14
85	SLU 42	13	-23	2379	1.54	493.1	8.14
85	SLU 43	12	-19	2173	1.08	462.04	6.69
85	SLU 44	12	-19	2173	1.08	462.04	6.69
85	SLU 45	12	-19	2173	1.08	462.04	6.69
85	SLU 46	12	-19	2173	1.08	462.04	6.69
85	SLU 47	12	-19	2173	1.08	462.04	6.69
85	SLU 48	12	-19	2173	1.08	462.04	6.69
85	SLU 49	12	-19	2173	1.08	462.04	6.69
85	SLU 50	12	-19	2173	1.08	462.04	6.69
85	SLU 51	12	-19	2173	1.08	462.04	6.69
85	SLU 52	13	-23	2479	1.37	521.26	7.92
85	SLU 53	13	-23	2479	1.37	521.26	7.92



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
85	SLU 54	13	-23	2479	1.37	521.26	7.92		
85	SLU 55	13	-23	2479	1.37	521.26	7.92		
85	SLU 56	13	-23	2479	1.37	521.26	7.92		
85	SLU 57	13	-23	2479	1.37	521.26	7.92		
85	SLU 58	13	-23	2479	1.37	521.26	7.92		
85	SLU 59	13	-23	2479	1.37	521.26	7.92		
85	SLU 60	14	-24	2610	1.5	546.64	8.45		
85	SLU 61	14	-24	2610	1.5	546.64	8.45		
85	SLU 62	14	-24	2610	1.5	546.64	8.45		
85	SLU 63	14	-24	2610	1.5	546.64	8.45		
85	SLU 64	13	-22	2387	1.31	504.05	7.66		
85	SLU 65	13	-22	2387	1.31	504.05	7.66		
85	SLU 66	13	-22	2387	1.31	504.05	7.66		
85	SLU 67	13	-22	2387	1.31	504.05	7.66		
85	SLU 68	13	-22	2387	1.31	504.05	7.66		
85	SLU 69	13	-22	2387	1.31	504.05	7.66		
85	SLU 70	13	-22	2387	1.31	504.05	7.66		
85	SLU 71	13	-22	2387	1.31	504.05	7.66		
85	SLU 72	13	-22	2387	1.31	504.05	7.66		
85	SLU 73	14	-25	2693	1.6	563.27	8.89		
85	SLU 74	14	-25	2693	1.6	563.27	8.89		
85	SLU 75	14	-25	2693	1.6	563.27	8.89		
85	SLU 76	14	-25	2693	1.6	563.27	8.89		
85	SLU 77	14	-25	2693	1.6	563.27	8.89		
85	SLU 78	14	-25	2693	1.6	563.27	8.89		
85	SLU 79	14	-25	2693	1.6	563.27	8.89		
85	SLU 80	14	-25	2693	1.6	563.27	8.89		
85	SLU 81	15	-27	2824	1.73	588.65	9.42		
85	SLU 82	15	-27	2824	1.73	588.65	9.42		
85	SLU 83	15	-27	2824	1.73	588.65	9.42		
85	SLU 84	15	-27	2824	1.73	588.65	9.42		
85	SLE RA 1	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 2	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 3	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 4	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 5	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 6	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 7	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 8	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 9	10	-16	1789	0.95	378.5	5.68		
85	SLE RA 10	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 11	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 12	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 13	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 14	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 15	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 16	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 17	11	-19	1993	1.15	417.98	6.5		
85	SLE RA 18	11	-20	2080	1.24	434.9	6.85		
85	SLE RA 19	11	-20	2080	1.24	434.9	6.85		
85	SLE RA 20	11	-20	2080	1.24	434.9	6.85		
85	SLE RA 21	11	-20	2080	1.24	434.9	6.85		
85	SLE FR 1	10	-16	1789	0.95	378.5	5.68		
85	SLE FR 2	10	-16	1789	0.95	378.5	5.68		
85	SLE FR 3	10	-16	1789	0.95	378.5	5.68		
85	SLE FR 4	10	-17	1877	1.04	395.42	6.03		
85	SLE FR 5	10	-17	1877	1.04	395.42	6.03		
85	SLE FR 6	10	-18	1935	1.1	406.7	6.27		
85	SLE QP 1	10	-16	1789	0.95	378.5	5.68		
85	SLE QP 2	10	-17	1877	1.04	395.42	6.03		
85	SLD 1	145	-10	1642	0.6	354.61	3.36		
85	SLD 2	164	27	1643	0.6	354.9	-9.41		
85	SLD 3	137	-164	1533	1.35	341.9	57.24		
85	SLD 4	155	-127	1534	1.35	342.19	44.47		
85	SLD 5	57	205	1971	-0.23	402.35	-71.97		
85	SLD 6	76	242	1972	-0.23	402.64	-84.84		
85	SLD 7	29	-307	1607	2.27	359.98	107.63		
85	SLD 8	47	-270	1609	2.27	360.28	94.76		
85	SLD 9	-27	235	2144	-0.19	430.56	-82.7		
85	SLD 10	-8	273	2146	-0.19	430.85	-95.57		
85	SLD 11	-55	-276	1781	2.31	388.19	96.9		
85	SLD 12	-37	-239	1782	2.31	388.48	84.03		
85	SLD 13	-135	92	2219	0.73	448.64	-32.41		
85	SLD 14	-116	129	2220	0.73	448.93	-45.18		
85	SLD 15	-144	-61	2110	1.48	435.93	21.47		
85	SLD 16	-125	-25	2111	1.48	436.22	8.7		
85	SLV 1	317	2	1346	0.02	302.92	-1.2		
85	SLV 2	360	86	1349	0.03	303.57	-30.23		
85	SLV 3	298	-353	1093	1.76	273.51	123.57		
85	SLV 4	340	-270	1096	1.77	274.17	94.54		
85	SLV 5	117	498	2099	-1.9	412.02	-174.96		
85	SLV 6	160	583	2102	-1.9	412.69	-204.5		
85	SLV 7	52	-687	1258	3.89	314.02	240.94		
85	SLV 8	95	-602	1261	3.89	314.69	211.4		
85	SLV 9	-75	568	2492	-1.82	476.15	-199.34		
85	SLV 10	-31	653	2495	-1.81	476.82	-228.88		
85	SLV 11	-140	-618	1651	3.97	378.14	216.56		
85	SLV 12	-96	-533	1654	3.98	378.81	187.02		
85	SLV 13	-320	235	2657	0.31	516.66	-82.48		
85	SLV 14	-278	319	2660	0.32	517.32	-111.51		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
85	SLV 15	-340	-121	2404	2.05	487.26	42.29
85	SLV 16	-297	-37	2407	2.06	487.92	13.26
85	CRTFP Ux+	0	0	0	0	0	0
85	CRTFP Ux-	0	0	0	0	0	0
85	CRTFP Uy+	0	0	0	0	0	0
85	CRTFP Uy-	0	0	0	0	0	0
86	SLU 1	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 2	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 3	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 4	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 5	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 6	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 7	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 8	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 9	-3	-2	1702	1.48	-225.12	-0.46
86	SLU 10	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 11	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 12	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 13	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 14	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 15	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 16	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 17	-2	-1	2034	1.89	-264.8	-0.23
86	SLU 18	-1	-1	2176	2.06	-281.81	-0.14
86	SLU 19	-1	-1	2176	2.06	-281.81	-0.14
86	SLU 20	-1	-1	2176	2.06	-281.81	-0.14
86	SLU 21	-1	-1	2176	2.06	-281.81	-0.14
86	SLU 22	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 23	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 24	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 25	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 26	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 27	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 28	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 29	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 30	-2	-2	1945	1.8	-254.81	-0.48
86	SLU 31	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 32	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 33	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 34	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 35	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 36	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 37	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 38	-1	-2	2277	2.21	-294.5	-0.25
86	SLU 39	-1	-1	2419	2.38	-311.5	-0.16
86	SLU 40	-1	-1	2419	2.38	-311.5	-0.16
86	SLU 41	-1	-1	2419	2.38	-311.5	-0.16
86	SLU 42	-1	-1	2419	2.38	-311.5	-0.16
86	SLU 43	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 44	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 45	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 46	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 47	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 48	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 49	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 50	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 51	-4	-3	2129	1.81	-282.47	-0.59
86	SLU 52	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 53	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 54	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 55	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 56	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 57	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 58	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 59	-3	-2	2461	2.22	-322.16	-0.36
86	SLU 60	-2	-2	2603	2.4	-339.17	-0.27
86	SLU 61	-2	-2	2603	2.4	-339.17	-0.27
86	SLU 62	-2	-2	2603	2.4	-339.17	-0.27
86	SLU 63	-2	-2	2603	2.4	-339.17	-0.27
86	SLU 64	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 65	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 66	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 67	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 68	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 69	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 70	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 71	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 72	-3	-3	2373	2.13	-312.16	-0.61
86	SLU 73	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 74	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 75	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 76	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 77	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 78	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 79	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 80	-2	-2	2704	2.54	-351.85	-0.38
86	SLU 81	-2	-2	2846	2.72	-368.86	-0.29
86	SLU 82	-2	-2	2846	2.72	-368.86	-0.29
86	SLU 83	-2	-2	2846	2.72	-368.86	-0.29
86	SLU 84	-2	-2	2846	2.72	-368.86	-0.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
86	SLE RA 1	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 2	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 3	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 4	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 5	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 6	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 7	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 8	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 9	-2	-2	1772	1.57	-233.6	-0.47
86	SLE RA 10	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 11	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 12	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 13	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 14	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 15	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 16	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 17	-2	-2	1993	1.84	-260.06	-0.31
86	SLE RA 18	-2	-1	2087	1.96	-271.4	-0.25
86	SLE RA 19	-2	-1	2087	1.96	-271.4	-0.25
86	SLE RA 20	-2	-1	2087	1.96	-271.4	-0.25
86	SLE RA 21	-2	-1	2087	1.96	-271.4	-0.25
86	SLE FR 1	-2	-2	1772	1.57	-233.6	-0.47
86	SLE FR 2	-2	-2	1772	1.57	-233.6	-0.47
86	SLE FR 3	-2	-2	1772	1.57	-233.6	-0.47
86	SLE FR 4	-2	-2	1866	1.69	-244.94	-0.4
86	SLE FR 5	-2	-2	1866	1.69	-244.94	-0.4
86	SLE FR 6	-2	-2	1929	1.76	-252.5	-0.36
86	SLE QP 1	-2	-2	1772	1.57	-233.6	-0.47
86	SLE QP 2	-2	-2	1866	1.69	-244.94	-0.4
86	SLD 1	96	125	2157	1.55	-273.14	31.37
86	SLD 2	108	90	2157	1.58	-273.48	22.53
86	SLD 3	113	-25	2102	2.24	-275.43	-6.27
86	SLD 4	126	-61	2102	2.27	-275.78	-15.11
86	SLD 5	-5	277	2037	0.58	-249.8	69.35
86	SLD 6	8	241	2037	0.61	-250.15	60.43
86	SLD 7	55	-224	1853	2.89	-257.44	-56.11
86	SLD 8	68	-260	1854	2.92	-257.79	-65.03
86	SLD 9	-72	256	1879	0.45	-232.09	64.23
86	SLD 10	-60	220	1879	0.48	-232.44	55.31
86	SLD 11	-13	-245	1696	2.76	-239.73	-61.23
86	SLD 12	0	-281	1696	2.79	-240.08	-70.15
86	SLD 13	-131	57	1630	1.1	-214.1	14.31
86	SLD 14	-118	21	1631	1.13	-214.45	5.47
86	SLD 15	-113	-94	1575	1.8	-216.39	-23.33
86	SLD 16	-100	-129	1576	1.82	-216.74	-32.17
86	SLV 1	220	290	2527	1.36	-309.4	72.59
86	SLV 2	249	209	2528	1.42	-310.18	52.48
86	SLV 3	261	-57	2400	2.96	-314.86	-14.48
86	SLV 4	290	-138	2401	3.02	-315.64	-34.58
86	SLV 5	-9	642	2257	-0.87	-255.71	160.76
86	SLV 6	21	559	2258	-0.8	-256.51	140.3
86	SLV 7	129	-516	1833	4.48	-273.92	-129.46
86	SLV 8	158	-599	1834	4.54	-274.71	-149.92
86	SLV 9	-163	595	1898	-1.17	-215.16	149.12
86	SLV 10	-134	512	1899	-1.11	-215.96	128.66
86	SLV 11	-25	-563	1475	4.17	-233.37	-141.1
86	SLV 12	4	-646	1476	4.24	-234.17	-161.56
86	SLV 13	-294	134	1332	0.35	-174.24	33.78
86	SLV 14	-266	53	1333	0.41	-175.02	13.68
86	SLV 15	-253	-213	1205	1.95	-179.7	-53.28
86	SLV 16	-224	-294	1206	2.01	-180.48	-73.39
86	CRTFP Ux+	0	0	0	0	0	0
86	CRTFP Ux-	0	0	0	0	0	0
86	CRTFP Uy+	0	0	0	0	0	0
86	CRTFP Uy-	0	0	0	0	0	0
88	SLU 1	3	-3	1628	-0.55	0.02	0.04
88	SLU 2	3	-3	1628	-0.55	0.02	0.04
88	SLU 3	3	-3	1628	-0.55	0.02	0.04
88	SLU 4	3	-3	1628	-0.55	0.02	0.04
88	SLU 5	3	-3	1628	-0.55	0.02	0.04
88	SLU 6	3	-3	1628	-0.55	0.02	0.04
88	SLU 7	3	-3	1628	-0.55	0.02	0.04
88	SLU 8	3	-3	1628	-0.55	0.02	0.04
88	SLU 9	3	-3	1628	-0.55	0.02	0.04
88	SLU 10	4	-3	1987	-0.63	0.04	0.05
88	SLU 11	4	-3	1987	-0.63	0.04	0.05
88	SLU 12	4	-3	1987	-0.63	0.04	0.05
88	SLU 13	4	-3	1987	-0.63	0.04	0.05
88	SLU 14	4	-3	1987	-0.63	0.04	0.05
88	SLU 15	4	-3	1987	-0.63	0.04	0.05
88	SLU 16	4	-3	1987	-0.63	0.04	0.05
88	SLU 17	4	-3	1987	-0.63	0.04	0.05
88	SLU 18	4	-3	2141	-0.66	0.04	0.06
88	SLU 19	4	-3	2141	-0.66	0.04	0.06
88	SLU 20	4	-3	2141	-0.66	0.04	0.06
88	SLU 21	4	-3	2141	-0.66	0.04	0.06
88	SLU 22	3	-3	1877	-0.54	0.04	0.05
88	SLU 23	3	-3	1877	-0.54	0.04	0.05
88	SLU 24	3	-3	1877	-0.54	0.04	0.05
88	SLU 25	3	-3	1877	-0.54	0.04	0.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
88	SLU 26	3	-3	1877	-0.54	0.04	0.05
88	SLU 27	3	-3	1877	-0.54	0.04	0.05
88	SLU 28	3	-3	1877	-0.54	0.04	0.05
88	SLU 29	3	-3	1877	-0.54	0.04	0.05
88	SLU 30	3	-3	1877	-0.54	0.04	0.05
88	SLU 31	4	-3	2236	-0.62	0.06	0.06
88	SLU 32	4	-3	2236	-0.62	0.06	0.06
88	SLU 33	4	-3	2236	-0.62	0.06	0.06
88	SLU 34	4	-3	2236	-0.62	0.06	0.06
88	SLU 35	4	-3	2236	-0.62	0.06	0.06
88	SLU 36	4	-3	2236	-0.62	0.06	0.06
88	SLU 37	4	-3	2236	-0.62	0.06	0.06
88	SLU 38	4	-3	2236	-0.62	0.06	0.06
88	SLU 39	5	-3	2390	-0.65	0.06	0.06
88	SLU 40	5	-3	2390	-0.65	0.06	0.06
88	SLU 41	5	-3	2390	-0.65	0.06	0.06
88	SLU 42	5	-3	2390	-0.65	0.06	0.06
88	SLU 43	3	-3	2031	-0.72	0.02	0.05
88	SLU 44	3	-3	2031	-0.72	0.02	0.05
88	SLU 45	3	-3	2031	-0.72	0.02	0.05
88	SLU 46	3	-3	2031	-0.72	0.02	0.05
88	SLU 47	3	-3	2031	-0.72	0.02	0.05
88	SLU 48	3	-3	2031	-0.72	0.02	0.05
88	SLU 49	3	-3	2031	-0.72	0.02	0.05
88	SLU 50	3	-3	2031	-0.72	0.02	0.05
88	SLU 51	3	-3	2031	-0.72	0.02	0.05
88	SLU 52	4	-3	2390	-0.8	0.04	0.06
88	SLU 53	4	-3	2390	-0.8	0.04	0.06
88	SLU 54	4	-3	2390	-0.8	0.04	0.06
88	SLU 55	4	-3	2390	-0.8	0.04	0.06
88	SLU 56	4	-3	2390	-0.8	0.04	0.06
88	SLU 57	4	-3	2390	-0.8	0.04	0.06
88	SLU 58	4	-3	2390	-0.8	0.04	0.06
88	SLU 59	4	-3	2390	-0.8	0.04	0.06
88	SLU 60	5	-3	2544	-0.83	0.04	0.07
88	SLU 61	5	-3	2544	-0.83	0.04	0.07
88	SLU 62	5	-3	2544	-0.83	0.04	0.07
88	SLU 63	5	-3	2544	-0.83	0.04	0.07
88	SLU 64	4	-3	2280	-0.71	0.04	0.06
88	SLU 65	4	-3	2280	-0.71	0.04	0.06
88	SLU 66	4	-3	2280	-0.71	0.04	0.06
88	SLU 67	4	-3	2280	-0.71	0.04	0.06
88	SLU 68	4	-3	2280	-0.71	0.04	0.06
88	SLU 69	4	-3	2280	-0.71	0.04	0.06
88	SLU 70	4	-3	2280	-0.71	0.04	0.06
88	SLU 71	4	-3	2280	-0.71	0.04	0.06
88	SLU 72	4	-3	2280	-0.71	0.04	0.06
88	SLU 73	5	-4	2639	-0.79	0.06	0.07
88	SLU 74	5	-4	2639	-0.79	0.06	0.07
88	SLU 75	5	-4	2639	-0.79	0.06	0.07
88	SLU 76	5	-4	2639	-0.79	0.06	0.07
88	SLU 77	5	-4	2639	-0.79	0.06	0.07
88	SLU 78	5	-4	2639	-0.79	0.06	0.07
88	SLU 79	5	-4	2639	-0.79	0.06	0.07
88	SLU 80	5	-4	2639	-0.79	0.06	0.07
88	SLU 81	5	-4	2793	-0.82	0.06	0.07
88	SLU 82	5	-4	2793	-0.82	0.06	0.07
88	SLU 83	5	-4	2793	-0.82	0.06	0.07
88	SLU 84	5	-4	2793	-0.82	0.06	0.07
88	SLE RA 1	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 2	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 3	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 4	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 5	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 6	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 7	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 8	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 9	3	-3	1699	-0.55	0.03	0.04
88	SLE RA 10	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 11	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 12	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 13	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 14	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 15	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 16	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 17	4	-3	1939	-0.6	0.04	0.05
88	SLE RA 18	4	-3	2041	-0.62	0.04	0.05
88	SLE RA 19	4	-3	2041	-0.62	0.04	0.05
88	SLE RA 20	4	-3	2041	-0.62	0.04	0.05
88	SLE RA 21	4	-3	2041	-0.62	0.04	0.05
88	SLE FR 1	3	-3	1699	-0.55	0.03	0.04
88	SLE FR 2	3	-3	1699	-0.55	0.03	0.04
88	SLE FR 3	3	-3	1699	-0.55	0.03	0.04
88	SLE FR 4	3	-3	1802	-0.57	0.03	0.05
88	SLE FR 5	3	-3	1802	-0.57	0.03	0.05
88	SLE FR 6	3	-3	1870	-0.59	0.04	0.05
88	SLE QP 1	3	-3	1699	-0.55	0.03	0.04
88	SLE QP 2	3	-3	1802	-0.57	0.03	0.05
88	SLD 1	107	11	1831	-0.89	-4.17	0.04
88	SLD 2	119	11	1830	-0.89	-4.17	0.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
88	SLD 3	115	-24	1784	-0.42	-3.59	0.1
88	SLD 4	127	-23	1783	-0.42	-3.59	0.2
88	SLD 5	18	53	1882	-1.38	-2.11	-0.08
88	SLD 6	31	54	1882	-1.38	-2.11	0.02
88	SLD 7	44	-61	1725	0.19	-0.18	0.12
88	SLD 8	56	-61	1725	0.19	-0.17	0.22
88	SLD 9	-50	55	1879	-1.34	0.24	-0.12
88	SLD 10	-38	56	1879	-1.33	0.24	-0.03
88	SLD 11	-24	-59	1722	0.24	2.17	0.07
88	SLD 12	-12	-58	1722	0.24	2.18	0.17
88	SLD 13	-121	18	1820	-0.73	3.65	-0.11
88	SLD 14	-108	18	1820	-0.72	3.66	-0.01
88	SLD 15	-113	-16	1774	-0.26	4.24	-0.05
88	SLD 16	-101	-16	1773	-0.25	4.24	0.05
88	SLV 1	239	28	1868	-1.31	-10.4	0.04
88	SLV 2	267	29	1868	-1.3	-10.39	0.26
88	SLV 3	257	-51	1759	-0.22	-8.92	0.18
88	SLV 4	285	-50	1759	-0.21	-8.91	0.4
88	SLV 5	37	126	1987	-2.45	-5.34	-0.24
88	SLV 6	66	128	1986	-2.44	-5.33	-0.02
88	SLV 7	96	-138	1625	1.18	-0.41	0.21
88	SLV 8	125	-137	1624	1.19	-0.41	0.44
88	SLV 9	-118	131	1980	-2.34	0.47	-0.34
88	SLV 10	-90	133	1979	-2.33	0.48	-0.12
88	SLV 11	-59	-133	1618	1.3	5.4	0.11
88	SLV 12	-31	-132	1617	1.31	5.4	0.33
88	SLV 13	-279	45	1845	-0.94	8.98	-0.3
88	SLV 14	-251	46	1845	-0.92	8.98	-0.08
88	SLV 15	-261	-35	1736	0.16	10.45	-0.17
88	SLV 16	-233	-33	1736	0.17	10.46	0.05
88	CRTFP Ux+	0	0	0	0	0	0
88	CRTFP Ux-	0	0	0	0	0	0
88	CRTFP Uy+	0	0	0	0	0	0
88	CRTFP Uy-	0	0	0	0	0	0
90	SLU 1	10	-15	1769	1.7	399	5.25
90	SLU 2	10	-15	1769	1.7	399	5.25
90	SLU 3	10	-15	1769	1.7	399	5.25
90	SLU 4	10	-15	1769	1.7	399	5.25
90	SLU 5	10	-15	1769	1.7	399	5.25
90	SLU 6	10	-15	1769	1.7	399	5.25
90	SLU 7	10	-15	1769	1.7	399	5.25
90	SLU 8	10	-15	1769	1.7	399	5.25
90	SLU 9	10	-15	1769	1.7	399	5.25
90	SLU 10	12	-19	2087	2.17	466.28	6.47
90	SLU 11	12	-19	2087	2.17	466.28	6.47
90	SLU 12	12	-19	2087	2.17	466.28	6.47
90	SLU 13	12	-19	2087	2.17	466.28	6.47
90	SLU 14	12	-19	2087	2.17	466.28	6.47
90	SLU 15	12	-19	2087	2.17	466.28	6.47
90	SLU 16	12	-19	2087	2.17	466.28	6.47
90	SLU 17	12	-19	2087	2.17	466.28	6.47
90	SLU 18	12	-20	2223	2.37	495.12	6.99
90	SLU 19	12	-20	2223	2.37	495.12	6.99
90	SLU 20	12	-20	2223	2.37	495.12	6.99
90	SLU 21	12	-20	2223	2.37	495.12	6.99
90	SLU 22	11	-18	1992	2.05	446.92	6.2
90	SLU 23	11	-18	1992	2.05	446.92	6.2
90	SLU 24	11	-18	1992	2.05	446.92	6.2
90	SLU 25	11	-18	1992	2.05	446.92	6.2
90	SLU 26	11	-18	1992	2.05	446.92	6.2
90	SLU 27	11	-18	1992	2.05	446.92	6.2
90	SLU 28	11	-18	1992	2.05	446.92	6.2
90	SLU 29	11	-18	1992	2.05	446.92	6.2
90	SLU 30	11	-18	1992	2.05	446.92	6.2
90	SLU 31	13	-21	2310	2.52	514.21	7.42
90	SLU 32	13	-21	2310	2.52	514.21	7.42
90	SLU 33	13	-21	2310	2.52	514.21	7.42
90	SLU 34	13	-21	2310	2.52	514.21	7.42
90	SLU 35	13	-21	2310	2.52	514.21	7.42
90	SLU 36	13	-21	2310	2.52	514.21	7.42
90	SLU 37	13	-21	2310	2.52	514.21	7.42
90	SLU 38	13	-21	2310	2.52	514.21	7.42
90	SLU 39	13	-23	2447	2.73	543.05	7.94
90	SLU 40	13	-23	2447	2.73	543.05	7.94
90	SLU 41	13	-23	2447	2.73	543.05	7.94
90	SLU 42	13	-23	2447	2.73	543.05	7.94
90	SLU 43	13	-19	2223	2.08	502.26	6.49
90	SLU 44	13	-19	2223	2.08	502.26	6.49
90	SLU 45	13	-19	2223	2.08	502.26	6.49
90	SLU 46	13	-19	2223	2.08	502.26	6.49
90	SLU 47	13	-19	2223	2.08	502.26	6.49
90	SLU 48	13	-19	2223	2.08	502.26	6.49
90	SLU 49	13	-19	2223	2.08	502.26	6.49
90	SLU 50	13	-19	2223	2.08	502.26	6.49
90	SLU 51	13	-19	2223	2.08	502.26	6.49
90	SLU 52	14	-22	2541	2.56	569.55	7.71
90	SLU 53	14	-22	2541	2.56	569.55	7.71
90	SLU 54	14	-22	2541	2.56	569.55	7.71
90	SLU 55	14	-22	2541	2.56	569.55	7.71
90	SLU 56	14	-22	2541	2.56	569.55	7.71



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
90	SLU 57	14	-22	2541		2.56	569.55	7.71	
90	SLU 58	14	-22	2541		2.56	569.55	7.71	
90	SLU 59	14	-22	2541		2.56	569.55	7.71	
90	SLU 60	15	-24	2677		2.76	598.39	8.24	
90	SLU 61	15	-24	2677		2.76	598.39	8.24	
90	SLU 62	15	-24	2677		2.76	598.39	8.24	
90	SLU 63	15	-24	2677		2.76	598.39	8.24	
90	SLU 64	14	-21	2447		2.44	550.19	7.44	
90	SLU 65	14	-21	2447		2.44	550.19	7.44	
90	SLU 66	14	-21	2447		2.44	550.19	7.44	
90	SLU 67	14	-21	2447		2.44	550.19	7.44	
90	SLU 68	14	-21	2447		2.44	550.19	7.44	
90	SLU 69	14	-21	2447		2.44	550.19	7.44	
90	SLU 70	14	-21	2447		2.44	550.19	7.44	
90	SLU 71	14	-21	2447		2.44	550.19	7.44	
90	SLU 72	14	-21	2447		2.44	550.19	7.44	
90	SLU 73	15	-25	2765		2.91	617.48	8.67	
90	SLU 74	15	-25	2765		2.91	617.48	8.67	
90	SLU 75	15	-25	2765		2.91	617.48	8.67	
90	SLU 76	15	-25	2765		2.91	617.48	8.67	
90	SLU 77	15	-25	2765		2.91	617.48	8.67	
90	SLU 78	15	-25	2765		2.91	617.48	8.67	
90	SLU 79	15	-25	2765		2.91	617.48	8.67	
90	SLU 80	15	-25	2765		2.91	617.48	8.67	
90	SLU 81	16	-26	2901		3.11	646.32	9.19	
90	SLU 82	16	-26	2901		3.11	646.32	9.19	
90	SLU 83	16	-26	2901		3.11	646.32	9.19	
90	SLU 84	16	-26	2901		3.11	646.32	9.19	
90	SLE RA 1	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 2	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 3	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 4	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 5	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 6	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 7	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 8	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 9	10	-16	1833		1.8	412.69	5.52	
90	SLE RA 10	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 11	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 12	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 13	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 14	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 15	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 16	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 17	11	-18	2045		2.11	457.55	6.33	
90	SLE RA 18	12	-19	2136		2.25	476.77	6.68	
90	SLE RA 19	12	-19	2136		2.25	476.77	6.68	
90	SLE RA 20	12	-19	2136		2.25	476.77	6.68	
90	SLE RA 21	12	-19	2136		2.25	476.77	6.68	
90	SLE FR 1	10	-16	1833		1.8	412.69	5.52	
90	SLE FR 2	10	-16	1833		1.8	412.69	5.52	
90	SLE FR 3	10	-16	1833		1.8	412.69	5.52	
90	SLE FR 4	11	-17	1924		1.93	431.91	5.87	
90	SLE FR 5	11	-17	1924		1.93	431.91	5.87	
90	SLE FR 6	11	-17	1984		2.02	444.73	6.1	
90	SLE QP 1	10	-16	1833		1.8	412.69	5.52	
90	SLE QP 2	11	-17	1924		1.93	431.91	5.87	
90	SLD 1	145	-10	1674		1.39	384.03	3.22	
90	SLD 2	160	27	1676		1.4	384.21	-9.55	
90	SLD 3	139	-163	1587		2.05	376.94	57.1	
90	SLD 4	154	-127	1588		2.05	377.11	44.33	
90	SLD 5	56	205	1980		0.77	428.25	-72.13	
90	SLD 6	71	242	1982		0.78	428.43	-85.01	
90	SLD 7	34	-307	1690		2.96	404.6	107.49	
90	SLD 8	49	-270	1692		2.97	404.77	94.61	
90	SLD 9	-27	236	2156		0.9	459.06	-82.87	
90	SLD 10	-12	273	2157		0.9	459.23	-95.76	
90	SLD 11	-49	-276	1866		3.09	435.4	96.74	
90	SLD 12	-34	-239	1867		3.09	435.58	83.86	
90	SLD 13	-132	93	2259		1.81	486.72	-32.6	
90	SLD 14	-117	130	2260		1.81	486.89	-45.37	
90	SLD 15	-139	-61	2172		2.47	479.62	21.29	
90	SLD 16	-124	-24	2173		2.47	479.79	8.51	
90	SLV 1	317	3	1359		0.69	323.25	-1.31	
90	SLV 2	351	86	1362		0.7	323.65	-30.35	
90	SLV 3	301	-353	1157		2.22	306.8	123.47	
90	SLV 4	336	-269	1160		2.22	307.2	94.43	
90	SLV 5	113	499	2059		-0.75	424.11	-175.12	
90	SLV 6	148	584	2062		-0.74	424.52	-204.67	
90	SLV 7	63	-687	1387		4.32	369.3	240.82	
90	SLV 8	98	-602	1390		4.33	369.7	211.27	
90	SLV 9	-76	569	2457		-0.47	494.13	-199.53	
90	SLV 10	-41	654	2460		-0.46	494.53	-229.09	
90	SLV 11	-127	-617	1786		4.61	439.31	216.4	
90	SLV 12	-92	-532	1789		4.62	439.71	186.85	
90	SLV 13	-314	236	2687		1.64	556.63	-82.7	
90	SLV 14	-280	319	2690		1.65	557.02	-111.74	
90	SLV 15	-329	-120	2486		3.16	540.18	42.09	
90	SLV 16	-295	-36	2489		3.17	540.58	13.04	
90	CRTFP Ux+	0	0	0		0	0	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
90	CRTFP Ux-	0	0	0	0	0	0
90	CRTFP Uy+	0	0	0	0	0	0
90	CRTFP Uy-	0	0	0	0	0	0
91	SLU 1	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 2	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 3	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 4	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 5	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 6	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 7	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 8	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 9	-6	-2	1757	2.01	-261.62	-0.33
91	SLU 10	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 11	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 12	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 13	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 14	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 15	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 16	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 17	-6	-1	2104	2.53	-310.09	-0.08
91	SLU 18	-5	0	2252	2.76	-330.87	0.02
91	SLU 19	-5	0	2252	2.76	-330.87	0.02
91	SLU 20	-5	0	2252	2.76	-330.87	0.02
91	SLU 21	-5	0	2252	2.76	-330.87	0.02
91	SLU 22	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 23	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 24	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 25	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 26	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 27	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 28	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 29	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 30	-6	-2	2012	2.41	-297.92	-0.33
91	SLU 31	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 32	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 33	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 34	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 35	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 36	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 37	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 38	-5	-1	2359	2.94	-346.4	-0.09
91	SLU 39	-5	0	2507	3.17	-367.18	0.02
91	SLU 40	-5	0	2507	3.17	-367.18	0.02
91	SLU 41	-5	0	2507	3.17	-367.18	0.02
91	SLU 42	-5	0	2507	3.17	-367.18	0.02
91	SLU 43	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 44	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 45	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 46	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 47	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 48	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 49	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 50	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 51	-8	-2	2197	2.47	-327.65	-0.42
91	SLU 52	-7	-1	2544	3	-376.13	-0.18
91	SLU 53	-7	-1	2544	3	-376.13	-0.18
91	SLU 54	-7	-1	2544	3	-376.13	-0.18
91	SLU 55	-7	-1	2544	3	-376.13	-0.18
91	SLU 56	-7	-1	2544	3	-376.13	-0.18
91	SLU 57	-7	-1	2544	3	-376.13	-0.18
91	SLU 58	-7	-1	2544	3	-376.13	-0.18
91	SLU 59	-7	-1	2544	3	-376.13	-0.18
91	SLU 60	-7	-1	2692	3.22	-396.91	-0.08
91	SLU 61	-7	-1	2692	3.22	-396.91	-0.08
91	SLU 62	-7	-1	2692	3.22	-396.91	-0.08
91	SLU 63	-7	-1	2692	3.22	-396.91	-0.08
91	SLU 64	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 65	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 66	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 67	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 68	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 69	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 70	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 71	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 72	-7	-2	2452	2.87	-363.96	-0.43
91	SLU 73	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 74	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 75	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 76	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 77	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 78	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 79	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 80	-7	-1	2799	3.4	-412.44	-0.18
91	SLU 81	-7	-1	2947	3.63	-433.21	-0.08
91	SLU 82	-7	-1	2947	3.63	-433.21	-0.08
91	SLU 83	-7	-1	2947	3.63	-433.21	-0.08
91	SLU 84	-7	-1	2947	3.63	-433.21	-0.08
91	SLE RA 1	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 2	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 3	-6	-2	1830	2.12	-271.99	-0.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
91	SLE RA 4	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 5	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 6	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 7	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 8	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 9	-6	-2	1830	2.12	-271.99	-0.33
91	SLE RA 10	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 11	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 12	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 13	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 14	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 15	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 16	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 17	-6	-1	2061	2.47	-304.31	-0.17
91	SLE RA 18	-6	-1	2160	2.62	-318.16	-0.1
91	SLE RA 19	-6	-1	2160	2.62	-318.16	-0.1
91	SLE RA 20	-6	-1	2160	2.62	-318.16	-0.1
91	SLE RA 21	-6	-1	2160	2.62	-318.16	-0.1
91	SLE FR 1	-6	-2	1830	2.12	-271.99	-0.33
91	SLE FR 2	-6	-2	1830	2.12	-271.99	-0.33
91	SLE FR 3	-6	-2	1830	2.12	-271.99	-0.33
91	SLE FR 4	-6	-1	1929	2.27	-285.84	-0.26
91	SLE FR 5	-6	-1	1929	2.27	-285.84	-0.26
91	SLE FR 6	-6	-1	1995	2.37	-295.07	-0.21
91	SLE QP 1	-6	-2	1830	2.12	-271.99	-0.33
91	SLE QP 2	-6	-1	1929	2.27	-285.84	-0.26
91	SLD 1	93	126	2217	2.26	-318.45	31.49
91	SLD 2	103	90	2219	2.29	-318.95	22.65
91	SLD 3	113	-24	2183	2.91	-323.09	-6.09
91	SLD 4	123	-60	2184	2.93	-323.58	-14.93
91	SLD 5	-10	277	2067	1.28	-288.41	69.4
91	SLD 6	1	241	2068	1.31	-288.92	60.48
91	SLD 7	56	-223	1953	3.43	-303.87	-55.87
91	SLD 8	67	-259	1954	3.46	-304.37	-64.79
91	SLD 9	-78	256	1904	1.09	-267.31	64.27
91	SLD 10	-68	220	1906	1.12	-267.81	55.35
91	SLD 11	-12	-244	1790	3.23	-282.76	-60.99
91	SLD 12	-2	-280	1791	3.26	-283.27	-69.92
91	SLD 13	-135	57	1674	1.61	-248.09	14.42
91	SLD 14	-125	21	1675	1.64	-248.59	5.57
91	SLD 15	-115	-93	1640	2.25	-252.73	-23.16
91	SLD 16	-105	-129	1641	2.28	-253.23	-32.01
91	SLV 1	219	291	2584	2.24	-360.1	72.69
91	SLV 2	242	210	2587	2.3	-361.24	52.58
91	SLV 3	265	-56	2505	3.73	-370.94	-14.24
91	SLV 4	288	-137	2508	3.79	-372.08	-34.36
91	SLV 5	-16	642	2245	-0.02	-291.27	160.69
91	SLV 6	7	560	2248	0.04	-292.43	140.22
91	SLV 7	137	-516	1981	4.95	-327.4	-129.08
91	SLV 8	160	-598	1984	5.01	-328.56	-149.55
91	SLV 9	-171	595	1875	-0.46	-243.12	149.03
91	SLV 10	-148	513	1878	-0.4	-244.27	128.56
91	SLV 11	-19	-563	1611	4.5	-279.25	-140.74
91	SLV 12	5	-645	1613	4.56	-280.41	-161.21
91	SLV 13	-299	134	1351	0.75	-199.6	33.84
91	SLV 14	-276	53	1354	0.81	-200.74	13.72
91	SLV 15	-253	-213	1271	2.24	-210.44	-53.09
91	SLV 16	-230	-294	1274	2.3	-211.58	-73.21
91	CRTFP Ux+	0	0	0	0	0	0
91	CRTFP Ux-	0	0	0	0	0	0
91	CRTFP Uy+	0	0	0	0	0	0
91	CRTFP Uy-	0	0	0	0	0	0
93	SLU 1	1	-2	1606	-0.82	0	0.04
93	SLU 2	1	-2	1606	-0.82	0	0.04
93	SLU 3	1	-2	1606	-0.82	0	0.04
93	SLU 4	1	-2	1606	-0.82	0	0.04
93	SLU 5	1	-2	1606	-0.82	0	0.04
93	SLU 6	1	-2	1606	-0.82	0	0.04
93	SLU 7	1	-2	1606	-0.82	0	0.04
93	SLU 8	1	-2	1606	-0.82	0	0.04
93	SLU 9	1	-2	1606	-0.82	0	0.04
93	SLU 10	2	-3	1961	-1.02	0.02	0.04
93	SLU 11	2	-3	1961	-1.02	0.02	0.04
93	SLU 12	2	-3	1961	-1.02	0.02	0.04
93	SLU 13	2	-3	1961	-1.02	0.02	0.04
93	SLU 14	2	-3	1961	-1.02	0.02	0.04
93	SLU 15	2	-3	1961	-1.02	0.02	0.04
93	SLU 16	2	-3	1961	-1.02	0.02	0.04
93	SLU 17	2	-3	1961	-1.02	0.02	0.04
93	SLU 18	2	-3	2113	-1.11	0.03	0.05
93	SLU 19	2	-3	2113	-1.11	0.03	0.05
93	SLU 20	2	-3	2113	-1.11	0.03	0.05
93	SLU 21	2	-3	2113	-1.11	0.03	0.05
93	SLU 22	2	-3	1855	-0.87	0.04	0.04
93	SLU 23	2	-3	1855	-0.87	0.04	0.04
93	SLU 24	2	-3	1855	-0.87	0.04	0.04
93	SLU 25	2	-3	1855	-0.87	0.04	0.04
93	SLU 26	2	-3	1855	-0.87	0.04	0.04
93	SLU 27	2	-3	1855	-0.87	0.04	0.04
93	SLU 28	2	-3	1855	-0.87	0.04	0.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
93	SLU 29	2	-3	1855	-0.87	0.04	0.04
93	SLU 30	2	-3	1855	-0.87	0.04	0.04
93	SLU 31	3	-3	2210	-1.07	0.06	0.05
93	SLU 32	3	-3	2210	-1.07	0.06	0.05
93	SLU 33	3	-3	2210	-1.07	0.06	0.05
93	SLU 34	3	-3	2210	-1.07	0.06	0.05
93	SLU 35	3	-3	2210	-1.07	0.06	0.05
93	SLU 36	3	-3	2210	-1.07	0.06	0.05
93	SLU 37	3	-3	2210	-1.07	0.06	0.05
93	SLU 38	3	-3	2210	-1.07	0.06	0.05
93	SLU 39	3	-3	2362	-1.16	0.07	0.05
93	SLU 40	3	-3	2362	-1.16	0.07	0.05
93	SLU 41	3	-3	2362	-1.16	0.07	0.05
93	SLU 42	3	-3	2362	-1.16	0.07	0.05
93	SLU 43	2	-3	2003	-1.04	-0.01	0.05
93	SLU 44	2	-3	2003	-1.04	-0.01	0.05
93	SLU 45	2	-3	2003	-1.04	-0.01	0.05
93	SLU 46	2	-3	2003	-1.04	-0.01	0.05
93	SLU 47	2	-3	2003	-1.04	-0.01	0.05
93	SLU 48	2	-3	2003	-1.04	-0.01	0.05
93	SLU 49	2	-3	2003	-1.04	-0.01	0.05
93	SLU 50	2	-3	2003	-1.04	-0.01	0.05
93	SLU 51	2	-3	2003	-1.04	-0.01	0.05
93	SLU 52	2	-3	2358	-1.25	0.01	0.05
93	SLU 53	2	-3	2358	-1.25	0.01	0.05
93	SLU 54	2	-3	2358	-1.25	0.01	0.05
93	SLU 55	2	-3	2358	-1.25	0.01	0.05
93	SLU 56	2	-3	2358	-1.25	0.01	0.05
93	SLU 57	2	-3	2358	-1.25	0.01	0.05
93	SLU 58	2	-3	2358	-1.25	0.01	0.05
93	SLU 59	2	-3	2358	-1.25	0.01	0.05
93	SLU 60	3	-3	2510	-1.34	0.02	0.06
93	SLU 61	3	-3	2510	-1.34	0.02	0.06
93	SLU 62	3	-3	2510	-1.34	0.02	0.06
93	SLU 63	3	-3	2510	-1.34	0.02	0.06
93	SLU 64	2	-3	2252	-1.09	0.03	0.05
93	SLU 65	2	-3	2252	-1.09	0.03	0.05
93	SLU 66	2	-3	2252	-1.09	0.03	0.05
93	SLU 67	2	-3	2252	-1.09	0.03	0.05
93	SLU 68	2	-3	2252	-1.09	0.03	0.05
93	SLU 69	2	-3	2252	-1.09	0.03	0.05
93	SLU 70	2	-3	2252	-1.09	0.03	0.05
93	SLU 71	2	-3	2252	-1.09	0.03	0.05
93	SLU 72	2	-3	2252	-1.09	0.03	0.05
93	SLU 73	3	-4	2606	-1.3	0.05	0.06
93	SLU 74	3	-4	2606	-1.3	0.05	0.06
93	SLU 75	3	-4	2606	-1.3	0.05	0.06
93	SLU 76	3	-4	2606	-1.3	0.05	0.06
93	SLU 77	3	-4	2606	-1.3	0.05	0.06
93	SLU 78	3	-4	2606	-1.3	0.05	0.06
93	SLU 79	3	-4	2606	-1.3	0.05	0.06
93	SLU 80	3	-4	2606	-1.3	0.05	0.06
93	SLU 81	3	-4	2758	-1.39	0.06	0.06
93	SLU 82	3	-4	2758	-1.39	0.06	0.06
93	SLU 83	3	-4	2758	-1.39	0.06	0.06
93	SLU 84	3	-4	2758	-1.39	0.06	0.06
93	SLE RA 1	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 2	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 3	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 4	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 5	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 6	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 7	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 8	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 9	2	-3	1677	-0.83	0.02	0.04
93	SLE RA 10	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 11	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 12	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 13	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 14	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 15	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 16	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 17	2	-3	1914	-0.97	0.03	0.04
93	SLE RA 18	2	-3	2015	-1.03	0.03	0.05
93	SLE RA 19	2	-3	2015	-1.03	0.03	0.05
93	SLE RA 20	2	-3	2015	-1.03	0.03	0.05
93	SLE RA 21	2	-3	2015	-1.03	0.03	0.05
93	SLE FR 1	2	-3	1677	-0.83	0.02	0.04
93	SLE FR 2	2	-3	1677	-0.83	0.02	0.04
93	SLE FR 3	2	-3	1677	-0.83	0.02	0.04
93	SLE FR 4	2	-3	1779	-0.89	0.02	0.04
93	SLE FR 5	2	-3	1779	-0.89	0.02	0.04
93	SLE FR 6	2	-3	1846	-0.93	0.02	0.04
93	SLE QP 1	2	-3	1677	-0.83	0.02	0.04
93	SLE QP 2	2	-3	1779	-0.89	0.02	0.04
93	SLD 1	108	11	1798	-1.2	-3.67	-0.11
93	SLD 2	118	11	1798	-1.19	-3.67	-0.03
93	SLD 3	115	-24	1765	-0.8	-3.16	-0.07
93	SLD 4	124	-23	1765	-0.8	-3.15	0.02
93	SLD 5	21	53	1835	-1.58	-1.87	-0.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
93	SLD 6	31	54	1835	-1.57	-1.86	-0.02
93	SLD 7	42	-61	1724	-0.27	-0.16	0.05
93	SLD 8	51	-61	1724	-0.27	-0.15	0.14
93	SLD 9	-48	55	1833	-1.51	0.19	-0.06
93	SLD 10	-38	56	1833	-1.51	0.2	0.03
93	SLD 11	-27	-59	1722	-0.21	1.9	0.1
93	SLD 12	-17	-58	1722	-0.2	1.91	0.19
93	SLD 13	-120	18	1792	-0.98	3.19	0.06
93	SLD 14	-111	18	1792	-0.97	3.2	0.15
93	SLD 15	-114	-16	1759	-0.59	3.71	0.11
93	SLD 16	-105	-16	1759	-0.58	3.71	0.2
93	SLV 1	244	28	1824	-1.59	-9.12	-0.31
93	SLV 2	266	29	1824	-1.58	-9.11	-0.11
93	SLV 3	258	-51	1747	-0.69	-7.82	-0.2
93	SLV 4	280	-50	1747	-0.68	-7.81	0
93	SLV 5	45	126	1909	-2.48	-4.7	-0.31
93	SLV 6	67	128	1909	-2.47	-4.7	-0.1
93	SLV 7	93	-138	1652	0.54	-0.35	0.07
93	SLV 8	115	-137	1652	0.55	-0.35	0.27
93	SLV 9	-111	132	1905	-2.33	0.39	-0.19
93	SLV 10	-89	133	1905	-2.32	0.4	0.01
93	SLV 11	-63	-133	1648	0.69	4.74	0.18
93	SLV 12	-41	-132	1648	0.7	4.74	0.39
93	SLV 13	-276	45	1810	-1.1	7.85	0.08
93	SLV 14	-255	46	1810	-1.09	7.86	0.28
93	SLV 15	-262	-35	1733	-0.2	9.15	0.19
93	SLV 16	-241	-33	1733	-0.18	9.16	0.39
93	CRTFP Ux+	0	0	0	0	0	0
93	CRTFP Ux-	0	0	0	0	0	0
93	CRTFP Uy+	0	0	0	0	0	0
93	CRTFP Uy-	0	0	0	0	0	0
95	SLU 1	11	-14	1833	2.3	448.07	5.04
95	SLU 2	11	-14	1833	2.3	448.07	5.04
95	SLU 3	11	-14	1833	2.3	448.07	5.04
95	SLU 4	11	-14	1833	2.3	448.07	5.04
95	SLU 5	11	-14	1833	2.3	448.07	5.04
95	SLU 6	11	-14	1833	2.3	448.07	5.04
95	SLU 7	11	-14	1833	2.3	448.07	5.04
95	SLU 8	11	-14	1833	2.3	448.07	5.04
95	SLU 9	11	-14	1833	2.3	448.07	5.04
95	SLU 10	12	-18	2168	2.9	526.98	6.24
95	SLU 11	12	-18	2168	2.9	526.98	6.24
95	SLU 12	12	-18	2168	2.9	526.98	6.24
95	SLU 13	12	-18	2168	2.9	526.98	6.24
95	SLU 14	12	-18	2168	2.9	526.98	6.24
95	SLU 15	12	-18	2168	2.9	526.98	6.24
95	SLU 16	12	-18	2168	2.9	526.98	6.24
95	SLU 17	12	-18	2168	2.9	526.98	6.24
95	SLU 18	13	-19	2311	3.16	560.79	6.76
95	SLU 19	13	-19	2311	3.16	560.79	6.76
95	SLU 20	13	-19	2311	3.16	560.79	6.76
95	SLU 21	13	-19	2311	3.16	560.79	6.76
95	SLU 22	12	-17	2069	2.74	504.4	5.97
95	SLU 23	12	-17	2069	2.74	504.4	5.97
95	SLU 24	12	-17	2069	2.74	504.4	5.97
95	SLU 25	12	-17	2069	2.74	504.4	5.97
95	SLU 26	12	-17	2069	2.74	504.4	5.97
95	SLU 27	12	-17	2069	2.74	504.4	5.97
95	SLU 28	12	-17	2069	2.74	504.4	5.97
95	SLU 29	12	-17	2069	2.74	504.4	5.97
95	SLU 30	12	-17	2069	2.74	504.4	5.97
95	SLU 31	13	-21	2404	3.34	583.31	7.17
95	SLU 32	13	-21	2404	3.34	583.31	7.17
95	SLU 33	13	-21	2404	3.34	583.31	7.17
95	SLU 34	13	-21	2404	3.34	583.31	7.17
95	SLU 35	13	-21	2404	3.34	583.31	7.17
95	SLU 36	13	-21	2404	3.34	583.31	7.17
95	SLU 37	13	-21	2404	3.34	583.31	7.17
95	SLU 38	13	-21	2404	3.34	583.31	7.17
95	SLU 39	14	-22	2547	3.6	617.12	7.69
95	SLU 40	14	-22	2547	3.6	617.12	7.69
95	SLU 41	14	-22	2547	3.6	617.12	7.69
95	SLU 42	14	-22	2547	3.6	617.12	7.69
95	SLU 43	14	-18	2301	2.83	563.18	6.23
95	SLU 44	14	-18	2301	2.83	563.18	6.23
95	SLU 45	14	-18	2301	2.83	563.18	6.23
95	SLU 46	14	-18	2301	2.83	563.18	6.23
95	SLU 47	14	-18	2301	2.83	563.18	6.23
95	SLU 48	14	-18	2301	2.83	563.18	6.23
95	SLU 49	14	-18	2301	2.83	563.18	6.23
95	SLU 50	14	-18	2301	2.83	563.18	6.23
95	SLU 51	14	-18	2301	2.83	563.18	6.23
95	SLU 52	15	-21	2636	3.43	642.09	7.44
95	SLU 53	15	-21	2636	3.43	642.09	7.44
95	SLU 54	15	-21	2636	3.43	642.09	7.44
95	SLU 55	15	-21	2636	3.43	642.09	7.44
95	SLU 56	15	-21	2636	3.43	642.09	7.44
95	SLU 57	15	-21	2636	3.43	642.09	7.44
95	SLU 58	15	-21	2636	3.43	642.09	7.44
95	SLU 59	15	-21	2636	3.43	642.09	7.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
95	SLU 60	16	-23	2780	3.69	675.9	7.95
95	SLU 61	16	-23	2780	3.69	675.9	7.95
95	SLU 62	16	-23	2780	3.69	675.9	7.95
95	SLU 63	16	-23	2780	3.69	675.9	7.95
95	SLU 64	15	-21	2537	3.28	619.51	7.16
95	SLU 65	15	-21	2537	3.28	619.51	7.16
95	SLU 66	15	-21	2537	3.28	619.51	7.16
95	SLU 67	15	-21	2537	3.28	619.51	7.16
95	SLU 68	15	-21	2537	3.28	619.51	7.16
95	SLU 69	15	-21	2537	3.28	619.51	7.16
95	SLU 70	15	-21	2537	3.28	619.51	7.16
95	SLU 71	15	-21	2537	3.28	619.51	7.16
95	SLU 72	15	-21	2537	3.28	619.51	7.16
95	SLU 73	16	-24	2872	3.88	698.41	8.37
95	SLU 74	16	-24	2872	3.88	698.41	8.37
95	SLU 75	16	-24	2872	3.88	698.41	8.37
95	SLU 76	16	-24	2872	3.88	698.41	8.37
95	SLU 77	16	-24	2872	3.88	698.41	8.37
95	SLU 78	16	-24	2872	3.88	698.41	8.37
95	SLU 79	16	-24	2872	3.88	698.41	8.37
95	SLU 80	16	-24	2872	3.88	698.41	8.37
95	SLU 81	17	-25	3016	4.14	732.23	8.88
95	SLU 82	17	-25	3016	4.14	732.23	8.88
95	SLU 83	17	-25	3016	4.14	732.23	8.88
95	SLU 84	17	-25	3016	4.14	732.23	8.88
95	SLE RA 1	11	-15	1900	2.42	464.17	5.31
95	SLE RA 2	11	-15	1900	2.42	464.17	5.31
95	SLE RA 3	11	-15	1900	2.42	464.17	5.31
95	SLE RA 4	11	-15	1900	2.42	464.17	5.31
95	SLE RA 5	11	-15	1900	2.42	464.17	5.31
95	SLE RA 6	11	-15	1900	2.42	464.17	5.31
95	SLE RA 7	11	-15	1900	2.42	464.17	5.31
95	SLE RA 8	11	-15	1900	2.42	464.17	5.31
95	SLE RA 9	11	-15	1900	2.42	464.17	5.31
95	SLE RA 10	12	-18	2123	2.82	516.77	6.11
95	SLE RA 11	12	-18	2123	2.82	516.77	6.11
95	SLE RA 12	12	-18	2123	2.82	516.77	6.11
95	SLE RA 13	12	-18	2123	2.82	516.77	6.11
95	SLE RA 14	12	-18	2123	2.82	516.77	6.11
95	SLE RA 15	12	-18	2123	2.82	516.77	6.11
95	SLE RA 16	12	-18	2123	2.82	516.77	6.11
95	SLE RA 17	12	-18	2123	2.82	516.77	6.11
95	SLE RA 18	12	-18	2219	3	539.31	6.45
95	SLE RA 19	12	-18	2219	3	539.31	6.45
95	SLE RA 20	12	-18	2219	3	539.31	6.45
95	SLE RA 21	12	-18	2219	3	539.31	6.45
95	SLE FR 1	11	-15	1900	2.42	464.17	5.31
95	SLE FR 2	11	-15	1900	2.42	464.17	5.31
95	SLE FR 3	11	-15	1900	2.42	464.17	5.31
95	SLE FR 4	12	-16	1996	2.59	486.71	5.65
95	SLE FR 5	12	-16	1996	2.59	486.71	5.65
95	SLE FR 6	12	-17	2060	2.71	501.74	5.88
95	SLE QP 1	11	-15	1900	2.42	464.17	5.31
95	SLE QP 2	12	-16	1996	2.59	486.71	5.65
95	SLD 1	147	-9	1728	1.97	429.8	3.04
95	SLD 2	159	28	1729	1.98	429.9	-9.74
95	SLD 3	141	-163	1660	2.55	426.19	56.87
95	SLD 4	153	-126	1662	2.56	426.3	44.09
95	SLD 5	58	206	2018	1.52	475.07	-72.25
95	SLD 6	70	243	2019	1.53	475.17	-85.13
95	SLD 7	36	-306	1792	3.46	463.05	107.18
95	SLD 8	48	-269	1793	3.47	463.15	94.3
95	SLD 9	-25	237	2198	1.72	510.27	-83
95	SLD 10	-13	274	2199	1.72	510.37	-95.88
95	SLD 11	-47	-275	1972	3.66	498.25	96.43
95	SLD 12	-35	-238	1974	3.66	498.35	83.55
95	SLD 13	-130	94	2330	2.63	547.13	-32.79
95	SLD 14	-118	130	2331	2.63	547.23	-45.57
95	SLD 15	-136	-60	2262	3.21	543.52	21.04
95	SLD 16	-124	-23	2264	3.22	543.63	8.26
95	SLV 1	320	3	1389	1.17	357.5	-1.44
95	SLV 2	347	87	1392	1.18	357.74	-30.5
95	SLV 3	305	-353	1232	2.52	349.08	123.21
95	SLV 4	332	-269	1236	2.52	349.31	94.16
95	SLV 5	117	499	2050	0.12	460.65	-175.12
95	SLV 6	145	584	2053	0.13	460.89	-204.68
95	SLV 7	67	-687	1528	4.61	432.55	240.4
95	SLV 8	95	-601	1532	4.62	432.8	210.84
95	SLV 9	-71	569	2460	0.57	540.63	-199.54
95	SLV 10	-44	654	2463	0.58	540.87	-229.1
95	SLV 11	-122	-616	1938	5.06	512.53	215.98
95	SLV 12	-94	-531	1942	5.07	512.78	186.42
95	SLV 13	-309	237	2756	2.67	624.11	-82.86
95	SLV 14	-282	320	2759	2.67	624.35	-111.91
95	SLV 15	-324	-119	2599	4.01	615.68	41.8
95	SLV 16	-297	-35	2603	4.02	615.92	12.75
95	CRTFP Ux+	0	0	0	0	0	0
95	CRTFP Ux-	0	0	0	0	0	0
95	CRTFP Uy+	0	0	0	0	0	0
95	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
96	SLU 1	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 2	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 3	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 4	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 5	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 6	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 7	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 8	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 9	-9	-1	1826	2.28	-308.24	-0.16
96	SLU 10	-10	0	2190	2.86	-367.71	0.11
96	SLU 11	-10	0	2190	2.86	-367.71	0.11
96	SLU 12	-10	0	2190	2.86	-367.71	0.11
96	SLU 13	-10	0	2190	2.86	-367.71	0.11
96	SLU 14	-10	0	2190	2.86	-367.71	0.11
96	SLU 15	-10	0	2190	2.86	-367.71	0.11
96	SLU 16	-10	0	2190	2.86	-367.71	0.11
96	SLU 17	-10	0	2190	2.86	-367.71	0.11
96	SLU 18	-10	0	2346	3.11	-393.2	0.22
96	SLU 19	-10	0	2346	3.11	-393.2	0.22
96	SLU 20	-10	0	2346	3.11	-393.2	0.22
96	SLU 21	-10	0	2346	3.11	-393.2	0.22
96	SLU 22	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 23	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 24	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 25	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 26	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 27	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 28	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 29	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 30	-9	-1	2094	2.73	-352.76	-0.14
96	SLU 31	-10	0	2458	3.31	-412.22	0.12
96	SLU 32	-10	0	2458	3.31	-412.22	0.12
96	SLU 33	-10	0	2458	3.31	-412.22	0.12
96	SLU 34	-10	0	2458	3.31	-412.22	0.12
96	SLU 35	-10	0	2458	3.31	-412.22	0.12
96	SLU 36	-10	0	2458	3.31	-412.22	0.12
96	SLU 37	-10	0	2458	3.31	-412.22	0.12
96	SLU 38	-10	0	2458	3.31	-412.22	0.12
96	SLU 39	-10	0	2614	3.56	-437.71	0.24
96	SLU 40	-10	0	2614	3.56	-437.71	0.24
96	SLU 41	-10	0	2614	3.56	-437.71	0.24
96	SLU 42	-10	0	2614	3.56	-437.71	0.24
96	SLU 43	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 44	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 45	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 46	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 47	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 48	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 49	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 50	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 51	-12	-1	2281	2.81	-385.46	-0.22
96	SLU 52	-12	0	2645	3.39	-444.92	0.05
96	SLU 53	-12	0	2645	3.39	-444.92	0.05
96	SLU 54	-12	0	2645	3.39	-444.92	0.05
96	SLU 55	-12	0	2645	3.39	-444.92	0.05
96	SLU 56	-12	0	2645	3.39	-444.92	0.05
96	SLU 57	-12	0	2645	3.39	-444.92	0.05
96	SLU 58	-12	0	2645	3.39	-444.92	0.05
96	SLU 59	-12	0	2645	3.39	-444.92	0.05
96	SLU 60	-12	0	2801	3.64	-470.41	0.17
96	SLU 61	-12	0	2801	3.64	-470.41	0.17
96	SLU 62	-12	0	2801	3.64	-470.41	0.17
96	SLU 63	-12	0	2801	3.64	-470.41	0.17
96	SLU 64	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 65	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 66	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 67	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 68	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 69	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 70	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 71	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 72	-12	-1	2550	3.26	-429.97	-0.2
96	SLU 73	-12	0	2914	3.84	-489.44	0.07
96	SLU 74	-12	0	2914	3.84	-489.44	0.07
96	SLU 75	-12	0	2914	3.84	-489.44	0.07
96	SLU 76	-12	0	2914	3.84	-489.44	0.07
96	SLU 77	-12	0	2914	3.84	-489.44	0.07
96	SLU 78	-12	0	2914	3.84	-489.44	0.07
96	SLU 79	-12	0	2914	3.84	-489.44	0.07
96	SLU 80	-12	0	2914	3.84	-489.44	0.07
96	SLU 81	-12	0	3070	4.09	-514.92	0.18
96	SLU 82	-12	0	3070	4.09	-514.92	0.18
96	SLU 83	-12	0	3070	4.09	-514.92	0.18
96	SLU 84	-12	0	3070	4.09	-514.92	0.18
96	SLE RA 1	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 2	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 3	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 4	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 5	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 6	-9	-1	1902	2.41	-320.96	-0.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
96	SLE RA 7	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 8	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 9	-9	-1	1902	2.41	-320.96	-0.16
96	SLE RA 10	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 11	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 12	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 13	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 14	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 15	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 16	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 17	-9	0	2145	2.8	-360.61	0.02
96	SLE RA 18	-10	0	2249	2.96	-377.6	0.1
96	SLE RA 19	-10	0	2249	2.96	-377.6	0.1
96	SLE RA 20	-10	0	2249	2.96	-377.6	0.1
96	SLE RA 21	-10	0	2249	2.96	-377.6	0.1
96	SLE FR 1	-9	-1	1902	2.41	-320.96	-0.16
96	SLE FR 2	-9	-1	1902	2.41	-320.96	-0.16
96	SLE FR 3	-9	-1	1902	2.41	-320.96	-0.16
96	SLE FR 4	-9	-1	2006	2.57	-337.95	-0.08
96	SLE FR 5	-9	-1	2006	2.57	-337.95	-0.08
96	SLE FR 6	-9	-1	2076	2.68	-349.28	-0.03
96	SLE QP 1	-9	-1	1902	2.41	-320.96	-0.16
96	SLE QP 2	-9	-1	2006	2.57	-337.95	-0.08
96	SLD 1	93	127	2296	2.65	-376.81	31.63
96	SLD 2	101	91	2298	2.67	-377.44	22.78
96	SLD 3	113	-23	2280	3.24	-383.28	-5.84
96	SLD 4	121	-59	2282	3.26	-383.92	-14.69
96	SLD 5	-12	278	2117	1.69	-339.56	69.39
96	SLD 6	-4	242	2119	1.71	-340.21	60.47
96	SLD 7	55	-222	2063	3.67	-361.14	-55.5
96	SLD 8	63	-258	2065	3.69	-361.79	-64.42
96	SLD 9	-82	257	1947	1.46	-314.12	64.26
96	SLD 10	-74	221	1949	1.48	-314.76	55.34
96	SLD 11	-15	-243	1894	3.44	-335.7	-60.63
96	SLD 12	-7	-279	1896	3.46	-336.34	-69.55
96	SLD 13	-140	57	1731	1.88	-291.99	14.53
96	SLD 14	-132	22	1733	1.91	-292.63	5.68
96	SLD 15	-119	-93	1715	2.47	-298.46	-22.94
96	SLD 16	-112	-128	1717	2.5	-299.1	-31.79
96	SLV 1	223	292	2664	2.73	-426.19	72.76
96	SLV 2	240	211	2669	2.78	-427.64	52.65
96	SLV 3	269	-55	2627	4.1	-441.27	-13.9
96	SLV 4	287	-136	2632	4.16	-442.72	-34.02
96	SLV 5	-16	642	2259	0.51	-341.04	160.44
96	SLV 6	1	560	2263	0.57	-342.52	139.97
96	SLV 7	139	-514	2134	5.1	-391.29	-128.46
96	SLV 8	156	-597	2139	5.15	-392.77	-148.93
96	SLV 9	-175	595	1874	-0.01	-283.14	148.77
96	SLV 10	-157	512	1878	0.05	-284.62	128.3
96	SLV 11	-20	-561	1749	4.58	-333.39	-140.13
96	SLV 12	-2	-644	1754	4.63	-334.86	-160.6
96	SLV 13	-305	135	1381	0.99	-233.19	33.86
96	SLV 14	-288	53	1386	1.04	-234.64	13.74
96	SLV 15	-259	-212	1344	2.36	-248.26	-52.81
96	SLV 16	-242	-294	1349	2.42	-249.71	-72.93
96	CRTFP Ux+	0	0	0	0	0	0
96	CRTFP Ux-	0	0	0	0	0	0
96	CRTFP Uy+	0	0	0	0	0	0
96	CRTFP Uy-	0	0	0	0	0	0
98	SLU 1	0	-2	1578	-0.95	-0.03	0.03
98	SLU 2	0	-2	1578	-0.95	-0.03	0.03
98	SLU 3	0	-2	1578	-0.95	-0.03	0.03
98	SLU 4	0	-2	1578	-0.95	-0.03	0.03
98	SLU 5	0	-2	1578	-0.95	-0.03	0.03
98	SLU 6	0	-2	1578	-0.95	-0.03	0.03
98	SLU 7	0	-2	1578	-0.95	-0.03	0.03
98	SLU 8	0	-2	1578	-0.95	-0.03	0.03
98	SLU 9	0	-2	1578	-0.95	-0.03	0.03
98	SLU 10	1	-3	1925	-1.23	-0.01	0.03
98	SLU 11	1	-3	1925	-1.23	-0.01	0.03
98	SLU 12	1	-3	1925	-1.23	-0.01	0.03
98	SLU 13	1	-3	1925	-1.23	-0.01	0.03
98	SLU 14	1	-3	1925	-1.23	-0.01	0.03
98	SLU 15	1	-3	1925	-1.23	-0.01	0.03
98	SLU 16	1	-3	1925	-1.23	-0.01	0.03
98	SLU 17	1	-3	1925	-1.23	-0.01	0.03
98	SLU 18	1	-3	2074	-1.35	0.01	0.04
98	SLU 19	1	-3	2074	-1.35	0.01	0.04
98	SLU 20	1	-3	2074	-1.35	0.01	0.04
98	SLU 21	1	-3	2074	-1.35	0.01	0.04
98	SLU 22	1	-3	1825	-1.03	0.03	0.03
98	SLU 23	1	-3	1825	-1.03	0.03	0.03
98	SLU 24	1	-3	1825	-1.03	0.03	0.03
98	SLU 25	1	-3	1825	-1.03	0.03	0.03
98	SLU 26	1	-3	1825	-1.03	0.03	0.03
98	SLU 27	1	-3	1825	-1.03	0.03	0.03
98	SLU 28	1	-3	1825	-1.03	0.03	0.03
98	SLU 29	1	-3	1825	-1.03	0.03	0.03
98	SLU 30	1	-3	1825	-1.03	0.03	0.03
98	SLU 31	1	-3	2171	-1.31	0.06	0.04



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
98	SLU 32	1	-3	2171		-1.31	0.06	0.04
98	SLU 33	1	-3	2171		-1.31	0.06	0.04
98	SLU 34	1	-3	2171		-1.31	0.06	0.04
98	SLU 35	1	-3	2171		-1.31	0.06	0.04
98	SLU 36	1	-3	2171		-1.31	0.06	0.04
98	SLU 37	1	-3	2171		-1.31	0.06	0.04
98	SLU 38	1	-3	2171		-1.31	0.06	0.04
98	SLU 39	1	-3	2320		-1.43	0.07	0.04
98	SLU 40	1	-3	2320		-1.43	0.07	0.04
98	SLU 41	1	-3	2320		-1.43	0.07	0.04
98	SLU 42	1	-3	2320		-1.43	0.07	0.04
98	SLU 43	0	-3	1967		-1.2	-0.07	0.04
98	SLU 44	0	-3	1967		-1.2	-0.07	0.04
98	SLU 45	0	-3	1967		-1.2	-0.07	0.04
98	SLU 46	0	-3	1967		-1.2	-0.07	0.04
98	SLU 47	0	-3	1967		-1.2	-0.07	0.04
98	SLU 48	0	-3	1967		-1.2	-0.07	0.04
98	SLU 49	0	-3	1967		-1.2	-0.07	0.04
98	SLU 50	0	-3	1967		-1.2	-0.07	0.04
98	SLU 51	0	-3	1967		-1.2	-0.07	0.04
98	SLU 52	1	-3	2314		-1.48	-0.04	0.04
98	SLU 53	1	-3	2314		-1.48	-0.04	0.04
98	SLU 54	1	-3	2314		-1.48	-0.04	0.04
98	SLU 55	1	-3	2314		-1.48	-0.04	0.04
98	SLU 56	1	-3	2314		-1.48	-0.04	0.04
98	SLU 57	1	-3	2314		-1.48	-0.04	0.04
98	SLU 58	1	-3	2314		-1.48	-0.04	0.04
98	SLU 59	1	-3	2314		-1.48	-0.04	0.04
98	SLU 60	1	-3	2463		-1.6	-0.03	0.04
98	SLU 61	1	-3	2463		-1.6	-0.03	0.04
98	SLU 62	1	-3	2463		-1.6	-0.03	0.04
98	SLU 63	1	-3	2463		-1.6	-0.03	0.04
98	SLU 64	1	-3	2214		-1.29	0	0.04
98	SLU 65	1	-3	2214		-1.29	0	0.04
98	SLU 66	1	-3	2214		-1.29	0	0.04
98	SLU 67	1	-3	2214		-1.29	0	0.04
98	SLU 68	1	-3	2214		-1.29	0	0.04
98	SLU 69	1	-3	2214		-1.29	0	0.04
98	SLU 70	1	-3	2214		-1.29	0	0.04
98	SLU 71	1	-3	2214		-1.29	0	0.04
98	SLU 72	1	-3	2214		-1.29	0	0.04
98	SLU 73	1	-4	2560		-1.57	0.03	0.04
98	SLU 74	1	-4	2560		-1.57	0.03	0.04
98	SLU 75	1	-4	2560		-1.57	0.03	0.04
98	SLU 76	1	-4	2560		-1.57	0.03	0.04
98	SLU 77	1	-4	2560		-1.57	0.03	0.04
98	SLU 78	1	-4	2560		-1.57	0.03	0.04
98	SLU 79	1	-4	2560		-1.57	0.03	0.04
98	SLU 80	1	-4	2560		-1.57	0.03	0.04
98	SLU 81	1	-4	2709		-1.69	0.04	0.05
98	SLU 82	1	-4	2709		-1.69	0.04	0.05
98	SLU 83	1	-4	2709		-1.69	0.04	0.05
98	SLU 84	1	-4	2709		-1.69	0.04	0.05
98	SLE RA 1	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 2	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 3	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 4	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 5	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 6	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 7	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 8	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 9	1	-3	1649		-0.97	-0.01	0.03
98	SLE RA 10	1	-3	1880		-1.16	0	0.03
98	SLE RA 11	1	-3	1880		-1.16	0	0.03
98	SLE RA 12	1	-3	1880		-1.16	0	0.03
98	SLE RA 13	1	-3	1880		-1.16	0	0.03
98	SLE RA 14	1	-3	1880		-1.16	0	0.03
98	SLE RA 15	1	-3	1880		-1.16	0	0.03
98	SLE RA 16	1	-3	1880		-1.16	0	0.03
98	SLE RA 17	1	-3	1880		-1.16	0	0.03
98	SLE RA 18	1	-3	1979		-1.24	0.01	0.03
98	SLE RA 19	1	-3	1979		-1.24	0.01	0.03
98	SLE RA 20	1	-3	1979		-1.24	0.01	0.03
98	SLE RA 21	1	-3	1979		-1.24	0.01	0.03
98	SLE FR 1	1	-3	1649		-0.97	-0.01	0.03
98	SLE FR 2	1	-3	1649		-0.97	-0.01	0.03
98	SLE FR 3	1	-3	1649		-0.97	-0.01	0.03
98	SLE FR 4	1	-3	1748		-1.05	-0.01	0.03
98	SLE FR 5	1	-3	1748		-1.05	-0.01	0.03
98	SLE FR 6	1	-3	1814		-1.1	0	0.03
98	SLE QP 1	1	-3	1649		-0.97	-0.01	0.03
98	SLE QP 2	1	-3	1748		-1.05	-0.01	0.03
98	SLD 1	116	11	1763		-1.33	-2.92	-0.14
98	SLD 2	123	11	1763		-1.32	-2.92	-0.06
98	SLD 3	111	-24	1740		-1.02	-2.52	-0.1
98	SLD 4	118	-23	1740		-1.01	-2.51	-0.02
98	SLD 5	41	53	1786		-1.6	-1.5	-0.11
98	SLD 6	48	54	1786		-1.6	-1.49	-0.02
98	SLD 7	24	-61	1712		-0.57	-0.15	0.02
98	SLD 8	30	-61	1712		-0.57	-0.14	0.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
98	SLD 9	-29	55	1784	-1.53	0.13	-0.04
98	SLD 10	-22	56	1784	-1.53	0.14	0.05
98	SLD 11	-46	-59	1709	-0.5	1.48	0.08
98	SLD 12	-39	-58	1709	-0.5	1.48	0.17
98	SLD 13	-117	18	1755	-1.09	2.5	0.08
98	SLD 14	-110	19	1755	-1.08	2.51	0.17
98	SLD 15	-122	-16	1733	-0.78	2.9	0.12
98	SLD 16	-115	-16	1733	-0.78	2.91	0.2
98	SLV 1	264	28	1782	-1.68	-7.2	-0.36
98	SLV 2	279	29	1783	-1.67	-7.18	-0.17
98	SLV 3	252	-51	1731	-0.97	-6.17	-0.27
98	SLV 4	267	-50	1731	-0.96	-6.16	-0.08
98	SLV 5	92	127	1836	-2.33	-3.72	-0.28
98	SLV 6	108	128	1837	-2.32	-3.71	-0.09
98	SLV 7	53	-138	1664	0.06	-0.31	0
98	SLV 8	68	-137	1664	0.07	-0.3	0.19
98	SLV 9	-67	132	1831	-2.17	0.28	-0.13
98	SLV 10	-51	133	1831	-2.16	0.29	0.06
98	SLV 11	-106	-133	1659	0.22	3.7	0.15
98	SLV 12	-91	-132	1659	0.23	3.71	0.34
98	SLV 13	-266	45	1765	-1.14	6.15	0.15
98	SLV 14	-251	46	1765	-1.13	6.16	0.34
98	SLV 15	-278	-35	1713	-0.43	7.17	0.23
98	SLV 16	-263	-33	1713	-0.42	7.18	0.42
98	CRTFP Ux+	0	0	0	0	0	0
98	CRTFP Ux-	0	0	0	0	0	0
98	CRTFP Uy+	0	0	0	0	0	0
98	CRTFP Uy-	0	0	0	0	0	0
100	SLU 1	12	-14	1910	2.58	508.41	4.79
100	SLU 2	12	-14	1910	2.58	508.41	4.79
100	SLU 3	12	-14	1910	2.58	508.41	4.79
100	SLU 4	12	-14	1910	2.58	508.41	4.79
100	SLU 5	12	-14	1910	2.58	508.41	4.79
100	SLU 6	12	-14	1910	2.58	508.41	4.79
100	SLU 7	12	-14	1910	2.58	508.41	4.79
100	SLU 8	12	-14	1910	2.58	508.41	4.79
100	SLU 9	12	-14	1910	2.58	508.41	4.79
100	SLU 10	13	-17	2265	3.24	601.3	5.97
100	SLU 11	13	-17	2265	3.24	601.3	5.97
100	SLU 12	13	-17	2265	3.24	601.3	5.97
100	SLU 13	13	-17	2265	3.24	601.3	5.97
100	SLU 14	13	-17	2265	3.24	601.3	5.97
100	SLU 15	13	-17	2265	3.24	601.3	5.97
100	SLU 16	13	-17	2265	3.24	601.3	5.97
100	SLU 17	13	-17	2265	3.24	601.3	5.97
100	SLU 18	13	-19	2417	3.52	641.11	6.48
100	SLU 19	13	-19	2417	3.52	641.11	6.48
100	SLU 20	13	-19	2417	3.52	641.11	6.48
100	SLU 21	13	-19	2417	3.52	641.11	6.48
100	SLU 22	13	-16	2161	3.06	574.79	5.7
100	SLU 23	13	-16	2161	3.06	574.79	5.7
100	SLU 24	13	-16	2161	3.06	574.79	5.7
100	SLU 25	13	-16	2161	3.06	574.79	5.7
100	SLU 26	13	-16	2161	3.06	574.79	5.7
100	SLU 27	13	-16	2161	3.06	574.79	5.7
100	SLU 28	13	-16	2161	3.06	574.79	5.7
100	SLU 29	13	-16	2161	3.06	574.79	5.7
100	SLU 30	13	-16	2161	3.06	574.79	5.7
100	SLU 31	14	-20	2516	3.72	667.68	6.88
100	SLU 32	14	-20	2516	3.72	667.68	6.88
100	SLU 33	14	-20	2516	3.72	667.68	6.88
100	SLU 34	14	-20	2516	3.72	667.68	6.88
100	SLU 35	14	-20	2516	3.72	667.68	6.88
100	SLU 36	14	-20	2516	3.72	667.68	6.88
100	SLU 37	14	-20	2516	3.72	667.68	6.88
100	SLU 38	14	-20	2516	3.72	667.68	6.88
100	SLU 39	14	-21	2668	4	707.49	7.38
100	SLU 40	14	-21	2668	4	707.49	7.38
100	SLU 41	14	-21	2668	4	707.49	7.38
100	SLU 42	14	-21	2668	4	707.49	7.38
100	SLU 43	15	-17	2397	3.19	638.17	5.92
100	SLU 44	15	-17	2397	3.19	638.17	5.92
100	SLU 45	15	-17	2397	3.19	638.17	5.92
100	SLU 46	15	-17	2397	3.19	638.17	5.92
100	SLU 47	15	-17	2397	3.19	638.17	5.92
100	SLU 48	15	-17	2397	3.19	638.17	5.92
100	SLU 49	15	-17	2397	3.19	638.17	5.92
100	SLU 50	15	-17	2397	3.19	638.17	5.92
100	SLU 51	15	-17	2397	3.19	638.17	5.92
100	SLU 52	16	-20	2752	3.84	731.06	7.1
100	SLU 53	16	-20	2752	3.84	731.06	7.1
100	SLU 54	16	-20	2752	3.84	731.06	7.1
100	SLU 55	16	-20	2752	3.84	731.06	7.1
100	SLU 56	16	-20	2752	3.84	731.06	7.1
100	SLU 57	16	-20	2752	3.84	731.06	7.1
100	SLU 58	16	-20	2752	3.84	731.06	7.1
100	SLU 59	16	-20	2752	3.84	731.06	7.1
100	SLU 60	16	-22	2905	4.13	770.88	7.6
100	SLU 61	16	-22	2905	4.13	770.88	7.6
100	SLU 62	16	-22	2905	4.13	770.88	7.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
100	SLU 63	16	-22	2905	4.13	770.88	7.6
100	SLU 64	16	-20	2648	3.67	704.55	6.82
100	SLU 65	16	-20	2648	3.67	704.55	6.82
100	SLU 66	16	-20	2648	3.67	704.55	6.82
100	SLU 67	16	-20	2648	3.67	704.55	6.82
100	SLU 68	16	-20	2648	3.67	704.55	6.82
100	SLU 69	16	-20	2648	3.67	704.55	6.82
100	SLU 70	16	-20	2648	3.67	704.55	6.82
100	SLU 71	16	-20	2648	3.67	704.55	6.82
100	SLU 72	16	-20	2648	3.67	704.55	6.82
100	SLU 73	17	-23	3003	4.33	797.45	8
100	SLU 74	17	-23	3003	4.33	797.45	8
100	SLU 75	17	-23	3003	4.33	797.45	8
100	SLU 76	17	-23	3003	4.33	797.45	8
100	SLU 77	17	-23	3003	4.33	797.45	8
100	SLU 78	17	-23	3003	4.33	797.45	8
100	SLU 79	17	-23	3003	4.33	797.45	8
100	SLU 80	17	-23	3003	4.33	797.45	8
100	SLU 81	17	-24	3155	4.61	837.26	8.51
100	SLU 82	17	-24	3155	4.61	837.26	8.51
100	SLU 83	17	-24	3155	4.61	837.26	8.51
100	SLU 84	17	-24	3155	4.61	837.26	8.51
100	SLE RA 1	12	-14	1982	2.72	527.37	5.05
100	SLE RA 2	12	-14	1982	2.72	527.37	5.05
100	SLE RA 3	12	-14	1982	2.72	527.37	5.05
100	SLE RA 4	12	-14	1982	2.72	527.37	5.05
100	SLE RA 5	12	-14	1982	2.72	527.37	5.05
100	SLE RA 6	12	-14	1982	2.72	527.37	5.05
100	SLE RA 7	12	-14	1982	2.72	527.37	5.05
100	SLE RA 8	12	-14	1982	2.72	527.37	5.05
100	SLE RA 9	12	-14	1982	2.72	527.37	5.05
100	SLE RA 10	13	-17	2219	3.16	589.3	5.84
100	SLE RA 11	13	-17	2219	3.16	589.3	5.84
100	SLE RA 12	13	-17	2219	3.16	589.3	5.84
100	SLE RA 13	13	-17	2219	3.16	589.3	5.84
100	SLE RA 14	13	-17	2219	3.16	589.3	5.84
100	SLE RA 15	13	-17	2219	3.16	589.3	5.84
100	SLE RA 16	13	-17	2219	3.16	589.3	5.84
100	SLE RA 17	13	-17	2219	3.16	589.3	5.84
100	SLE RA 18	13	-18	2320	3.34	615.84	6.17
100	SLE RA 19	13	-18	2320	3.34	615.84	6.17
100	SLE RA 20	13	-18	2320	3.34	615.84	6.17
100	SLE RA 21	13	-18	2320	3.34	615.84	6.17
100	SLE FR 1	12	-14	1982	2.72	527.37	5.05
100	SLE FR 2	12	-14	1982	2.72	527.37	5.05
100	SLE FR 3	12	-14	1982	2.72	527.37	5.05
100	SLE FR 4	12	-15	2083	2.91	553.92	5.39
100	SLE FR 5	12	-15	2083	2.91	553.92	5.39
100	SLE FR 6	12	-16	2151	3.03	571.61	5.61
100	SLE QP 1	12	-14	1982	2.72	527.37	5.05
100	SLE QP 2	12	-15	2083	2.91	553.92	5.39
100	SLD 1	151	-9	1796	2.25	484.7	2.85
100	SLD 2	159	28	1797	2.26	484.81	-9.92
100	SLD 3	144	-162	1745	2.77	486.95	56.57
100	SLD 4	152	-125	1747	2.78	487.06	43.8
100	SLD 5	61	206	2073	1.92	529.7	-72.33
100	SLD 6	70	243	2075	1.92	529.81	-85.21
100	SLD 7	38	-305	1905	3.66	537.2	106.74
100	SLD 8	47	-268	1906	3.66	537.31	93.86
100	SLD 9	-22	237	2260	2.15	570.52	-83.09
100	SLD 10	-14	274	2262	2.16	570.63	-95.97
100	SLD 11	-46	-274	2092	3.89	578.02	95.98
100	SLD 12	-37	-237	2094	3.89	578.13	83.1
100	SLD 13	-128	94	2420	3.03	620.77	-33.02
100	SLD 14	-119	131	2422	3.04	620.88	-45.8
100	SLD 15	-135	-59	2370	3.55	623.02	20.7
100	SLD 16	-126	-22	2371	3.56	623.13	7.92
100	SLV 1	327	3	1431	1.42	396.56	-1.54
100	SLV 2	347	87	1434	1.42	396.81	-30.58
100	SLV 3	311	-352	1314	2.62	401.89	122.87
100	SLV 4	330	-268	1317	2.62	402.14	93.82
100	SLV 5	124	499	2064	0.63	498.53	-174.95
100	SLV 6	144	584	2067	0.63	498.79	-204.5
100	SLV 7	70	-685	1674	4.65	516.3	239.73
100	SLV 8	90	-600	1678	4.65	516.56	210.17
100	SLV 9	-65	569	2489	1.16	591.27	-199.4
100	SLV 10	-46	654	2493	1.16	591.53	-228.96
100	SLV 11	-120	-615	2100	5.18	609.04	215.28
100	SLV 12	-100	-530	2103	5.18	609.3	185.72
100	SLV 13	-306	237	2849	3.19	705.69	-83.05
100	SLV 14	-286	321	2853	3.19	705.94	-112.09
100	SLV 15	-322	-118	2733	4.39	711.02	41.36
100	SLV 16	-303	-34	2736	4.39	711.27	12.31
100	CRTFP Ux+	0	0	0	0	0	0
100	CRTFP Ux-	0	0	0	0	0	0
100	CRTFP Uy+	0	0	0	0	0	0
100	CRTFP Uy-	0	0	0	0	0	0
101	SLU 1	-13	0	1896	2.16	-360.13	0.04
101	SLU 2	-13	0	1896	2.16	-360.13	0.04
101	SLU 3	-13	0	1896	2.16	-360.13	0.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
101	SLU 4	-13	0	1896	2.16	-360.13	0.04
101	SLU 5	-13	0	1896	2.16	-360.13	0.04
101	SLU 6	-13	0	1896	2.16	-360.13	0.04
101	SLU 7	-13	0	1896	2.16	-360.13	0.04
101	SLU 8	-13	0	1896	2.16	-360.13	0.04
101	SLU 9	-13	0	1896	2.16	-360.13	0.04
101	SLU 10	-13	1	2279	2.71	-431.62	0.34
101	SLU 11	-13	1	2279	2.71	-431.62	0.34
101	SLU 12	-13	1	2279	2.71	-431.62	0.34
101	SLU 13	-13	1	2279	2.71	-431.62	0.34
101	SLU 14	-13	1	2279	2.71	-431.62	0.34
101	SLU 15	-13	1	2279	2.71	-431.62	0.34
101	SLU 16	-13	1	2279	2.71	-431.62	0.34
101	SLU 17	-13	1	2279	2.71	-431.62	0.34
101	SLU 18	-14	1	2443	2.94	-462.26	0.47
101	SLU 19	-14	1	2443	2.94	-462.26	0.47
101	SLU 20	-14	1	2443	2.94	-462.26	0.47
101	SLU 21	-14	1	2443	2.94	-462.26	0.47
101	SLU 22	-13	0	2179	2.58	-413.57	0.09
101	SLU 23	-13	0	2179	2.58	-413.57	0.09
101	SLU 24	-13	0	2179	2.58	-413.57	0.09
101	SLU 25	-13	0	2179	2.58	-413.57	0.09
101	SLU 26	-13	0	2179	2.58	-413.57	0.09
101	SLU 27	-13	0	2179	2.58	-413.57	0.09
101	SLU 28	-13	0	2179	2.58	-413.57	0.09
101	SLU 29	-13	0	2179	2.58	-413.57	0.09
101	SLU 30	-13	0	2179	2.58	-413.57	0.09
101	SLU 31	-14	1	2561	3.13	-485.06	0.39
101	SLU 32	-14	1	2561	3.13	-485.06	0.39
101	SLU 33	-14	1	2561	3.13	-485.06	0.39
101	SLU 34	-14	1	2561	3.13	-485.06	0.39
101	SLU 35	-14	1	2561	3.13	-485.06	0.39
101	SLU 36	-14	1	2561	3.13	-485.06	0.39
101	SLU 37	-14	1	2561	3.13	-485.06	0.39
101	SLU 38	-14	1	2561	3.13	-485.06	0.39
101	SLU 39	-14	2	2725	3.36	-515.7	0.51
101	SLU 40	-14	2	2725	3.36	-515.7	0.51
101	SLU 41	-14	2	2725	3.36	-515.7	0.51
101	SLU 42	-14	2	2725	3.36	-515.7	0.51
101	SLU 43	-16	0	2369	2.66	-449.84	0.04
101	SLU 44	-16	0	2369	2.66	-449.84	0.04
101	SLU 45	-16	0	2369	2.66	-449.84	0.04
101	SLU 46	-16	0	2369	2.66	-449.84	0.04
101	SLU 47	-16	0	2369	2.66	-449.84	0.04
101	SLU 48	-16	0	2369	2.66	-449.84	0.04
101	SLU 49	-16	0	2369	2.66	-449.84	0.04
101	SLU 50	-16	0	2369	2.66	-449.84	0.04
101	SLU 51	-16	0	2369	2.66	-449.84	0.04
101	SLU 52	-17	1	2751	3.21	-521.33	0.34
101	SLU 53	-17	1	2751	3.21	-521.33	0.34
101	SLU 54	-17	1	2751	3.21	-521.33	0.34
101	SLU 55	-17	1	2751	3.21	-521.33	0.34
101	SLU 56	-17	1	2751	3.21	-521.33	0.34
101	SLU 57	-17	1	2751	3.21	-521.33	0.34
101	SLU 58	-17	1	2751	3.21	-521.33	0.34
101	SLU 59	-17	1	2751	3.21	-521.33	0.34
101	SLU 60	-17	1	2915	3.44	-551.97	0.47
101	SLU 61	-17	1	2915	3.44	-551.97	0.47
101	SLU 62	-17	1	2915	3.44	-551.97	0.47
101	SLU 63	-17	1	2915	3.44	-551.97	0.47
101	SLU 64	-17	0	2651	3.08	-503.28	0.09
101	SLU 65	-17	0	2651	3.08	-503.28	0.09
101	SLU 66	-17	0	2651	3.08	-503.28	0.09
101	SLU 67	-17	0	2651	3.08	-503.28	0.09
101	SLU 68	-17	0	2651	3.08	-503.28	0.09
101	SLU 69	-17	0	2651	3.08	-503.28	0.09
101	SLU 70	-17	0	2651	3.08	-503.28	0.09
101	SLU 71	-17	0	2651	3.08	-503.28	0.09
101	SLU 72	-17	0	2651	3.08	-503.28	0.09
101	SLU 73	-17	1	3033	3.63	-574.77	0.38
101	SLU 74	-17	1	3033	3.63	-574.77	0.38
101	SLU 75	-17	1	3033	3.63	-574.77	0.38
101	SLU 76	-17	1	3033	3.63	-574.77	0.38
101	SLU 77	-17	1	3033	3.63	-574.77	0.38
101	SLU 78	-17	1	3033	3.63	-574.77	0.38
101	SLU 79	-17	1	3033	3.63	-574.77	0.38
101	SLU 80	-17	1	3033	3.63	-574.77	0.38
101	SLU 81	-18	1	3197	3.87	-605.41	0.51
101	SLU 82	-18	1	3197	3.87	-605.41	0.51
101	SLU 83	-18	1	3197	3.87	-605.41	0.51
101	SLU 84	-18	1	3197	3.87	-605.41	0.51
101	SLE RA 1	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 2	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 3	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 4	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 5	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 6	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 7	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 8	-13	0	1977	2.28	-375.4	0.06
101	SLE RA 9	-13	0	1977	2.28	-375.4	0.06



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
101	SLE RA 10	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 11	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 12	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 13	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 14	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 15	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 16	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 17	-13	1	2232		2.64	-423.06	0.26	
101	SLE RA 18	-13	1	2341		2.8	-443.48	0.34	
101	SLE RA 19	-13	1	2341		2.8	-443.48	0.34	
101	SLE RA 20	-13	1	2341		2.8	-443.48	0.34	
101	SLE RA 21	-13	1	2341		2.8	-443.48	0.34	
101	SLE FR 1	-13	0	1977		2.28	-375.4	0.06	
101	SLE FR 2	-13	0	1977		2.28	-375.4	0.06	
101	SLE FR 3	-13	0	1977		2.28	-375.4	0.06	
101	SLE FR 4	-13	0	2086		2.43	-395.82	0.14	
101	SLE FR 5	-13	0	2086		2.43	-395.82	0.14	
101	SLE FR 6	-13	0	2159		2.54	-409.44	0.2	
101	SLE QP 1	-13	0	1977		2.28	-375.4	0.06	
101	SLE QP 2	-13	0	2086		2.43	-395.82	0.14	
101	SLD 1	95	128	2375		2.52	-442	31.8	
101	SLD 2	100	92	2377		2.54	-442.74	22.96	
101	SLD 3	113	-22	2384		3.06	-449.55	-5.49	
101	SLD 4	118	-58	2387		3.08	-450.3	-14.33	
101	SLD 5	-9	278	2158		1.64	-397.95	69.33	
101	SLD 6	-4	242	2161		1.66	-398.7	60.42	
101	SLD 7	50	-221	2189		3.43	-423.13	-54.98	
101	SLD 8	55	-257	2191		3.45	-423.89	-63.89	
101	SLD 9	-81	257	1981		1.42	-367.76	64.18	
101	SLD 10	-76	221	1984		1.44	-368.51	55.26	
101	SLD 11	-21	-242	2012		3.21	-392.94	-60.13	
101	SLD 12	-16	-278	2015		3.23	-393.69	-69.05	
101	SLD 13	-144	58	1786		1.79	-341.35	14.62	
101	SLD 14	-139	22	1789		1.81	-342.09	5.78	
101	SLD 15	-126	-92	1795		2.33	-348.9	-22.68	
101	SLD 16	-121	-127	1798		2.35	-349.65	-31.52	
101	SLV 1	232	293	2740		2.62	-500.54	72.87	
101	SLV 2	243	212	2747		2.67	-502.24	52.77	
101	SLV 3	273	-53	2762		3.86	-518.11	-13.4	
101	SLV 4	285	-134	2768		3.91	-519.81	-33.5	
101	SLV 5	-6	642	2247		0.58	-399.98	160.01	
101	SLV 6	5	560	2254		0.63	-401.71	139.56	
101	SLV 7	132	-512	2320		4.73	-458.54	-127.55	
101	SLV 8	143	-594	2326		4.78	-460.27	-148	
101	SLV 9	-169	595	1847		0.09	-331.37	148.28	
101	SLV 10	-158	512	1853		0.13	-333.1	127.83	
101	SLV 11	-31	-559	1919		4.23	-389.93	-139.27	
101	SLV 12	-19	-642	1926		4.28	-391.66	-159.73	
101	SLV 13	-311	135	1404		0.96	-271.84	33.78	
101	SLV 14	-299	54	1411		1.01	-273.54	13.68	
101	SLV 15	-269	-212	1426		2.2	-289.41	-52.48	
101	SLV 16	-258	-293	1433		2.25	-291.11	-72.58	
101	CRTFP Ux+	0	0	0		0	0	0	
101	CRTFP Ux-	0	0	0		0	0	0	
101	CRTFP Uy+	0	0	0		0	0	0	
101	CRTFP Uy-	0	0	0		0	0	0	
103	SLU 1	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 2	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 3	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 4	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 5	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 6	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 7	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 8	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 9	0	-2	1550		-0.79	-0.13	0.02	
103	SLU 10	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 11	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 12	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 13	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 14	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 15	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 16	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 17	0	-3	1888		-1.04	-0.08	0.02	
103	SLU 18	0	-3	2033		-1.15	-0.06	0.02	
103	SLU 19	0	-3	2033		-1.15	-0.06	0.02	
103	SLU 20	0	-3	2033		-1.15	-0.06	0.02	
103	SLU 21	0	-3	2033		-1.15	-0.06	0.02	
103	SLU 22	0	-3	1794		-0.87	0	0.02	
103	SLU 23	0	-3	1794		-0.87	0	0.02	
103	SLU 24	0	-3	1794		-0.87	0	0.02	
103	SLU 25	0	-3	1794		-0.87	0	0.02	
103	SLU 26	0	-3	1794		-0.87	0	0.02	
103	SLU 27	0	-3	1794		-0.87	0	0.02	
103	SLU 28	0	-3	1794		-0.87	0	0.02	
103	SLU 29	0	-3	1794		-0.87	0	0.02	
103	SLU 30	0	-3	1794		-0.87	0	0.02	
103	SLU 31	0	-3	2132		-1.12	0.04	0.02	
103	SLU 32	0	-3	2132		-1.12	0.04	0.02	
103	SLU 33	0	-3	2132		-1.12	0.04	0.02	
103	SLU 34	0	-3	2132		-1.12	0.04	0.02	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
103	SLU 35	0	-3	2132	-1.12	0.04	0.02
103	SLU 36	0	-3	2132	-1.12	0.04	0.02
103	SLU 37	0	-3	2132	-1.12	0.04	0.02
103	SLU 38	0	-3	2132	-1.12	0.04	0.02
103	SLU 39	0	-3	2277	-1.23	0.06	0.02
103	SLU 40	0	-3	2277	-1.23	0.06	0.02
103	SLU 41	0	-3	2277	-1.23	0.06	0.02
103	SLU 42	0	-3	2277	-1.23	0.06	0.02
103	SLU 43	0	-3	1932	-1.01	-0.21	0.02
103	SLU 44	0	-3	1932	-1.01	-0.21	0.02
103	SLU 45	0	-3	1932	-1.01	-0.21	0.02
103	SLU 46	0	-3	1932	-1.01	-0.21	0.02
103	SLU 47	0	-3	1932	-1.01	-0.21	0.02
103	SLU 48	0	-3	1932	-1.01	-0.21	0.02
103	SLU 49	0	-3	1932	-1.01	-0.21	0.02
103	SLU 50	0	-3	1932	-1.01	-0.21	0.02
103	SLU 51	0	-3	1932	-1.01	-0.21	0.02
103	SLU 52	0	-3	2270	-1.26	-0.17	0.02
103	SLU 53	0	-3	2270	-1.26	-0.17	0.02
103	SLU 54	0	-3	2270	-1.26	-0.17	0.02
103	SLU 55	0	-3	2270	-1.26	-0.17	0.02
103	SLU 56	0	-3	2270	-1.26	-0.17	0.02
103	SLU 57	0	-3	2270	-1.26	-0.17	0.02
103	SLU 58	0	-3	2270	-1.26	-0.17	0.02
103	SLU 59	0	-3	2270	-1.26	-0.17	0.02
103	SLU 60	0	-3	2415	-1.37	-0.15	0.02
103	SLU 61	0	-3	2415	-1.37	-0.15	0.02
103	SLU 62	0	-3	2415	-1.37	-0.15	0.02
103	SLU 63	0	-3	2415	-1.37	-0.15	0.02
103	SLU 64	0	-3	2175	-1.08	-0.08	0.02
103	SLU 65	0	-3	2175	-1.08	-0.08	0.02
103	SLU 66	0	-3	2175	-1.08	-0.08	0.02
103	SLU 67	0	-3	2175	-1.08	-0.08	0.02
103	SLU 68	0	-3	2175	-1.08	-0.08	0.02
103	SLU 69	0	-3	2175	-1.08	-0.08	0.02
103	SLU 70	0	-3	2175	-1.08	-0.08	0.02
103	SLU 71	0	-3	2175	-1.08	-0.08	0.02
103	SLU 72	0	-3	2175	-1.08	-0.08	0.02
103	SLU 73	0	-4	2513	-1.33	-0.04	0.02
103	SLU 74	0	-4	2513	-1.33	-0.04	0.02
103	SLU 75	0	-4	2513	-1.33	-0.04	0.02
103	SLU 76	0	-4	2513	-1.33	-0.04	0.02
103	SLU 77	0	-4	2513	-1.33	-0.04	0.02
103	SLU 78	0	-4	2513	-1.33	-0.04	0.02
103	SLU 79	0	-4	2513	-1.33	-0.04	0.02
103	SLU 80	0	-4	2513	-1.33	-0.04	0.02
103	SLU 81	0	-4	2658	-1.44	-0.02	0.03
103	SLU 82	0	-4	2658	-1.44	-0.02	0.03
103	SLU 83	0	-4	2658	-1.44	-0.02	0.03
103	SLU 84	0	-4	2658	-1.44	-0.02	0.03
103	SLE RA 1	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 2	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 3	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 4	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 5	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 6	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 7	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 8	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 9	0	-3	1620	-0.81	-0.09	0.02
103	SLE RA 10	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 11	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 12	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 13	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 14	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 15	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 16	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 17	0	-3	1845	-0.98	-0.06	0.02
103	SLE RA 18	0	-3	1942	-1.05	-0.05	0.02
103	SLE RA 19	0	-3	1942	-1.05	-0.05	0.02
103	SLE RA 20	0	-3	1942	-1.05	-0.05	0.02
103	SLE RA 21	0	-3	1942	-1.05	-0.05	0.02
103	SLE FR 1	0	-3	1620	-0.81	-0.09	0.02
103	SLE FR 2	0	-3	1620	-0.81	-0.09	0.02
103	SLE FR 3	0	-3	1620	-0.81	-0.09	0.02
103	SLE FR 4	0	-3	1716	-0.89	-0.08	0.02
103	SLE FR 5	0	-3	1716	-0.89	-0.08	0.02
103	SLE FR 6	0	-3	1781	-0.93	-0.07	0.02
103	SLE QP 1	0	-3	1620	-0.81	-0.09	0.02
103	SLE QP 2	0	-3	1716	-0.89	-0.08	0.02
103	SLD 1	120	11	1716	-1.11	-2.19	-0.16
103	SLD 2	124	11	1717	-1.11	-2.18	-0.08
103	SLD 3	115	-24	1703	-0.86	-1.92	-0.14
103	SLD 4	119	-23	1703	-0.86	-1.91	-0.06
103	SLD 5	41	53	1737	-1.33	-1.13	-0.1
103	SLD 6	45	54	1737	-1.33	-1.12	-0.02
103	SLD 7	26	-61	1692	-0.5	-0.22	-0.02
103	SLD 8	30	-61	1692	-0.5	-0.21	0.06
103	SLD 9	-31	56	1741	-1.27	0.05	-0.02
103	SLD 10	-26	56	1741	-1.27	0.06	0.06
103	SLD 11	-46	-59	1696	-0.44	0.96	0.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
103	SLD 12	-41	-59	1696	-0.44	0.97	0.13
103	SLD 13	-120	18	1730	-0.91	1.75	0.09
103	SLD 14	-115	19	1730	-0.91	1.76	0.17
103	SLD 15	-124	-16	1716	-0.66	2.02	0.12
103	SLD 16	-120	-16	1716	-0.66	2.03	0.2
103	SLV 1	272	28	1716	-1.4	-5.19	-0.38
103	SLV 2	282	29	1717	-1.4	-5.17	-0.2
103	SLV 3	262	-51	1685	-0.83	-4.51	-0.33
103	SLV 4	271	-50	1685	-0.82	-4.48	-0.15
103	SLV 5	94	127	1764	-1.92	-2.66	-0.25
103	SLV 6	104	128	1764	-1.91	-2.64	-0.06
103	SLV 7	59	-138	1659	0	-0.38	-0.07
103	SLV 8	69	-137	1660	0.01	-0.35	0.11
103	SLV 9	-69	132	1773	-1.78	0.19	-0.08
103	SLV 10	-59	133	1774	-1.77	0.22	0.11
103	SLV 11	-104	-133	1668	0.14	2.48	0.1
103	SLV 12	-94	-132	1669	0.14	2.5	0.28
103	SLV 13	-271	45	1747	-0.95	4.33	0.19
103	SLV 14	-262	46	1748	-0.95	4.35	0.37
103	SLV 15	-282	-35	1716	-0.38	5.01	0.24
103	SLV 16	-272	-33	1716	-0.37	5.03	0.42
103	CRTFP Ux+	0	0	0	0	0	0
103	CRTFP Ux-	0	0	0	0	0	0
103	CRTFP Uy+	0	0	0	0	0	0
103	CRTFP Uy-	0	0	0	0	0	0
105	SLU 1	12	-13	1990	2.39	573.09	4.49
105	SLU 2	12	-13	1990	2.39	573.09	4.49
105	SLU 3	12	-13	1990	2.39	573.09	4.49
105	SLU 4	12	-13	1990	2.39	573.09	4.49
105	SLU 5	12	-13	1990	2.39	573.09	4.49
105	SLU 6	12	-13	1990	2.39	573.09	4.49
105	SLU 7	12	-13	1990	2.39	573.09	4.49
105	SLU 8	12	-13	1990	2.39	573.09	4.49
105	SLU 9	12	-13	1990	2.39	573.09	4.49
105	SLU 10	14	-16	2365	2.99	680.75	5.64
105	SLU 11	14	-16	2365	2.99	680.75	5.64
105	SLU 12	14	-16	2365	2.99	680.75	5.64
105	SLU 13	14	-16	2365	2.99	680.75	5.64
105	SLU 14	14	-16	2365	2.99	680.75	5.64
105	SLU 15	14	-16	2365	2.99	680.75	5.64
105	SLU 16	14	-16	2365	2.99	680.75	5.64
105	SLU 17	14	-16	2365	2.99	680.75	5.64
105	SLU 18	14	-18	2526	3.25	726.89	6.14
105	SLU 19	14	-18	2526	3.25	726.89	6.14
105	SLU 20	14	-18	2526	3.25	726.89	6.14
105	SLU 21	14	-18	2526	3.25	726.89	6.14
105	SLU 22	13	-15	2255	2.84	650.02	5.37
105	SLU 23	13	-15	2255	2.84	650.02	5.37
105	SLU 24	13	-15	2255	2.84	650.02	5.37
105	SLU 25	13	-15	2255	2.84	650.02	5.37
105	SLU 26	13	-15	2255	2.84	650.02	5.37
105	SLU 27	13	-15	2255	2.84	650.02	5.37
105	SLU 28	13	-15	2255	2.84	650.02	5.37
105	SLU 29	13	-15	2255	2.84	650.02	5.37
105	SLU 30	13	-15	2255	2.84	650.02	5.37
105	SLU 31	15	-19	2631	3.44	757.68	6.52
105	SLU 32	15	-19	2631	3.44	757.68	6.52
105	SLU 33	15	-19	2631	3.44	757.68	6.52
105	SLU 34	15	-19	2631	3.44	757.68	6.52
105	SLU 35	15	-19	2631	3.44	757.68	6.52
105	SLU 36	15	-19	2631	3.44	757.68	6.52
105	SLU 37	15	-19	2631	3.44	757.68	6.52
105	SLU 38	15	-19	2631	3.44	757.68	6.52
105	SLU 39	15	-20	2791	3.69	803.82	7.02
105	SLU 40	15	-20	2791	3.69	803.82	7.02
105	SLU 41	15	-20	2791	3.69	803.82	7.02
105	SLU 42	15	-20	2791	3.69	803.82	7.02
105	SLU 43	16	-16	2496	2.96	718.64	5.54
105	SLU 44	16	-16	2496	2.96	718.64	5.54
105	SLU 45	16	-16	2496	2.96	718.64	5.54
105	SLU 46	16	-16	2496	2.96	718.64	5.54
105	SLU 47	16	-16	2496	2.96	718.64	5.54
105	SLU 48	16	-16	2496	2.96	718.64	5.54
105	SLU 49	16	-16	2496	2.96	718.64	5.54
105	SLU 50	16	-16	2496	2.96	718.64	5.54
105	SLU 51	16	-16	2496	2.96	718.64	5.54
105	SLU 52	17	-19	2871	3.56	826.3	6.69
105	SLU 53	17	-19	2871	3.56	826.3	6.69
105	SLU 54	17	-19	2871	3.56	826.3	6.69
105	SLU 55	17	-19	2871	3.56	826.3	6.69
105	SLU 56	17	-19	2871	3.56	826.3	6.69
105	SLU 57	17	-19	2871	3.56	826.3	6.69
105	SLU 58	17	-19	2871	3.56	826.3	6.69
105	SLU 59	17	-19	2871	3.56	826.3	6.69
105	SLU 60	18	-21	3032	3.82	872.44	7.18
105	SLU 61	18	-21	3032	3.82	872.44	7.18
105	SLU 62	18	-21	3032	3.82	872.44	7.18
105	SLU 63	18	-21	3032	3.82	872.44	7.18
105	SLU 64	17	-18	2761	3.4	795.57	6.42
105	SLU 65	17	-18	2761	3.4	795.57	6.42



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
105	SLU 66	17	-18	2761		3.4	795.57	6.42
105	SLU 67	17	-18	2761		3.4	795.57	6.42
105	SLU 68	17	-18	2761		3.4	795.57	6.42
105	SLU 69	17	-18	2761		3.4	795.57	6.42
105	SLU 70	17	-18	2761		3.4	795.57	6.42
105	SLU 71	17	-18	2761		3.4	795.57	6.42
105	SLU 72	17	-18	2761		3.4	795.57	6.42
105	SLU 73	18	-22	3136		4	903.23	7.57
105	SLU 74	18	-22	3136		4	903.23	7.57
105	SLU 75	18	-22	3136		4	903.23	7.57
105	SLU 76	18	-22	3136		4	903.23	7.57
105	SLU 77	18	-22	3136		4	903.23	7.57
105	SLU 78	18	-22	3136		4	903.23	7.57
105	SLU 79	18	-22	3136		4	903.23	7.57
105	SLU 80	18	-22	3136		4	903.23	7.57
105	SLU 81	18	-23	3297	4.26		949.37	8.06
105	SLU 82	18	-23	3297	4.26		949.37	8.06
105	SLU 83	18	-23	3297	4.26		949.37	8.06
105	SLU 84	18	-23	3297	4.26		949.37	8.06
105	SLE RA 1	13	-14	2066	2.52		595.07	4.74
105	SLE RA 2	13	-14	2066	2.52		595.07	4.74
105	SLE RA 3	13	-14	2066	2.52		595.07	4.74
105	SLE RA 4	13	-14	2066	2.52		595.07	4.74
105	SLE RA 5	13	-14	2066	2.52		595.07	4.74
105	SLE RA 6	13	-14	2066	2.52		595.07	4.74
105	SLE RA 7	13	-14	2066	2.52		595.07	4.74
105	SLE RA 8	13	-14	2066	2.52		595.07	4.74
105	SLE RA 9	13	-14	2066	2.52		595.07	4.74
105	SLE RA 10	13	-16	2316	2.92		666.84	5.51
105	SLE RA 11	13	-16	2316	2.92		666.84	5.51
105	SLE RA 12	13	-16	2316	2.92		666.84	5.51
105	SLE RA 13	13	-16	2316	2.92		666.84	5.51
105	SLE RA 14	13	-16	2316	2.92		666.84	5.51
105	SLE RA 15	13	-16	2316	2.92		666.84	5.51
105	SLE RA 16	13	-16	2316	2.92		666.84	5.51
105	SLE RA 17	13	-16	2316	2.92		666.84	5.51
105	SLE RA 18	14	-17	2423	3.09		697.6	5.84
105	SLE RA 19	14	-17	2423	3.09		697.6	5.84
105	SLE RA 20	14	-17	2423	3.09		697.6	5.84
105	SLE RA 21	14	-17	2423	3.09		697.6	5.84
105	SLE FR 1	13	-14	2066	2.52		595.07	4.74
105	SLE FR 2	13	-14	2066	2.52		595.07	4.74
105	SLE FR 3	13	-14	2066	2.52		595.07	4.74
105	SLE FR 4	13	-15	2173	2.69		625.83	5.07
105	SLE FR 5	13	-15	2173	2.69		625.83	5.07
105	SLE FR 6	13	-15	2244	2.81		646.34	5.29
105	SLE QP 1	13	-14	2066	2.52		595.07	4.74
105	SLE QP 2	13	-15	2173	2.69		625.83	5.07
105	SLD 1	154	-8	1865	2.1		546.56	2.65
105	SLD 2	160	29	1867	2.1		546.75	-10.12
105	SLD 3	148	-161	1830	2.57		548.66	56.21
105	SLD 4	153	-124	1832	2.57		548.85	43.44
105	SLD 5	64	207	2134	1.8		598.81	-72.37
105	SLD 6	69	244	2135	1.8		599	-85.24
105	SLD 7	41	-304	2016	3.37		605.79	106.17
105	SLD 8	47	-267	2018	3.37		605.98	93.29
105	SLD 9	-21	238	2328	2.01		645.68	-83.15
105	SLD 10	-15	275	2330	2.01		645.87	-96.03
105	SLD 11	-43	-273	2211	3.59		652.66	95.39
105	SLD 12	-38	-236	2212	3.59		652.86	82.51
105	SLD 13	-127	95	2514	2.82		702.81	-33.3
105	SLD 14	-122	132	2516	2.82		703	-46.06
105	SLD 15	-134	-58	2479	3.29		704.91	20.26
105	SLD 16	-128	-21	2480	3.29		705.1	7.5
105	SLV 1	335	4	1475	1.33		445.69	-1.59
105	SLV 2	347	87	1479	1.33		446.12	-30.63
105	SLV 3	319	-351	1394	2.42		450.62	122.44
105	SLV 4	331	-267	1397	2.42		451.05	93.41
105	SLV 5	129	499	2086	0.63		564.15	-174.63
105	SLV 6	141	584	2090	0.63		564.59	-204.17
105	SLV 7	77	-683	1814	4.26		580.59	238.81
105	SLV 8	89	-598	1818	4.26		581.03	209.27
105	SLV 9	-63	569	2528	1.12		670.63	-199.13
105	SLV 10	-51	654	2532	1.12		671.07	-228.67
105	SLV 11	-115	-613	2256	4.75		687.07	214.31
105	SLV 12	-103	-528	2260	4.75		687.51	184.77
105	SLV 13	-305	238	2948	2.96		800.61	-83.26
105	SLV 14	-293	322	2952	2.96		801.04	-112.29
105	SLV 15	-321	-116	2867	4.05		805.54	40.77
105	SLV 16	-309	-33	2870	4.05		805.97	11.74
105	CRTFP Ux+	0	0	0	0		0	0
105	CRTFP Ux-	0	0	0	0		0	0
105	CRTFP Uy+	0	0	0	0		0	0
105	CRTFP Uy-	0	0	0	0		0	0
106	SLU 1	-14	1	1765	-31.74		-370.24	0
106	SLU 2	-14	1	1765	-31.74		-370.24	0
106	SLU 3	-14	1	1765	-31.74		-370.24	0
106	SLU 4	-14	1	1765	-31.74		-370.24	0
106	SLU 5	-14	1	1765	-31.74		-370.24	0
106	SLU 6	-14	1	1765	-31.74		-370.24	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
106	SLU 7	-14	1	1765	-31.74	-370.24	0
106	SLU 8	-14	1	1765	-31.74	-370.24	0
106	SLU 9	-14	1	1765	-31.74	-370.24	0
106	SLU 10	-15	2	2123	-38.13	-445.02	0.28
106	SLU 11	-15	2	2123	-38.13	-445.02	0.28
106	SLU 12	-15	2	2123	-38.13	-445.02	0.28
106	SLU 13	-15	2	2123	-38.13	-445.02	0.28
106	SLU 14	-15	2	2123	-38.13	-445.02	0.28
106	SLU 15	-15	2	2123	-38.13	-445.02	0.28
106	SLU 16	-15	2	2123	-38.13	-445.02	0.28
106	SLU 17	-15	2	2123	-38.13	-445.02	0.28
106	SLU 18	-15	3	2277	-40.86	-477.07	0.4
106	SLU 19	-15	3	2277	-40.86	-477.07	0.4
106	SLU 20	-15	3	2277	-40.86	-477.07	0.4
106	SLU 21	-15	3	2277	-40.86	-477.07	0.4
106	SLU 22	-14	1	2030	-36.45	-426.04	0.06
106	SLU 23	-14	1	2030	-36.45	-426.04	0.06
106	SLU 24	-14	1	2030	-36.45	-426.04	0.06
106	SLU 25	-14	1	2030	-36.45	-426.04	0.06
106	SLU 26	-14	1	2030	-36.45	-426.04	0.06
106	SLU 27	-14	1	2030	-36.45	-426.04	0.06
106	SLU 28	-14	1	2030	-36.45	-426.04	0.06
106	SLU 29	-14	1	2030	-36.45	-426.04	0.06
106	SLU 30	-14	1	2030	-36.45	-426.04	0.06
106	SLU 31	-15	2	2389	-42.84	-500.82	0.34
106	SLU 32	-15	2	2389	-42.84	-500.82	0.34
106	SLU 33	-15	2	2389	-42.84	-500.82	0.34
106	SLU 34	-15	2	2389	-42.84	-500.82	0.34
106	SLU 35	-15	2	2389	-42.84	-500.82	0.34
106	SLU 36	-15	2	2389	-42.84	-500.82	0.34
106	SLU 37	-15	2	2389	-42.84	-500.82	0.34
106	SLU 38	-15	2	2389	-42.84	-500.82	0.34
106	SLU 39	-16	3	2542	-45.58	-532.87	0.46
106	SLU 40	-16	3	2542	-45.58	-532.87	0.46
106	SLU 41	-16	3	2542	-45.58	-532.87	0.46
106	SLU 42	-16	3	2542	-45.58	-532.87	0.46
106	SLU 43	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 44	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 45	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 46	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 47	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 48	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 49	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 50	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 51	-17	1	2203	-39.64	-462.18	-0.02
106	SLU 52	-19	2	2562	-46.03	-536.96	0.26
106	SLU 53	-19	2	2562	-46.03	-536.96	0.26
106	SLU 54	-19	2	2562	-46.03	-536.96	0.26
106	SLU 55	-19	2	2562	-46.03	-536.96	0.26
106	SLU 56	-19	2	2562	-46.03	-536.96	0.26
106	SLU 57	-19	2	2562	-46.03	-536.96	0.26
106	SLU 58	-19	2	2562	-46.03	-536.96	0.26
106	SLU 59	-19	2	2562	-46.03	-536.96	0.26
106	SLU 60	-19	3	2716	-48.77	-569.02	0.38
106	SLU 61	-19	3	2716	-48.77	-569.02	0.38
106	SLU 62	-19	3	2716	-48.77	-569.02	0.38
106	SLU 63	-19	3	2716	-48.77	-569.02	0.38
106	SLU 64	-18	1	2469	-44.36	-517.98	0.04
106	SLU 65	-18	1	2469	-44.36	-517.98	0.04
106	SLU 66	-18	1	2469	-44.36	-517.98	0.04
106	SLU 67	-18	1	2469	-44.36	-517.98	0.04
106	SLU 68	-18	1	2469	-44.36	-517.98	0.04
106	SLU 69	-18	1	2469	-44.36	-517.98	0.04
106	SLU 70	-18	1	2469	-44.36	-517.98	0.04
106	SLU 71	-18	1	2469	-44.36	-517.98	0.04
106	SLU 72	-18	1	2469	-44.36	-517.98	0.04
106	SLU 73	-19	2	2827	-50.75	-592.76	0.32
106	SLU 74	-19	2	2827	-50.75	-592.76	0.32
106	SLU 75	-19	2	2827	-50.75	-592.76	0.32
106	SLU 76	-19	2	2827	-50.75	-592.76	0.32
106	SLU 77	-19	2	2827	-50.75	-592.76	0.32
106	SLU 78	-19	2	2827	-50.75	-592.76	0.32
106	SLU 79	-19	2	2827	-50.75	-592.76	0.32
106	SLU 80	-19	2	2827	-50.75	-592.76	0.32
106	SLU 81	-20	3	2981	-53.48	-624.81	0.44
106	SLU 82	-20	3	2981	-53.48	-624.81	0.44
106	SLU 83	-20	3	2981	-53.48	-624.81	0.44
106	SLU 84	-20	3	2981	-53.48	-624.81	0.44
106	SLE RA 1	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 2	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 3	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 4	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 5	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 6	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 7	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 8	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 9	-14	1	1841	-33.08	-386.18	0.02
106	SLE RA 10	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 11	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 12	-14	2	2080	-37.34	-436.04	0.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
106	SLE RA 13	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 14	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 15	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 16	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 17	-14	2	2080	-37.34	-436.04	0.2
106	SLE RA 18	-15	2	2182	-39.17	-457.4	0.28
106	SLE RA 19	-15	2	2182	-39.17	-457.4	0.28
106	SLE RA 20	-15	2	2182	-39.17	-457.4	0.28
106	SLE RA 21	-15	2	2182	-39.17	-457.4	0.28
106	SLE FR 1	-14	1	1841	-33.08	-386.18	0.02
106	SLE FR 2	-14	1	1841	-33.08	-386.18	0.02
106	SLE FR 3	-14	1	1841	-33.08	-386.18	0.02
106	SLE FR 4	-14	1	1943	-34.91	-407.55	0.1
106	SLE FR 5	-14	1	1943	-34.91	-407.55	0.1
106	SLE FR 6	-14	1	2011	-36.13	-421.79	0.15
106	SLE QP 1	-14	1	1841	-33.08	-386.18	0.02
106	SLE QP 2	-14	1	1943	-34.91	-407.55	0.1
106	SLD 1	90	116	2206	-39.89	-455.7	29.93
106	SLD 2	92	84	2209	-39.93	-456.43	21.98
106	SLD 3	101	-18	2225	-39.74	-462.69	-3.42
106	SLD 4	104	-51	2228	-39.79	-463.42	-11.37
106	SLD 5	-1	252	1992	-36.6	-411.13	62.44
106	SLD 6	1	219	1995	-36.65	-411.87	54.42
106	SLD 7	37	-198	2055	-36.13	-434.44	-48.71
106	SLD 8	39	-230	2058	-36.17	-435.18	-56.73
106	SLD 9	-67	233	1828	-33.65	-379.92	56.93
106	SLD 10	-65	200	1831	-33.69	-380.66	48.91
106	SLD 11	-29	-217	1891	-33.17	-403.23	-54.23
106	SLD 12	-27	-249	1894	-33.22	-403.97	-62.24
106	SLD 13	-132	53	1658	-30.03	-351.67	11.56
106	SLD 14	-129	21	1661	-30.08	-352.4	3.61
106	SLD 15	-120	-82	1677	-29.89	-358.67	-21.79
106	SLD 16	-118	-114	1680	-29.93	-359.4	-29.74
106	SLV 1	222	266	2540	-46.21	-516.69	68.55
106	SLV 2	227	193	2547	-46.31	-518.36	50.47
106	SLV 3	248	-46	2584	-45.87	-532.94	-8.59
106	SLV 4	253	-120	2591	-45.98	-534.61	-26.67
106	SLV 5	15	580	2053	-38.78	-415.05	144.11
106	SLV 6	20	506	2060	-38.88	-416.74	125.71
106	SLV 7	103	-460	2200	-37.65	-469.22	-113.01
106	SLV 8	108	-535	2207	-37.75	-470.91	-131.41
106	SLV 9	-136	537	1680	-32.07	-344.18	131.6
106	SLV 10	-131	463	1687	-32.17	-345.88	113.21
106	SLV 11	-48	-503	1826	-30.94	-398.35	-125.52
106	SLV 12	-43	-578	1833	-31.04	-400.05	-143.91
106	SLV 13	-281	122	1295	-23.84	-280.48	26.86
106	SLV 14	-276	49	1302	-23.95	-282.15	8.78
106	SLV 15	-255	-190	1339	-23.51	-296.74	-50.27
106	SLV 16	-250	-263	1346	-23.61	-298.4	-68.35
106	CRTFP Ux+	0	0	0	0	0	0
106	CRTFP Ux-	0	0	0	0	0	0
106	CRTFP Uy+	0	0	0	0	0	0
106	CRTFP Uy-	0	0	0	0	0	0
108	SLU 1	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 2	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 3	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 4	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 5	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 6	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 7	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 8	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 9	-1	-2	1385	-26.02	-0.29	-0.01
108	SLU 10	0	-2	1686	-31.69	-0.23	0
108	SLU 11	0	-2	1686	-31.69	-0.23	0
108	SLU 12	0	-2	1686	-31.69	-0.23	0
108	SLU 13	0	-2	1686	-31.69	-0.23	0
108	SLU 14	0	-2	1686	-31.69	-0.23	0
108	SLU 15	0	-2	1686	-31.69	-0.23	0
108	SLU 16	0	-2	1686	-31.69	-0.23	0
108	SLU 17	0	-2	1686	-31.69	-0.23	0
108	SLU 18	0	-2	1814	-34.13	-0.2	0
108	SLU 19	0	-2	1814	-34.13	-0.2	0
108	SLU 20	0	-2	1814	-34.13	-0.2	0
108	SLU 21	0	-2	1814	-34.13	-0.2	0
108	SLU 22	0	-2	1604	-30.1	-0.07	0
108	SLU 23	0	-2	1604	-30.1	-0.07	0
108	SLU 24	0	-2	1604	-30.1	-0.07	0
108	SLU 25	0	-2	1604	-30.1	-0.07	0
108	SLU 26	0	-2	1604	-30.1	-0.07	0
108	SLU 27	0	-2	1604	-30.1	-0.07	0
108	SLU 28	0	-2	1604	-30.1	-0.07	0
108	SLU 29	0	-2	1604	-30.1	-0.07	0
108	SLU 30	0	-2	1604	-30.1	-0.07	0
108	SLU 31	0	-3	1905	-35.78	0	0
108	SLU 32	0	-3	1905	-35.78	0	0
108	SLU 33	0	-3	1905	-35.78	0	0
108	SLU 34	0	-3	1905	-35.78	0	0
108	SLU 35	0	-3	1905	-35.78	0	0
108	SLU 36	0	-3	1905	-35.78	0	0
108	SLU 37	0	-3	1905	-35.78	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
108	SLU 38	0	-3	1905	-35.78	0	0
108	SLU 39	0	-3	2033	-38.21	0.02	0
108	SLU 40	0	-3	2033	-38.21	0.02	0
108	SLU 41	0	-3	2033	-38.21	0.02	0
108	SLU 42	0	-3	2033	-38.21	0.02	0
108	SLU 43	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 44	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 45	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 46	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 47	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 48	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 49	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 50	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 51	-1	-3	1725	-32.42	-0.46	-0.01
108	SLU 52	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 53	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 54	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 55	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 56	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 57	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 58	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 59	-1	-3	2026	-38.1	-0.39	-0.01
108	SLU 60	0	-3	2155	-40.53	-0.36	-0.01
108	SLU 61	0	-3	2155	-40.53	-0.36	-0.01
108	SLU 62	0	-3	2155	-40.53	-0.36	-0.01
108	SLU 63	0	-3	2155	-40.53	-0.36	-0.01
108	SLU 64	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 65	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 66	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 67	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 68	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 69	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 70	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 71	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 72	0	-3	1944	-36.51	-0.24	-0.01
108	SLU 73	0	-3	2245	-42.18	-0.17	0
108	SLU 74	0	-3	2245	-42.18	-0.17	0
108	SLU 75	0	-3	2245	-42.18	-0.17	0
108	SLU 76	0	-3	2245	-42.18	-0.17	0
108	SLU 77	0	-3	2245	-42.18	-0.17	0
108	SLU 78	0	-3	2245	-42.18	-0.17	0
108	SLU 79	0	-3	2245	-42.18	-0.17	0
108	SLU 80	0	-3	2245	-42.18	-0.17	0
108	SLU 81	0	-3	2374	-44.61	-0.14	0
108	SLU 82	0	-3	2374	-44.61	-0.14	0
108	SLU 83	0	-3	2374	-44.61	-0.14	0
108	SLU 84	0	-3	2374	-44.61	-0.14	0
108	SLE RA 1	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 2	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 3	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 4	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 5	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 6	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 7	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 8	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 9	0	-2	1448	-27.18	-0.23	-0.01
108	SLE RA 10	0	-2	1648	-30.97	-0.19	0
108	SLE RA 11	0	-2	1648	-30.97	-0.19	0
108	SLE RA 12	0	-2	1648	-30.97	-0.19	0
108	SLE RA 13	0	-2	1648	-30.97	-0.19	0
108	SLE RA 14	0	-2	1648	-30.97	-0.19	0
108	SLE RA 15	0	-2	1648	-30.97	-0.19	0
108	SLE RA 16	0	-2	1648	-30.97	-0.19	0
108	SLE RA 17	0	-2	1648	-30.97	-0.19	0
108	SLE RA 18	0	-2	1734	-32.59	-0.17	0
108	SLE RA 19	0	-2	1734	-32.59	-0.17	0
108	SLE RA 20	0	-2	1734	-32.59	-0.17	0
108	SLE RA 21	0	-2	1734	-32.59	-0.17	0
108	SLE FR 1	0	-2	1448	-27.18	-0.23	-0.01
108	SLE FR 2	0	-2	1448	-27.18	-0.23	-0.01
108	SLE FR 3	0	-2	1448	-27.18	-0.23	-0.01
108	SLE FR 4	0	-2	1533	-28.81	-0.21	0
108	SLE FR 5	0	-2	1533	-28.81	-0.21	0
108	SLE FR 6	0	-2	1591	-29.89	-0.2	0
108	SLE QP 1	0	-2	1448	-27.18	-0.23	-0.01
108	SLE QP 2	0	-2	1533	-28.81	-0.21	0
108	SLD 1	112	10	1528	-28.82	1.19	1.98
108	SLD 2	113	10	1529	-28.83	1.2	2.07
108	SLD 3	108	-21	1522	-28.54	1.34	1.91
108	SLD 4	109	-21	1523	-28.55	1.35	1.99
108	SLD 5	38	48	1541	-29.23	-0.02	0.68
108	SLD 6	40	49	1541	-29.24	-0.01	0.76
108	SLD 7	26	-55	1521	-28.3	0.47	0.42
108	SLD 8	27	-55	1521	-28.31	0.49	0.51
108	SLD 9	-28	50	1546	-29.31	-0.91	-0.52
108	SLD 10	-27	51	1546	-29.31	-0.9	-0.43
108	SLD 11	-41	-53	1526	-28.37	-0.41	-0.77
108	SLD 12	-39	-53	1526	-28.38	-0.4	-0.69
108	SLD 13	-110	16	1544	-29.06	-1.77	-2
108	SLD 14	-109	17	1544	-29.07	-1.76	-1.92



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
108	SLD 15	-114	-15	1538	-28.79	-1.63	-2.08
108	SLD 16	-112	-14	1539	-28.79	-1.61	-1.99
108	SLV 1	254	26	1522	-28.85	3.01	4.51
108	SLV 2	258	27	1522	-28.86	3.05	4.71
108	SLV 3	245	-47	1508	-28.2	3.37	4.34
108	SLV 4	249	-45	1509	-28.21	3.41	4.54
108	SLV 5	88	115	1550	-29.8	0.18	1.55
108	SLV 6	92	116	1551	-29.81	0.22	1.75
108	SLV 7	59	-125	1505	-27.64	1.41	0.96
108	SLV 8	62	-124	1506	-27.65	1.45	1.16
108	SLV 9	-63	119	1561	-29.96	-1.87	-1.17
108	SLV 10	-59	121	1562	-29.97	-1.83	-0.97
108	SLV 11	-92	-121	1516	-27.81	-0.65	-1.76
108	SLV 12	-89	-120	1517	-27.82	-0.61	-1.56
108	SLV 13	-250	41	1558	-29.4	-3.83	-4.55
108	SLV 14	-246	42	1559	-29.41	-3.79	-4.35
108	SLV 15	-259	-31	1545	-28.75	-3.47	-4.72
108	SLV 16	-255	-30	1545	-28.77	-3.43	-4.52
108	CRTFP Ux+	0	0	0	0	0	0
108	CRTFP Ux-	0	0	0	0	0	0
108	CRTFP Uy+	0	0	0	0	0	0
108	CRTFP Uy-	0	0	0	0	0	0
110	SLU 1	12	-11	1854	-33.32	571.06	3.96
110	SLU 2	12	-11	1854	-33.32	571.06	3.96
110	SLU 3	12	-11	1854	-33.32	571.06	3.96
110	SLU 4	12	-11	1854	-33.32	571.06	3.96
110	SLU 5	12	-11	1854	-33.32	571.06	3.96
110	SLU 6	12	-11	1854	-33.32	571.06	3.96
110	SLU 7	12	-11	1854	-33.32	571.06	3.96
110	SLU 8	12	-11	1854	-33.32	571.06	3.96
110	SLU 9	12	-11	1854	-33.32	571.06	3.96
110	SLU 10	13	-14	2207	-39.6	680.22	5
110	SLU 11	13	-14	2207	-39.6	680.22	5
110	SLU 12	13	-14	2207	-39.6	680.22	5
110	SLU 13	13	-14	2207	-39.6	680.22	5
110	SLU 14	13	-14	2207	-39.6	680.22	5
110	SLU 15	13	-14	2207	-39.6	680.22	5
110	SLU 16	13	-14	2207	-39.6	680.22	5
110	SLU 17	13	-14	2207	-39.6	680.22	5
110	SLU 18	13	-15	2358	-42.28	727	5.44
110	SLU 19	13	-15	2358	-42.28	727	5.44
110	SLU 20	13	-15	2358	-42.28	727	5.44
110	SLU 21	13	-15	2358	-42.28	727	5.44
110	SLU 22	13	-13	2104	-37.76	649.01	4.74
110	SLU 23	13	-13	2104	-37.76	649.01	4.74
110	SLU 24	13	-13	2104	-37.76	649.01	4.74
110	SLU 25	13	-13	2104	-37.76	649.01	4.74
110	SLU 26	13	-13	2104	-37.76	649.01	4.74
110	SLU 27	13	-13	2104	-37.76	649.01	4.74
110	SLU 28	13	-13	2104	-37.76	649.01	4.74
110	SLU 29	13	-13	2104	-37.76	649.01	4.74
110	SLU 30	13	-13	2104	-37.76	649.01	4.74
110	SLU 31	14	-16	2457	-44.03	758.17	5.78
110	SLU 32	14	-16	2457	-44.03	758.17	5.78
110	SLU 33	14	-16	2457	-44.03	758.17	5.78
110	SLU 34	14	-16	2457	-44.03	758.17	5.78
110	SLU 35	14	-16	2457	-44.03	758.17	5.78
110	SLU 36	14	-16	2457	-44.03	758.17	5.78
110	SLU 37	14	-16	2457	-44.03	758.17	5.78
110	SLU 38	14	-16	2457	-44.03	758.17	5.78
110	SLU 39	14	-17	2609	-46.72	804.95	6.22
110	SLU 40	14	-17	2609	-46.72	804.95	6.22
110	SLU 41	14	-17	2609	-46.72	804.95	6.22
110	SLU 42	14	-17	2609	-46.72	804.95	6.22
110	SLU 43	15	-13	2324	-41.8	715.65	4.88
110	SLU 44	15	-13	2324	-41.8	715.65	4.88
110	SLU 45	15	-13	2324	-41.8	715.65	4.88
110	SLU 46	15	-13	2324	-41.8	715.65	4.88
110	SLU 47	15	-13	2324	-41.8	715.65	4.88
110	SLU 48	15	-13	2324	-41.8	715.65	4.88
110	SLU 49	15	-13	2324	-41.8	715.65	4.88
110	SLU 50	15	-13	2324	-41.8	715.65	4.88
110	SLU 51	15	-13	2324	-41.8	715.65	4.88
110	SLU 52	16	-16	2677	-48.07	824.81	5.92
110	SLU 53	16	-16	2677	-48.07	824.81	5.92
110	SLU 54	16	-16	2677	-48.07	824.81	5.92
110	SLU 55	16	-16	2677	-48.07	824.81	5.92
110	SLU 56	16	-16	2677	-48.07	824.81	5.92
110	SLU 57	16	-16	2677	-48.07	824.81	5.92
110	SLU 58	16	-16	2677	-48.07	824.81	5.92
110	SLU 59	16	-16	2677	-48.07	824.81	5.92
110	SLU 60	17	-17	2829	-50.76	871.59	6.36
110	SLU 61	17	-17	2829	-50.76	871.59	6.36
110	SLU 62	17	-17	2829	-50.76	871.59	6.36
110	SLU 63	17	-17	2829	-50.76	871.59	6.36
110	SLU 64	16	-15	2575	-46.24	793.6	5.67
110	SLU 65	16	-15	2575	-46.24	793.6	5.67
110	SLU 66	16	-15	2575	-46.24	793.6	5.67
110	SLU 67	16	-15	2575	-46.24	793.6	5.67
110	SLU 68	16	-15	2575	-46.24	793.6	5.67



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
110	SLU 69	16	-15	2575		-46.24	793.6	5.67
110	SLU 70	16	-15	2575		-46.24	793.6	5.67
110	SLU 71	16	-15	2575		-46.24	793.6	5.67
110	SLU 72	16	-15	2575		-46.24	793.6	5.67
110	SLU 73	17	-18	2928		-52.51	902.76	6.7
110	SLU 74	17	-18	2928		-52.51	902.76	6.7
110	SLU 75	17	-18	2928		-52.51	902.76	6.7
110	SLU 76	17	-18	2928		-52.51	902.76	6.7
110	SLU 77	17	-18	2928		-52.51	902.76	6.7
110	SLU 78	17	-18	2928		-52.51	902.76	6.7
110	SLU 79	17	-18	2928		-52.51	902.76	6.7
110	SLU 80	17	-18	2928		-52.51	902.76	6.7
110	SLU 81	18	-20	3079		-55.2	949.54	7.14
110	SLU 82	18	-20	3079		-55.2	949.54	7.14
110	SLU 83	18	-20	3079		-55.2	949.54	7.14
110	SLU 84	18	-20	3079		-55.2	949.54	7.14
110	SLE RA 1	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 2	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 3	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 4	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 5	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 6	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 7	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 8	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 9	12	-11	1925		-34.59	593.33	4.19
110	SLE RA 10	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 11	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 12	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 13	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 14	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 15	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 16	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 17	13	-13	2161		-38.77	666.1	4.87
110	SLE RA 18	13	-14	2262		-40.56	697.29	5.17
110	SLE RA 19	13	-14	2262		-40.56	697.29	5.17
110	SLE RA 20	13	-14	2262		-40.56	697.29	5.17
110	SLE RA 21	13	-14	2262		-40.56	697.29	5.17
110	SLE FR 1	12	-11	1925		-34.59	593.33	4.19
110	SLE FR 2	12	-11	1925		-34.59	593.33	4.19
110	SLE FR 3	12	-11	1925		-34.59	593.33	4.19
110	SLE FR 4	12	-12	2026		-36.38	624.52	4.48
110	SLE FR 5	12	-12	2026		-36.38	624.52	4.48
110	SLE FR 6	13	-13	2094		-37.58	645.31	4.68
110	SLE QP 1	12	-11	1925		-34.59	593.33	4.19
110	SLE QP 2	12	-12	2026		-36.38	624.52	4.48
110	SLD 1	143	-6	1735		-31.27	544.69	4.1
110	SLD 2	145	27	1736		-31.29	544.96	-7.4
110	SLD 3	138	-145	1714		-30.58	546.81	52.31
110	SLD 4	140	-111	1716		-30.61	547.09	40.8
110	SLD 5	58	187	1969		-35.87	597.25	-64.67
110	SLD 6	60	221	1970		-35.9	597.52	-76.27
110	SLD 7	42	-273	1902		-33.6	604.33	96.02
110	SLD 8	45	-240	1903		-33.63	604.61	84.42
110	SLD 9	-20	215	2150		-39.14	644.43	-75.46
110	SLD 10	-17	249	2151		-39.17	644.7	-87.06
110	SLD 11	-35	-245	2082		-36.86	651.51	85.24
110	SLD 12	-33	-212	2084		-36.89	651.79	73.64
110	SLD 13	-115	87	2337		-42.16	701.95	-31.84
110	SLD 14	-113	120	2338		-42.18	702.22	-43.34
110	SLD 15	-120	-51	2317		-41.47	704.08	16.37
110	SLD 16	-118	-18	2318		-41.5	704.35	4.86
110	SLV 1	308	4	1364		-24.78	443.14	2.54
110	SLV 2	313	79	1367		-24.84	443.76	-23.61
110	SLV 3	297	-316	1318		-23.2	448.09	114.18
110	SLV 4	303	-241	1321		-23.26	448.71	88.02
110	SLV 5	116	451	1897		-35.27	562.37	-156.03
110	SLV 6	121	527	1901		-35.34	563	-182.64
110	SLV 7	80	-615	1742		-30.01	578.88	216.09
110	SLV 8	85	-539	1745		-30.07	579.51	189.47
110	SLV 9	-60	514	2308		-42.69	669.53	-180.51
110	SLV 10	-55	591	2311		-42.76	670.16	-207.13
110	SLV 11	-96	-552	2152		-37.43	686.04	191.61
110	SLV 12	-91	-475	2155		-37.49	686.67	164.99
110	SLV 13	-278	216	2732		-49.51	800.33	-79.06
110	SLV 14	-273	292	2735		-49.57	800.95	-105.22
110	SLV 15	-289	-104	2685		-47.93	805.28	32.57
110	SLV 16	-283	-28	2688		-47.99	805.9	6.42
110	CRTFP Ux+	0	0	0		0	0	0
110	CRTFP Ux-	0	0	0		0	0	0
110	CRTFP Uy+	0	0	0		0	0	0
110	CRTFP Uy-	0	0	0		0	0	0
135	SLU 1	-38	6	4984		15.51	-874.89	0.96
135	SLU 2	-38	6	4984		15.51	-874.89	0.96
135	SLU 3	-38	6	4984		15.51	-874.89	0.96
135	SLU 4	-38	6	4984		15.51	-874.89	0.96
135	SLU 5	-38	6	4984		15.51	-874.89	0.96
135	SLU 6	-38	6	4984		15.51	-874.89	0.96
135	SLU 7	-38	6	4984		15.51	-874.89	0.96
135	SLU 8	-38	6	4984		15.51	-874.89	0.96
135	SLU 9	-38	6	4984		15.51	-874.89	0.96



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
135	SLU 10	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 11	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 12	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 13	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 14	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 15	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 16	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 17	-41	10	6001	19.29	-1053.55	1.63	
135	SLU 18	-43	12	6436	20.91	-1130.12	1.92	
135	SLU 19	-43	12	6436	20.91	-1130.12	1.92	
135	SLU 20	-43	12	6436	20.91	-1130.12	1.92	
135	SLU 21	-43	12	6436	20.91	-1130.12	1.92	
135	SLU 22	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 23	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 24	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 25	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 26	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 27	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 28	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 29	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 30	-39	8	5736	18.45	-1007.62	1.13	
135	SLU 31	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 32	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 33	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 34	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 35	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 36	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 37	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 38	-42	12	6753	22.23	-1186.29	1.81	
135	SLU 39	-44	13	7189	23.85	-1262.86	2.1	
135	SLU 40	-44	13	7189	23.85	-1262.86	2.1	
135	SLU 41	-44	13	7189	23.85	-1262.86	2.1	
135	SLU 42	-44	13	7189	23.85	-1262.86	2.1	
135	SLU 43	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 44	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 45	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 46	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 47	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 48	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 49	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 50	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 51	-49	8	6221	19.16	-1091.85	1.18	
135	SLU 52	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 53	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 54	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 55	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 56	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 57	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 58	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 59	-52	12	7238	22.93	-1270.51	1.86	
135	SLU 60	-54	14	7673	24.55	-1347.08	2.15	
135	SLU 61	-54	14	7673	24.55	-1347.08	2.15	
135	SLU 62	-54	14	7673	24.55	-1347.08	2.15	
135	SLU 63	-54	14	7673	24.55	-1347.08	2.15	
135	SLU 64	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 65	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 66	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 67	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 68	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 69	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 70	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 71	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 72	-50	9	6973	22.1	-1224.58	1.36	
135	SLU 73	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 74	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 75	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 76	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 77	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 78	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 79	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 80	-54	13	7990	25.88	-1403.24	2.04	
135	SLU 81	-55	15	8426	27.49	-1479.81	2.32	
135	SLU 82	-55	15	8426	27.49	-1479.81	2.32	
135	SLU 83	-55	15	8426	27.49	-1479.81	2.32	
135	SLU 84	-55	15	8426	27.49	-1479.81	2.32	
135	SLE RA 1	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 2	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 3	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 4	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 5	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 6	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 7	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 8	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 9	-38	7	5199	16.35	-912.81	1.01	
135	SLE RA 10	-41	9	5877	18.87	-1031.92	1.46	
135	SLE RA 11	-41	9	5877	18.87	-1031.92	1.46	
135	SLE RA 12	-41	9	5877	18.87	-1031.92	1.46	
135	SLE RA 13	-41	9	5877	18.87	-1031.92	1.46	
135	SLE RA 14	-41	9	5877	18.87	-1031.92	1.46	
135	SLE RA 15	-41	9	5877	18.87	-1031.92	1.46	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
135	SLE RA 16	-41	9	5877	18.87	-1031.92	1.46
135	SLE RA 17	-41	9	5877	18.87	-1031.92	1.46
135	SLE RA 18	-42	11	6167	19.95	-1082.97	1.65
135	SLE RA 19	-42	11	6167	19.95	-1082.97	1.65
135	SLE RA 20	-42	11	6167	19.95	-1082.97	1.65
135	SLE RA 21	-42	11	6167	19.95	-1082.97	1.65
135	SLE FR 1	-38	7	5199	16.35	-912.81	1.01
135	SLE FR 2	-38	7	5199	16.35	-912.81	1.01
135	SLE FR 3	-38	7	5199	16.35	-912.81	1.01
135	SLE FR 4	-39	8	5489	17.43	-963.86	1.2
135	SLE FR 5	-39	8	5489	17.43	-963.86	1.2
135	SLE FR 6	-40	9	5683	18.15	-997.89	1.33
135	SLE QP 1	-38	7	5199	16.35	-912.81	1.01
135	SLE QP 2	-39	8	5489	17.43	-963.86	1.2
135	SLD 1	278	330	6225	15.66	-1084.78	57.24
135	SLD 2	276	240	6235	15.88	-1086.4	41.53
135	SLD 3	269	-46	6312	23.15	-1099.22	-8.78
135	SLD 4	267	-136	6322	23.37	-1100.84	-24.5
135	SLD 5	71	707	5574	5.47	-977.66	123.72
135	SLD 6	69	616	5584	5.68	-979.29	107.87
135	SLD 7	40	-547	5865	30.43	-1025.8	-96.36
135	SLD 8	38	-638	5875	30.65	-1027.43	-112.21
135	SLD 9	-116	654	5103	4.22	-900.29	114.61
135	SLD 10	-119	563	5113	4.43	-901.92	98.76
135	SLD 11	-147	-601	5395	29.18	-948.43	-105.47
135	SLD 12	-150	-692	5405	29.4	-950.06	-121.32
135	SLD 13	-346	152	4656	11.5	-826.88	26.9
135	SLD 14	-348	62	4666	11.71	-828.5	11.18
135	SLD 15	-355	-224	4744	18.99	-841.32	-39.13
135	SLD 16	-357	-314	4753	19.2	-842.94	-54.84
135	SLV 1	683	748	7157	13.26	-1237.96	129.95
135	SLV 2	678	543	7179	13.75	-1241.64	94.21
135	SLV 3	661	-123	7360	30.59	-1271.51	-22.78
135	SLV 4	656	-328	7382	31.08	-1275.19	-58.51
135	SLV 5	212	1624	5674	-10.28	-993.88	284.28
135	SLV 6	207	1415	5696	-9.78	-997.63	247.92
135	SLV 7	140	-1278	6351	47.49	-1105.72	-224.81
135	SLV 8	135	-1487	6373	47.99	-1109.46	-261.17
135	SLV 9	-213	1503	4605	-13.12	-818.26	263.57
135	SLV 10	-218	1294	4628	-12.62	-822.01	227.21
135	SLV 11	-285	-1399	5282	44.65	-930.09	-245.52
135	SLV 12	-291	-1608	5305	45.14	-933.84	-281.88
135	SLV 13	-735	343	3596	3.79	-652.53	60.91
135	SLV 14	-740	138	3618	4.27	-656.22	25.18
135	SLV 15	-756	-527	3799	21.12	-686.08	-91.81
135	SLV 16	-761	-732	3821	21.6	-689.77	-127.55
135	CRTFP Ux+	0	0	0	0	0.01	0
135	CRTFP Ux-	0	0	0	0	-0.01	0
135	CRTFP Uy+	0	0	0	0	0	0
135	CRTFP Uy-	0	0	0	0	0	0
137	SLU 1	-26	3	3286	6.75	-88.19	-0.18
137	SLU 2	-26	3	3286	6.75	-88.19	-0.18
137	SLU 3	-26	3	3286	6.75	-88.19	-0.18
137	SLU 4	-26	3	3286	6.75	-88.19	-0.18
137	SLU 5	-26	3	3286	6.75	-88.19	-0.18
137	SLU 6	-26	3	3286	6.75	-88.19	-0.18
137	SLU 7	-26	3	3286	6.75	-88.19	-0.18
137	SLU 8	-26	3	3286	6.75	-88.19	-0.18
137	SLU 9	-26	3	3286	6.75	-88.19	-0.18
137	SLU 10	-28	6	3958	8.84	-106.28	-0.17
137	SLU 11	-28	6	3958	8.84	-106.28	-0.17
137	SLU 12	-28	6	3958	8.84	-106.28	-0.17
137	SLU 13	-28	6	3958	8.84	-106.28	-0.17
137	SLU 14	-28	6	3958	8.84	-106.28	-0.17
137	SLU 15	-28	6	3958	8.84	-106.28	-0.17
137	SLU 16	-28	6	3958	8.84	-106.28	-0.17
137	SLU 17	-28	6	3958	8.84	-106.28	-0.17
137	SLU 18	-29	7	4246	9.73	-114.04	-0.16
137	SLU 19	-29	7	4246	9.73	-114.04	-0.16
137	SLU 20	-29	7	4246	9.73	-114.04	-0.16
137	SLU 21	-29	7	4246	9.73	-114.04	-0.16
137	SLU 22	-26	4	3785	8.47	-101.67	-0.2
137	SLU 23	-26	4	3785	8.47	-101.67	-0.2
137	SLU 24	-26	4	3785	8.47	-101.67	-0.2
137	SLU 25	-26	4	3785	8.47	-101.67	-0.2
137	SLU 26	-26	4	3785	8.47	-101.67	-0.2
137	SLU 27	-26	4	3785	8.47	-101.67	-0.2
137	SLU 28	-26	4	3785	8.47	-101.67	-0.2
137	SLU 29	-26	4	3785	8.47	-101.67	-0.2
137	SLU 30	-26	4	3785	8.47	-101.67	-0.2
137	SLU 31	-28	7	4457	10.56	-119.76	-0.19
137	SLU 32	-28	7	4457	10.56	-119.76	-0.19
137	SLU 33	-28	7	4457	10.56	-119.76	-0.19
137	SLU 34	-28	7	4457	10.56	-119.76	-0.19
137	SLU 35	-28	7	4457	10.56	-119.76	-0.19
137	SLU 36	-28	7	4457	10.56	-119.76	-0.19
137	SLU 37	-28	7	4457	10.56	-119.76	-0.19
137	SLU 38	-28	7	4457	10.56	-119.76	-0.19
137	SLU 39	-29	8	4745	11.46	-127.51	-0.19
137	SLU 40	-29	8	4745	11.46	-127.51	-0.19



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
137	SLU 41	-29	8	4745		11.46	-127.51	-0.19	
137	SLU 42	-29	8	4745		11.46	-127.51	-0.19	
137	SLU 43	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 44	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 45	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 46	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 47	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 48	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 49	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 50	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 51	-33	4	4101		8.19	-110.03	-0.22	
137	SLU 52	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 53	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 54	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 55	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 56	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 57	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 58	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 59	-35	7	4773		10.28	-128.12	-0.21	
137	SLU 60	-36	8	5061		11.17	-135.87	-0.21	
137	SLU 61	-36	8	5061		11.17	-135.87	-0.21	
137	SLU 62	-36	8	5061		11.17	-135.87	-0.21	
137	SLU 63	-36	8	5061		11.17	-135.87	-0.21	
137	SLU 64	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 65	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 66	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 67	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 68	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 69	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 70	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 71	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 72	-34	5	4600		9.91	-123.5	-0.25	
137	SLU 73	-36	7	5272		12	-141.6	-0.24	
137	SLU 74	-36	7	5272		12	-141.6	-0.24	
137	SLU 75	-36	7	5272		12	-141.6	-0.24	
137	SLU 76	-36	7	5272		12	-141.6	-0.24	
137	SLU 77	-36	7	5272		12	-141.6	-0.24	
137	SLU 78	-36	7	5272		12	-141.6	-0.24	
137	SLU 79	-36	7	5272		12	-141.6	-0.24	
137	SLU 80	-36	7	5272		12	-141.6	-0.24	
137	SLU 81	-37	8	5560		12.89	-149.35	-0.23	
137	SLU 82	-37	8	5560		12.89	-149.35	-0.23	
137	SLU 83	-37	8	5560		12.89	-149.35	-0.23	
137	SLU 84	-37	8	5560		12.89	-149.35	-0.23	
137	SLE RA 1	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 2	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 3	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 4	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 5	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 6	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 7	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 8	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 9	-26	4	3429		7.24	-92.04	-0.18	
137	SLE RA 10	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 11	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 12	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 13	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 14	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 15	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 16	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 17	-27	5	3877		8.64	-104.1	-0.18	
137	SLE RA 18	-28	6	4069		9.23	-109.27	-0.17	
137	SLE RA 19	-28	6	4069		9.23	-109.27	-0.17	
137	SLE RA 20	-28	6	4069		9.23	-109.27	-0.17	
137	SLE RA 21	-28	6	4069		9.23	-109.27	-0.17	
137	SLE FR 1	-26	4	3429		7.24	-92.04	-0.18	
137	SLE FR 2	-26	4	3429		7.24	-92.04	-0.18	
137	SLE FR 3	-26	4	3429		7.24	-92.04	-0.18	
137	SLE FR 4	-26	4	3621		7.84	-97.21	-0.18	
137	SLE FR 5	-26	4	3621		7.84	-97.21	-0.18	
137	SLE FR 6	-27	5	3749		8.24	-100.66	-0.18	
137	SLE QP 1	-26	4	3429		7.24	-92.04	-0.18	
137	SLE QP 2	-26	4	3621		7.84	-97.21	-0.18	
137	SLD 1	190	212	4083		4.37	-108.67	0.83	
137	SLD 2	188	154	4089		4.59	-108.83	0.27	
137	SLD 3	183	-31	4138		12.86	-110.05	-1.8	
137	SLD 4	182	-88	4144		13.08	-110.2	-2.36	
137	SLD 5	49	454	3674		-6.15	-98.51	4.31	
137	SLD 6	47	396	3680		-5.93	-98.67	3.75	
137	SLD 7	27	-353	3857		22.14	-103.09	-4.46	
137	SLD 8	26	-411	3863		22.36	-103.25	-5.02	
137	SLD 9	-79	420	3378		-6.68	-91.17	4.66	
137	SLD 10	-80	362	3385		-6.46	-91.33	4.1	
137	SLD 11	-100	-387	3562		21.61	-95.75	-4.11	
137	SLD 12	-101	-446	3568		21.83	-95.91	-4.67	
137	SLD 13	-234	97	3098		2.61	-84.22	1.99	
137	SLD 14	-236	39	3104		2.82	-84.37	1.44	
137	SLD 15	-241	-145	3153		11.09	-85.59	-0.64	
137	SLD 16	-242	-203	3159		11.31	-85.75	-1.19	
137	SLV 1	465	480	4668		-0.18	-123.19	2.17	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
137	SLV 2	461	349	4682	0.32	-123.55	0.9
137	SLV 3	450	-80	4795	19.46	-126.38	-3.91
137	SLV 4	446	-212	4809	19.96	-126.74	-5.18
137	SLV 5	145	1044	3736	-24.53	-100.04	10.21
137	SLV 6	141	910	3750	-24.03	-100.4	8.92
137	SLV 7	95	-824	4162	40.94	-110.67	-10.08
137	SLV 8	92	-957	4176	41.44	-111.03	-11.37
137	SLV 9	-144	966	3066	-25.76	-83.39	11
137	SLV 10	-148	832	3080	-25.26	-83.75	9.71
137	SLV 11	-194	-902	3491	39.71	-94.02	-9.28
137	SLV 12	-197	-1035	3506	40.21	-94.38	-10.57
137	SLV 13	-499	220	2432	-4.28	-67.68	4.82
137	SLV 14	-502	89	2446	-3.78	-68.04	3.55
137	SLV 15	-514	-340	2560	15.36	-70.87	-1.27
137	SLV 16	-517	-472	2574	15.86	-71.23	-2.53
137	CRTFP Ux+	0	0	0	0	0	0
137	CRTFP Ux-	0	0	0	0	0	0
137	CRTFP Uy+	0	0	0	0	0	0
137	CRTFP Uy-	0	0	0	0	0	0
138	SLU 1	-29	3	3695	7.77	4.7	-0.28
138	SLU 2	-29	3	3695	7.77	4.7	-0.28
138	SLU 3	-29	3	3695	7.77	4.7	-0.28
138	SLU 4	-29	3	3695	7.77	4.7	-0.28
138	SLU 5	-29	3	3695	7.77	4.7	-0.28
138	SLU 6	-29	3	3695	7.77	4.7	-0.28
138	SLU 7	-29	3	3695	7.77	4.7	-0.28
138	SLU 8	-29	3	3695	7.77	4.7	-0.28
138	SLU 9	-29	3	3695	7.77	4.7	-0.28
138	SLU 10	-31	5	4454	10.16	5.55	-0.35
138	SLU 11	-31	5	4454	10.16	5.55	-0.35
138	SLU 12	-31	5	4454	10.16	5.55	-0.35
138	SLU 13	-31	5	4454	10.16	5.55	-0.35
138	SLU 14	-31	5	4454	10.16	5.55	-0.35
138	SLU 15	-31	5	4454	10.16	5.55	-0.35
138	SLU 16	-31	5	4454	10.16	5.55	-0.35
138	SLU 17	-31	5	4454	10.16	5.55	-0.35
138	SLU 18	-32	6	4779	11.19	5.91	-0.38
138	SLU 19	-32	6	4779	11.19	5.91	-0.38
138	SLU 20	-32	6	4779	11.19	5.91	-0.38
138	SLU 21	-32	6	4779	11.19	5.91	-0.38
138	SLU 22	-30	3	4260	9.76	5.25	-0.33
138	SLU 23	-30	3	4260	9.76	5.25	-0.33
138	SLU 24	-30	3	4260	9.76	5.25	-0.33
138	SLU 25	-30	3	4260	9.76	5.25	-0.33
138	SLU 26	-30	3	4260	9.76	5.25	-0.33
138	SLU 27	-30	3	4260	9.76	5.25	-0.33
138	SLU 28	-30	3	4260	9.76	5.25	-0.33
138	SLU 29	-30	3	4260	9.76	5.25	-0.33
138	SLU 30	-30	3	4260	9.76	5.25	-0.33
138	SLU 31	-32	6	5019	12.15	6.09	-0.39
138	SLU 32	-32	6	5019	12.15	6.09	-0.39
138	SLU 33	-32	6	5019	12.15	6.09	-0.39
138	SLU 34	-32	6	5019	12.15	6.09	-0.39
138	SLU 35	-32	6	5019	12.15	6.09	-0.39
138	SLU 36	-32	6	5019	12.15	6.09	-0.39
138	SLU 37	-32	6	5019	12.15	6.09	-0.39
138	SLU 38	-32	6	5019	12.15	6.09	-0.39
138	SLU 39	-33	7	5344	13.18	6.45	-0.42
138	SLU 40	-33	7	5344	13.18	6.45	-0.42
138	SLU 41	-33	7	5344	13.18	6.45	-0.42
138	SLU 42	-33	7	5344	13.18	6.45	-0.42
138	SLU 43	-37	3	4610	9.42	5.93	-0.35
138	SLU 44	-37	3	4610	9.42	5.93	-0.35
138	SLU 45	-37	3	4610	9.42	5.93	-0.35
138	SLU 46	-37	3	4610	9.42	5.93	-0.35
138	SLU 47	-37	3	4610	9.42	5.93	-0.35
138	SLU 48	-37	3	4610	9.42	5.93	-0.35
138	SLU 49	-37	3	4610	9.42	5.93	-0.35
138	SLU 50	-37	3	4610	9.42	5.93	-0.35
138	SLU 51	-37	3	4610	9.42	5.93	-0.35
138	SLU 52	-40	6	5368	11.82	6.77	-0.42
138	SLU 53	-40	6	5368	11.82	6.77	-0.42
138	SLU 54	-40	6	5368	11.82	6.77	-0.42
138	SLU 55	-40	6	5368	11.82	6.77	-0.42
138	SLU 56	-40	6	5368	11.82	6.77	-0.42
138	SLU 57	-40	6	5368	11.82	6.77	-0.42
138	SLU 58	-40	6	5368	11.82	6.77	-0.42
138	SLU 59	-40	6	5368	11.82	6.77	-0.42
138	SLU 60	-41	7	5694	12.84	7.13	-0.44
138	SLU 61	-41	7	5694	12.84	7.13	-0.44
138	SLU 62	-41	7	5694	12.84	7.13	-0.44
138	SLU 63	-41	7	5694	12.84	7.13	-0.44
138	SLU 64	-38	4	5175	11.41	6.47	-0.39
138	SLU 65	-38	4	5175	11.41	6.47	-0.39
138	SLU 66	-38	4	5175	11.41	6.47	-0.39
138	SLU 67	-38	4	5175	11.41	6.47	-0.39
138	SLU 68	-38	4	5175	11.41	6.47	-0.39
138	SLU 69	-38	4	5175	11.41	6.47	-0.39
138	SLU 70	-38	4	5175	11.41	6.47	-0.39
138	SLU 71	-38	4	5175	11.41	6.47	-0.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
138	SLU 72	-38	4	5175	11.41	6.47	-0.39
138	SLU 73	-40	6	5934	13.8	7.32	-0.46
138	SLU 74	-40	6	5934	13.8	7.32	-0.46
138	SLU 75	-40	6	5934	13.8	7.32	-0.46
138	SLU 76	-40	6	5934	13.8	7.32	-0.46
138	SLU 77	-40	6	5934	13.8	7.32	-0.46
138	SLU 78	-40	6	5934	13.8	7.32	-0.46
138	SLU 79	-40	6	5934	13.8	7.32	-0.46
138	SLU 80	-40	6	5934	13.8	7.32	-0.46
138	SLU 81	-41	7	6259	14.83	7.68	-0.49
138	SLU 82	-41	7	6259	14.83	7.68	-0.49
138	SLU 83	-41	7	6259	14.83	7.68	-0.49
138	SLU 84	-41	7	6259	14.83	7.68	-0.49
138	SLE RA 1	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 2	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 3	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 4	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 5	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 6	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 7	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 8	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 9	-29	3	3857	8.34	4.86	-0.29
138	SLE RA 10	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 11	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 12	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 13	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 14	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 15	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 16	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 17	-31	4	4362	9.93	5.42	-0.34
138	SLE RA 18	-31	5	4579	10.62	5.66	-0.36
138	SLE RA 19	-31	5	4579	10.62	5.66	-0.36
138	SLE RA 20	-31	5	4579	10.62	5.66	-0.36
138	SLE RA 21	-31	5	4579	10.62	5.66	-0.36
138	SLE FR 1	-29	3	3857	8.34	4.86	-0.29
138	SLE FR 2	-29	3	3857	8.34	4.86	-0.29
138	SLE FR 3	-29	3	3857	8.34	4.86	-0.29
138	SLE FR 4	-30	3	4073	9.02	5.1	-0.31
138	SLE FR 5	-30	3	4073	9.02	5.1	-0.31
138	SLE FR 6	-30	4	4218	9.48	5.26	-0.33
138	SLE QP 1	-29	3	3857	8.34	4.86	-0.29
138	SLE QP 2	-30	3	4073	9.02	5.1	-0.31
138	SLD 1	224	224	4549	5.16	7.21	-4.9
138	SLD 2	222	163	4556	5.39	7.24	-3.59
138	SLD 3	216	-34	4606	14.73	7.45	0.4
138	SLD 4	214	-96	4613	14.96	7.48	1.71
138	SLD 5	58	483	4127	-6.72	5.36	-10.18
138	SLD 6	56	421	4134	-6.49	5.38	-8.86
138	SLD 7	33	-378	4317	25.16	6.16	7.46
138	SLD 8	31	-440	4324	25.39	6.19	8.78
138	SLD 9	-91	447	3823	-7.34	4.01	-9.41
138	SLD 10	-93	385	3829	-7.11	4.04	-8.09
138	SLD 11	-116	-414	4013	24.54	4.82	8.23
138	SLD 12	-118	-476	4019	24.77	4.84	9.55
138	SLD 13	-274	102	3534	3.09	2.72	-2.33
138	SLD 14	-276	41	3541	3.32	2.75	-1.02
138	SLD 15	-281	-156	3591	12.65	2.97	2.96
138	SLD 16	-283	-217	3598	12.88	2.99	4.27
138	SLV 1	546	510	5152	0.1	9.89	-10.84
138	SLV 2	542	371	5167	0.62	9.94	-7.86
138	SLV 3	529	-87	5284	22.23	10.45	1.4
138	SLV 4	524	-227	5299	22.75	10.5	4.38
138	SLV 5	171	1112	4191	-27.4	5.67	-23.11
138	SLV 6	167	970	4206	-26.87	5.72	-20.07
138	SLV 7	113	-880	4632	46.36	7.54	17.7
138	SLV 8	108	-1022	4647	46.89	7.59	20.73
138	SLV 9	-168	1029	3500	-28.84	2.61	-21.36
138	SLV 10	-172	887	3515	-28.31	2.67	-18.33
138	SLV 11	-226	-963	3941	44.92	4.48	19.45
138	SLV 12	-231	-1105	3956	45.45	4.54	22.48
138	SLV 13	-584	234	2848	-4.7	-0.3	-5.01
138	SLV 14	-588	94	2862	-4.18	-0.25	-2.03
138	SLV 15	-602	-364	2980	17.42	0.26	7.23
138	SLV 16	-606	-504	2995	17.94	0.31	10.21
138	CRTFP Ux+	0	0	0	0	0	0
138	CRTFP Ux-	0	0	0	0	0	0
138	CRTFP Uy+	0	0	0	0	0	0
138	CRTFP Uy-	0	0	0	0	0	0
139	SLU 1	-27	1	3559	7.68	3.89	-0.23
139	SLU 2	-27	1	3559	7.68	3.89	-0.23
139	SLU 3	-27	1	3559	7.68	3.89	-0.23
139	SLU 4	-27	1	3559	7.68	3.89	-0.23
139	SLU 5	-27	1	3559	7.68	3.89	-0.23
139	SLU 6	-27	1	3559	7.68	3.89	-0.23
139	SLU 7	-27	1	3559	7.68	3.89	-0.23
139	SLU 8	-27	1	3559	7.68	3.89	-0.23
139	SLU 9	-27	1	3559	7.68	3.89	-0.23
139	SLU 10	-29	3	4294	10.03	4.55	-0.29
139	SLU 11	-29	3	4294	10.03	4.55	-0.29
139	SLU 12	-29	3	4294	10.03	4.55	-0.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
139	SLU 13	-29	3	4294	10.03	4.55	-0.29
139	SLU 14	-29	3	4294	10.03	4.55	-0.29
139	SLU 15	-29	3	4294	10.03	4.55	-0.29
139	SLU 16	-29	3	4294	10.03	4.55	-0.29
139	SLU 17	-29	3	4294	10.03	4.55	-0.29
139	SLU 18	-30	4	4609	11.04	4.83	-0.32
139	SLU 19	-30	4	4609	11.04	4.83	-0.32
139	SLU 20	-30	4	4609	11.04	4.83	-0.32
139	SLU 21	-30	4	4609	11.04	4.83	-0.32
139	SLU 22	-28	2	4109	9.65	4.31	-0.27
139	SLU 23	-28	2	4109	9.65	4.31	-0.27
139	SLU 24	-28	2	4109	9.65	4.31	-0.27
139	SLU 25	-28	2	4109	9.65	4.31	-0.27
139	SLU 26	-28	2	4109	9.65	4.31	-0.27
139	SLU 27	-28	2	4109	9.65	4.31	-0.27
139	SLU 28	-28	2	4109	9.65	4.31	-0.27
139	SLU 29	-28	2	4109	9.65	4.31	-0.27
139	SLU 30	-28	2	4109	9.65	4.31	-0.27
139	SLU 31	-30	4	4844	12	4.97	-0.33
139	SLU 32	-30	4	4844	12	4.97	-0.33
139	SLU 33	-30	4	4844	12	4.97	-0.33
139	SLU 34	-30	4	4844	12	4.97	-0.33
139	SLU 35	-30	4	4844	12	4.97	-0.33
139	SLU 36	-30	4	4844	12	4.97	-0.33
139	SLU 37	-30	4	4844	12	4.97	-0.33
139	SLU 38	-30	4	4844	12	4.97	-0.33
139	SLU 39	-31	5	5159	13.01	5.25	-0.36
139	SLU 40	-31	5	5159	13.01	5.25	-0.36
139	SLU 41	-31	5	5159	13.01	5.25	-0.36
139	SLU 42	-31	5	5159	13.01	5.25	-0.36
139	SLU 43	-35	2	4438	9.31	4.91	-0.29
139	SLU 44	-35	2	4438	9.31	4.91	-0.29
139	SLU 45	-35	2	4438	9.31	4.91	-0.29
139	SLU 46	-35	2	4438	9.31	4.91	-0.29
139	SLU 47	-35	2	4438	9.31	4.91	-0.29
139	SLU 48	-35	2	4438	9.31	4.91	-0.29
139	SLU 49	-35	2	4438	9.31	4.91	-0.29
139	SLU 50	-35	2	4438	9.31	4.91	-0.29
139	SLU 51	-35	2	4438	9.31	4.91	-0.29
139	SLU 52	-37	4	5173	11.66	5.57	-0.35
139	SLU 53	-37	4	5173	11.66	5.57	-0.35
139	SLU 54	-37	4	5173	11.66	5.57	-0.35
139	SLU 55	-37	4	5173	11.66	5.57	-0.35
139	SLU 56	-37	4	5173	11.66	5.57	-0.35
139	SLU 57	-37	4	5173	11.66	5.57	-0.35
139	SLU 58	-37	4	5173	11.66	5.57	-0.35
139	SLU 59	-37	4	5173	11.66	5.57	-0.35
139	SLU 60	-38	5	5488	12.67	5.85	-0.38
139	SLU 61	-38	5	5488	12.67	5.85	-0.38
139	SLU 62	-38	5	5488	12.67	5.85	-0.38
139	SLU 63	-38	5	5488	12.67	5.85	-0.38
139	SLU 64	-36	2	4988	11.28	5.33	-0.32
139	SLU 65	-36	2	4988	11.28	5.33	-0.32
139	SLU 66	-36	2	4988	11.28	5.33	-0.32
139	SLU 67	-36	2	4988	11.28	5.33	-0.32
139	SLU 68	-36	2	4988	11.28	5.33	-0.32
139	SLU 69	-36	2	4988	11.28	5.33	-0.32
139	SLU 70	-36	2	4988	11.28	5.33	-0.32
139	SLU 71	-36	2	4988	11.28	5.33	-0.32
139	SLU 72	-36	2	4988	11.28	5.33	-0.32
139	SLU 73	-38	4	5723	13.63	5.99	-0.39
139	SLU 74	-38	4	5723	13.63	5.99	-0.39
139	SLU 75	-38	4	5723	13.63	5.99	-0.39
139	SLU 76	-38	4	5723	13.63	5.99	-0.39
139	SLU 77	-38	4	5723	13.63	5.99	-0.39
139	SLU 78	-38	4	5723	13.63	5.99	-0.39
139	SLU 79	-38	4	5723	13.63	5.99	-0.39
139	SLU 80	-38	4	5723	13.63	5.99	-0.39
139	SLU 81	-39	5	6038	14.64	6.28	-0.41
139	SLU 82	-39	5	6038	14.64	6.28	-0.41
139	SLU 83	-39	5	6038	14.64	6.28	-0.41
139	SLU 84	-39	5	6038	14.64	6.28	-0.41
139	SLE RA 1	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 2	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 3	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 4	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 5	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 6	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 7	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 8	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 9	-27	1	3716	8.24	4.01	-0.24
139	SLE RA 10	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 11	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 12	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 13	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 14	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 15	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 16	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 17	-29	3	4206	9.81	4.45	-0.28
139	SLE RA 18	-30	3	4416	10.48	4.64	-0.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
139	SLE RA 19	-30	3	4416	10.48	4.64	-0.3
139	SLE RA 20	-30	3	4416	10.48	4.64	-0.3
139	SLE RA 21	-30	3	4416	10.48	4.64	-0.3
139	SLE FR 1	-27	1	3716	8.24	4.01	-0.24
139	SLE FR 2	-27	1	3716	8.24	4.01	-0.24
139	SLE FR 3	-27	1	3716	8.24	4.01	-0.24
139	SLE FR 4	-28	2	3926	8.91	4.2	-0.26
139	SLE FR 5	-28	2	3926	8.91	4.2	-0.26
139	SLE FR 6	-29	2	4066	9.36	4.32	-0.27
139	SLE QP 1	-27	1	3716	8.24	4.01	-0.24
139	SLE QP 2	-28	2	3926	8.91	4.2	-0.26
139	SLD 1	226	199	4337	5.26	6.15	-4.87
139	SLD 2	224	144	4343	5.46	6.17	-3.57
139	SLD 3	218	-32	4387	14.48	6.37	0.47
139	SLD 4	216	-86	4392	14.68	6.4	1.78
139	SLD 5	60	430	3972	-6.23	4.43	-10.22
139	SLD 6	58	375	3978	-6.03	4.46	-8.9
139	SLD 7	35	-338	4137	24.49	5.18	7.61
139	SLD 8	33	-393	4143	24.69	5.21	8.93
139	SLD 9	-89	397	3709	-6.87	3.19	-9.44
139	SLD 10	-91	342	3714	-6.66	3.21	-8.13
139	SLD 11	-115	-371	3874	23.86	3.94	8.38
139	SLD 12	-116	-426	3880	24.06	3.96	9.7
139	SLD 13	-273	90	3459	3.15	2	-2.29
139	SLD 14	-274	36	3465	3.35	2.02	-0.99
139	SLD 15	-280	-140	3509	12.37	2.22	3.05
139	SLD 16	-282	-195	3515	12.57	2.24	4.36
139	SLV 1	549	454	4858	0.46	8.62	-10.86
139	SLV 2	545	330	4871	0.91	8.68	-7.89
139	SLV 3	531	-79	4973	21.79	9.15	1.51
139	SLV 4	527	-204	4986	22.24	9.2	4.48
139	SLV 5	173	991	4026	-26.13	4.72	-23.27
139	SLV 6	169	864	4039	-25.67	4.77	-20.25
139	SLV 7	114	-787	4410	44.96	6.45	17.97
139	SLV 8	110	-913	4423	45.42	6.51	20.99
139	SLV 9	-167	917	3428	-27.59	1.89	-21.51
139	SLV 10	-171	791	3442	-27.13	1.94	-18.49
139	SLV 11	-225	-860	3812	43.5	3.63	19.73
139	SLV 12	-229	-987	3826	43.96	3.68	22.75
139	SLV 13	-583	208	2866	-4.41	-0.8	-5
139	SLV 14	-587	83	2879	-3.96	-0.75	-2.03
139	SLV 15	-601	-326	2981	16.92	-0.28	7.38
139	SLV 16	-605	-450	2994	17.37	-0.23	10.34
139	CRTFP Ux+	0	0	0	0	0	0
139	CRTFP Ux-	0	0	0	0	0	0
139	CRTFP Uy+	0	0	0	0	0	0
139	CRTFP Uy-	0	0	0	0	0	0
140	SLU 1	-25	0	3445	7.6	3.25	-0.19
140	SLU 2	-25	0	3445	7.6	3.25	-0.19
140	SLU 3	-25	0	3445	7.6	3.25	-0.19
140	SLU 4	-25	0	3445	7.6	3.25	-0.19
140	SLU 5	-25	0	3445	7.6	3.25	-0.19
140	SLU 6	-25	0	3445	7.6	3.25	-0.19
140	SLU 7	-25	0	3445	7.6	3.25	-0.19
140	SLU 8	-25	0	3445	7.6	3.25	-0.19
140	SLU 9	-25	0	3445	7.6	3.25	-0.19
140	SLU 10	-27	2	4162	9.91	3.77	-0.25
140	SLU 11	-27	2	4162	9.91	3.77	-0.25
140	SLU 12	-27	2	4162	9.91	3.77	-0.25
140	SLU 13	-27	2	4162	9.91	3.77	-0.25
140	SLU 14	-27	2	4162	9.91	3.77	-0.25
140	SLU 15	-27	2	4162	9.91	3.77	-0.25
140	SLU 16	-27	2	4162	9.91	3.77	-0.25
140	SLU 17	-27	2	4162	9.91	3.77	-0.25
140	SLU 18	-28	3	4469	10.91	3.99	-0.27
140	SLU 19	-28	3	4469	10.91	3.99	-0.27
140	SLU 20	-28	3	4469	10.91	3.99	-0.27
140	SLU 21	-28	3	4469	10.91	3.99	-0.27
140	SLU 22	-26	0	3983	9.55	3.59	-0.22
140	SLU 23	-26	0	3983	9.55	3.59	-0.22
140	SLU 24	-26	0	3983	9.55	3.59	-0.22
140	SLU 25	-26	0	3983	9.55	3.59	-0.22
140	SLU 26	-26	0	3983	9.55	3.59	-0.22
140	SLU 27	-26	0	3983	9.55	3.59	-0.22
140	SLU 28	-26	0	3983	9.55	3.59	-0.22
140	SLU 29	-26	0	3983	9.55	3.59	-0.22
140	SLU 30	-26	0	3983	9.55	3.59	-0.22
140	SLU 31	-28	2	4700	11.86	4.11	-0.27
140	SLU 32	-28	2	4700	11.86	4.11	-0.27
140	SLU 33	-28	2	4700	11.86	4.11	-0.27
140	SLU 34	-28	2	4700	11.86	4.11	-0.27
140	SLU 35	-28	2	4700	11.86	4.11	-0.27
140	SLU 36	-28	2	4700	11.86	4.11	-0.27
140	SLU 37	-28	2	4700	11.86	4.11	-0.27
140	SLU 38	-28	2	4700	11.86	4.11	-0.27
140	SLU 39	-28	3	5007	12.86	4.33	-0.3
140	SLU 40	-28	3	5007	12.86	4.33	-0.3
140	SLU 41	-28	3	5007	12.86	4.33	-0.3
140	SLU 42	-28	3	5007	12.86	4.33	-0.3
140	SLU 43	-33	0	4295	9.21	4.11	-0.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
140	SLU 44	-33	0	4295	9.21	4.11	-0.23
140	SLU 45	-33	0	4295	9.21	4.11	-0.23
140	SLU 46	-33	0	4295	9.21	4.11	-0.23
140	SLU 47	-33	0	4295	9.21	4.11	-0.23
140	SLU 48	-33	0	4295	9.21	4.11	-0.23
140	SLU 49	-33	0	4295	9.21	4.11	-0.23
140	SLU 50	-33	0	4295	9.21	4.11	-0.23
140	SLU 51	-33	0	4295	9.21	4.11	-0.23
140	SLU 52	-35	2	5011	11.52	4.63	-0.29
140	SLU 53	-35	2	5011	11.52	4.63	-0.29
140	SLU 54	-35	2	5011	11.52	4.63	-0.29
140	SLU 55	-35	2	5011	11.52	4.63	-0.29
140	SLU 56	-35	2	5011	11.52	4.63	-0.29
140	SLU 57	-35	2	5011	11.52	4.63	-0.29
140	SLU 58	-35	2	5011	11.52	4.63	-0.29
140	SLU 59	-35	2	5011	11.52	4.63	-0.29
140	SLU 60	-35	3	5318	12.52	4.85	-0.32
140	SLU 61	-35	3	5318	12.52	4.85	-0.32
140	SLU 62	-35	3	5318	12.52	4.85	-0.32
140	SLU 63	-35	3	5318	12.52	4.85	-0.32
140	SLU 64	-33	0	4833	11.16	4.45	-0.26
140	SLU 65	-33	0	4833	11.16	4.45	-0.26
140	SLU 66	-33	0	4833	11.16	4.45	-0.26
140	SLU 67	-33	0	4833	11.16	4.45	-0.26
140	SLU 68	-33	0	4833	11.16	4.45	-0.26
140	SLU 69	-33	0	4833	11.16	4.45	-0.26
140	SLU 70	-33	0	4833	11.16	4.45	-0.26
140	SLU 71	-33	0	4833	11.16	4.45	-0.26
140	SLU 72	-33	0	4833	11.16	4.45	-0.26
140	SLU 73	-35	2	5549	13.48	4.97	-0.32
140	SLU 74	-35	2	5549	13.48	4.97	-0.32
140	SLU 75	-35	2	5549	13.48	4.97	-0.32
140	SLU 76	-35	2	5549	13.48	4.97	-0.32
140	SLU 77	-35	2	5549	13.48	4.97	-0.32
140	SLU 78	-35	2	5549	13.48	4.97	-0.32
140	SLU 79	-35	2	5549	13.48	4.97	-0.32
140	SLU 80	-35	2	5549	13.48	4.97	-0.32
140	SLU 81	-36	3	5856	14.47	5.19	-0.35
140	SLU 82	-36	3	5856	14.47	5.19	-0.35
140	SLU 83	-36	3	5856	14.47	5.19	-0.35
140	SLU 84	-36	3	5856	14.47	5.19	-0.35
140	SLE RA 1	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 2	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 3	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 4	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 5	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 6	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 7	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 8	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 9	-25	0	3599	8.16	3.35	-0.19
140	SLE RA 10	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 11	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 12	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 13	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 14	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 15	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 16	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 17	-27	2	4077	9.7	3.69	-0.23
140	SLE RA 18	-27	2	4281	10.36	3.84	-0.25
140	SLE RA 19	-27	2	4281	10.36	3.84	-0.25
140	SLE RA 20	-27	2	4281	10.36	3.84	-0.25
140	SLE RA 21	-27	2	4281	10.36	3.84	-0.25
140	SLE FR 1	-25	0	3599	8.16	3.35	-0.19
140	SLE FR 2	-25	0	3599	8.16	3.35	-0.19
140	SLE FR 3	-25	0	3599	8.16	3.35	-0.19
140	SLE FR 4	-26	1	3804	8.82	3.49	-0.21
140	SLE FR 5	-26	1	3804	8.82	3.49	-0.21
140	SLE FR 6	-26	1	3940	9.26	3.59	-0.22
140	SLE QP 1	-25	0	3599	8.16	3.35	-0.19
140	SLE QP 2	-26	1	3804	8.82	3.49	-0.21
140	SLD 1	228	174	4155	5.37	5.32	-4.74
140	SLD 2	227	126	4160	5.54	5.34	-3.46
140	SLD 3	221	-29	4198	14.26	5.53	0.49
140	SLD 4	219	-77	4203	14.43	5.55	1.76
140	SLD 5	63	377	3843	-5.75	3.72	-9.95
140	SLD 6	61	329	3848	-5.58	3.74	-8.66
140	SLD 7	37	-299	3985	23.86	4.42	7.47
140	SLD 8	35	-347	3990	24.03	4.44	8.76
140	SLD 9	-87	349	3618	-6.4	2.55	-9.18
140	SLD 10	-89	301	3623	-6.23	2.57	-7.9
140	SLD 11	-113	-327	3760	23.21	3.25	8.24
140	SLD 12	-114	-376	3765	23.39	3.27	9.53
140	SLD 13	-271	79	3405	3.21	1.44	-2.19
140	SLD 14	-273	31	3410	3.38	1.46	-0.91
140	SLD 15	-278	-124	3448	12.09	1.65	3.04
140	SLD 16	-280	-172	3453	12.26	1.67	4.32
140	SLV 1	552	398	4600	0.84	7.63	-10.61
140	SLV 2	548	289	4611	1.22	7.68	-7.71
140	SLV 3	534	-71	4699	21.39	8.12	1.48
140	SLV 4	530	-180	4710	21.78	8.17	4.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
140	SLV 5	176	871	3888	-24.89	3.98	-22.71
140	SLV 6	172	760	3900	-24.49	4.03	-19.76
140	SLV 7	117	-693	4219	43.62	5.6	17.59
140	SLV 8	113	-804	4230	44.02	5.65	20.55
140	SLV 9	-164	806	3377	-26.38	1.34	-20.97
140	SLV 10	-169	695	3389	-25.99	1.39	-18.02
140	SLV 11	-224	-758	3708	42.13	2.96	19.33
140	SLV 12	-228	-869	3719	42.52	3.01	22.29
140	SLV 13	-582	182	2897	-4.14	-1.18	-4.81
140	SLV 14	-586	73	2909	-3.75	-1.13	-1.9
140	SLV 15	-600	-287	2996	16.41	-0.69	7.28
140	SLV 16	-604	-396	3008	16.8	-0.64	10.19
140	CRTFP Ux+	0	0	0	0	0	0
140	CRTFP Ux-	0	0	0	0	0	0
140	CRTFP Uy+	0	0	0	0	0	0
140	CRTFP Uy-	0	0	0	0	0	0
141	SLU 1	-23	-1	3350	7.53	2.73	-0.15
141	SLU 2	-23	-1	3350	7.53	2.73	-0.15
141	SLU 3	-23	-1	3350	7.53	2.73	-0.15
141	SLU 4	-23	-1	3350	7.53	2.73	-0.15
141	SLU 5	-23	-1	3350	7.53	2.73	-0.15
141	SLU 6	-23	-1	3350	7.53	2.73	-0.15
141	SLU 7	-23	-1	3350	7.53	2.73	-0.15
141	SLU 8	-23	-1	3350	7.53	2.73	-0.15
141	SLU 9	-23	-1	3350	7.53	2.73	-0.15
141	SLU 10	-25	1	4052	9.81	3.14	-0.21
141	SLU 11	-25	1	4052	9.81	3.14	-0.21
141	SLU 12	-25	1	4052	9.81	3.14	-0.21
141	SLU 13	-25	1	4052	9.81	3.14	-0.21
141	SLU 14	-25	1	4052	9.81	3.14	-0.21
141	SLU 15	-25	1	4052	9.81	3.14	-0.21
141	SLU 16	-25	1	4052	9.81	3.14	-0.21
141	SLU 17	-25	1	4052	9.81	3.14	-0.21
141	SLU 18	-25	2	4353	10.78	3.32	-0.23
141	SLU 19	-25	2	4353	10.78	3.32	-0.23
141	SLU 20	-25	2	4353	10.78	3.32	-0.23
141	SLU 21	-25	2	4353	10.78	3.32	-0.23
141	SLU 22	-23	-1	3879	9.47	3.01	-0.17
141	SLU 23	-23	-1	3879	9.47	3.01	-0.17
141	SLU 24	-23	-1	3879	9.47	3.01	-0.17
141	SLU 25	-23	-1	3879	9.47	3.01	-0.17
141	SLU 26	-23	-1	3879	9.47	3.01	-0.17
141	SLU 27	-23	-1	3879	9.47	3.01	-0.17
141	SLU 28	-23	-1	3879	9.47	3.01	-0.17
141	SLU 29	-23	-1	3879	9.47	3.01	-0.17
141	SLU 30	-23	-1	3879	9.47	3.01	-0.17
141	SLU 31	-25	1	4580	11.74	3.42	-0.23
141	SLU 32	-25	1	4580	11.74	3.42	-0.23
141	SLU 33	-25	1	4580	11.74	3.42	-0.23
141	SLU 34	-25	1	4580	11.74	3.42	-0.23
141	SLU 35	-25	1	4580	11.74	3.42	-0.23
141	SLU 36	-25	1	4580	11.74	3.42	-0.23
141	SLU 37	-25	1	4580	11.74	3.42	-0.23
141	SLU 38	-25	1	4580	11.74	3.42	-0.23
141	SLU 39	-25	2	4881	12.72	3.59	-0.25
141	SLU 40	-25	2	4881	12.72	3.59	-0.25
141	SLU 41	-25	2	4881	12.72	3.59	-0.25
141	SLU 42	-25	2	4881	12.72	3.59	-0.25
141	SLU 43	-30	-1	4174	9.12	3.45	-0.19
141	SLU 44	-30	-1	4174	9.12	3.45	-0.19
141	SLU 45	-30	-1	4174	9.12	3.45	-0.19
141	SLU 46	-30	-1	4174	9.12	3.45	-0.19
141	SLU 47	-30	-1	4174	9.12	3.45	-0.19
141	SLU 48	-30	-1	4174	9.12	3.45	-0.19
141	SLU 49	-30	-1	4174	9.12	3.45	-0.19
141	SLU 50	-30	-1	4174	9.12	3.45	-0.19
141	SLU 51	-30	-1	4174	9.12	3.45	-0.19
141	SLU 52	-31	1	4876	11.4	3.86	-0.24
141	SLU 53	-31	1	4876	11.4	3.86	-0.24
141	SLU 54	-31	1	4876	11.4	3.86	-0.24
141	SLU 55	-31	1	4876	11.4	3.86	-0.24
141	SLU 56	-31	1	4876	11.4	3.86	-0.24
141	SLU 57	-31	1	4876	11.4	3.86	-0.24
141	SLU 58	-31	1	4876	11.4	3.86	-0.24
141	SLU 59	-31	1	4876	11.4	3.86	-0.24
141	SLU 60	-32	1	5177	12.38	4.04	-0.27
141	SLU 61	-32	1	5177	12.38	4.04	-0.27
141	SLU 62	-32	1	5177	12.38	4.04	-0.27
141	SLU 63	-32	1	5177	12.38	4.04	-0.27
141	SLU 64	-30	-1	4703	11.06	3.73	-0.21
141	SLU 65	-30	-1	4703	11.06	3.73	-0.21
141	SLU 66	-30	-1	4703	11.06	3.73	-0.21
141	SLU 67	-30	-1	4703	11.06	3.73	-0.21
141	SLU 68	-30	-1	4703	11.06	3.73	-0.21
141	SLU 69	-30	-1	4703	11.06	3.73	-0.21
141	SLU 70	-30	-1	4703	11.06	3.73	-0.21
141	SLU 71	-30	-1	4703	11.06	3.73	-0.21
141	SLU 72	-30	-1	4703	11.06	3.73	-0.21
141	SLU 73	-32	1	5404	13.34	4.14	-0.27
141	SLU 74	-32	1	5404	13.34	4.14	-0.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
141	SLU 75	-32	1	5404	13.34	4.14	-0.27
141	SLU 76	-32	1	5404	13.34	4.14	-0.27
141	SLU 77	-32	1	5404	13.34	4.14	-0.27
141	SLU 78	-32	1	5404	13.34	4.14	-0.27
141	SLU 79	-32	1	5404	13.34	4.14	-0.27
141	SLU 80	-32	1	5404	13.34	4.14	-0.27
141	SLU 81	-32	1	5705	14.32	4.32	-0.29
141	SLU 82	-32	1	5705	14.32	4.32	-0.29
141	SLU 83	-32	1	5705	14.32	4.32	-0.29
141	SLU 84	-32	1	5705	14.32	4.32	-0.29
141	SLE RA 1	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 2	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 3	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 4	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 5	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 6	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 7	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 8	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 9	-23	-1	3501	8.08	2.81	-0.16
141	SLE RA 10	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 11	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 12	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 13	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 14	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 15	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 16	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 17	-24	0	3969	9.6	3.08	-0.19
141	SLE RA 18	-25	1	4169	10.25	3.2	-0.21
141	SLE RA 19	-25	1	4169	10.25	3.2	-0.21
141	SLE RA 20	-25	1	4169	10.25	3.2	-0.21
141	SLE RA 21	-25	1	4169	10.25	3.2	-0.21
141	SLE FR 1	-23	-1	3501	8.08	2.81	-0.16
141	SLE FR 2	-23	-1	3501	8.08	2.81	-0.16
141	SLE FR 3	-23	-1	3501	8.08	2.81	-0.16
141	SLE FR 4	-23	0	3702	8.73	2.92	-0.17
141	SLE FR 5	-23	0	3702	8.73	2.92	-0.17
141	SLE FR 6	-24	0	3835	9.17	3	-0.18
141	SLE QP 1	-23	-1	3501	8.08	2.81	-0.16
141	SLE QP 2	-23	0	3702	8.73	2.92	-0.17
141	SLD 1	231	150	3997	5.5	4.65	-4.52
141	SLD 2	229	108	4001	5.64	4.67	-3.28
141	SLD 3	223	-27	4033	14.06	4.84	0.43
141	SLD 4	222	-68	4037	14.2	4.86	1.67
141	SLD 5	65	327	3734	-5.27	3.14	-9.43
141	SLD 6	63	285	3738	-5.13	3.16	-8.18
141	SLD 7	40	-261	3854	23.26	3.79	7.08
141	SLD 8	38	-303	3859	23.4	3.81	8.33
141	SLD 9	-85	302	3545	-5.94	2.04	-8.68
141	SLD 10	-87	260	3549	-5.8	2.06	-7.43
141	SLD 11	-110	-285	3665	22.59	2.69	7.83
141	SLD 12	-112	-327	3670	22.73	2.71	9.08
141	SLD 13	-269	68	3366	3.27	0.99	-2.02
141	SLD 14	-270	26	3371	3.41	1.01	-0.78
141	SLD 15	-276	-109	3403	11.83	1.18	2.93
141	SLD 16	-278	-150	3407	11.97	1.2	4.17
141	SLV 1	555	344	4370	1.23	6.83	-10.15
141	SLV 2	551	250	4380	1.55	6.87	-7.34
141	SLV 3	537	-64	4454	21.03	7.28	1.31
141	SLV 4	533	-158	4464	21.35	7.33	4.12
141	SLV 5	179	755	3771	-23.66	3.39	-21.56
141	SLV 6	175	659	3781	-23.34	3.43	-18.7
141	SLV 7	119	-604	4052	42.34	4.91	16.64
141	SLV 8	115	-700	4062	42.67	4.95	19.51
141	SLV 9	-162	699	3342	-25.2	0.89	-19.86
141	SLV 10	-166	604	3352	-24.88	0.94	-16.99
141	SLV 11	-222	-660	3623	40.81	2.41	18.35
141	SLV 12	-226	-756	3633	41.13	2.46	21.21
141	SLV 13	-580	158	2940	-3.89	-1.48	-4.47
141	SLV 14	-584	64	2950	-3.57	-1.44	-1.65
141	SLV 15	-598	-250	3024	15.91	-1.03	6.99
141	SLV 16	-602	-344	3034	16.23	-0.98	9.81
141	CRTFP Ux+	0	0	0	0	0	0
141	CRTFP Ux-	0	0	0	0	0	0
141	CRTFP Uy+	0	0	0	0	0	0
141	CRTFP Uy-	0	0	0	0	0	0
142	SLU 1	-20	-1	3271	7.47	2.28	-0.12
142	SLU 2	-20	-1	3271	7.47	2.28	-0.12
142	SLU 3	-20	-1	3271	7.47	2.28	-0.12
142	SLU 4	-20	-1	3271	7.47	2.28	-0.12
142	SLU 5	-20	-1	3271	7.47	2.28	-0.12
142	SLU 6	-20	-1	3271	7.47	2.28	-0.12
142	SLU 7	-20	-1	3271	7.47	2.28	-0.12
142	SLU 8	-20	-1	3271	7.47	2.28	-0.12
142	SLU 9	-20	-1	3271	7.47	2.28	-0.12
142	SLU 10	-22	0	3961	9.71	2.61	-0.18
142	SLU 11	-22	0	3961	9.71	2.61	-0.18
142	SLU 12	-22	0	3961	9.71	2.61	-0.18
142	SLU 13	-22	0	3961	9.71	2.61	-0.18
142	SLU 14	-22	0	3961	9.71	2.61	-0.18
142	SLU 15	-22	0	3961	9.71	2.61	-0.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
142	SLU 16	-22	0	3961	9.71	2.61	-0.18
142	SLU 17	-22	0	3961	9.71	2.61	-0.18
142	SLU 18	-22	1	4256	10.68	2.75	-0.2
142	SLU 19	-22	1	4256	10.68	2.75	-0.2
142	SLU 20	-22	1	4256	10.68	2.75	-0.2
142	SLU 21	-22	1	4256	10.68	2.75	-0.2
142	SLU 22	-20	-1	3791	9.39	2.52	-0.14
142	SLU 23	-20	-1	3791	9.39	2.52	-0.14
142	SLU 24	-20	-1	3791	9.39	2.52	-0.14
142	SLU 25	-20	-1	3791	9.39	2.52	-0.14
142	SLU 26	-20	-1	3791	9.39	2.52	-0.14
142	SLU 27	-20	-1	3791	9.39	2.52	-0.14
142	SLU 28	-20	-1	3791	9.39	2.52	-0.14
142	SLU 29	-20	-1	3791	9.39	2.52	-0.14
142	SLU 30	-20	-1	3791	9.39	2.52	-0.14
142	SLU 31	-22	0	4481	11.64	2.84	-0.19
142	SLU 32	-22	0	4481	11.64	2.84	-0.19
142	SLU 33	-22	0	4481	11.64	2.84	-0.19
142	SLU 34	-22	0	4481	11.64	2.84	-0.19
142	SLU 35	-22	0	4481	11.64	2.84	-0.19
142	SLU 36	-22	0	4481	11.64	2.84	-0.19
142	SLU 37	-22	0	4481	11.64	2.84	-0.19
142	SLU 38	-22	0	4481	11.64	2.84	-0.19
142	SLU 39	-22	1	4776	12.6	2.98	-0.21
142	SLU 40	-22	1	4776	12.6	2.98	-0.21
142	SLU 41	-22	1	4776	12.6	2.98	-0.21
142	SLU 42	-22	1	4776	12.6	2.98	-0.21
142	SLU 43	-26	-2	4074	9.05	2.89	-0.16
142	SLU 44	-26	-2	4074	9.05	2.89	-0.16
142	SLU 45	-26	-2	4074	9.05	2.89	-0.16
142	SLU 46	-26	-2	4074	9.05	2.89	-0.16
142	SLU 47	-26	-2	4074	9.05	2.89	-0.16
142	SLU 48	-26	-2	4074	9.05	2.89	-0.16
142	SLU 49	-26	-2	4074	9.05	2.89	-0.16
142	SLU 50	-26	-2	4074	9.05	2.89	-0.16
142	SLU 51	-26	-2	4074	9.05	2.89	-0.16
142	SLU 52	-28	0	4764	11.29	3.21	-0.21
142	SLU 53	-28	0	4764	11.29	3.21	-0.21
142	SLU 54	-28	0	4764	11.29	3.21	-0.21
142	SLU 55	-28	0	4764	11.29	3.21	-0.21
142	SLU 56	-28	0	4764	11.29	3.21	-0.21
142	SLU 57	-28	0	4764	11.29	3.21	-0.21
142	SLU 58	-28	0	4764	11.29	3.21	-0.21
142	SLU 59	-28	0	4764	11.29	3.21	-0.21
142	SLU 60	-28	0	5059	12.26	3.35	-0.23
142	SLU 61	-28	0	5059	12.26	3.35	-0.23
142	SLU 62	-28	0	5059	12.26	3.35	-0.23
142	SLU 63	-28	0	5059	12.26	3.35	-0.23
142	SLU 64	-27	-2	4594	10.97	3.12	-0.17
142	SLU 65	-27	-2	4594	10.97	3.12	-0.17
142	SLU 66	-27	-2	4594	10.97	3.12	-0.17
142	SLU 67	-27	-2	4594	10.97	3.12	-0.17
142	SLU 68	-27	-2	4594	10.97	3.12	-0.17
142	SLU 69	-27	-2	4594	10.97	3.12	-0.17
142	SLU 70	-27	-2	4594	10.97	3.12	-0.17
142	SLU 71	-27	-2	4594	10.97	3.12	-0.17
142	SLU 72	-27	-2	4594	10.97	3.12	-0.17
142	SLU 73	-28	0	5284	13.22	3.45	-0.22
142	SLU 74	-28	0	5284	13.22	3.45	-0.22
142	SLU 75	-28	0	5284	13.22	3.45	-0.22
142	SLU 76	-28	0	5284	13.22	3.45	-0.22
142	SLU 77	-28	0	5284	13.22	3.45	-0.22
142	SLU 78	-28	0	5284	13.22	3.45	-0.22
142	SLU 79	-28	0	5284	13.22	3.45	-0.22
142	SLU 80	-28	0	5284	13.22	3.45	-0.22
142	SLU 81	-28	0	5579	14.18	3.59	-0.25
142	SLU 82	-28	0	5579	14.18	3.59	-0.25
142	SLU 83	-28	0	5579	14.18	3.59	-0.25
142	SLU 84	-28	0	5579	14.18	3.59	-0.25
142	SLE RA 1	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 2	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 3	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 4	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 5	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 6	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 7	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 8	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 9	-20	-1	3419	8.02	2.35	-0.13
142	SLE RA 10	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 11	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 12	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 13	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 14	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 15	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 16	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 17	-21	0	3879	9.52	2.57	-0.16
142	SLE RA 18	-22	0	4076	10.16	2.66	-0.18
142	SLE RA 19	-22	0	4076	10.16	2.66	-0.18
142	SLE RA 20	-22	0	4076	10.16	2.66	-0.18
142	SLE RA 21	-22	0	4076	10.16	2.66	-0.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
142	SLE FR 1	-20	-1	3419	8.02	2.35	-0.13
142	SLE FR 2	-20	-1	3419	8.02	2.35	-0.13
142	SLE FR 3	-20	-1	3419	8.02	2.35	-0.13
142	SLE FR 4	-21	-1	3617	8.66	2.44	-0.14
142	SLE FR 5	-21	-1	3617	8.66	2.44	-0.14
142	SLE FR 6	-21	-1	3748	9.09	2.51	-0.15
142	SLE QP 1	-20	-1	3419	8.02	2.35	-0.13
142	SLE QP 2	-21	-1	3617	8.66	2.44	-0.14
142	SLD 1	234	127	3858	5.64	4.08	-4.23
142	SLD 2	232	92	3862	5.75	4.1	-3.04
142	SLD 3	226	-25	3888	13.88	4.26	0.32
142	SLD 4	225	-60	3892	13.99	4.28	1.51
142	SLD 5	68	280	3642	-4.79	2.65	-8.7
142	SLD 6	66	244	3646	-4.68	2.67	-7.5
142	SLD 7	42	-225	3742	22.69	3.26	6.48
142	SLD 8	41	-261	3746	22.8	3.28	7.68
142	SLD 9	-82	259	3487	-5.49	1.61	-7.97
142	SLD 10	-84	223	3491	-5.37	1.63	-6.77
142	SLD 11	-108	-246	3587	22	2.22	7.21
142	SLD 12	-110	-282	3591	22.11	2.24	8.41
142	SLD 13	-266	58	3341	3.33	0.61	-1.8
142	SLD 14	-268	23	3345	3.44	0.63	-0.61
142	SLD 15	-274	-94	3371	11.57	0.79	2.75
142	SLD 16	-276	-129	3375	11.68	0.81	3.94
142	SLV 1	558	293	4164	1.64	6.15	-9.53
142	SLV 2	555	213	4172	1.9	6.19	-6.82
142	SLV 3	540	-58	4234	20.72	6.58	1.01
142	SLV 4	537	-137	4242	20.97	6.62	3.72
142	SLV 5	182	647	3671	-22.46	2.89	-19.91
142	SLV 6	178	566	3680	-22.21	2.94	-17.15
142	SLV 7	122	-521	3905	41.11	4.32	15.21
142	SLV 8	118	-602	3914	41.37	4.36	17.96
142	SLV 9	-159	600	3319	-24.05	0.53	-18.25
142	SLV 10	-163	519	3328	-23.79	0.57	-15.49
142	SLV 11	-219	-568	3553	39.52	1.95	16.86
142	SLV 12	-223	-649	3562	39.78	2	19.62
142	SLV 13	-578	135	2991	-3.65	-1.73	-4
142	SLV 14	-582	56	2999	-3.4	-1.69	-1.3
142	SLV 15	-596	-215	3061	15.42	-1.31	6.53
142	SLV 16	-600	-295	3069	15.67	-1.26	9.24
142	CRTFP Ux+	0	0	0	0	0	0
142	CRTFP Ux-	0	0	0	0	0	0
142	CRTFP Uy+	0	0	0	0	0	0
142	CRTFP Uy-	0	0	0	0	0	0
143	SLU 1	-18	-2	3204	7.41	1.9	-0.1
143	SLU 2	-18	-2	3204	7.41	1.9	-0.1
143	SLU 3	-18	-2	3204	7.41	1.9	-0.1
143	SLU 4	-18	-2	3204	7.41	1.9	-0.1
143	SLU 5	-18	-2	3204	7.41	1.9	-0.1
143	SLU 6	-18	-2	3204	7.41	1.9	-0.1
143	SLU 7	-18	-2	3204	7.41	1.9	-0.1
143	SLU 8	-18	-2	3204	7.41	1.9	-0.1
143	SLU 9	-18	-2	3204	7.41	1.9	-0.1
143	SLU 10	-18	-1	3885	9.63	2.15	-0.15
143	SLU 11	-18	-1	3885	9.63	2.15	-0.15
143	SLU 12	-18	-1	3885	9.63	2.15	-0.15
143	SLU 13	-18	-1	3885	9.63	2.15	-0.15
143	SLU 14	-18	-1	3885	9.63	2.15	-0.15
143	SLU 15	-18	-1	3885	9.63	2.15	-0.15
143	SLU 16	-18	-1	3885	9.63	2.15	-0.15
143	SLU 17	-18	-1	3885	9.63	2.15	-0.15
143	SLU 18	-19	0	4177	10.58	2.25	-0.17
143	SLU 19	-19	0	4177	10.58	2.25	-0.17
143	SLU 20	-19	0	4177	10.58	2.25	-0.17
143	SLU 21	-19	0	4177	10.58	2.25	-0.17
143	SLU 22	-18	-2	3717	9.33	2.1	-0.12
143	SLU 23	-18	-2	3717	9.33	2.1	-0.12
143	SLU 24	-18	-2	3717	9.33	2.1	-0.12
143	SLU 25	-18	-2	3717	9.33	2.1	-0.12
143	SLU 26	-18	-2	3717	9.33	2.1	-0.12
143	SLU 27	-18	-2	3717	9.33	2.1	-0.12
143	SLU 28	-18	-2	3717	9.33	2.1	-0.12
143	SLU 29	-18	-2	3717	9.33	2.1	-0.12
143	SLU 30	-18	-2	3717	9.33	2.1	-0.12
143	SLU 31	-18	-1	4398	11.55	2.35	-0.17
143	SLU 32	-18	-1	4398	11.55	2.35	-0.17
143	SLU 33	-18	-1	4398	11.55	2.35	-0.17
143	SLU 34	-18	-1	4398	11.55	2.35	-0.17
143	SLU 35	-18	-1	4398	11.55	2.35	-0.17
143	SLU 36	-18	-1	4398	11.55	2.35	-0.17
143	SLU 37	-18	-1	4398	11.55	2.35	-0.17
143	SLU 38	-18	-1	4398	11.55	2.35	-0.17
143	SLU 39	-19	0	4690	12.5	2.46	-0.19
143	SLU 40	-19	0	4690	12.5	2.46	-0.19
143	SLU 41	-19	0	4690	12.5	2.46	-0.19
143	SLU 42	-19	0	4690	12.5	2.46	-0.19
143	SLU 43	-23	-2	3990	8.98	2.39	-0.13
143	SLU 44	-23	-2	3990	8.98	2.39	-0.13
143	SLU 45	-23	-2	3990	8.98	2.39	-0.13
143	SLU 46	-23	-2	3990	8.98	2.39	-0.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
143	SLU 47	-23	-2	3990	8.98	2.39	-0.13
143	SLU 48	-23	-2	3990	8.98	2.39	-0.13
143	SLU 49	-23	-2	3990	8.98	2.39	-0.13
143	SLU 50	-23	-2	3990	8.98	2.39	-0.13
143	SLU 51	-23	-2	3990	8.98	2.39	-0.13
143	SLU 52	-24	-1	4671	11.2	2.64	-0.18
143	SLU 53	-24	-1	4671	11.2	2.64	-0.18
143	SLU 54	-24	-1	4671	11.2	2.64	-0.18
143	SLU 55	-24	-1	4671	11.2	2.64	-0.18
143	SLU 56	-24	-1	4671	11.2	2.64	-0.18
143	SLU 57	-24	-1	4671	11.2	2.64	-0.18
143	SLU 58	-24	-1	4671	11.2	2.64	-0.18
143	SLU 59	-24	-1	4671	11.2	2.64	-0.18
143	SLU 60	-24	-1	4962	12.15	2.75	-0.2
143	SLU 61	-24	-1	4962	12.15	2.75	-0.2
143	SLU 62	-24	-1	4962	12.15	2.75	-0.2
143	SLU 63	-24	-1	4962	12.15	2.75	-0.2
143	SLU 64	-23	-3	4503	10.9	2.6	-0.15
143	SLU 65	-23	-3	4503	10.9	2.6	-0.15
143	SLU 66	-23	-3	4503	10.9	2.6	-0.15
143	SLU 67	-23	-3	4503	10.9	2.6	-0.15
143	SLU 68	-23	-3	4503	10.9	2.6	-0.15
143	SLU 69	-23	-3	4503	10.9	2.6	-0.15
143	SLU 70	-23	-3	4503	10.9	2.6	-0.15
143	SLU 71	-23	-3	4503	10.9	2.6	-0.15
143	SLU 72	-23	-3	4503	10.9	2.6	-0.15
143	SLU 73	-24	-1	5184	13.12	2.85	-0.19
143	SLU 74	-24	-1	5184	13.12	2.85	-0.19
143	SLU 75	-24	-1	5184	13.12	2.85	-0.19
143	SLU 76	-24	-1	5184	13.12	2.85	-0.19
143	SLU 77	-24	-1	5184	13.12	2.85	-0.19
143	SLU 78	-24	-1	5184	13.12	2.85	-0.19
143	SLU 79	-24	-1	5184	13.12	2.85	-0.19
143	SLU 80	-24	-1	5184	13.12	2.85	-0.19
143	SLU 81	-24	-1	5475	14.07	2.96	-0.21
143	SLU 82	-24	-1	5475	14.07	2.96	-0.21
143	SLU 83	-24	-1	5475	14.07	2.96	-0.21
143	SLU 84	-24	-1	5475	14.07	2.96	-0.21
143	SLE RA 1	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 2	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 3	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 4	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 5	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 6	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 7	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 8	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 9	-18	-2	3351	7.96	1.96	-0.11
143	SLE RA 10	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 11	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 12	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 13	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 14	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 15	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 16	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 17	-18	-1	3805	9.44	2.12	-0.14
143	SLE RA 18	-18	-1	3999	10.08	2.19	-0.16
143	SLE RA 19	-18	-1	3999	10.08	2.19	-0.16
143	SLE RA 20	-18	-1	3999	10.08	2.19	-0.16
143	SLE RA 21	-18	-1	3999	10.08	2.19	-0.16
143	SLE FR 1	-18	-2	3351	7.96	1.96	-0.11
143	SLE FR 2	-18	-2	3351	7.96	1.96	-0.11
143	SLE FR 3	-18	-2	3351	7.96	1.96	-0.11
143	SLE FR 4	-18	-2	3545	8.6	2.03	-0.12
143	SLE FR 5	-18	-2	3545	8.6	2.03	-0.12
143	SLE FR 6	-18	-1	3675	9.02	2.07	-0.13
143	SLE QP 1	-18	-2	3351	7.96	1.96	-0.11
143	SLE QP 2	-18	-2	3545	8.6	2.03	-0.12
143	SLD 1	237	106	3736	5.79	3.58	-3.89
143	SLD 2	236	77	3739	5.87	3.6	-2.75
143	SLD 3	229	-23	3761	13.73	3.75	0.15
143	SLD 4	228	-52	3764	13.81	3.77	1.29
143	SLD 5	71	237	3564	-4.32	2.23	-7.79
143	SLD 6	69	207	3567	-4.23	2.24	-6.64
143	SLD 7	45	-194	3646	22.15	2.8	5.69
143	SLD 8	43	-223	3649	22.23	2.82	6.84
143	SLD 9	-79	220	3442	-5.04	1.24	-7.08
143	SLD 10	-81	190	3445	-4.95	1.26	-5.93
143	SLD 11	-105	-211	3523	21.43	1.81	6.39
143	SLD 12	-107	-240	3527	21.51	1.83	7.54
143	SLD 13	-263	49	3327	3.38	0.28	-1.54
143	SLD 14	-265	20	3330	3.47	0.3	-0.4
143	SLD 15	-271	-80	3352	11.32	0.46	2.51
143	SLD 16	-273	-109	3355	11.4	0.47	3.65
143	SLV 1	562	245	3978	2.07	5.55	-8.77
143	SLV 2	558	179	3985	2.26	5.59	-6.18
143	SLV 3	544	-53	4035	20.43	5.95	0.58
143	SLV 4	540	-119	4042	20.62	5.99	3.18
143	SLV 5	185	549	3586	-21.28	2.46	-17.83
143	SLV 6	181	482	3593	-21.09	2.5	-15.19
143	SLV 7	124	-446	3776	39.93	3.79	13.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
143	SLV 8	120	-513	3783	40.12	3.84	15.98
143	SLV 9	-156	510	3308	-22.93	0.22	-16.23
143	SLV 10	-160	443	3315	-22.74	0.26	-13.59
143	SLV 11	-217	-485	3498	38.28	1.55	14.95
143	SLV 12	-221	-552	3505	38.47	1.59	17.59
143	SLV 13	-575	116	3049	-3.43	-1.94	-3.42
143	SLV 14	-579	50	3056	-3.24	-1.89	-0.83
143	SLV 15	-593	-183	3106	14.93	-1.54	5.93
143	SLV 16	-597	-249	3113	15.12	-1.49	8.52
143	CRTFP Ux+	0	0	0	0	0	0
143	CRTFP Ux-	0	0	0	0	0	0
143	CRTFP Uy+	0	0	0	0	0	0
143	CRTFP Uy-	0	0	0	0	0	0
144	SLU 1	-15	-2	3150	7.37	1.55	-0.09
144	SLU 2	-15	-2	3150	7.37	1.55	-0.09
144	SLU 3	-15	-2	3150	7.37	1.55	-0.09
144	SLU 4	-15	-2	3150	7.37	1.55	-0.09
144	SLU 5	-15	-2	3150	7.37	1.55	-0.09
144	SLU 6	-15	-2	3150	7.37	1.55	-0.09
144	SLU 7	-15	-2	3150	7.37	1.55	-0.09
144	SLU 8	-15	-2	3150	7.37	1.55	-0.09
144	SLU 9	-15	-2	3150	7.37	1.55	-0.09
144	SLU 10	-15	-2	3823	9.56	1.74	-0.14
144	SLU 11	-15	-2	3823	9.56	1.74	-0.14
144	SLU 12	-15	-2	3823	9.56	1.74	-0.14
144	SLU 13	-15	-2	3823	9.56	1.74	-0.14
144	SLU 14	-15	-2	3823	9.56	1.74	-0.14
144	SLU 15	-15	-2	3823	9.56	1.74	-0.14
144	SLU 16	-15	-2	3823	9.56	1.74	-0.14
144	SLU 17	-15	-2	3823	9.56	1.74	-0.14
144	SLU 18	-15	-1	4112	10.5	1.83	-0.16
144	SLU 19	-15	-1	4112	10.5	1.83	-0.16
144	SLU 20	-15	-1	4112	10.5	1.83	-0.16
144	SLU 21	-15	-1	4112	10.5	1.83	-0.16
144	SLU 22	-14	-3	3656	9.28	1.74	-0.1
144	SLU 23	-14	-3	3656	9.28	1.74	-0.1
144	SLU 24	-14	-3	3656	9.28	1.74	-0.1
144	SLU 25	-14	-3	3656	9.28	1.74	-0.1
144	SLU 26	-14	-3	3656	9.28	1.74	-0.1
144	SLU 27	-14	-3	3656	9.28	1.74	-0.1
144	SLU 28	-14	-3	3656	9.28	1.74	-0.1
144	SLU 29	-14	-3	3656	9.28	1.74	-0.1
144	SLU 30	-14	-3	3656	9.28	1.74	-0.1
144	SLU 31	-15	-2	4330	11.48	1.93	-0.15
144	SLU 32	-15	-2	4330	11.48	1.93	-0.15
144	SLU 33	-15	-2	4330	11.48	1.93	-0.15
144	SLU 34	-15	-2	4330	11.48	1.93	-0.15
144	SLU 35	-15	-2	4330	11.48	1.93	-0.15
144	SLU 36	-15	-2	4330	11.48	1.93	-0.15
144	SLU 37	-15	-2	4330	11.48	1.93	-0.15
144	SLU 38	-15	-2	4330	11.48	1.93	-0.15
144	SLU 39	-15	-1	4619	12.42	2.02	-0.17
144	SLU 40	-15	-1	4619	12.42	2.02	-0.17
144	SLU 41	-15	-1	4619	12.42	2.02	-0.17
144	SLU 42	-15	-1	4619	12.42	2.02	-0.17
144	SLU 43	-19	-3	3921	8.93	1.95	-0.12
144	SLU 44	-19	-3	3921	8.93	1.95	-0.12
144	SLU 45	-19	-3	3921	8.93	1.95	-0.12
144	SLU 46	-19	-3	3921	8.93	1.95	-0.12
144	SLU 47	-19	-3	3921	8.93	1.95	-0.12
144	SLU 48	-19	-3	3921	8.93	1.95	-0.12
144	SLU 49	-19	-3	3921	8.93	1.95	-0.12
144	SLU 50	-19	-3	3921	8.93	1.95	-0.12
144	SLU 51	-19	-3	3921	8.93	1.95	-0.12
144	SLU 52	-20	-2	4594	11.12	2.14	-0.16
144	SLU 53	-20	-2	4594	11.12	2.14	-0.16
144	SLU 54	-20	-2	4594	11.12	2.14	-0.16
144	SLU 55	-20	-2	4594	11.12	2.14	-0.16
144	SLU 56	-20	-2	4594	11.12	2.14	-0.16
144	SLU 57	-20	-2	4594	11.12	2.14	-0.16
144	SLU 58	-20	-2	4594	11.12	2.14	-0.16
144	SLU 59	-20	-2	4594	11.12	2.14	-0.16
144	SLU 60	-20	-2	4883	12.06	2.23	-0.18
144	SLU 61	-20	-2	4883	12.06	2.23	-0.18
144	SLU 62	-20	-2	4883	12.06	2.23	-0.18
144	SLU 63	-20	-2	4883	12.06	2.23	-0.18
144	SLU 64	-19	-3	4427	10.84	2.14	-0.13
144	SLU 65	-19	-3	4427	10.84	2.14	-0.13
144	SLU 66	-19	-3	4427	10.84	2.14	-0.13
144	SLU 67	-19	-3	4427	10.84	2.14	-0.13
144	SLU 68	-19	-3	4427	10.84	2.14	-0.13
144	SLU 69	-19	-3	4427	10.84	2.14	-0.13
144	SLU 70	-19	-3	4427	10.84	2.14	-0.13
144	SLU 71	-19	-3	4427	10.84	2.14	-0.13
144	SLU 72	-19	-3	4427	10.84	2.14	-0.13
144	SLU 73	-19	-2	5101	13.03	2.33	-0.18
144	SLU 74	-19	-2	5101	13.03	2.33	-0.18
144	SLU 75	-19	-2	5101	13.03	2.33	-0.18
144	SLU 76	-19	-2	5101	13.03	2.33	-0.18
144	SLU 77	-19	-2	5101	13.03	2.33	-0.18



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
144	SLU 78	-19	-2	5101		13.03	2.33	-0.18	
144	SLU 79	-19	-2	5101		13.03	2.33	-0.18	
144	SLU 80	-19	-2	5101		13.03	2.33	-0.18	
144	SLU 81	-20	-2	5390		13.97	2.42	-0.2	
144	SLU 82	-20	-2	5390		13.97	2.42	-0.2	
144	SLU 83	-20	-2	5390		13.97	2.42	-0.2	
144	SLU 84	-20	-2	5390		13.97	2.42	-0.2	
144	SLE RA 1	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 2	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 3	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 4	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 5	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 6	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 7	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 8	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 9	-15	-2	3294		7.92	1.61	-0.1	
144	SLE RA 10	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 11	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 12	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 13	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 14	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 15	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 16	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 17	-15	-2	3743		9.38	1.73	-0.13	
144	SLE RA 18	-15	-2	3936		10.01	1.79	-0.14	
144	SLE RA 19	-15	-2	3936		10.01	1.79	-0.14	
144	SLE RA 20	-15	-2	3936		10.01	1.79	-0.14	
144	SLE RA 21	-15	-2	3936		10.01	1.79	-0.14	
144	SLE FR 1	-15	-2	3294		7.92	1.61	-0.1	
144	SLE FR 2	-15	-2	3294		7.92	1.61	-0.1	
144	SLE FR 3	-15	-2	3294		7.92	1.61	-0.1	
144	SLE FR 4	-15	-2	3487		8.54	1.66	-0.11	
144	SLE FR 5	-15	-2	3487		8.54	1.66	-0.11	
144	SLE FR 6	-15	-2	3615		8.96	1.7	-0.12	
144	SLE QP 1	-15	-2	3294		7.92	1.61	-0.1	
144	SLE QP 2	-15	-2	3487		8.54	1.66	-0.11	
144	SLD 1	240	87	3630		5.95	3.13	-3.51	
144	SLD 2	239	63	3632		6	3.14	-2.43	
144	SLD 3	232	-23	3649		13.59	3.28	-0.07	
144	SLD 4	231	-46	3651		13.65	3.3	1.01	
144	SLD 5	74	199	3499		-3.84	1.85	-6.73	
144	SLD 6	73	175	3502		-3.79	1.87	-5.64	
144	SLD 7	48	-166	3564		21.63	2.38	4.73	
144	SLD 8	46	-190	3566		21.68	2.4	5.83	
144	SLD 9	-76	185	3407		-4.6	0.92	-6.05	
144	SLD 10	-78	162	3410		-4.54	0.94	-4.95	
144	SLD 11	-102	-180	3472		20.88	1.45	5.42	
144	SLD 12	-104	-203	3474		20.93	1.47	6.51	
144	SLD 13	-260	42	3322		3.44	0.02	-1.23	
144	SLD 14	-262	18	3325		3.5	0.04	-0.14	
144	SLD 15	-268	-68	3342		11.08	0.18	2.21	
144	SLD 16	-270	-91	3344		11.14	0.19	3.29	
144	SLV 1	565	202	3810		2.51	4.98	-7.91	
144	SLV 2	561	149	3816		2.63	5.02	-5.44	
144	SLV 3	546	-51	3855		20.19	5.35	0.04	
144	SLV 4	543	-104	3861		20.31	5.39	2.52	
144	SLV 5	188	462	3514		-20.12	2.08	-15.41	
144	SLV 6	184	409	3520		-19.99	2.12	-12.89	
144	SLV 7	127	-382	3663		38.8	3.31	11.11	
144	SLV 8	123	-436	3669		38.92	3.35	13.63	
144	SLV 9	-153	432	3305		-21.84	-0.03	-13.85	
144	SLV 10	-157	378	3311		-21.71	0.01	-11.33	
144	SLV 11	-214	-413	3454		37.08	1.2	12.67	
144	SLV 12	-218	-467	3460		37.2	1.24	15.19	
144	SLV 13	-572	100	3113		-3.22	-2.74	-2.74	
144	SLV 14	-576	47	3119		-3.1	-2.03	-0.26	
144	SLV 15	-590	-154	3158		14.46	-1.7	5.22	
144	SLV 16	-594	-207	3164		14.58	-1.66	7.7	
144	CRTFP Ux+	0	0	0		0	0	0	
144	CRTFP Ux-	0	0	0		0	0	0	
144	CRTFP Uy+	0	0	0		0	0	0	
144	CRTFP Uy-	0	0	0		0	0	0	
145	SLU 1	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 2	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 3	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 4	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 5	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 6	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 7	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 8	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 9	-12	-3	3105		7.34	1.23	-0.09	
145	SLU 10	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 11	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 12	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 13	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 14	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 15	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 16	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 17	-12	-2	3774		9.51	1.38	-0.13	
145	SLU 18	-12	-2	4060		10.44	1.45	-0.16	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
145	SLU 19	-12	-2	4060	10.44	1.45	-0.16
145	SLU 20	-12	-2	4060	10.44	1.45	-0.16
145	SLU 21	-12	-2	4060	10.44	1.45	-0.16
145	SLU 22	-11	-3	3606	9.25	1.41	-0.1
145	SLU 23	-11	-3	3606	9.25	1.41	-0.1
145	SLU 24	-11	-3	3606	9.25	1.41	-0.1
145	SLU 25	-11	-3	3606	9.25	1.41	-0.1
145	SLU 26	-11	-3	3606	9.25	1.41	-0.1
145	SLU 27	-11	-3	3606	9.25	1.41	-0.1
145	SLU 28	-11	-3	3606	9.25	1.41	-0.1
145	SLU 29	-11	-3	3606	9.25	1.41	-0.1
145	SLU 30	-11	-3	3606	9.25	1.41	-0.1
145	SLU 31	-12	-3	4274	11.42	1.56	-0.15
145	SLU 32	-12	-3	4274	11.42	1.56	-0.15
145	SLU 33	-12	-3	4274	11.42	1.56	-0.15
145	SLU 34	-12	-3	4274	11.42	1.56	-0.15
145	SLU 35	-12	-3	4274	11.42	1.56	-0.15
145	SLU 36	-12	-3	4274	11.42	1.56	-0.15
145	SLU 37	-12	-3	4274	11.42	1.56	-0.15
145	SLU 38	-12	-3	4274	11.42	1.56	-0.15
145	SLU 39	-12	-2	4561	12.35	1.62	-0.17
145	SLU 40	-12	-2	4561	12.35	1.62	-0.17
145	SLU 41	-12	-2	4561	12.35	1.62	-0.17
145	SLU 42	-12	-2	4561	12.35	1.62	-0.17
145	SLU 43	-15	-4	3865	8.89	1.54	-0.11
145	SLU 44	-15	-4	3865	8.89	1.54	-0.11
145	SLU 45	-15	-4	3865	8.89	1.54	-0.11
145	SLU 46	-15	-4	3865	8.89	1.54	-0.11
145	SLU 47	-15	-4	3865	8.89	1.54	-0.11
145	SLU 48	-15	-4	3865	8.89	1.54	-0.11
145	SLU 49	-15	-4	3865	8.89	1.54	-0.11
145	SLU 50	-15	-4	3865	8.89	1.54	-0.11
145	SLU 51	-15	-4	3865	8.89	1.54	-0.11
145	SLU 52	-16	-3	4533	11.06	1.69	-0.16
145	SLU 53	-16	-3	4533	11.06	1.69	-0.16
145	SLU 54	-16	-3	4533	11.06	1.69	-0.16
145	SLU 55	-16	-3	4533	11.06	1.69	-0.16
145	SLU 56	-16	-3	4533	11.06	1.69	-0.16
145	SLU 57	-16	-3	4533	11.06	1.69	-0.16
145	SLU 58	-16	-3	4533	11.06	1.69	-0.16
145	SLU 59	-16	-3	4533	11.06	1.69	-0.16
145	SLU 60	-16	-3	4820	11.99	1.75	-0.18
145	SLU 61	-16	-3	4820	11.99	1.75	-0.18
145	SLU 62	-16	-3	4820	11.99	1.75	-0.18
145	SLU 63	-16	-3	4820	11.99	1.75	-0.18
145	SLU 64	-15	-4	4366	10.79	1.72	-0.12
145	SLU 65	-15	-4	4366	10.79	1.72	-0.12
145	SLU 66	-15	-4	4366	10.79	1.72	-0.12
145	SLU 67	-15	-4	4366	10.79	1.72	-0.12
145	SLU 68	-15	-4	4366	10.79	1.72	-0.12
145	SLU 69	-15	-4	4366	10.79	1.72	-0.12
145	SLU 70	-15	-4	4366	10.79	1.72	-0.12
145	SLU 71	-15	-4	4366	10.79	1.72	-0.12
145	SLU 72	-15	-4	4366	10.79	1.72	-0.12
145	SLU 73	-15	-3	5034	12.96	1.87	-0.17
145	SLU 74	-15	-3	5034	12.96	1.87	-0.17
145	SLU 75	-15	-3	5034	12.96	1.87	-0.17
145	SLU 76	-15	-3	5034	12.96	1.87	-0.17
145	SLU 77	-15	-3	5034	12.96	1.87	-0.17
145	SLU 78	-15	-3	5034	12.96	1.87	-0.17
145	SLU 79	-15	-3	5034	12.96	1.87	-0.17
145	SLU 80	-15	-3	5034	12.96	1.87	-0.17
145	SLU 81	-15	-3	5321	13.89	1.93	-0.19
145	SLU 82	-15	-3	5321	13.89	1.93	-0.19
145	SLU 83	-15	-3	5321	13.89	1.93	-0.19
145	SLU 84	-15	-3	5321	13.89	1.93	-0.19
145	SLE RA 1	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 2	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 3	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 4	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 5	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 6	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 7	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 8	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 9	-12	-3	3248	7.88	1.29	-0.09
145	SLE RA 10	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 11	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 12	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 13	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 14	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 15	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 16	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 17	-12	-3	3694	9.33	1.38	-0.12
145	SLE RA 18	-12	-2	3885	9.95	1.43	-0.14
145	SLE RA 19	-12	-2	3885	9.95	1.43	-0.14
145	SLE RA 20	-12	-2	3885	9.95	1.43	-0.14
145	SLE RA 21	-12	-2	3885	9.95	1.43	-0.14
145	SLE FR 1	-12	-3	3248	7.88	1.29	-0.09
145	SLE FR 2	-12	-3	3248	7.88	1.29	-0.09
145	SLE FR 3	-12	-3	3248	7.88	1.29	-0.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
145	SLE FR 4	-12	-3	3439	8.5	1.33	-0.1
145	SLE FR 5	-12	-3	3439	8.5	1.33	-0.1
145	SLE FR 6	-12	-3	3567	8.92	1.36	-0.11
145	SLE QP 1	-12	-3	3248	7.88	1.29	-0.09
145	SLE QP 2	-12	-3	3439	8.5	1.33	-0.1
145	SLD 1	243	36	3537	6.13	2.68	-3.11
145	SLD 2	241	18	3539	6.15	2.7	-2.07
145	SLD 3	235	-57	3552	13.48	2.82	-0.36
145	SLD 4	234	-75	3554	13.5	2.84	0.69
145	SLD 5	77	157	3446	-3.37	1.51	-5.56
145	SLD 6	76	139	3448	-3.35	1.53	-4.51
145	SLD 7	51	-155	3494	21.14	1.99	3.63
145	SLD 8	49	-173	3496	21.16	2	4.68
145	SLD 9	-73	167	3382	-4.16	0.65	-4.89
145	SLD 10	-74	149	3384	-4.13	0.67	-3.84
145	SLD 11	-99	-145	3431	20.35	1.13	4.3
145	SLD 12	-101	-162	3433	20.38	1.14	5.35
145	SLD 13	-257	70	3325	3.5	-0.18	-0.9
145	SLD 14	-259	52	3327	3.53	-0.17	0.15
145	SLD 15	-265	-24	3339	10.86	-0.04	1.86
145	SLD 16	-267	-42	3342	10.88	-0.03	2.9
145	SLV 1	567	87	3661	2.97	4.4	-6.99
145	SLV 2	564	47	3666	3.02	4.43	-4.63
145	SLV 3	549	-129	3695	19.97	4.73	-0.62
145	SLV 4	545	-169	3699	20.03	4.76	1.75
145	SLV 5	191	367	3453	-18.97	1.73	-12.69
145	SLV 6	188	325	3458	-18.91	1.77	-10.28
145	SLV 7	130	-354	3565	37.72	2.84	8.56
145	SLV 8	126	-395	3570	37.77	2.88	10.97
145	SLV 9	-149	389	3308	-20.77	-0.22	-11.18
145	SLV 10	-153	348	3313	-20.71	-0.18	-8.77
145	SLV 11	-211	-331	3421	35.92	0.89	10.07
145	SLV 12	-215	-372	3426	35.98	0.93	12.48
145	SLV 13	-569	164	3179	-3.02	-2.11	-1.96
145	SLV 14	-572	123	3184	-2.97	-2.07	0.41
145	SLV 15	-587	-52	3213	13.98	-1.78	4.42
145	SLV 16	-591	-93	3218	14.04	-1.74	6.78
145	CRTFP Ux+	0	0	0	0	0	0
145	CRTFP Ux-	0	0	0	0	0	0
145	CRTFP Uy+	0	0	0	0	0	0
145	CRTFP Uy-	0	0	0	0	0	0
146	SLU 1	-9	-3	3071	7.31	0.92	-0.09
146	SLU 2	-9	-3	3071	7.31	0.92	-0.09
146	SLU 3	-9	-3	3071	7.31	0.92	-0.09
146	SLU 4	-9	-3	3071	7.31	0.92	-0.09
146	SLU 5	-9	-3	3071	7.31	0.92	-0.09
146	SLU 6	-9	-3	3071	7.31	0.92	-0.09
146	SLU 7	-9	-3	3071	7.31	0.92	-0.09
146	SLU 8	-9	-3	3071	7.31	0.92	-0.09
146	SLU 9	-9	-3	3071	7.31	0.92	-0.09
146	SLU 10	-9	-3	3735	9.47	1.04	-0.14
146	SLU 11	-9	-3	3735	9.47	1.04	-0.14
146	SLU 12	-9	-3	3735	9.47	1.04	-0.14
146	SLU 13	-9	-3	3735	9.47	1.04	-0.14
146	SLU 14	-9	-3	3735	9.47	1.04	-0.14
146	SLU 15	-9	-3	3735	9.47	1.04	-0.14
146	SLU 16	-9	-3	3735	9.47	1.04	-0.14
146	SLU 17	-9	-3	3735	9.47	1.04	-0.14
146	SLU 18	-9	-3	4020	10.39	1.09	-0.16
146	SLU 19	-9	-3	4020	10.39	1.09	-0.16
146	SLU 20	-9	-3	4020	10.39	1.09	-0.16
146	SLU 21	-9	-3	4020	10.39	1.09	-0.16
146	SLU 22	-8	-4	3566	9.22	1.1	-0.1
146	SLU 23	-8	-4	3566	9.22	1.1	-0.1
146	SLU 24	-8	-4	3566	9.22	1.1	-0.1
146	SLU 25	-8	-4	3566	9.22	1.1	-0.1
146	SLU 26	-8	-4	3566	9.22	1.1	-0.1
146	SLU 27	-8	-4	3566	9.22	1.1	-0.1
146	SLU 28	-8	-4	3566	9.22	1.1	-0.1
146	SLU 29	-8	-4	3566	9.22	1.1	-0.1
146	SLU 30	-8	-4	3566	9.22	1.1	-0.1
146	SLU 31	-8	-3	4230	11.37	1.21	-0.15
146	SLU 32	-8	-3	4230	11.37	1.21	-0.15
146	SLU 33	-8	-3	4230	11.37	1.21	-0.15
146	SLU 34	-8	-3	4230	11.37	1.21	-0.15
146	SLU 35	-8	-3	4230	11.37	1.21	-0.15
146	SLU 36	-8	-3	4230	11.37	1.21	-0.15
146	SLU 37	-8	-3	4230	11.37	1.21	-0.15
146	SLU 38	-8	-3	4230	11.37	1.21	-0.15
146	SLU 39	-8	-3	4515	12.29	1.26	-0.17
146	SLU 40	-8	-3	4515	12.29	1.26	-0.17
146	SLU 41	-8	-3	4515	12.29	1.26	-0.17
146	SLU 42	-8	-3	4515	12.29	1.26	-0.17
146	SLU 43	-12	-4	3822	8.86	1.14	-0.11
146	SLU 44	-12	-4	3822	8.86	1.14	-0.11
146	SLU 45	-12	-4	3822	8.86	1.14	-0.11
146	SLU 46	-12	-4	3822	8.86	1.14	-0.11
146	SLU 47	-12	-4	3822	8.86	1.14	-0.11
146	SLU 48	-12	-4	3822	8.86	1.14	-0.11
146	SLU 49	-12	-4	3822	8.86	1.14	-0.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
146	SLU 50	-12	-4	3822	8.86	1.14	-0.11
146	SLU 51	-12	-4	3822	8.86	1.14	-0.11
146	SLU 52	-11	-4	4487	11.01	1.26	-0.16
146	SLU 53	-11	-4	4487	11.01	1.26	-0.16
146	SLU 54	-11	-4	4487	11.01	1.26	-0.16
146	SLU 55	-11	-4	4487	11.01	1.26	-0.16
146	SLU 56	-11	-4	4487	11.01	1.26	-0.16
146	SLU 57	-11	-4	4487	11.01	1.26	-0.16
146	SLU 58	-11	-4	4487	11.01	1.26	-0.16
146	SLU 59	-11	-4	4487	11.01	1.26	-0.16
146	SLU 60	-11	-4	4771	11.93	1.3	-0.18
146	SLU 61	-11	-4	4771	11.93	1.3	-0.18
146	SLU 62	-11	-4	4771	11.93	1.3	-0.18
146	SLU 63	-11	-4	4771	11.93	1.3	-0.18
146	SLU 64	-11	-5	4318	10.76	1.32	-0.13
146	SLU 65	-11	-5	4318	10.76	1.32	-0.13
146	SLU 66	-11	-5	4318	10.76	1.32	-0.13
146	SLU 67	-11	-5	4318	10.76	1.32	-0.13
146	SLU 68	-11	-5	4318	10.76	1.32	-0.13
146	SLU 69	-11	-5	4318	10.76	1.32	-0.13
146	SLU 70	-11	-5	4318	10.76	1.32	-0.13
146	SLU 71	-11	-5	4318	10.76	1.32	-0.13
146	SLU 72	-11	-5	4318	10.76	1.32	-0.13
146	SLU 73	-11	-4	4982	12.91	1.43	-0.17
146	SLU 74	-11	-4	4982	12.91	1.43	-0.17
146	SLU 75	-11	-4	4982	12.91	1.43	-0.17
146	SLU 76	-11	-4	4982	12.91	1.43	-0.17
146	SLU 77	-11	-4	4982	12.91	1.43	-0.17
146	SLU 78	-11	-4	4982	12.91	1.43	-0.17
146	SLU 79	-11	-4	4982	12.91	1.43	-0.17
146	SLU 80	-11	-4	4982	12.91	1.43	-0.17
146	SLU 81	-11	-4	5266	13.83	1.48	-0.19
146	SLU 82	-11	-4	5266	13.83	1.48	-0.19
146	SLU 83	-11	-4	5266	13.83	1.48	-0.19
146	SLU 84	-11	-4	5266	13.83	1.48	-0.19
146	SLE RA 1	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 2	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 3	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 4	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 5	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 6	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 7	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 8	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 9	-9	-3	3212	7.86	0.97	-0.09
146	SLE RA 10	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 11	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 12	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 13	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 14	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 15	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 16	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 17	-9	-3	3655	9.29	1.05	-0.13
146	SLE RA 18	-9	-3	3845	9.91	1.08	-0.14
146	SLE RA 19	-9	-3	3845	9.91	1.08	-0.14
146	SLE RA 20	-9	-3	3845	9.91	1.08	-0.14
146	SLE RA 21	-9	-3	3845	9.91	1.08	-0.14
146	SLE FR 1	-9	-3	3212	7.86	0.97	-0.09
146	SLE FR 2	-9	-3	3212	7.86	0.97	-0.09
146	SLE FR 3	-9	-3	3212	7.86	0.97	-0.09
146	SLE FR 4	-9	-3	3402	8.47	1.01	-0.11
146	SLE FR 5	-9	-3	3402	8.47	1.01	-0.11
146	SLE FR 6	-9	-3	3529	8.88	1.03	-0.12
146	SLE QP 1	-9	-3	3212	7.86	0.97	-0.09
146	SLE QP 2	-9	-3	3402	8.47	1.01	-0.11
146	SLD 1	246	32	3460	6.31	2.2	-2.7
146	SLD 2	244	20	3461	6.31	2.21	-1.7
146	SLD 3	238	-49	3470	13.38	2.32	-0.69
146	SLD 4	236	-61	3472	13.38	2.34	0.31
146	SLD 5	81	135	3403	-2.9	1.17	-4.28
146	SLD 6	79	122	3405	-2.9	1.19	-3.28
146	SLD 7	54	-135	3438	20.67	1.58	2.41
146	SLD 8	52	-148	3439	20.67	1.6	3.42
146	SLD 9	-69	141	3365	-3.72	0.42	-3.63
146	SLD 10	-71	129	3367	-3.73	0.43	-2.63
146	SLD 11	-96	-129	3400	19.85	0.83	3.06
146	SLD 12	-98	-141	3401	19.85	0.84	4.07
146	SLD 13	-253	55	3333	3.57	-0.32	-0.53
146	SLD 14	-255	42	3334	3.56	-0.31	0.47
146	SLD 15	-261	-26	3343	10.64	-0.2	1.48
146	SLD 16	-263	-39	3345	10.63	-0.19	2.48
146	SLV 1	570	79	3532	3.44	3.71	-6.02
146	SLV 2	566	50	3536	3.43	3.74	-3.75
146	SLV 3	551	-109	3556	19.79	3.99	-1.38
146	SLV 4	547	-137	3560	19.78	4.03	0.89
146	SLV 5	195	316	3404	-17.84	1.37	-9.74
146	SLV 6	191	287	3407	-17.85	1.41	-7.43
146	SLV 7	132	-309	3484	36.68	2.32	5.74
146	SLV 8	129	-338	3487	36.67	2.36	8.05
146	SLV 9	-146	331	3317	-19.72	-0.35	-8.27
146	SLV 10	-150	302	3321	-19.73	-0.31	-5.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
146	SLV 11	-208	-293	3397	34.79	0.61	7.22
146	SLV 12	-212	-322	3401	34.78	0.64	9.53
146	SLV 13	-565	131	3245	-2.83	-2.01	-1.11
146	SLV 14	-568	102	3248	-2.84	-1.98	1.16
146	SLV 15	-583	-57	3269	13.52	-1.73	3.54
146	SLV 16	-587	-85	3272	13.51	-1.69	5.81
146	CRTFP Ux+	0	0	0	0	0	0
146	CRTFP Ux-	0	0	0	0	0	0
146	CRTFP Uy+	0	0	0	0	0	0
146	CRTFP Uy-	0	0	0	0	0	0
147	SLU 1	-6	-4	3047	7.3	0.58	-0.1
147	SLU 2	-6	-4	3047	7.3	0.58	-0.1
147	SLU 3	-6	-4	3047	7.3	0.58	-0.1
147	SLU 4	-6	-4	3047	7.3	0.58	-0.1
147	SLU 5	-6	-4	3047	7.3	0.58	-0.1
147	SLU 6	-6	-4	3047	7.3	0.58	-0.1
147	SLU 7	-6	-4	3047	7.3	0.58	-0.1
147	SLU 8	-6	-4	3047	7.3	0.58	-0.1
147	SLU 9	-6	-4	3047	7.3	0.58	-0.1
147	SLU 10	-5	-4	3708	9.43	0.67	-0.15
147	SLU 11	-5	-4	3708	9.43	0.67	-0.15
147	SLU 12	-5	-4	3708	9.43	0.67	-0.15
147	SLU 13	-5	-4	3708	9.43	0.67	-0.15
147	SLU 14	-5	-4	3708	9.43	0.67	-0.15
147	SLU 15	-5	-4	3708	9.43	0.67	-0.15
147	SLU 16	-5	-4	3708	9.43	0.67	-0.15
147	SLU 17	-5	-4	3708	9.43	0.67	-0.15
147	SLU 18	-5	-4	3991	10.35	0.71	-0.17
147	SLU 19	-5	-4	3991	10.35	0.71	-0.17
147	SLU 20	-5	-4	3991	10.35	0.71	-0.17
147	SLU 21	-5	-4	3991	10.35	0.71	-0.17
147	SLU 22	-5	-4	3537	9.21	0.75	-0.12
147	SLU 23	-5	-4	3537	9.21	0.75	-0.12
147	SLU 24	-5	-4	3537	9.21	0.75	-0.12
147	SLU 25	-5	-4	3537	9.21	0.75	-0.12
147	SLU 26	-5	-4	3537	9.21	0.75	-0.12
147	SLU 27	-5	-4	3537	9.21	0.75	-0.12
147	SLU 28	-5	-4	3537	9.21	0.75	-0.12
147	SLU 29	-5	-4	3537	9.21	0.75	-0.12
147	SLU 30	-5	-4	3537	9.21	0.75	-0.12
147	SLU 31	-5	-4	4198	11.34	0.83	-0.17
147	SLU 32	-5	-4	4198	11.34	0.83	-0.17
147	SLU 33	-5	-4	4198	11.34	0.83	-0.17
147	SLU 34	-5	-4	4198	11.34	0.83	-0.17
147	SLU 35	-5	-4	4198	11.34	0.83	-0.17
147	SLU 36	-5	-4	4198	11.34	0.83	-0.17
147	SLU 37	-5	-4	4198	11.34	0.83	-0.17
147	SLU 38	-5	-4	4198	11.34	0.83	-0.17
147	SLU 39	-5	-4	4481	12.26	0.87	-0.19
147	SLU 40	-5	-4	4481	12.26	0.87	-0.19
147	SLU 41	-5	-4	4481	12.26	0.87	-0.19
147	SLU 42	-5	-4	4481	12.26	0.87	-0.19
147	SLU 43	-8	-5	3793	8.84	0.7	-0.12
147	SLU 44	-8	-5	3793	8.84	0.7	-0.12
147	SLU 45	-8	-5	3793	8.84	0.7	-0.12
147	SLU 46	-8	-5	3793	8.84	0.7	-0.12
147	SLU 47	-8	-5	3793	8.84	0.7	-0.12
147	SLU 48	-8	-5	3793	8.84	0.7	-0.12
147	SLU 49	-8	-5	3793	8.84	0.7	-0.12
147	SLU 50	-8	-5	3793	8.84	0.7	-0.12
147	SLU 51	-8	-5	3793	8.84	0.7	-0.12
147	SLU 52	-7	-5	4454	10.97	0.79	-0.17
147	SLU 53	-7	-5	4454	10.97	0.79	-0.17
147	SLU 54	-7	-5	4454	10.97	0.79	-0.17
147	SLU 55	-7	-5	4454	10.97	0.79	-0.17
147	SLU 56	-7	-5	4454	10.97	0.79	-0.17
147	SLU 57	-7	-5	4454	10.97	0.79	-0.17
147	SLU 58	-7	-5	4454	10.97	0.79	-0.17
147	SLU 59	-7	-5	4454	10.97	0.79	-0.17
147	SLU 60	-7	-5	4737	11.89	0.83	-0.19
147	SLU 61	-7	-5	4737	11.89	0.83	-0.19
147	SLU 62	-7	-5	4737	11.89	0.83	-0.19
147	SLU 63	-7	-5	4737	11.89	0.83	-0.19
147	SLU 64	-7	-5	4283	10.74	0.87	-0.14
147	SLU 65	-7	-5	4283	10.74	0.87	-0.14
147	SLU 66	-7	-5	4283	10.74	0.87	-0.14
147	SLU 67	-7	-5	4283	10.74	0.87	-0.14
147	SLU 68	-7	-5	4283	10.74	0.87	-0.14
147	SLU 69	-7	-5	4283	10.74	0.87	-0.14
147	SLU 70	-7	-5	4283	10.74	0.87	-0.14
147	SLU 71	-7	-5	4283	10.74	0.87	-0.14
147	SLU 72	-7	-5	4283	10.74	0.87	-0.14
147	SLU 73	-7	-5	4944	12.88	0.95	-0.19
147	SLU 74	-7	-5	4944	12.88	0.95	-0.19
147	SLU 75	-7	-5	4944	12.88	0.95	-0.19
147	SLU 76	-7	-5	4944	12.88	0.95	-0.19
147	SLU 77	-7	-5	4944	12.88	0.95	-0.19
147	SLU 78	-7	-5	4944	12.88	0.95	-0.19
147	SLU 79	-7	-5	4944	12.88	0.95	-0.19
147	SLU 80	-7	-5	4944	12.88	0.95	-0.19



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
147	SLU 81	-7	-5	5227		13.79	0.99	-0.21	
147	SLU 82	-7	-5	5227		13.79	0.99	-0.21	
147	SLU 83	-7	-5	5227		13.79	0.99	-0.21	
147	SLU 84	-7	-5	5227		13.79	0.99	-0.21	
147	SLE RA 1	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 2	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 3	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 4	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 5	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 6	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 7	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 8	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 9	-6	-4	3187		7.85	0.63	-0.1	
147	SLE RA 10	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 11	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 12	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 13	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 14	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 15	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 16	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 17	-5	-4	3627		9.27	0.69	-0.14	
147	SLE RA 18	-5	-4	3816		9.88	0.71	-0.15	
147	SLE RA 19	-5	-4	3816		9.88	0.71	-0.15	
147	SLE RA 20	-5	-4	3816		9.88	0.71	-0.15	
147	SLE RA 21	-5	-4	3816		9.88	0.71	-0.15	
147	SLE FR 1	-6	-4	3187		7.85	0.63	-0.1	
147	SLE FR 2	-6	-4	3187		7.85	0.63	-0.1	
147	SLE FR 3	-6	-4	3187		7.85	0.63	-0.1	
147	SLE FR 4	-5	-4	3376		8.46	0.66	-0.12	
147	SLE FR 5	-5	-4	3376		8.46	0.66	-0.12	
147	SLE FR 6	-5	-4	3502		8.86	0.67	-0.13	
147	SLE QP 1	-6	-4	3187		7.85	0.63	-0.1	
147	SLE QP 2	-5	-4	3376		8.46	0.66	-0.12	
147	SLD 1	249	29	3399		6.51	1.62	-2.27	
147	SLD 2	247	22	3400		6.48	1.63	-1.31	
147	SLD 3	240	-43	3406		13.31	1.71	-1.07	
147	SLD 4	239	-51	3407		13.28	1.73	-0.1	
147	SLD 5	84	119	3372		-2.42	0.79	-2.94	
147	SLD 6	82	111	3373		-2.46	0.81	-1.96	
147	SLD 7	57	-123	3395		20.23	1.12	1.09	
147	SLD 8	55	-131	3396		20.2	1.13	2.06	
147	SLD 9	-66	123	3355		-3.29	0.18	-2.3	
147	SLD 10	-68	115	3356		-3.32	0.2	-1.32	
147	SLD 11	-93	-119	3378		19.37	0.51	1.73	
147	SLD 12	-95	-127	3379		19.34	0.52	2.7	
147	SLD 13	-250	43	3344		3.63	-0.42	-0.13	
147	SLD 14	-251	35	3345		3.6	-0.4	0.83	
147	SLD 15	-258	-30	3351		10.43	-0.32	1.07	
147	SLD 16	-260	-37	3352		10.4	-0.31	2.04	
147	SLV 1	572	73	3429		3.92	2.84	-5.03	
147	SLV 2	568	56	3432		3.85	2.87	-2.84	
147	SLV 3	553	-95	3445		19.64	3.06	-2.24	
147	SLV 4	549	-112	3448		19.57	3.09	-0.05	
147	SLV 5	198	280	3366		-16.72	0.96	-6.61	
147	SLV 6	194	263	3369		-16.8	0.99	-4.38	
147	SLV 7	135	-280	3420		35.68	1.71	2.69	
147	SLV 8	131	-297	3422		35.6	1.74	4.92	
147	SLV 9	-142	290	3329		-18.69	-0.43	-5.16	
147	SLV 10	-146	272	3331		-18.77	-0.4	-2.92	
147	SLV 11	-205	-271	3382		33.71	0.32	4.14	
147	SLV 12	-209	-288	3385		33.63	0.36	6.38	
147	SLV 13	-560	104	3303		-2.65	-1.78	-0.19	
147	SLV 14	-564	87	3306		-2.73	-1.75	2.01	
147	SLV 15	-579	-64	3319		13.07	-1.56	2.6	
147	SLV 16	-583	-81	3322		12.99	-1.52	4.8	
147	CRTFP Ux+	0	0	0		0	0	0	
147	CRTFP Ux-	0	0	0		0	0	0	
147	CRTFP Uy+	0	0	0		0	0	0	
147	CRTFP Uy-	0	0	0		0	0	0	
148	SLU 1	-3	-4	2504		6.06	83.98	0.03	
148	SLU 2	-3	-4	2504		6.06	83.98	0.03	
148	SLU 3	-3	-4	2504		6.06	83.98	0.03	
148	SLU 4	-3	-4	2504		6.06	83.98	0.03	
148	SLU 5	-3	-4	2504		6.06	83.98	0.03	
148	SLU 6	-3	-4	2504		6.06	83.98	0.03	
148	SLU 7	-3	-4	2504		6.06	83.98	0.03	
148	SLU 8	-3	-4	2504		6.06	83.98	0.03	
148	SLU 9	-3	-4	2504		6.06	83.98	0.03	
148	SLU 10	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 11	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 12	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 13	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 14	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 15	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 16	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 17	-2	-4	3047		7.82	102.22	-0.01	
148	SLU 18	-2	-4	3280		8.57	110.04	-0.02	
148	SLU 19	-2	-4	3280		8.57	110.04	-0.02	
148	SLU 20	-2	-4	3280		8.57	110.04	-0.02	
148	SLU 21	-2	-4	3280		8.57	110.04	-0.02	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
148	SLU 22	-2	-4	2904	7.64	97.48	0.03
148	SLU 23	-2	-4	2904	7.64	97.48	0.03
148	SLU 24	-2	-4	2904	7.64	97.48	0.03
148	SLU 25	-2	-4	2904	7.64	97.48	0.03
148	SLU 26	-2	-4	2904	7.64	97.48	0.03
148	SLU 27	-2	-4	2904	7.64	97.48	0.03
148	SLU 28	-2	-4	2904	7.64	97.48	0.03
148	SLU 29	-2	-4	2904	7.64	97.48	0.03
148	SLU 30	-2	-4	2904	7.64	97.48	0.03
148	SLU 31	-1	-4	3448	9.4	115.72	-0.01
148	SLU 32	-1	-4	3448	9.4	115.72	-0.01
148	SLU 33	-1	-4	3448	9.4	115.72	-0.01
148	SLU 34	-1	-4	3448	9.4	115.72	-0.01
148	SLU 35	-1	-4	3448	9.4	115.72	-0.01
148	SLU 36	-1	-4	3448	9.4	115.72	-0.01
148	SLU 37	-1	-4	3448	9.4	115.72	-0.01
148	SLU 38	-1	-4	3448	9.4	115.72	-0.01
148	SLU 39	-1	-4	3681	10.15	123.53	-0.03
148	SLU 40	-1	-4	3681	10.15	123.53	-0.03
148	SLU 41	-1	-4	3681	10.15	123.53	-0.03
148	SLU 42	-1	-4	3681	10.15	123.53	-0.03
148	SLU 43	-3	-4	3118	7.33	104.55	0.04
148	SLU 44	-3	-4	3118	7.33	104.55	0.04
148	SLU 45	-3	-4	3118	7.33	104.55	0.04
148	SLU 46	-3	-4	3118	7.33	104.55	0.04
148	SLU 47	-3	-4	3118	7.33	104.55	0.04
148	SLU 48	-3	-4	3118	7.33	104.55	0.04
148	SLU 49	-3	-4	3118	7.33	104.55	0.04
148	SLU 50	-3	-4	3118	7.33	104.55	0.04
148	SLU 51	-3	-4	3118	7.33	104.55	0.04
148	SLU 52	-3	-5	3661	9.09	122.79	0
148	SLU 53	-3	-5	3661	9.09	122.79	0
148	SLU 54	-3	-5	3661	9.09	122.79	0
148	SLU 55	-3	-5	3661	9.09	122.79	0
148	SLU 56	-3	-5	3661	9.09	122.79	0
148	SLU 57	-3	-5	3661	9.09	122.79	0
148	SLU 58	-3	-5	3661	9.09	122.79	0
148	SLU 59	-3	-5	3661	9.09	122.79	0
148	SLU 60	-3	-5	3894	9.84	130.61	-0.01
148	SLU 61	-3	-5	3894	9.84	130.61	-0.01
148	SLU 62	-3	-5	3894	9.84	130.61	-0.01
148	SLU 63	-3	-5	3894	9.84	130.61	-0.01
148	SLU 64	-3	-5	3518	8.91	118.05	0.04
148	SLU 65	-3	-5	3518	8.91	118.05	0.04
148	SLU 66	-3	-5	3518	8.91	118.05	0.04
148	SLU 67	-3	-5	3518	8.91	118.05	0.04
148	SLU 68	-3	-5	3518	8.91	118.05	0.04
148	SLU 69	-3	-5	3518	8.91	118.05	0.04
148	SLU 70	-3	-5	3518	8.91	118.05	0.04
148	SLU 71	-3	-5	3518	8.91	118.05	0.04
148	SLU 72	-3	-5	3518	8.91	118.05	0.04
148	SLU 73	-2	-5	4062	10.67	136.29	0
148	SLU 74	-2	-5	4062	10.67	136.29	0
148	SLU 75	-2	-5	4062	10.67	136.29	0
148	SLU 76	-2	-5	4062	10.67	136.29	0
148	SLU 77	-2	-5	4062	10.67	136.29	0
148	SLU 78	-2	-5	4062	10.67	136.29	0
148	SLU 79	-2	-5	4062	10.67	136.29	0
148	SLU 80	-2	-5	4062	10.67	136.29	0
148	SLU 81	-2	-5	4295	11.43	144.1	-0.02
148	SLU 82	-2	-5	4295	11.43	144.1	-0.02
148	SLU 83	-2	-5	4295	11.43	144.1	-0.02
148	SLU 84	-2	-5	4295	11.43	144.1	-0.02
148	SLE RA 1	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 2	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 3	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 4	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 5	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 6	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 7	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 8	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 9	-2	-4	2618	6.51	87.84	0.03
148	SLE RA 10	-2	-4	2981	7.68	100	0
148	SLE RA 11	-2	-4	2981	7.68	100	0
148	SLE RA 12	-2	-4	2981	7.68	100	0
148	SLE RA 13	-2	-4	2981	7.68	100	0
148	SLE RA 14	-2	-4	2981	7.68	100	0
148	SLE RA 15	-2	-4	2981	7.68	100	0
148	SLE RA 16	-2	-4	2981	7.68	100	0
148	SLE RA 17	-2	-4	2981	7.68	100	0
148	SLE RA 18	-2	-4	3136	8.18	105.21	-0.01
148	SLE RA 19	-2	-4	3136	8.18	105.21	-0.01
148	SLE RA 20	-2	-4	3136	8.18	105.21	-0.01
148	SLE RA 21	-2	-4	3136	8.18	105.21	-0.01
148	SLE FR 1	-2	-4	2618	6.51	87.84	0.03
148	SLE FR 2	-2	-4	2618	6.51	87.84	0.03
148	SLE FR 3	-2	-4	2618	6.51	87.84	0.03
148	SLE FR 4	-2	-4	2773	7.01	93.05	0.02
148	SLE FR 5	-2	-4	2773	7.01	93.05	0.02
148	SLE FR 6	-2	-4	2877	7.35	96.52	0.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
148	SLE QP 1	-2	-4	2618	6.51	87.84	0.03
148	SLE QP 2	-2	-4	2773	7.01	93.05	0.02
148	SLD 1	207	22	2777	5.56	93.44	-2.33
148	SLD 2	206	19	2778	5.51	93.47	-1.52
148	SLD 3	200	-35	2781	11	93.61	-0.11
148	SLD 4	199	-37	2782	10.96	93.63	0.71
148	SLD 5	71	91	2769	-1.66	92.91	-4.36
148	SLD 6	70	88	2769	-1.71	92.94	-3.53
148	SLD 7	49	-98	2781	16.48	93.46	3.07
148	SLD 8	47	-101	2782	16.43	93.48	3.9
148	SLD 9	-52	93	2765	-2.41	92.62	-3.86
148	SLD 10	-53	91	2766	-2.46	92.64	-3.03
148	SLD 11	-74	-96	2778	15.73	93.16	3.57
148	SLD 12	-76	-98	2778	15.68	93.19	4.4
148	SLD 13	-203	30	2765	3.07	92.47	-0.67
148	SLD 14	-205	28	2766	3.02	92.49	0.14
148	SLD 15	-210	-27	2769	8.51	92.63	1.55
148	SLD 16	-211	-29	2770	8.46	92.66	2.37
148	SLV 1	473	55	2783	3.62	93.94	-5.37
148	SLV 2	470	49	2784	3.51	94	-3.51
148	SLV 3	457	-76	2791	16.21	94.32	-0.22
148	SLV 4	454	-82	2793	16.1	94.38	1.64
148	SLV 5	165	215	2762	-13.05	92.72	-10.08
148	SLV 6	162	209	2764	-13.17	92.78	-8.19
148	SLV 7	113	-222	2792	28.9	93.99	7.09
148	SLV 8	110	-228	2793	28.79	94.05	8.99
148	SLV 9	-114	221	2754	-14.76	92.05	-8.95
148	SLV 10	-117	215	2755	-14.88	92.11	-7.05
148	SLV 11	-167	-216	2783	27.19	93.32	8.22
148	SLV 12	-170	-222	2785	27.08	93.38	10.12
148	SLV 13	-459	74	2754	-2.07	91.72	-1.6
148	SLV 14	-462	69	2756	-2.18	91.78	0.26
148	SLV 15	-475	-57	2763	10.51	92.1	3.55
148	SLV 16	-477	-62	2764	10.4	92.16	5.41
148	CRTFP Ux+	0	0	0	0	0	0
148	CRTFP Ux-	0	0	0	0	0	0
148	CRTFP Uy+	0	0	0	0	0	0
148	CRTFP Uy-	0	0	0	0	0	0
149	SLU 1	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 2	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 3	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 4	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 5	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 6	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 7	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 8	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 9	0	-13	7636	10.47	-1151.49	-2.42
149	SLU 10	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 11	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 12	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 13	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 14	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 15	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 16	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 17	2	-14	9288	13.68	-1399.67	-2.81
149	SLU 18	3	-15	9997	15.06	-1506.04	-2.98
149	SLU 19	3	-15	9997	15.06	-1506.04	-2.98
149	SLU 20	3	-15	9997	15.06	-1506.04	-2.98
149	SLU 21	3	-15	9997	15.06	-1506.04	-2.98
149	SLU 22	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 23	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 24	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 25	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 26	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 27	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 28	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 29	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 30	3	-15	8845	13.47	-1332.05	-2.77
149	SLU 31	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 32	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 33	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 34	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 35	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 36	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 37	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 38	5	-16	10497	16.68	-1580.24	-3.16
149	SLU 39	5	-16	11205	18.06	-1686.6	-3.33
149	SLU 40	5	-16	11205	18.06	-1686.6	-3.33
149	SLU 41	5	-16	11205	18.06	-1686.6	-3.33
149	SLU 42	5	-16	11205	18.06	-1686.6	-3.33
149	SLU 43	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 44	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 45	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 46	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 47	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 48	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 49	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 50	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 51	0	-16	9512	12.58	-1435.03	-3.03
149	SLU 52	2	-17	11165	15.79	-1683.21	-3.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
149	SLU 53	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 54	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 55	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 56	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 57	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 58	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 59	2	-17	11165	15.79	-1683.21	-3.42
149	SLU 60	3	-18	11873	17.17	-1789.58	-3.59
149	SLU 61	3	-18	11873	17.17	-1789.58	-3.59
149	SLU 62	3	-18	11873	17.17	-1789.58	-3.59
149	SLU 63	3	-18	11873	17.17	-1789.58	-3.59
149	SLU 64	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 65	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 66	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 67	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 68	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 69	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 70	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 71	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 72	2	-18	10721	15.58	-1615.59	-3.37
149	SLU 73	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 74	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 75	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 76	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 77	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 78	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 79	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 80	4	-19	12373	18.79	-1863.78	-3.77
149	SLU 81	5	-20	13082	20.17	-1970.14	-3.93
149	SLU 82	5	-20	13082	20.17	-1970.14	-3.93
149	SLU 83	5	-20	13082	20.17	-1970.14	-3.93
149	SLU 84	5	-20	13082	20.17	-1970.14	-3.93
149	SLE RA 1	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 2	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 3	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 4	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 5	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 6	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 7	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 8	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 9	1	-13	7981	11.32	-1203.08	-2.52
149	SLE RA 10	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 11	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 12	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 13	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 14	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 15	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 16	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 17	2	-14	9083	13.47	-1368.53	-2.78
149	SLE RA 18	3	-15	9555	14.39	-1439.44	-2.89
149	SLE RA 19	3	-15	9555	14.39	-1439.44	-2.89
149	SLE RA 20	3	-15	9555	14.39	-1439.44	-2.89
149	SLE RA 21	3	-15	9555	14.39	-1439.44	-2.89
149	SLE FR 1	1	-13	7981	11.32	-1203.08	-2.52
149	SLE FR 2	1	-13	7981	11.32	-1203.08	-2.52
149	SLE FR 3	1	-13	7981	11.32	-1203.08	-2.52
149	SLE FR 4	2	-14	8453	12.24	-1273.99	-2.63
149	SLE FR 5	2	-14	8453	12.24	-1273.99	-2.63
149	SLE FR 6	2	-14	8768	12.85	-1321.26	-2.71
149	SLE QP 1	1	-13	7981	11.32	-1203.08	-2.52
149	SLE QP 2	2	-14	8453	12.24	-1273.99	-2.63
149	SLD 1	616	47	8396	8.96	-1259.98	3.04
149	SLD 2	612	55	8397	8.84	-1260.04	7.06
149	SLD 3	637	-128	8403	21.04	-1260.6	-25.35
149	SLD 4	633	-121	8404	20.92	-1260.66	-21.34
149	SLD 5	156	268	8425	-7.02	-1268.82	40.72
149	SLD 6	152	276	8426	-7.15	-1268.88	44.76
149	SLD 7	225	-317	8448	33.25	-1270.9	-53.94
149	SLD 8	221	-309	8449	33.13	-1270.95	-49.89
149	SLD 9	-218	282	8457	-8.64	-1277.02	44.63
149	SLD 10	-222	289	8458	-8.77	-1277.08	48.67
149	SLD 11	-149	-303	8480	31.63	-1279.1	-50.03
149	SLD 12	-153	-296	8481	31.51	-1279.15	-45.98
149	SLD 13	-629	93	8503	3.57	-1287.32	16.08
149	SLD 14	-633	101	8504	3.44	-1287.37	20.09
149	SLD 15	-609	-82	8510	15.65	-1287.94	-12.32
149	SLD 16	-613	-75	8511	15.52	-1287.99	-8.31
149	SLV 1	1397	128	8322	4.58	-1242.16	10.84
149	SLV 2	1388	145	8325	4.29	-1242.28	19.96
149	SLV 3	1445	-278	8338	32.51	-1243.6	-54.87
149	SLV 4	1436	-261	8341	32.23	-1243.72	-45.75
149	SLV 5	350	638	8389	-32.33	-1262.2	97.8
149	SLV 6	341	656	8391	-32.62	-1262.33	107.08
149	SLV 7	511	-715	8442	60.8	-1267.02	-121.24
149	SLV 8	502	-698	8445	60.51	-1267.14	-111.96
149	SLV 9	-498	670	8462	-36.02	-1280.83	106.7
149	SLV 10	-507	687	8464	-36.31	-1280.96	115.98
149	SLV 11	-338	-683	8515	57.1	-1285.64	-112.34
149	SLV 12	-347	-666	8518	56.81	-1285.77	-103.06
149	SLV 13	-1433	233	8566	-7.74	-1304.25	40.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
149	SLV 14	-1441	250	8568	-8.03	-1304.38	49.61
149	SLV 15	-1384	-173	8582	20.2	-1305.69	-25.22
149	SLV 16	-1393	-156	8584	19.91	-1305.82	-16.1
149	CRTFP Ux+	0	0	0	0	0	0
149	CRTFP Ux-	0	0	0	0	0	0
149	CRTFP Uy+	0	0	0	0	0	0
149	CRTFP Uy-	0	0	0	0	0	0
151	SLU 1	12	-14	5830	9.59	919.19	1.57
151	SLU 2	12	-14	5830	9.59	919.19	1.57
151	SLU 3	12	-14	5830	9.59	919.19	1.57
151	SLU 4	12	-14	5830	9.59	919.19	1.57
151	SLU 5	12	-14	5830	9.59	919.19	1.57
151	SLU 6	12	-14	5830	9.59	919.19	1.57
151	SLU 7	12	-14	5830	9.59	919.19	1.57
151	SLU 8	12	-14	5830	9.59	919.19	1.57
151	SLU 9	12	-14	5830	9.59	919.19	1.57
151	SLU 10	14	-16	7077	12.4	1116.78	1.75
151	SLU 11	14	-16	7077	12.4	1116.78	1.75
151	SLU 12	14	-16	7077	12.4	1116.78	1.75
151	SLU 13	14	-16	7077	12.4	1116.78	1.75
151	SLU 14	14	-16	7077	12.4	1116.78	1.75
151	SLU 15	14	-16	7077	12.4	1116.78	1.75
151	SLU 16	14	-16	7077	12.4	1116.78	1.75
151	SLU 17	14	-16	7077	12.4	1116.78	1.75
151	SLU 18	15	-18	7611	13.61	1201.46	1.82
151	SLU 19	15	-18	7611	13.61	1201.46	1.82
151	SLU 20	15	-18	7611	13.61	1201.46	1.82
151	SLU 21	15	-18	7611	13.61	1201.46	1.82
151	SLU 22	14	-16	6736	12.15	1062.94	1.77
151	SLU 23	14	-16	6736	12.15	1062.94	1.77
151	SLU 24	14	-16	6736	12.15	1062.94	1.77
151	SLU 25	14	-16	6736	12.15	1062.94	1.77
151	SLU 26	14	-16	6736	12.15	1062.94	1.77
151	SLU 27	14	-16	6736	12.15	1062.94	1.77
151	SLU 28	14	-16	6736	12.15	1062.94	1.77
151	SLU 29	14	-16	6736	12.15	1062.94	1.77
151	SLU 30	14	-16	6736	12.15	1062.94	1.77
151	SLU 31	16	-19	7983	14.96	1260.53	1.94
151	SLU 32	16	-19	7983	14.96	1260.53	1.94
151	SLU 33	16	-19	7983	14.96	1260.53	1.94
151	SLU 34	16	-19	7983	14.96	1260.53	1.94
151	SLU 35	16	-19	7983	14.96	1260.53	1.94
151	SLU 36	16	-19	7983	14.96	1260.53	1.94
151	SLU 37	16	-19	7983	14.96	1260.53	1.94
151	SLU 38	16	-19	7983	14.96	1260.53	1.94
151	SLU 39	17	-20	8517	16.16	1345.21	2.02
151	SLU 40	17	-20	8517	16.16	1345.21	2.02
151	SLU 41	17	-20	8517	16.16	1345.21	2.02
151	SLU 42	17	-20	8517	16.16	1345.21	2.02
151	SLU 43	14	-17	7268	11.6	1145.66	1.98
151	SLU 44	14	-17	7268	11.6	1145.66	1.98
151	SLU 45	14	-17	7268	11.6	1145.66	1.98
151	SLU 46	14	-17	7268	11.6	1145.66	1.98
151	SLU 47	14	-17	7268	11.6	1145.66	1.98
151	SLU 48	14	-17	7268	11.6	1145.66	1.98
151	SLU 49	14	-17	7268	11.6	1145.66	1.98
151	SLU 50	14	-17	7268	11.6	1145.66	1.98
151	SLU 51	14	-17	7268	11.6	1145.66	1.98
151	SLU 52	17	-20	8515	14.41	1343.25	2.15
151	SLU 53	17	-20	8515	14.41	1343.25	2.15
151	SLU 54	17	-20	8515	14.41	1343.25	2.15
151	SLU 55	17	-20	8515	14.41	1343.25	2.15
151	SLU 56	17	-20	8515	14.41	1343.25	2.15
151	SLU 57	17	-20	8515	14.41	1343.25	2.15
151	SLU 58	17	-20	8515	14.41	1343.25	2.15
151	SLU 59	17	-20	8515	14.41	1343.25	2.15
151	SLU 60	18	-21	9050	15.61	1427.93	2.22
151	SLU 61	18	-21	9050	15.61	1427.93	2.22
151	SLU 62	18	-21	9050	15.61	1427.93	2.22
151	SLU 63	18	-21	9050	15.61	1427.93	2.22
151	SLU 64	17	-20	8174	14.15	1289.41	2.18
151	SLU 65	17	-20	8174	14.15	1289.41	2.18
151	SLU 66	17	-20	8174	14.15	1289.41	2.18
151	SLU 67	17	-20	8174	14.15	1289.41	2.18
151	SLU 68	17	-20	8174	14.15	1289.41	2.18
151	SLU 69	17	-20	8174	14.15	1289.41	2.18
151	SLU 70	17	-20	8174	14.15	1289.41	2.18
151	SLU 71	17	-20	8174	14.15	1289.41	2.18
151	SLU 72	17	-20	8174	14.15	1289.41	2.18
151	SLU 73	19	-22	9421	16.96	1487	2.35
151	SLU 74	19	-22	9421	16.96	1487	2.35
151	SLU 75	19	-22	9421	16.96	1487	2.35
151	SLU 76	19	-22	9421	16.96	1487	2.35
151	SLU 77	19	-22	9421	16.96	1487	2.35
151	SLU 78	19	-22	9421	16.96	1487	2.35
151	SLU 79	19	-22	9421	16.96	1487	2.35
151	SLU 80	19	-22	9421	16.96	1487	2.35
151	SLU 81	20	-23	9956	18.16	1571.68	2.42
151	SLU 82	20	-23	9956	18.16	1571.68	2.42
151	SLU 83	20	-23	9956	18.16	1571.68	2.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
151	SLU 84	20	-23	9956	18.16	1571.68	2.42
151	SLE RA 1	12	-15	6089	10.32	960.26	1.63
151	SLE RA 2	12	-15	6089	10.32	960.26	1.63
151	SLE RA 3	12	-15	6089	10.32	960.26	1.63
151	SLE RA 4	12	-15	6089	10.32	960.26	1.63
151	SLE RA 5	12	-15	6089	10.32	960.26	1.63
151	SLE RA 6	12	-15	6089	10.32	960.26	1.63
151	SLE RA 7	12	-15	6089	10.32	960.26	1.63
151	SLE RA 8	12	-15	6089	10.32	960.26	1.63
151	SLE RA 9	12	-15	6089	10.32	960.26	1.63
151	SLE RA 10	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 11	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 12	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 13	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 14	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 15	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 16	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 17	14	-16	6920	12.2	1091.99	1.75
151	SLE RA 18	14	-17	7276	13	1148.44	1.79
151	SLE RA 19	14	-17	7276	13	1148.44	1.79
151	SLE RA 20	14	-17	7276	13	1148.44	1.79
151	SLE RA 21	14	-17	7276	13	1148.44	1.79
151	SLE FR 1	12	-15	6089	10.32	960.26	1.63
151	SLE FR 2	12	-15	6089	10.32	960.26	1.63
151	SLE FR 3	12	-15	6089	10.32	960.26	1.63
151	SLE FR 4	13	-15	6445	11.13	1016.72	1.68
151	SLE FR 5	13	-15	6445	11.13	1016.72	1.68
151	SLE FR 6	13	-16	6683	11.66	1054.35	1.71
151	SLE QP 1	12	-15	6089	10.32	960.26	1.63
151	SLE QP 2	13	-15	6445	11.13	1016.72	1.68
151	SLD 1	470	14	6355	6.64	1005.76	-4.64
151	SLD 2	467	38	6355	6.53	1005.81	-5.91
151	SLD 3	486	-147	6358	19.6	1006.3	15.34
151	SLD 4	483	-123	6358	19.49	1006.36	14.07
151	SLD 5	127	230	6413	-9.84	1012.59	-30.07
151	SLD 6	124	254	6413	-9.95	1012.64	-31.35
151	SLD 7	180	-308	6424	33.37	1014.4	36.54
151	SLD 8	177	-284	6424	33.26	1014.45	35.25
151	SLD 9	-151	254	6466	-11.01	1018.98	-31.9
151	SLD 10	-154	278	6466	-11.11	1019.04	-33.18
151	SLD 11	-99	-284	6477	32.2	1020.79	34.71
151	SLD 12	-101	-261	6477	32.09	1020.85	33.43
151	SLD 13	-457	93	6532	2.76	1027.08	-10.71
151	SLD 14	-460	117	6532	2.65	1027.13	-11.98
151	SLD 15	-442	-69	6535	15.72	1027.62	9.27
151	SLD 16	-444	-45	6535	15.61	1027.68	8
151	SLV 1	1051	55	6240	0.7	991.81	-13.05
151	SLV 2	1045	109	6241	0.46	991.94	-15.94
151	SLV 3	1088	-318	6247	30.67	993.06	33.18
151	SLV 4	1081	-264	6248	30.43	993.19	30.29
151	SLV 5	271	553	6372	-37.37	1007.29	-71.82
151	SLV 6	265	608	6373	-37.61	1007.42	-74.76
151	SLV 7	393	-692	6397	62.53	1011.48	82.28
151	SLV 8	387	-637	6397	62.28	1011.61	79.34
151	SLV 9	-361	607	6493	-40.03	1021.82	-75.98
151	SLV 10	-367	662	6493	-40.28	1021.95	-78.92
151	SLV 11	-239	-639	6517	59.87	1026.01	78.12
151	SLV 12	-245	-584	6518	59.62	1026.14	75.18
151	SLV 13	-1056	234	6642	-8.18	1040.24	-26.93
151	SLV 14	-1062	288	6643	-8.42	1040.37	-29.82
151	SLV 15	-1019	-140	6649	21.79	1041.5	19.3
151	SLV 16	-1025	-86	6650	21.55	1041.63	16.41
151	CRTFP Ux+	0	0	0	0	0	0
151	CRTFP Ux-	0	0	0	0	0	0
151	CRTFP Uy+	0	0	0	0	0	0
151	CRTFP Uy-	0	0	0	0	0	0
152	SLU 1	11	-10	3324	5.47	-1.96	-0.3
152	SLU 2	11	-10	3324	5.47	-1.96	-0.3
152	SLU 3	11	-10	3324	5.47	-1.96	-0.3
152	SLU 4	11	-10	3324	5.47	-1.96	-0.3
152	SLU 5	11	-10	3324	5.47	-1.96	-0.3
152	SLU 6	11	-10	3324	5.47	-1.96	-0.3
152	SLU 7	11	-10	3324	5.47	-1.96	-0.3
152	SLU 8	11	-10	3324	5.47	-1.96	-0.3
152	SLU 9	11	-10	3324	5.47	-1.96	-0.3
152	SLU 10	12	-12	4027	7.08	-2.18	-0.41
152	SLU 11	12	-12	4027	7.08	-2.18	-0.41
152	SLU 12	12	-12	4027	7.08	-2.18	-0.41
152	SLU 13	12	-12	4027	7.08	-2.18	-0.41
152	SLU 14	12	-12	4027	7.08	-2.18	-0.41
152	SLU 15	12	-12	4027	7.08	-2.18	-0.41
152	SLU 16	12	-12	4027	7.08	-2.18	-0.41
152	SLU 17	12	-12	4027	7.08	-2.18	-0.41
152	SLU 18	13	-13	4329	7.76	-2.27	-0.45
152	SLU 19	13	-13	4329	7.76	-2.27	-0.45
152	SLU 20	13	-13	4329	7.76	-2.27	-0.45
152	SLU 21	13	-13	4329	7.76	-2.27	-0.45
152	SLU 22	12	-12	3834	6.93	-2.09	-0.37
152	SLU 23	12	-12	3834	6.93	-2.09	-0.37
152	SLU 24	12	-12	3834	6.93	-2.09	-0.37



Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont. N.br.	x	y	z	x	y	z
152	SLU 25	12	-12	3834	6.93	-2.09	-0.37
152	SLU 26	12	-12	3834	6.93	-2.09	-0.37
152	SLU 27	12	-12	3834	6.93	-2.09	-0.37
152	SLU 28	12	-12	3834	6.93	-2.09	-0.37
152	SLU 29	12	-12	3834	6.93	-2.09	-0.37
152	SLU 30	12	-12	3834	6.93	-2.09	-0.37
152	SLU 31	14	-14	4537	8.54	-2.31	-0.48
152	SLU 32	14	-14	4537	8.54	-2.31	-0.48
152	SLU 33	14	-14	4537	8.54	-2.31	-0.48
152	SLU 34	14	-14	4537	8.54	-2.31	-0.48
152	SLU 35	14	-14	4537	8.54	-2.31	-0.48
152	SLU 36	14	-14	4537	8.54	-2.31	-0.48
152	SLU 37	14	-14	4537	8.54	-2.31	-0.48
152	SLU 38	14	-14	4537	8.54	-2.31	-0.48
152	SLU 39	14	-15	4838	9.23	-2.4	-0.52
152	SLU 40	14	-15	4838	9.23	-2.4	-0.52
152	SLU 41	14	-15	4838	9.23	-2.4	-0.52
152	SLU 42	14	-15	4838	9.23	-2.4	-0.52
152	SLU 43	13	-12	4147	6.61	-2.5	-0.37
152	SLU 44	13	-12	4147	6.61	-2.5	-0.37
152	SLU 45	13	-12	4147	6.61	-2.5	-0.37
152	SLU 46	13	-12	4147	6.61	-2.5	-0.37
152	SLU 47	13	-12	4147	6.61	-2.5	-0.37
152	SLU 48	13	-12	4147	6.61	-2.5	-0.37
152	SLU 49	13	-12	4147	6.61	-2.5	-0.37
152	SLU 50	13	-12	4147	6.61	-2.5	-0.37
152	SLU 51	13	-12	4147	6.61	-2.5	-0.37
152	SLU 52	15	-14	4850	8.22	-2.72	-0.47
152	SLU 53	15	-14	4850	8.22	-2.72	-0.47
152	SLU 54	15	-14	4850	8.22	-2.72	-0.47
152	SLU 55	15	-14	4850	8.22	-2.72	-0.47
152	SLU 56	15	-14	4850	8.22	-2.72	-0.47
152	SLU 57	15	-14	4850	8.22	-2.72	-0.47
152	SLU 58	15	-14	4850	8.22	-2.72	-0.47
152	SLU 59	15	-14	4850	8.22	-2.72	-0.47
152	SLU 60	16	-15	5151	8.9	-2.81	-0.52
152	SLU 61	16	-15	5151	8.9	-2.81	-0.52
152	SLU 62	16	-15	5151	8.9	-2.81	-0.52
152	SLU 63	16	-15	5151	8.9	-2.81	-0.52
152	SLU 64	15	-14	4656	8.07	-2.63	-0.44
152	SLU 65	15	-14	4656	8.07	-2.63	-0.44
152	SLU 66	15	-14	4656	8.07	-2.63	-0.44
152	SLU 67	15	-14	4656	8.07	-2.63	-0.44
152	SLU 68	15	-14	4656	8.07	-2.63	-0.44
152	SLU 69	15	-14	4656	8.07	-2.63	-0.44
152	SLU 70	15	-14	4656	8.07	-2.63	-0.44
152	SLU 71	15	-14	4656	8.07	-2.63	-0.44
152	SLU 72	15	-14	4656	8.07	-2.63	-0.44
152	SLU 73	16	-16	5359	9.68	-2.85	-0.54
152	SLU 74	16	-16	5359	9.68	-2.85	-0.54
152	SLU 75	16	-16	5359	9.68	-2.85	-0.54
152	SLU 76	16	-16	5359	9.68	-2.85	-0.54
152	SLU 77	16	-16	5359	9.68	-2.85	-0.54
152	SLU 78	16	-16	5359	9.68	-2.85	-0.54
152	SLU 79	16	-16	5359	9.68	-2.85	-0.54
152	SLU 80	16	-16	5359	9.68	-2.85	-0.54
152	SLU 81	17	-17	5661	10.37	-2.94	-0.59
152	SLU 82	17	-17	5661	10.37	-2.94	-0.59
152	SLU 83	17	-17	5661	10.37	-2.94	-0.59
152	SLU 84	17	-17	5661	10.37	-2.94	-0.59
152	SLE RA 1	11	-10	3470	5.89	-2	-0.32
152	SLE RA 2	11	-10	3470	5.89	-2	-0.32
152	SLE RA 3	11	-10	3470	5.89	-2	-0.32
152	SLE RA 4	11	-10	3470	5.89	-2	-0.32
152	SLE RA 5	11	-10	3470	5.89	-2	-0.32
152	SLE RA 6	11	-10	3470	5.89	-2	-0.32
152	SLE RA 7	11	-10	3470	5.89	-2	-0.32
152	SLE RA 8	11	-10	3470	5.89	-2	-0.32
152	SLE RA 9	11	-10	3470	5.89	-2	-0.32
152	SLE RA 10	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 11	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 12	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 13	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 14	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 15	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 16	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 17	12	-12	3938	6.96	-2.14	-0.39
152	SLE RA 18	13	-12	4139	7.42	-2.2	-0.42
152	SLE RA 19	13	-12	4139	7.42	-2.2	-0.42
152	SLE RA 20	13	-12	4139	7.42	-2.2	-0.42
152	SLE RA 21	13	-12	4139	7.42	-2.2	-0.42
152	SLE FR 1	11	-10	3470	5.89	-2	-0.32
152	SLE FR 2	11	-10	3470	5.89	-2	-0.32
152	SLE FR 3	11	-10	3470	5.89	-2	-0.32
152	SLE FR 4	12	-11	3671	6.35	-2.06	-0.35
152	SLE FR 5	12	-11	3671	6.35	-2.06	-0.35
152	SLE FR 6	12	-11	3805	6.65	-2.1	-0.37
152	SLE QP 1	11	-10	3470	5.89	-2	-0.32
152	SLE QP 2	12	-11	3671	6.35	-2.06	-0.35
152	SLD 1	265	2	3583	3.41	-0.85	-0.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
152	SLD 2	263	23	3583	3.35	-0.85	0.37
152	SLD 3	274	-109	3585	11.56	-0.8	-3.97
152	SLD 4	272	-88	3586	11.49	-0.81	-2.92
152	SLD 5	75	153	3641	-6.87	-1.76	4.17
152	SLD 6	73	174	3641	-6.93	-1.77	5.23
152	SLD 7	104	-216	3648	20.29	-1.61	-6.8
152	SLD 8	103	-195	3648	20.22	-1.62	-5.74
152	SLD 9	-80	173	3693	-7.53	-2.5	5.04
152	SLD 10	-81	194	3693	-7.59	-2.51	6.09
152	SLD 11	-50	-196	3700	19.62	-2.35	-5.93
152	SLD 12	-52	-175	3700	19.56	-2.36	-4.87
152	SLD 13	-249	66	3756	1.2	-3.31	2.22
152	SLD 14	-251	87	3756	1.14	-3.32	3.27
152	SLD 15	-240	-45	3758	9.35	-3.27	-1.07
152	SLD 16	-242	-24	3758	9.28	-3.27	-0.02
152	SLV 1	587	21	3472	-0.47	0.69	-1.03
152	SLV 2	584	68	3473	-0.61	0.68	1.36
152	SLV 3	608	-236	3477	18.37	0.8	-8.64
152	SLV 4	604	-188	3478	18.22	0.79	-6.26
152	SLV 5	154	370	3603	-24.21	-1.39	10.15
152	SLV 6	151	418	3604	-24.36	-1.4	12.58
152	SLV 7	223	-484	3620	38.57	-1.04	-15.25
152	SLV 8	219	-436	3621	38.42	-1.05	-12.82
152	SLV 9	-196	414	3721	-25.73	-3.07	12.12
152	SLV 10	-200	462	3721	-25.88	-3.08	14.55
152	SLV 11	-128	-440	3737	37.05	-2.72	-13.28
152	SLV 12	-131	-392	3738	36.91	-2.73	-10.85
152	SLV 13	-581	166	3863	-5.53	-4.9	5.55
152	SLV 14	-585	214	3864	-5.67	-4.92	7.94
152	SLV 15	-561	-90	3868	13.3	-4.8	-2.07
152	SLV 16	-564	-43	3869	13.16	-4.81	0.32
152	CRTFP Ux+	0	0	0	0	0	0
152	CRTFP Ux-	0	0	0	0	0	0
152	CRTFP Uy+	0	0	0	0	0	0
152	CRTFP Uy-	0	0	0	0	0	0
153	SLU 1	13	-12	3378	5.38	-1.54	-0.31
153	SLU 2	13	-12	3378	5.38	-1.54	-0.31
153	SLU 3	13	-12	3378	5.38	-1.54	-0.31
153	SLU 4	13	-12	3378	5.38	-1.54	-0.31
153	SLU 5	13	-12	3378	5.38	-1.54	-0.31
153	SLU 6	13	-12	3378	5.38	-1.54	-0.31
153	SLU 7	13	-12	3378	5.38	-1.54	-0.31
153	SLU 8	13	-12	3378	5.38	-1.54	-0.31
153	SLU 9	13	-12	3378	5.38	-1.54	-0.31
153	SLU 10	15	-14	4086	6.96	-1.63	-0.42
153	SLU 11	15	-14	4086	6.96	-1.63	-0.42
153	SLU 12	15	-14	4086	6.96	-1.63	-0.42
153	SLU 13	15	-14	4086	6.96	-1.63	-0.42
153	SLU 14	15	-14	4086	6.96	-1.63	-0.42
153	SLU 15	15	-14	4086	6.96	-1.63	-0.42
153	SLU 16	15	-14	4086	6.96	-1.63	-0.42
153	SLU 17	15	-14	4086	6.96	-1.63	-0.42
153	SLU 18	16	-15	4389	7.64	-1.67	-0.47
153	SLU 19	16	-15	4389	7.64	-1.67	-0.47
153	SLU 20	16	-15	4389	7.64	-1.67	-0.47
153	SLU 21	16	-15	4389	7.64	-1.67	-0.47
153	SLU 22	15	-14	3890	6.82	-1.58	-0.39
153	SLU 23	15	-14	3890	6.82	-1.58	-0.39
153	SLU 24	15	-14	3890	6.82	-1.58	-0.39
153	SLU 25	15	-14	3890	6.82	-1.58	-0.39
153	SLU 26	15	-14	3890	6.82	-1.58	-0.39
153	SLU 27	15	-14	3890	6.82	-1.58	-0.39
153	SLU 28	15	-14	3890	6.82	-1.58	-0.39
153	SLU 29	15	-14	3890	6.82	-1.58	-0.39
153	SLU 30	15	-14	3890	6.82	-1.58	-0.39
153	SLU 31	16	-16	4598	8.4	-1.67	-0.5
153	SLU 32	16	-16	4598	8.4	-1.67	-0.5
153	SLU 33	16	-16	4598	8.4	-1.67	-0.5
153	SLU 34	16	-16	4598	8.4	-1.67	-0.5
153	SLU 35	16	-16	4598	8.4	-1.67	-0.5
153	SLU 36	16	-16	4598	8.4	-1.67	-0.5
153	SLU 37	16	-16	4598	8.4	-1.67	-0.5
153	SLU 38	16	-16	4598	8.4	-1.67	-0.5
153	SLU 39	17	-18	4901	9.08	-1.71	-0.54
153	SLU 40	17	-18	4901	9.08	-1.71	-0.54
153	SLU 41	17	-18	4901	9.08	-1.71	-0.54
153	SLU 42	17	-18	4901	9.08	-1.71	-0.54
153	SLU 43	17	-14	4216	6.5	-1.99	-0.38
153	SLU 44	17	-14	4216	6.5	-1.99	-0.38
153	SLU 45	17	-14	4216	6.5	-1.99	-0.38
153	SLU 46	17	-14	4216	6.5	-1.99	-0.38
153	SLU 47	17	-14	4216	6.5	-1.99	-0.38
153	SLU 48	17	-14	4216	6.5	-1.99	-0.38
153	SLU 49	17	-14	4216	6.5	-1.99	-0.38
153	SLU 50	17	-14	4216	6.5	-1.99	-0.38
153	SLU 51	17	-14	4216	6.5	-1.99	-0.38
153	SLU 52	18	-17	4923	8.08	-2.08	-0.49
153	SLU 53	18	-17	4923	8.08	-2.08	-0.49
153	SLU 54	18	-17	4923	8.08	-2.08	-0.49
153	SLU 55	18	-17	4923	8.08	-2.08	-0.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
153	SLU 56	18	-17	4923	8.08	-2.08	-0.49
153	SLU 57	18	-17	4923	8.08	-2.08	-0.49
153	SLU 58	18	-17	4923	8.08	-2.08	-0.49
153	SLU 59	18	-17	4923	8.08	-2.08	-0.49
153	SLU 60	19	-18	5227	8.75	-2.12	-0.54
153	SLU 61	19	-18	5227	8.75	-2.12	-0.54
153	SLU 62	19	-18	5227	8.75	-2.12	-0.54
153	SLU 63	19	-18	5227	8.75	-2.12	-0.54
153	SLU 64	18	-16	4728	7.94	-2.03	-0.46
153	SLU 65	18	-16	4728	7.94	-2.03	-0.46
153	SLU 66	18	-16	4728	7.94	-2.03	-0.46
153	SLU 67	18	-16	4728	7.94	-2.03	-0.46
153	SLU 68	18	-16	4728	7.94	-2.03	-0.46
153	SLU 69	18	-16	4728	7.94	-2.03	-0.46
153	SLU 70	18	-16	4728	7.94	-2.03	-0.46
153	SLU 71	18	-16	4728	7.94	-2.03	-0.46
153	SLU 72	18	-16	4728	7.94	-2.03	-0.46
153	SLU 73	20	-19	5436	9.52	-2.12	-0.57
153	SLU 74	20	-19	5436	9.52	-2.12	-0.57
153	SLU 75	20	-19	5436	9.52	-2.12	-0.57
153	SLU 76	20	-19	5436	9.52	-2.12	-0.57
153	SLU 77	20	-19	5436	9.52	-2.12	-0.57
153	SLU 78	20	-19	5436	9.52	-2.12	-0.57
153	SLU 79	20	-19	5436	9.52	-2.12	-0.57
153	SLU 80	20	-19	5436	9.52	-2.12	-0.57
153	SLU 81	21	-20	5739	10.19	-2.16	-0.61
153	SLU 82	21	-20	5739	10.19	-2.16	-0.61
153	SLU 83	21	-20	5739	10.19	-2.16	-0.61
153	SLU 84	21	-20	5739	10.19	-2.16	-0.61
153	SLE RA 1	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 2	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 3	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 4	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 5	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 6	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 7	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 8	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 9	14	-12	3524	5.79	-1.55	-0.34
153	SLE RA 10	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 11	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 12	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 13	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 14	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 15	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 16	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 17	15	-14	3996	6.84	-1.61	-0.41
153	SLE RA 18	15	-15	4198	7.29	-1.64	-0.44
153	SLE RA 19	15	-15	4198	7.29	-1.64	-0.44
153	SLE RA 20	15	-15	4198	7.29	-1.64	-0.44
153	SLE RA 21	15	-15	4198	7.29	-1.64	-0.44
153	SLE FR 1	14	-12	3524	5.79	-1.55	-0.34
153	SLE FR 2	14	-12	3524	5.79	-1.55	-0.34
153	SLE FR 3	14	-12	3524	5.79	-1.55	-0.34
153	SLE FR 4	14	-13	3726	6.24	-1.58	-0.37
153	SLE FR 5	14	-13	3726	6.24	-1.58	-0.37
153	SLE FR 6	14	-13	3861	6.54	-1.6	-0.39
153	SLE QP 1	14	-12	3524	5.79	-1.55	-0.34
153	SLE QP 2	14	-13	3726	6.24	-1.58	-0.37
153	SLD 1	267	-1	3593	3.23	0.09	-0.51
153	SLD 2	266	25	3594	3.17	0.08	0.57
153	SLD 3	276	-131	3597	11.48	0.15	-4.34
153	SLD 4	275	-105	3597	11.42	0.14	-3.26
153	SLD 5	77	178	3681	-7.16	-1.17	5.02
153	SLD 6	75	205	3682	-7.22	-1.18	6.11
153	SLD 7	107	-255	3692	20.35	-0.96	-7.76
153	SLD 8	105	-228	3693	20.29	-0.97	-6.66
153	SLD 9	-77	202	3760	-7.81	-2.19	5.93
153	SLD 10	-79	229	3761	-7.87	-2.19	7.02
153	SLD 11	-47	-231	3771	19.7	-1.98	-6.84
153	SLD 12	-49	-204	3771	19.64	-1.99	-5.75
153	SLD 13	-246	79	3856	1.06	-3.3	2.53
153	SLD 14	-248	105	3856	1	-3.31	3.61
153	SLD 15	-237	-51	3859	9.31	-3.24	-1.31
153	SLD 16	-239	-25	3859	9.25	-3.24	-0.22
153	SLV 1	589	16	3424	-0.74	2.2	-0.61
153	SLV 2	585	77	3426	-0.88	2.18	1.86
153	SLV 3	609	-284	3432	18.34	2.34	-9.49
153	SLV 4	606	-224	3433	18.2	2.33	-7.02
153	SLV 5	156	430	3624	-24.74	-0.66	12.14
153	SLV 6	153	491	3625	-24.88	-0.68	14.65
153	SLV 7	225	-572	3649	38.86	-0.17	-17.45
153	SLV 8	222	-511	3650	38.71	-0.19	-14.94
153	SLV 9	-194	485	3802	-26.23	-2.97	14.21
153	SLV 10	-197	546	3804	-26.38	-2.98	16.72
153	SLV 11	-125	-517	3828	37.36	-2.48	-15.38
153	SLV 12	-128	-456	3829	37.22	-2.5	-12.87
153	SLV 13	-578	198	4020	-5.72	-5.48	6.29
153	SLV 14	-581	258	4021	-5.86	-5.5	8.75
153	SLV 15	-557	-103	4027	13.36	-5.34	-2.59
153	SLV 16	-560	-42	4029	13.22	-5.36	-0.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
153	CRTFP Ux+	0	0	0	0	0	0
153	CRTFP Ux-	0	0	0	0	0	0
153	CRTFP Uy+	0	0	0	0	0	0
153	CRTFP Uy-	0	0	0	0	0	0
154	SLU 1	15	-13	3418	5.29	-1.13	-0.31
154	SLU 2	15	-13	3418	5.29	-1.13	-0.31
154	SLU 3	15	-13	3418	5.29	-1.13	-0.31
154	SLU 4	15	-13	3418	5.29	-1.13	-0.31
154	SLU 5	15	-13	3418	5.29	-1.13	-0.31
154	SLU 6	15	-13	3418	5.29	-1.13	-0.31
154	SLU 7	15	-13	3418	5.29	-1.13	-0.31
154	SLU 8	15	-13	3418	5.29	-1.13	-0.31
154	SLU 9	15	-13	3418	5.29	-1.13	-0.31
154	SLU 10	17	-17	4127	6.85	-1.08	-0.42
154	SLU 11	17	-17	4127	6.85	-1.08	-0.42
154	SLU 12	17	-17	4127	6.85	-1.08	-0.42
154	SLU 13	17	-17	4127	6.85	-1.08	-0.42
154	SLU 14	17	-17	4127	6.85	-1.08	-0.42
154	SLU 15	17	-17	4127	6.85	-1.08	-0.42
154	SLU 16	17	-17	4127	6.85	-1.08	-0.42
154	SLU 17	17	-17	4127	6.85	-1.08	-0.42
154	SLU 18	18	-18	4431	7.52	-1.06	-0.46
154	SLU 19	18	-18	4431	7.52	-1.06	-0.46
154	SLU 20	18	-18	4431	7.52	-1.06	-0.46
154	SLU 21	18	-18	4431	7.52	-1.06	-0.46
154	SLU 22	17	-16	3930	6.71	-1.06	-0.39
154	SLU 23	17	-16	3930	6.71	-1.06	-0.39
154	SLU 24	17	-16	3930	6.71	-1.06	-0.39
154	SLU 25	17	-16	3930	6.71	-1.06	-0.39
154	SLU 26	17	-16	3930	6.71	-1.06	-0.39
154	SLU 27	17	-16	3930	6.71	-1.06	-0.39
154	SLU 28	17	-16	3930	6.71	-1.06	-0.39
154	SLU 29	17	-16	3930	6.71	-1.06	-0.39
154	SLU 30	17	-16	3930	6.71	-1.06	-0.39
154	SLU 31	19	-19	4639	8.27	-1.02	-0.49
154	SLU 32	19	-19	4639	8.27	-1.02	-0.49
154	SLU 33	19	-19	4639	8.27	-1.02	-0.49
154	SLU 34	19	-19	4639	8.27	-1.02	-0.49
154	SLU 35	19	-19	4639	8.27	-1.02	-0.49
154	SLU 36	19	-19	4639	8.27	-1.02	-0.49
154	SLU 37	19	-19	4639	8.27	-1.02	-0.49
154	SLU 38	19	-19	4639	8.27	-1.02	-0.49
154	SLU 39	19	-20	4942	8.94	-1	-0.54
154	SLU 40	19	-20	4942	8.94	-1	-0.54
154	SLU 41	19	-20	4942	8.94	-1	-0.54
154	SLU 42	19	-20	4942	8.94	-1	-0.54
154	SLU 43	20	-16	4269	6.39	-1.49	-0.38
154	SLU 44	20	-16	4269	6.39	-1.49	-0.38
154	SLU 45	20	-16	4269	6.39	-1.49	-0.38
154	SLU 46	20	-16	4269	6.39	-1.49	-0.38
154	SLU 47	20	-16	4269	6.39	-1.49	-0.38
154	SLU 48	20	-16	4269	6.39	-1.49	-0.38
154	SLU 49	20	-16	4269	6.39	-1.49	-0.38
154	SLU 50	20	-16	4269	6.39	-1.49	-0.38
154	SLU 51	20	-16	4269	6.39	-1.49	-0.38
154	SLU 52	21	-20	4977	7.95	-1.44	-0.48
154	SLU 53	21	-20	4977	7.95	-1.44	-0.48
154	SLU 54	21	-20	4977	7.95	-1.44	-0.48
154	SLU 55	21	-20	4977	7.95	-1.44	-0.48
154	SLU 56	21	-20	4977	7.95	-1.44	-0.48
154	SLU 57	21	-20	4977	7.95	-1.44	-0.48
154	SLU 58	21	-20	4977	7.95	-1.44	-0.48
154	SLU 59	21	-20	4977	7.95	-1.44	-0.48
154	SLU 60	22	-21	5281	8.62	-1.42	-0.53
154	SLU 61	22	-21	5281	8.62	-1.42	-0.53
154	SLU 62	22	-21	5281	8.62	-1.42	-0.53
154	SLU 63	22	-21	5281	8.62	-1.42	-0.53
154	SLU 64	21	-19	4780	7.81	-1.42	-0.45
154	SLU 65	21	-19	4780	7.81	-1.42	-0.45
154	SLU 66	21	-19	4780	7.81	-1.42	-0.45
154	SLU 67	21	-19	4780	7.81	-1.42	-0.45
154	SLU 68	21	-19	4780	7.81	-1.42	-0.45
154	SLU 69	21	-19	4780	7.81	-1.42	-0.45
154	SLU 70	21	-19	4780	7.81	-1.42	-0.45
154	SLU 71	21	-19	4780	7.81	-1.42	-0.45
154	SLU 72	21	-19	4780	7.81	-1.42	-0.45
154	SLU 73	23	-22	5489	9.37	-1.38	-0.56
154	SLU 74	23	-22	5489	9.37	-1.38	-0.56
154	SLU 75	23	-22	5489	9.37	-1.38	-0.56
154	SLU 76	23	-22	5489	9.37	-1.38	-0.56
154	SLU 77	23	-22	5489	9.37	-1.38	-0.56
154	SLU 78	23	-22	5489	9.37	-1.38	-0.56
154	SLU 79	23	-22	5489	9.37	-1.38	-0.56
154	SLU 80	23	-22	5489	9.37	-1.38	-0.56
154	SLU 81	24	-24	5792	10.04	-1.36	-0.6
154	SLU 82	24	-24	5792	10.04	-1.36	-0.6
154	SLU 83	24	-24	5792	10.04	-1.36	-0.6
154	SLU 84	24	-24	5792	10.04	-1.36	-0.6
154	SLE RA 1	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 2	16	-14	3565	5.7	-1.11	-0.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
154	SLE RA 3	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 4	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 5	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 6	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 7	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 8	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 9	16	-14	3565	5.7	-1.11	-0.33
154	SLE RA 10	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 11	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 12	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 13	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 14	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 15	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 16	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 17	17	-16	4037	6.74	-1.08	-0.4
154	SLE RA 18	17	-17	4239	7.18	-1.06	-0.43
154	SLE RA 19	17	-17	4239	7.18	-1.06	-0.43
154	SLE RA 20	17	-17	4239	7.18	-1.06	-0.43
154	SLE RA 21	17	-17	4239	7.18	-1.06	-0.43
154	SLE FR 1	16	-14	3565	5.7	-1.11	-0.33
154	SLE FR 2	16	-14	3565	5.7	-1.11	-0.33
154	SLE FR 3	16	-14	3565	5.7	-1.11	-0.33
154	SLE FR 4	16	-15	3767	6.14	-1.09	-0.36
154	SLE FR 5	16	-15	3767	6.14	-1.09	-0.36
154	SLE FR 6	17	-16	3902	6.44	-1.09	-0.38
154	SLE QP 1	16	-14	3565	5.7	-1.11	-0.33
154	SLE QP 2	16	-15	3767	6.14	-1.09	-0.36
154	SLD 1	269	-3	3576	3.06	0.9	-0.38
154	SLD 2	267	29	3577	3	0.89	0.73
154	SLD 3	278	-155	3581	11.43	0.98	-4.6
154	SLD 4	276	-123	3582	11.36	0.97	-3.49
154	SLD 5	79	207	3702	-7.45	-0.61	5.63
154	SLD 6	77	240	3703	-7.51	-0.62	6.76
154	SLD 7	109	-298	3719	20.44	-0.36	-8.43
154	SLD 8	107	-266	3719	20.38	-0.37	-7.3
154	SLD 9	-75	236	3815	-8.09	-1.82	6.58
154	SLD 10	-76	268	3816	-8.15	-1.83	7.7
154	SLD 11	-45	-269	3831	19.8	-1.57	-7.49
154	SLD 12	-46	-237	3832	19.74	-1.58	-6.36
154	SLD 13	-244	93	3952	0.92	-3.16	2.76
154	SLD 14	-245	125	3953	0.86	-3.17	3.88
154	SLD 15	-235	-59	3957	9.29	-3.08	-1.46
154	SLD 16	-236	-26	3958	9.23	-3.09	-0.34
154	SLV 1	590	14	3333	-1.01	3.44	-0.32
154	SLV 2	586	88	3335	-1.15	3.42	2.22
154	SLV 3	611	-337	3345	18.34	3.61	-10.09
154	SLV 4	607	-263	3346	18.2	3.59	-7.55
154	SLV 5	158	500	3618	-25.29	0.01	13.56
154	SLV 6	154	574	3620	-25.44	-0.01	16.15
154	SLV 7	228	-670	3658	39.19	0.59	-19.01
154	SLV 8	224	-595	3659	39.05	0.57	-16.43
154	SLV 9	-191	565	3875	-26.76	-2.76	15.71
154	SLV 10	-195	640	3877	-26.91	-2.78	18.29
154	SLV 11	-122	-604	3914	37.72	-2.18	-16.87
154	SLV 12	-125	-529	3916	37.58	-2.2	-14.29
154	SLV 13	-575	233	4188	-5.91	-5.78	6.82
154	SLV 14	-578	307	4189	-6.05	-5.8	9.36
154	SLV 15	-554	-118	4199	13.44	-5.61	-2.95
154	SLV 16	-557	-44	4201	13.29	-5.63	-0.41
154	CRTFP Ux+	0	0	0	0	0	0
154	CRTFP Ux-	0	0	0	0	0	0
154	CRTFP Uy+	0	0	0	0	0	0
154	CRTFP Uy-	0	0	0	0	0	0
155	SLU 1	17	-15	3448	5.22	-0.85	-0.29
155	SLU 2	17	-15	3448	5.22	-0.85	-0.29
155	SLU 3	17	-15	3448	5.22	-0.85	-0.29
155	SLU 4	17	-15	3448	5.22	-0.85	-0.29
155	SLU 5	17	-15	3448	5.22	-0.85	-0.29
155	SLU 6	17	-15	3448	5.22	-0.85	-0.29
155	SLU 7	17	-15	3448	5.22	-0.85	-0.29
155	SLU 8	17	-15	3448	5.22	-0.85	-0.29
155	SLU 9	17	-15	3448	5.22	-0.85	-0.29
155	SLU 10	19	-19	4154	6.75	-0.7	-0.39
155	SLU 11	19	-19	4154	6.75	-0.7	-0.39
155	SLU 12	19	-19	4154	6.75	-0.7	-0.39
155	SLU 13	19	-19	4154	6.75	-0.7	-0.39
155	SLU 14	19	-19	4154	6.75	-0.7	-0.39
155	SLU 15	19	-19	4154	6.75	-0.7	-0.39
155	SLU 16	19	-19	4154	6.75	-0.7	-0.39
155	SLU 17	19	-19	4154	6.75	-0.7	-0.39
155	SLU 18	20	-20	4456	7.41	-0.64	-0.43
155	SLU 19	20	-20	4456	7.41	-0.64	-0.43
155	SLU 20	20	-20	4456	7.41	-0.64	-0.43
155	SLU 21	20	-20	4456	7.41	-0.64	-0.43
155	SLU 22	19	-18	3957	6.62	-0.71	-0.36
155	SLU 23	19	-18	3957	6.62	-0.71	-0.36
155	SLU 24	19	-18	3957	6.62	-0.71	-0.36
155	SLU 25	19	-18	3957	6.62	-0.71	-0.36
155	SLU 26	19	-18	3957	6.62	-0.71	-0.36
155	SLU 27	19	-18	3957	6.62	-0.71	-0.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
155	SLU 28	19	-18	3957	6.62	-0.71	-0.36
155	SLU 29	19	-18	3957	6.62	-0.71	-0.36
155	SLU 30	19	-18	3957	6.62	-0.71	-0.36
155	SLU 31	21	-22	4662	8.15	-0.56	-0.46
155	SLU 32	21	-22	4662	8.15	-0.56	-0.46
155	SLU 33	21	-22	4662	8.15	-0.56	-0.46
155	SLU 34	21	-22	4662	8.15	-0.56	-0.46
155	SLU 35	21	-22	4662	8.15	-0.56	-0.46
155	SLU 36	21	-22	4662	8.15	-0.56	-0.46
155	SLU 37	21	-22	4662	8.15	-0.56	-0.46
155	SLU 38	21	-22	4662	8.15	-0.56	-0.46
155	SLU 39	21	-23	4964	8.81	-0.49	-0.5
155	SLU 40	21	-23	4964	8.81	-0.49	-0.5
155	SLU 41	21	-23	4964	8.81	-0.49	-0.5
155	SLU 42	21	-23	4964	8.81	-0.49	-0.5
155	SLU 43	22	-18	4309	6.3	-1.16	-0.35
155	SLU 44	22	-18	4309	6.3	-1.16	-0.35
155	SLU 45	22	-18	4309	6.3	-1.16	-0.35
155	SLU 46	22	-18	4309	6.3	-1.16	-0.35
155	SLU 47	22	-18	4309	6.3	-1.16	-0.35
155	SLU 48	22	-18	4309	6.3	-1.16	-0.35
155	SLU 49	22	-18	4309	6.3	-1.16	-0.35
155	SLU 50	22	-18	4309	6.3	-1.16	-0.35
155	SLU 51	22	-18	4309	6.3	-1.16	-0.35
155	SLU 52	24	-22	5014	7.84	-1.01	-0.45
155	SLU 53	24	-22	5014	7.84	-1.01	-0.45
155	SLU 54	24	-22	5014	7.84	-1.01	-0.45
155	SLU 55	24	-22	5014	7.84	-1.01	-0.45
155	SLU 56	24	-22	5014	7.84	-1.01	-0.45
155	SLU 57	24	-22	5014	7.84	-1.01	-0.45
155	SLU 58	24	-22	5014	7.84	-1.01	-0.45
155	SLU 59	24	-22	5014	7.84	-1.01	-0.45
155	SLU 60	25	-24	5316	8.5	-0.95	-0.49
155	SLU 61	25	-24	5316	8.5	-0.95	-0.49
155	SLU 62	25	-24	5316	8.5	-0.95	-0.49
155	SLU 63	25	-24	5316	8.5	-0.95	-0.49
155	SLU 64	23	-21	4817	7.7	-1.01	-0.42
155	SLU 65	23	-21	4817	7.7	-1.01	-0.42
155	SLU 66	23	-21	4817	7.7	-1.01	-0.42
155	SLU 67	23	-21	4817	7.7	-1.01	-0.42
155	SLU 68	23	-21	4817	7.7	-1.01	-0.42
155	SLU 69	23	-21	4817	7.7	-1.01	-0.42
155	SLU 70	23	-21	4817	7.7	-1.01	-0.42
155	SLU 71	23	-21	4817	7.7	-1.01	-0.42
155	SLU 72	23	-21	4817	7.7	-1.01	-0.42
155	SLU 73	25	-25	5522	9.24	-0.86	-0.52
155	SLU 74	25	-25	5522	9.24	-0.86	-0.52
155	SLU 75	25	-25	5522	9.24	-0.86	-0.52
155	SLU 76	25	-25	5522	9.24	-0.86	-0.52
155	SLU 77	25	-25	5522	9.24	-0.86	-0.52
155	SLU 78	25	-25	5522	9.24	-0.86	-0.52
155	SLU 79	25	-25	5522	9.24	-0.86	-0.52
155	SLU 80	25	-25	5522	9.24	-0.86	-0.52
155	SLU 81	26	-27	5825	9.9	-0.8	-0.56
155	SLU 82	26	-27	5825	9.9	-0.8	-0.56
155	SLU 83	26	-27	5825	9.9	-0.8	-0.56
155	SLU 84	26	-27	5825	9.9	-0.8	-0.56
155	SLE RA 1	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 2	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 3	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 4	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 5	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 6	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 7	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 8	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 9	18	-16	3594	5.62	-0.81	-0.31
155	SLE RA 10	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 11	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 12	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 13	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 14	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 15	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 16	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 17	19	-18	4064	6.64	-0.71	-0.37
155	SLE RA 18	19	-19	4265	7.08	-0.67	-0.4
155	SLE RA 19	19	-19	4265	7.08	-0.67	-0.4
155	SLE RA 20	19	-19	4265	7.08	-0.67	-0.4
155	SLE RA 21	19	-19	4265	7.08	-0.67	-0.4
155	SLE FR 1	18	-16	3594	5.62	-0.81	-0.31
155	SLE FR 2	18	-16	3594	5.62	-0.81	-0.31
155	SLE FR 3	18	-16	3594	5.62	-0.81	-0.31
155	SLE FR 4	18	-17	3795	6.05	-0.77	-0.34
155	SLE FR 5	18	-17	3795	6.05	-0.77	-0.34
155	SLE FR 6	19	-18	3929	6.35	-0.74	-0.36
155	SLE QP 1	18	-16	3594	5.62	-0.81	-0.31
155	SLE QP 2	18	-17	3795	6.05	-0.77	-0.34
155	SLD 1	270	-5	3537	2.89	1.46	-0.29
155	SLD 2	269	33	3538	2.83	1.45	0.85
155	SLD 3	279	-180	3544	11.39	1.54	-4.72
155	SLD 4	278	-142	3545	11.32	1.53	-3.58



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
155	SLD 5	81	238	3706	-7.75	-0.22	5.99
155	SLD 6	79	277	3707	-7.82	-0.23	7.15
155	SLD 7	111	-345	3731	20.56	0.05	-8.78
155	SLD 8	109	-306	3732	20.49	0.04	-7.62
155	SLD 9	-73	272	3859	-8.39	-1.58	6.95
155	SLD 10	-74	311	3860	-8.45	-1.59	8.11
155	SLD 11	-43	-311	3883	19.93	-1.31	-7.82
155	SLD 12	-44	-272	3884	19.86	-1.32	-6.66
155	SLD 13	-241	108	4045	0.79	-3.07	2.9
155	SLD 14	-243	146	4046	0.72	-3.08	4.05
155	SLD 15	-232	-67	4052	9.28	-2.99	-1.53
155	SLD 16	-234	-28	4053	9.22	-3	-0.38
155	SLV 1	590	13	3209	-1.28	4.29	-0.14
155	SLV 2	587	100	3211	-1.42	4.26	2.47
155	SLV 3	611	-392	3226	18.36	4.48	-10.41
155	SLV 4	608	-304	3228	18.22	4.46	-7.8
155	SLV 5	159	575	3592	-25.88	0.46	14.35
155	SLV 6	156	664	3595	-26.02	0.44	17.01
155	SLV 7	229	-775	3649	39.58	1.11	-19.86
155	SLV 8	226	-686	3652	39.44	1.08	-17.2
155	SLV 9	-189	652	3938	-27.33	-2.62	16.53
155	SLV 10	-193	741	3941	-27.47	-2.65	19.19
155	SLV 11	-119	-697	3995	38.13	-1.98	-17.68
155	SLV 12	-123	-609	3998	37.99	-2	-15.02
155	SLV 13	-572	271	4362	-6.11	-6	7.12
155	SLV 14	-575	358	4365	-6.25	-6.02	9.73
155	SLV 15	-550	-134	4379	13.53	-5.8	-3.14
155	SLV 16	-554	-47	4382	13.39	-5.83	-0.53
155	CRTFP Ux+	0	0	0	0	0	0
155	CRTFP Ux-	0	0	0	0	0	0
155	CRTFP Uy+	0	0	0	0	0	0
155	CRTFP Uy-	0	0	0	0	0	0
156	SLU 1	19	-16	3473	5.15	-0.82	-0.24
156	SLU 2	19	-16	3473	5.15	-0.82	-0.24
156	SLU 3	19	-16	3473	5.15	-0.82	-0.24
156	SLU 4	19	-16	3473	5.15	-0.82	-0.24
156	SLU 5	19	-16	3473	5.15	-0.82	-0.24
156	SLU 6	19	-16	3473	5.15	-0.82	-0.24
156	SLU 7	19	-16	3473	5.15	-0.82	-0.24
156	SLU 8	19	-16	3473	5.15	-0.82	-0.24
156	SLU 9	19	-16	3473	5.15	-0.82	-0.24
156	SLU 10	21	-21	4173	6.67	-0.63	-0.33
156	SLU 11	21	-21	4173	6.67	-0.63	-0.33
156	SLU 12	21	-21	4173	6.67	-0.63	-0.33
156	SLU 13	21	-21	4173	6.67	-0.63	-0.33
156	SLU 14	21	-21	4173	6.67	-0.63	-0.33
156	SLU 15	21	-21	4173	6.67	-0.63	-0.33
156	SLU 16	21	-21	4173	6.67	-0.63	-0.33
156	SLU 17	21	-21	4173	6.67	-0.63	-0.33
156	SLU 18	22	-23	4473	7.32	-0.54	-0.37
156	SLU 19	22	-23	4473	7.32	-0.54	-0.37
156	SLU 20	22	-23	4473	7.32	-0.54	-0.37
156	SLU 21	22	-23	4473	7.32	-0.54	-0.37
156	SLU 22	21	-20	3977	6.53	-0.63	-0.31
156	SLU 23	21	-20	3977	6.53	-0.63	-0.31
156	SLU 24	21	-20	3977	6.53	-0.63	-0.31
156	SLU 25	21	-20	3977	6.53	-0.63	-0.31
156	SLU 26	21	-20	3977	6.53	-0.63	-0.31
156	SLU 27	21	-20	3977	6.53	-0.63	-0.31
156	SLU 28	21	-20	3977	6.53	-0.63	-0.31
156	SLU 29	21	-20	3977	6.53	-0.63	-0.31
156	SLU 30	21	-20	3977	6.53	-0.63	-0.31
156	SLU 31	22	-24	4676	8.05	-0.44	-0.4
156	SLU 32	22	-24	4676	8.05	-0.44	-0.4
156	SLU 33	22	-24	4676	8.05	-0.44	-0.4
156	SLU 34	22	-24	4676	8.05	-0.44	-0.4
156	SLU 35	22	-24	4676	8.05	-0.44	-0.4
156	SLU 36	22	-24	4676	8.05	-0.44	-0.4
156	SLU 37	22	-24	4676	8.05	-0.44	-0.4
156	SLU 38	22	-24	4676	8.05	-0.44	-0.4
156	SLU 39	23	-26	4976	8.7	-0.35	-0.43
156	SLU 40	23	-26	4976	8.7	-0.35	-0.43
156	SLU 41	23	-26	4976	8.7	-0.35	-0.43
156	SLU 42	23	-26	4976	8.7	-0.35	-0.43
156	SLU 43	24	-20	4343	6.22	-1.14	-0.29
156	SLU 44	24	-20	4343	6.22	-1.14	-0.29
156	SLU 45	24	-20	4343	6.22	-1.14	-0.29
156	SLU 46	24	-20	4343	6.22	-1.14	-0.29
156	SLU 47	24	-20	4343	6.22	-1.14	-0.29
156	SLU 48	24	-20	4343	6.22	-1.14	-0.29
156	SLU 49	24	-20	4343	6.22	-1.14	-0.29
156	SLU 50	24	-20	4343	6.22	-1.14	-0.29
156	SLU 51	24	-20	4343	6.22	-1.14	-0.29
156	SLU 52	26	-24	5043	7.73	-0.94	-0.38
156	SLU 53	26	-24	5043	7.73	-0.94	-0.38
156	SLU 54	26	-24	5043	7.73	-0.94	-0.38
156	SLU 55	26	-24	5043	7.73	-0.94	-0.38
156	SLU 56	26	-24	5043	7.73	-0.94	-0.38
156	SLU 57	26	-24	5043	7.73	-0.94	-0.38
156	SLU 58	26	-24	5043	7.73	-0.94	-0.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
156	SLU 59	26	-24	5043	7.73	-0.94	-0.38
156	SLU 60	27	-26	5343	8.38	-0.86	-0.42
156	SLU 61	27	-26	5343	8.38	-0.86	-0.42
156	SLU 62	27	-26	5343	8.38	-0.86	-0.42
156	SLU 63	27	-26	5343	8.38	-0.86	-0.42
156	SLU 64	26	-23	4846	7.6	-0.95	-0.36
156	SLU 65	26	-23	4846	7.6	-0.95	-0.36
156	SLU 66	26	-23	4846	7.6	-0.95	-0.36
156	SLU 67	26	-23	4846	7.6	-0.95	-0.36
156	SLU 68	26	-23	4846	7.6	-0.95	-0.36
156	SLU 69	26	-23	4846	7.6	-0.95	-0.36
156	SLU 70	26	-23	4846	7.6	-0.95	-0.36
156	SLU 71	26	-23	4846	7.6	-0.95	-0.36
156	SLU 72	26	-23	4846	7.6	-0.95	-0.36
156	SLU 73	28	-28	5546	9.12	-0.75	-0.45
156	SLU 74	28	-28	5546	9.12	-0.75	-0.45
156	SLU 75	28	-28	5546	9.12	-0.75	-0.45
156	SLU 76	28	-28	5546	9.12	-0.75	-0.45
156	SLU 77	28	-28	5546	9.12	-0.75	-0.45
156	SLU 78	28	-28	5546	9.12	-0.75	-0.45
156	SLU 79	28	-28	5546	9.12	-0.75	-0.45
156	SLU 80	28	-28	5546	9.12	-0.75	-0.45
156	SLU 81	28	-30	5846	9.77	-0.67	-0.48
156	SLU 82	28	-30	5846	9.77	-0.67	-0.48
156	SLU 83	28	-30	5846	9.77	-0.67	-0.48
156	SLU 84	28	-30	5846	9.77	-0.67	-0.48
156	SLE RA 1	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 2	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 3	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 4	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 5	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 6	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 7	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 8	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 9	19	-17	3617	5.54	-0.77	-0.26
156	SLE RA 10	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 11	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 12	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 13	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 14	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 15	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 16	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 17	21	-20	4084	6.55	-0.64	-0.32
156	SLE RA 18	21	-21	4284	6.99	-0.58	-0.35
156	SLE RA 19	21	-21	4284	6.99	-0.58	-0.35
156	SLE RA 20	21	-21	4284	6.99	-0.58	-0.35
156	SLE RA 21	21	-21	4284	6.99	-0.58	-0.35
156	SLE FR 1	19	-17	3617	5.54	-0.77	-0.26
156	SLE FR 2	19	-17	3617	5.54	-0.77	-0.26
156	SLE FR 3	19	-17	3617	5.54	-0.77	-0.26
156	SLE FR 4	20	-18	3817	5.98	-0.71	-0.29
156	SLE FR 5	20	-18	3817	5.98	-0.71	-0.29
156	SLE FR 6	20	-19	3950	6.27	-0.68	-0.3
156	SLE QP 1	19	-17	3617	5.54	-0.77	-0.26
156	SLE QP 2	20	-18	3817	5.98	-0.71	-0.29
156	SLD 1	271	-7	3496	2.73	1.69	-0.24
156	SLD 2	270	38	3497	2.67	1.68	0.92
156	SLD 3	280	-205	3486	11.36	1.77	-4.69
156	SLD 4	279	-161	3487	11.3	1.76	-3.52
156	SLD 5	82	271	3735	-8.06	-0.12	6.05
156	SLD 6	81	316	3737	-8.13	-0.14	7.23
156	SLD 7	112	-392	3702	20.7	0.17	-8.76
156	SLD 8	111	-347	3704	20.64	0.16	-7.58
156	SLD 9	-71	310	3931	-8.69	-1.59	7.01
156	SLD 10	-72	355	3932	-8.75	-1.6	8.19
156	SLD 11	-41	-353	3898	20.08	-1.29	-7.8
156	SLD 12	-42	-308	3899	20.02	-1.3	-6.63
156	SLD 13	-239	124	4147	0.65	-3.19	2.95
156	SLD 14	-240	168	4149	0.59	-3.2	4.12
156	SLD 15	-230	-75	4137	9.28	-3.1	-1.5
156	SLD 16	-231	-30	4139	9.22	-3.12	-0.33
156	SLV 1	591	13	3087	-1.55	4.74	-0.09
156	SLV 2	587	114	3090	-1.69	4.71	2.56
156	SLV 3	612	-447	3064	18.41	4.94	-10.39
156	SLV 4	609	-346	3067	18.27	4.92	-7.73
156	SLV 5	160	653	3632	-26.5	0.62	14.43
156	SLV 6	157	756	3635	-26.64	0.59	17.14
156	SLV 7	231	-882	3555	40.02	1.3	-19.88
156	SLV 8	228	-779	3559	39.88	1.28	-17.18
156	SLV 9	-188	742	4076	-27.93	-2.71	16.61
156	SLV 10	-191	845	4079	-28.07	-2.73	19.31
156	SLV 11	-117	-793	3999	38.59	-2.02	-17.71
156	SLV 12	-120	-690	4003	38.45	-2.05	-15
156	SLV 13	-569	309	4567	-6.31	-6.35	7.16
156	SLV 14	-572	411	4570	-6.46	-6.37	9.81
156	SLV 15	-547	-151	4544	13.64	-6.14	-3.14
156	SLV 16	-551	-50	4547	13.5	-6.16	-0.48
156	CRTFP Ux+	0	0	0	0	0	0
156	CRTFP Ux-	0	0	0	0	0	0
156	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
156	CRTFP Uy-	0	0	0	0	0	0
157	SLU 1	20	-17	3503	5.09	-1.15	-0.18
157	SLU 2	20	-17	3503	5.09	-1.15	-0.18
157	SLU 3	20	-17	3503	5.09	-1.15	-0.18
157	SLU 4	20	-17	3503	5.09	-1.15	-0.18
157	SLU 5	20	-17	3503	5.09	-1.15	-0.18
157	SLU 6	20	-17	3503	5.09	-1.15	-0.18
157	SLU 7	20	-17	3503	5.09	-1.15	-0.18
157	SLU 8	20	-17	3503	5.09	-1.15	-0.18
157	SLU 9	20	-17	3503	5.09	-1.15	-0.18
157	SLU 10	22	-22	4197	6.59	-0.99	-0.25
157	SLU 11	22	-22	4197	6.59	-0.99	-0.25
157	SLU 12	22	-22	4197	6.59	-0.99	-0.25
157	SLU 13	22	-22	4197	6.59	-0.99	-0.25
157	SLU 14	22	-22	4197	6.59	-0.99	-0.25
157	SLU 15	22	-22	4197	6.59	-0.99	-0.25
157	SLU 16	22	-22	4197	6.59	-0.99	-0.25
157	SLU 17	22	-22	4197	6.59	-0.99	-0.25
157	SLU 18	23	-24	4495	7.23	-0.93	-0.28
157	SLU 19	23	-24	4495	7.23	-0.93	-0.28
157	SLU 20	23	-24	4495	7.23	-0.93	-0.28
157	SLU 21	23	-24	4495	7.23	-0.93	-0.28
157	SLU 22	22	-21	4000	6.46	-0.98	-0.23
157	SLU 23	22	-21	4000	6.46	-0.98	-0.23
157	SLU 24	22	-21	4000	6.46	-0.98	-0.23
157	SLU 25	22	-21	4000	6.46	-0.98	-0.23
157	SLU 26	22	-21	4000	6.46	-0.98	-0.23
157	SLU 27	22	-21	4000	6.46	-0.98	-0.23
157	SLU 28	22	-21	4000	6.46	-0.98	-0.23
157	SLU 29	22	-21	4000	6.46	-0.98	-0.23
157	SLU 30	22	-21	4000	6.46	-0.98	-0.23
157	SLU 31	24	-26	4695	7.96	-0.82	-0.3
157	SLU 32	24	-26	4695	7.96	-0.82	-0.3
157	SLU 33	24	-26	4695	7.96	-0.82	-0.3
157	SLU 34	24	-26	4695	7.96	-0.82	-0.3
157	SLU 35	24	-26	4695	7.96	-0.82	-0.3
157	SLU 36	24	-26	4695	7.96	-0.82	-0.3
157	SLU 37	24	-26	4695	7.96	-0.82	-0.3
157	SLU 38	24	-26	4695	7.96	-0.82	-0.3
157	SLU 39	25	-28	4992	8.6	-0.75	-0.33
157	SLU 40	25	-28	4992	8.6	-0.75	-0.33
157	SLU 41	25	-28	4992	8.6	-0.75	-0.33
157	SLU 42	25	-28	4992	8.6	-0.75	-0.33
157	SLU 43	26	-21	4383	6.14	-1.55	-0.21
157	SLU 44	26	-21	4383	6.14	-1.55	-0.21
157	SLU 45	26	-21	4383	6.14	-1.55	-0.21
157	SLU 46	26	-21	4383	6.14	-1.55	-0.21
157	SLU 47	26	-21	4383	6.14	-1.55	-0.21
157	SLU 48	26	-21	4383	6.14	-1.55	-0.21
157	SLU 49	26	-21	4383	6.14	-1.55	-0.21
157	SLU 50	26	-21	4383	6.14	-1.55	-0.21
157	SLU 51	26	-21	4383	6.14	-1.55	-0.21
157	SLU 52	28	-26	5077	7.64	-1.4	-0.28
157	SLU 53	28	-26	5077	7.64	-1.4	-0.28
157	SLU 54	28	-26	5077	7.64	-1.4	-0.28
157	SLU 55	28	-26	5077	7.64	-1.4	-0.28
157	SLU 56	28	-26	5077	7.64	-1.4	-0.28
157	SLU 57	28	-26	5077	7.64	-1.4	-0.28
157	SLU 58	28	-26	5077	7.64	-1.4	-0.28
157	SLU 59	28	-26	5077	7.64	-1.4	-0.28
157	SLU 60	29	-28	5375	8.29	-1.33	-0.31
157	SLU 61	29	-28	5375	8.29	-1.33	-0.31
157	SLU 62	29	-28	5375	8.29	-1.33	-0.31
157	SLU 63	29	-28	5375	8.29	-1.33	-0.31
157	SLU 64	28	-25	4880	7.51	-1.38	-0.26
157	SLU 65	28	-25	4880	7.51	-1.38	-0.26
157	SLU 66	28	-25	4880	7.51	-1.38	-0.26
157	SLU 67	28	-25	4880	7.51	-1.38	-0.26
157	SLU 68	28	-25	4880	7.51	-1.38	-0.26
157	SLU 69	28	-25	4880	7.51	-1.38	-0.26
157	SLU 70	28	-25	4880	7.51	-1.38	-0.26
157	SLU 71	28	-25	4880	7.51	-1.38	-0.26
157	SLU 72	28	-25	4880	7.51	-1.38	-0.26
157	SLU 73	30	-30	5575	9.01	-1.23	-0.33
157	SLU 74	30	-30	5575	9.01	-1.23	-0.33
157	SLU 75	30	-30	5575	9.01	-1.23	-0.33
157	SLU 76	30	-30	5575	9.01	-1.23	-0.33
157	SLU 77	30	-30	5575	9.01	-1.23	-0.33
157	SLU 78	30	-30	5575	9.01	-1.23	-0.33
157	SLU 79	30	-30	5575	9.01	-1.23	-0.33
157	SLU 80	30	-30	5575	9.01	-1.23	-0.33
157	SLU 81	30	-32	5872	9.66	-1.16	-0.36
157	SLU 82	30	-32	5872	9.66	-1.16	-0.36
157	SLU 83	30	-32	5872	9.66	-1.16	-0.36
157	SLU 84	30	-32	5872	9.66	-1.16	-0.36
157	SLE RA 1	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 2	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 3	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 4	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 5	21	-18	3645	5.48	-1.1	-0.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
157	SLE RA 6	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 7	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 8	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 9	21	-18	3645	5.48	-1.1	-0.19
157	SLE RA 10	22	-22	4108	6.48	-1	-0.24
157	SLE RA 11	22	-22	4108	6.48	-1	-0.24
157	SLE RA 12	22	-22	4108	6.48	-1	-0.24
157	SLE RA 13	22	-22	4108	6.48	-1	-0.24
157	SLE RA 14	22	-22	4108	6.48	-1	-0.24
157	SLE RA 15	22	-22	4108	6.48	-1	-0.24
157	SLE RA 16	22	-22	4108	6.48	-1	-0.24
157	SLE RA 17	22	-22	4108	6.48	-1	-0.24
157	SLE RA 18	23	-23	4306	6.91	-0.95	-0.26
157	SLE RA 19	23	-23	4306	6.91	-0.95	-0.26
157	SLE RA 20	23	-23	4306	6.91	-0.95	-0.26
157	SLE RA 21	23	-23	4306	6.91	-0.95	-0.26
157	SLE FR 1	21	-18	3645	5.48	-1.1	-0.19
157	SLE FR 2	21	-18	3645	5.48	-1.1	-0.19
157	SLE FR 3	21	-18	3645	5.48	-1.1	-0.19
157	SLE FR 4	21	-20	3843	5.91	-1.06	-0.21
157	SLE FR 5	21	-20	3843	5.91	-1.06	-0.21
157	SLE FR 6	22	-21	3975	6.19	-1.03	-0.22
157	SLE QP 1	21	-18	3645	5.48	-1.1	-0.19
157	SLE QP 2	21	-20	3843	5.91	-1.06	-0.21
157	SLD 1	272	-8	3446	2.57	1.51	-0.24
157	SLD 2	271	43	3447	2.51	1.5	0.94
157	SLD 3	281	-230	3433	11.35	1.61	-4.47
157	SLD 4	280	-179	3435	11.29	1.59	-3.3
157	SLD 5	83	303	3742	-8.39	-0.42	5.79
157	SLD 6	82	354	3744	-8.45	-0.43	6.97
157	SLD 7	114	-438	3701	20.88	-0.11	-8.33
157	SLD 8	112	-387	3702	20.81	-0.12	-7.14
157	SLD 9	-69	347	3984	-9	-1.99	6.72
157	SLD 10	-71	398	3986	-9.06	-2	7.91
157	SLD 11	-39	-394	3942	20.26	-1.68	-7.4
157	SLD 12	-40	-343	3944	20.2	-1.69	-6.21
157	SLD 13	-237	140	4252	0.52	-3.71	2.87
157	SLD 14	-238	190	4253	0.46	-3.72	4.05
157	SLD 15	-228	-83	4239	9.3	-3.61	-1.36
157	SLD 16	-229	-32	4241	9.24	-3.63	-0.19
157	SLV 1	591	13	2941	-1.82	4.78	-0.18
157	SLV 2	587	128	2945	-1.96	4.75	2.5
157	SLV 3	612	-502	2912	18.48	4.99	-9.99
157	SLV 4	609	-387	2916	18.34	4.97	-7.31
157	SLV 5	161	729	3615	-27.15	0.38	13.72
157	SLV 6	158	847	3619	-27.29	0.35	16.44
157	SLV 7	232	-987	3518	40.52	1.1	-18.98
157	SLV 8	229	-869	3522	40.37	1.07	-16.26
157	SLV 9	-186	830	4164	-28.56	-3.18	15.84
157	SLV 10	-189	947	4169	-28.7	-3.21	18.56
157	SLV 11	-115	-886	4067	39.1	-2.46	-16.86
157	SLV 12	-118	-769	4071	38.96	-2.49	-14.14
157	SLV 13	-566	347	4771	-6.53	-7.08	6.89
157	SLV 14	-569	462	4775	-6.67	-7.11	9.56
157	SLV 15	-544	-168	4742	13.77	-6.86	-2.92
157	SLV 16	-548	-52	4746	13.63	-6.89	-0.25
157	CRTFP Ux+	0	0	0	0	0	0
157	CRTFP Ux-	0	0	0	0	0	0
157	CRTFP Uy+	0	0	0	0	0	0
157	CRTFP Uy-	0	0	0	0	0	0
158	SLU 1	22	-18	3550	5.03	-2	-0.08
158	SLU 2	22	-18	3550	5.03	-2	-0.08
158	SLU 3	22	-18	3550	5.03	-2	-0.08
158	SLU 4	22	-18	3550	5.03	-2	-0.08
158	SLU 5	22	-18	3550	5.03	-2	-0.08
158	SLU 6	22	-18	3550	5.03	-2	-0.08
158	SLU 7	22	-18	3550	5.03	-2	-0.08
158	SLU 8	22	-18	3550	5.03	-2	-0.08
158	SLU 9	22	-18	3550	5.03	-2	-0.08
158	SLU 10	24	-23	4241	6.52	-2.01	-0.13
158	SLU 11	24	-23	4241	6.52	-2.01	-0.13
158	SLU 12	24	-23	4241	6.52	-2.01	-0.13
158	SLU 13	24	-23	4241	6.52	-2.01	-0.13
158	SLU 14	24	-23	4241	6.52	-2.01	-0.13
158	SLU 15	24	-23	4241	6.52	-2.01	-0.13
158	SLU 16	24	-23	4241	6.52	-2.01	-0.13
158	SLU 17	24	-23	4241	6.52	-2.01	-0.13
158	SLU 18	25	-26	4538	7.16	-2.01	-0.15
158	SLU 19	25	-26	4538	7.16	-2.01	-0.15
158	SLU 20	25	-26	4538	7.16	-2.01	-0.15
158	SLU 21	25	-26	4538	7.16	-2.01	-0.15
158	SLU 22	23	-22	4043	6.39	-1.94	-0.12
158	SLU 23	23	-22	4043	6.39	-1.94	-0.12
158	SLU 24	23	-22	4043	6.39	-1.94	-0.12
158	SLU 25	23	-22	4043	6.39	-1.94	-0.12
158	SLU 26	23	-22	4043	6.39	-1.94	-0.12
158	SLU 27	23	-22	4043	6.39	-1.94	-0.12
158	SLU 28	23	-22	4043	6.39	-1.94	-0.12
158	SLU 29	23	-22	4043	6.39	-1.94	-0.12
158	SLU 30	23	-22	4043	6.39	-1.94	-0.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
158	SLU 31	25	-27	4735	7.88	-1.95	-0.16
158	SLU 32	25	-27	4735	7.88	-1.95	-0.16
158	SLU 33	25	-27	4735	7.88	-1.95	-0.16
158	SLU 34	25	-27	4735	7.88	-1.95	-0.16
158	SLU 35	25	-27	4735	7.88	-1.95	-0.16
158	SLU 36	25	-27	4735	7.88	-1.95	-0.16
158	SLU 37	25	-27	4735	7.88	-1.95	-0.16
158	SLU 38	25	-27	4735	7.88	-1.95	-0.16
158	SLU 39	26	-29	5032	8.52	-1.95	-0.18
158	SLU 40	26	-29	5032	8.52	-1.95	-0.18
158	SLU 41	26	-29	5032	8.52	-1.95	-0.18
158	SLU 42	26	-29	5032	8.52	-1.95	-0.18
158	SLU 43	28	-22	4445	6.08	-2.62	-0.1
158	SLU 44	28	-22	4445	6.08	-2.62	-0.1
158	SLU 45	28	-22	4445	6.08	-2.62	-0.1
158	SLU 46	28	-22	4445	6.08	-2.62	-0.1
158	SLU 47	28	-22	4445	6.08	-2.62	-0.1
158	SLU 48	28	-22	4445	6.08	-2.62	-0.1
158	SLU 49	28	-22	4445	6.08	-2.62	-0.1
158	SLU 50	28	-22	4445	6.08	-2.62	-0.1
158	SLU 51	28	-22	4445	6.08	-2.62	-0.1
158	SLU 52	30	-27	5137	7.56	-2.63	-0.14
158	SLU 53	30	-27	5137	7.56	-2.63	-0.14
158	SLU 54	30	-27	5137	7.56	-2.63	-0.14
158	SLU 55	30	-27	5137	7.56	-2.63	-0.14
158	SLU 56	30	-27	5137	7.56	-2.63	-0.14
158	SLU 57	30	-27	5137	7.56	-2.63	-0.14
158	SLU 58	30	-27	5137	7.56	-2.63	-0.14
158	SLU 59	30	-27	5137	7.56	-2.63	-0.14
158	SLU 60	31	-30	5433	8.2	-2.63	-0.16
158	SLU 61	31	-30	5433	8.2	-2.63	-0.16
158	SLU 62	31	-30	5433	8.2	-2.63	-0.16
158	SLU 63	31	-30	5433	8.2	-2.63	-0.16
158	SLU 64	29	-26	4939	7.43	-2.56	-0.13
158	SLU 65	29	-26	4939	7.43	-2.56	-0.13
158	SLU 66	29	-26	4939	7.43	-2.56	-0.13
158	SLU 67	29	-26	4939	7.43	-2.56	-0.13
158	SLU 68	29	-26	4939	7.43	-2.56	-0.13
158	SLU 69	29	-26	4939	7.43	-2.56	-0.13
158	SLU 70	29	-26	4939	7.43	-2.56	-0.13
158	SLU 71	29	-26	4939	7.43	-2.56	-0.13
158	SLU 72	29	-26	4939	7.43	-2.56	-0.13
158	SLU 73	31	-31	5631	8.92	-2.57	-0.18
158	SLU 74	31	-31	5631	8.92	-2.57	-0.18
158	SLU 75	31	-31	5631	8.92	-2.57	-0.18
158	SLU 76	31	-31	5631	8.92	-2.57	-0.18
158	SLU 77	31	-31	5631	8.92	-2.57	-0.18
158	SLU 78	31	-31	5631	8.92	-2.57	-0.18
158	SLU 79	31	-31	5631	8.92	-2.57	-0.18
158	SLU 80	31	-31	5631	8.92	-2.57	-0.18
158	SLU 81	32	-34	5927	9.56	-2.57	-0.2
158	SLU 82	32	-34	5927	9.56	-2.57	-0.2
158	SLU 83	32	-34	5927	9.56	-2.57	-0.2
158	SLU 84	32	-34	5927	9.56	-2.57	-0.2
158	SLE RA 1	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 2	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 3	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 4	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 5	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 6	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 7	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 8	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 9	22	-19	3691	5.42	-1.98	-0.09
158	SLE RA 10	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 11	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 12	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 13	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 14	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 15	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 16	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 17	24	-23	4152	6.41	-1.99	-0.12
158	SLE RA 18	24	-24	4349	6.84	-1.99	-0.14
158	SLE RA 19	24	-24	4349	6.84	-1.99	-0.14
158	SLE RA 20	24	-24	4349	6.84	-1.99	-0.14
158	SLE RA 21	24	-24	4349	6.84	-1.99	-0.14
158	SLE FR 1	22	-19	3691	5.42	-1.98	-0.09
158	SLE FR 2	22	-19	3691	5.42	-1.98	-0.09
158	SLE FR 3	22	-19	3691	5.42	-1.98	-0.09
158	SLE FR 4	23	-21	3888	5.85	-1.98	-0.11
158	SLE FR 5	23	-21	3888	5.85	-1.98	-0.11
158	SLE FR 6	23	-22	4020	6.13	-1.98	-0.12
158	SLE QP 1	22	-19	3691	5.42	-1.98	-0.09
158	SLE QP 2	23	-21	3888	5.85	-1.98	-0.11
158	SLD 1	273	-9	3409	2.42	0.8	-0.27
158	SLD 2	271	48	3411	2.36	0.79	0.89
158	SLD 3	282	-253	3394	11.36	0.9	-4.04
158	SLD 4	280	-196	3396	11.3	0.89	-2.88
158	SLD 5	84	333	3767	-8.72	-1.29	5.16
158	SLD 6	83	390	3769	-8.78	-1.31	6.33
158	SLD 7	115	-481	3716	21.08	-0.96	-7.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
158	SLD 8	114	-423	3718	21.02	-0.97	-6.25
158	SLD 9	-68	382	4059	-9.32	-2.99	6.04
158	SLD 10	-69	439	4061	-9.39	-3	7.21
158	SLD 11	-37	-432	4007	20.47	-2.66	-6.54
158	SLD 12	-39	-374	4009	20.41	-2.67	-5.37
158	SLD 13	-235	154	4381	0.39	-4.86	2.67
158	SLD 14	-236	212	4383	0.33	-4.87	3.83
158	SLD 15	-226	-90	4365	9.33	-4.76	-1.11
158	SLD 16	-227	-33	4367	9.27	-4.77	0.06
158	SLV 1	590	11	2800	-2.09	4.34	-0.4
158	SLV 2	587	141	2805	-2.23	4.31	2.25
158	SLV 3	612	-554	2764	18.58	4.57	-9.14
158	SLV 4	608	-424	2769	18.44	4.54	-6.49
158	SLV 5	162	800	3615	-27.83	-0.42	12.12
158	SLV 6	158	932	3620	-27.98	-0.45	14.81
158	SLV 7	233	-1085	3495	41.07	0.34	-17.02
158	SLV 8	230	-953	3500	40.92	0.31	-14.33
158	SLV 9	-184	911	4277	-29.23	-4.28	14.12
158	SLV 10	-188	1043	4282	-29.38	-4.31	16.81
158	SLV 11	-113	-973	4157	39.67	-3.51	-15.02
158	SLV 12	-116	-841	4162	39.52	-3.54	-12.33
158	SLV 13	-563	383	5007	-6.75	-8.51	6.28
158	SLV 14	-566	512	5012	-6.89	-8.54	8.92
158	SLV 15	-542	-183	4971	13.92	-8.28	-2.46
158	SLV 16	-545	-53	4976	13.78	-8.31	0.18
158	CRTFP Ux+	0	0	0	0	0	0
158	CRTFP Ux-	0	0	0	0	0	0
158	CRTFP Uy+	0	0	0	0	0	0
158	CRTFP Uy-	0	0	0	0	0	0
159	SLU 1	19	-16	3118	4.32	84.82	0.46
159	SLU 2	19	-16	3118	4.32	84.82	0.46
159	SLU 3	19	-16	3118	4.32	84.82	0.46
159	SLU 4	19	-16	3118	4.32	84.82	0.46
159	SLU 5	19	-16	3118	4.32	84.82	0.46
159	SLU 6	19	-16	3118	4.32	84.82	0.46
159	SLU 7	19	-16	3118	4.32	84.82	0.46
159	SLU 8	19	-16	3118	4.32	84.82	0.46
159	SLU 9	19	-16	3118	4.32	84.82	0.46
159	SLU 10	21	-20	3716	5.59	101.32	0.58
159	SLU 11	21	-20	3716	5.59	101.32	0.58
159	SLU 12	21	-20	3716	5.59	101.32	0.58
159	SLU 13	21	-20	3716	5.59	101.32	0.58
159	SLU 14	21	-20	3716	5.59	101.32	0.58
159	SLU 15	21	-20	3716	5.59	101.32	0.58
159	SLU 16	21	-20	3716	5.59	101.32	0.58
159	SLU 17	21	-20	3716	5.59	101.32	0.58
159	SLU 18	22	-22	3973	6.14	108.4	0.63
159	SLU 19	22	-22	3973	6.14	108.4	0.63
159	SLU 20	22	-22	3973	6.14	108.4	0.63
159	SLU 21	22	-22	3973	6.14	108.4	0.63
159	SLU 22	21	-19	3543	5.48	96.6	0.55
159	SLU 23	21	-19	3543	5.48	96.6	0.55
159	SLU 24	21	-19	3543	5.48	96.6	0.55
159	SLU 25	21	-19	3543	5.48	96.6	0.55
159	SLU 26	21	-19	3543	5.48	96.6	0.55
159	SLU 27	21	-19	3543	5.48	96.6	0.55
159	SLU 28	21	-19	3543	5.48	96.6	0.55
159	SLU 29	21	-19	3543	5.48	96.6	0.55
159	SLU 30	21	-19	3543	5.48	96.6	0.55
159	SLU 31	23	-24	4142	6.76	113.1	0.66
159	SLU 32	23	-24	4142	6.76	113.1	0.66
159	SLU 33	23	-24	4142	6.76	113.1	0.66
159	SLU 34	23	-24	4142	6.76	113.1	0.66
159	SLU 35	23	-24	4142	6.76	113.1	0.66
159	SLU 36	23	-24	4142	6.76	113.1	0.66
159	SLU 37	23	-24	4142	6.76	113.1	0.66
159	SLU 38	23	-24	4142	6.76	113.1	0.66
159	SLU 39	23	-26	4398	7.31	120.17	0.71
159	SLU 40	23	-26	4398	7.31	120.17	0.71
159	SLU 41	23	-26	4398	7.31	120.17	0.71
159	SLU 42	23	-26	4398	7.31	120.17	0.71
159	SLU 43	25	-19	3907	5.21	106.23	0.57
159	SLU 44	25	-19	3907	5.21	106.23	0.57
159	SLU 45	25	-19	3907	5.21	106.23	0.57
159	SLU 46	25	-19	3907	5.21	106.23	0.57
159	SLU 47	25	-19	3907	5.21	106.23	0.57
159	SLU 48	25	-19	3907	5.21	106.23	0.57
159	SLU 49	25	-19	3907	5.21	106.23	0.57
159	SLU 50	25	-19	3907	5.21	106.23	0.57
159	SLU 51	25	-19	3907	5.21	106.23	0.57
159	SLU 52	27	-24	4506	6.49	122.73	0.69
159	SLU 53	27	-24	4506	6.49	122.73	0.69
159	SLU 54	27	-24	4506	6.49	122.73	0.69
159	SLU 55	27	-24	4506	6.49	122.73	0.69
159	SLU 56	27	-24	4506	6.49	122.73	0.69
159	SLU 57	27	-24	4506	6.49	122.73	0.69
159	SLU 58	27	-24	4506	6.49	122.73	0.69
159	SLU 59	27	-24	4506	6.49	122.73	0.69
159	SLU 60	27	-26	4762	7.03	129.81	0.74
159	SLU 61	27	-26	4762	7.03	129.81	0.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
159	SLU 62	27	-26	4762	7.03	129.81	0.74
159	SLU 63	27	-26	4762	7.03	129.81	0.74
159	SLU 64	26	-23	4333	6.38	118.01	0.66
159	SLU 65	26	-23	4333	6.38	118.01	0.66
159	SLU 66	26	-23	4333	6.38	118.01	0.66
159	SLU 67	26	-23	4333	6.38	118.01	0.66
159	SLU 68	26	-23	4333	6.38	118.01	0.66
159	SLU 69	26	-23	4333	6.38	118.01	0.66
159	SLU 70	26	-23	4333	6.38	118.01	0.66
159	SLU 71	26	-23	4333	6.38	118.01	0.66
159	SLU 72	26	-23	4333	6.38	118.01	0.66
159	SLU 73	28	-27	4931	7.65	134.51	0.77
159	SLU 74	28	-27	4931	7.65	134.51	0.77
159	SLU 75	28	-27	4931	7.65	134.51	0.77
159	SLU 76	28	-27	4931	7.65	134.51	0.77
159	SLU 77	28	-27	4931	7.65	134.51	0.77
159	SLU 78	28	-27	4931	7.65	134.51	0.77
159	SLU 79	28	-27	4931	7.65	134.51	0.77
159	SLU 80	28	-27	4931	7.65	134.51	0.77
159	SLU 81	29	-29	5188	8.2	141.58	0.82
159	SLU 82	29	-29	5188	8.2	141.58	0.82
159	SLU 83	29	-29	5188	8.2	141.58	0.82
159	SLU 84	29	-29	5188	8.2	141.58	0.82
159	SLE RA 1	20	-17	3239	4.65	88.19	0.49
159	SLE RA 2	20	-17	3239	4.65	88.19	0.49
159	SLE RA 3	20	-17	3239	4.65	88.19	0.49
159	SLE RA 4	20	-17	3239	4.65	88.19	0.49
159	SLE RA 5	20	-17	3239	4.65	88.19	0.49
159	SLE RA 6	20	-17	3239	4.65	88.19	0.49
159	SLE RA 7	20	-17	3239	4.65	88.19	0.49
159	SLE RA 8	20	-17	3239	4.65	88.19	0.49
159	SLE RA 9	20	-17	3239	4.65	88.19	0.49
159	SLE RA 10	21	-20	3638	5.5	99.19	0.56
159	SLE RA 11	21	-20	3638	5.5	99.19	0.56
159	SLE RA 12	21	-20	3638	5.5	99.19	0.56
159	SLE RA 13	21	-20	3638	5.5	99.19	0.56
159	SLE RA 14	21	-20	3638	5.5	99.19	0.56
159	SLE RA 15	21	-20	3638	5.5	99.19	0.56
159	SLE RA 16	21	-20	3638	5.5	99.19	0.56
159	SLE RA 17	21	-20	3638	5.5	99.19	0.56
159	SLE RA 18	22	-21	3809	5.87	103.9	0.6
159	SLE RA 19	22	-21	3809	5.87	103.9	0.6
159	SLE RA 20	22	-21	3809	5.87	103.9	0.6
159	SLE RA 21	22	-21	3809	5.87	103.9	0.6
159	SLE FR 1	20	-17	3239	4.65	88.19	0.49
159	SLE FR 2	20	-17	3239	4.65	88.19	0.49
159	SLE FR 3	20	-17	3239	4.65	88.19	0.49
159	SLE FR 4	20	-18	3410	5.01	92.9	0.52
159	SLE FR 5	20	-18	3410	5.01	92.9	0.52
159	SLE FR 6	21	-19	3524	5.26	96.04	0.54
159	SLE QP 1	20	-17	3239	4.65	88.19	0.49
159	SLE QP 2	20	-18	3410	5.01	92.9	0.52
159	SLD 1	235	-9	2927	1.98	81.36	-0.01
159	SLD 2	234	45	2929	1.92	81.41	-0.59
159	SLD 3	243	-234	2911	9.84	80.99	3.74
159	SLD 4	241	-180	2913	9.79	81.04	3.15
159	SLD 5	73	307	3288	-7.81	89.99	-5.11
159	SLD 6	72	361	3291	-7.86	90.04	-5.7
159	SLD 7	100	-443	3236	18.41	88.74	7.37
159	SLD 8	98	-389	3238	18.36	88.8	6.78
159	SLD 9	-58	353	3583	-8.33	97.01	-5.74
159	SLD 10	-59	407	3585	-8.38	97.06	-6.33
159	SLD 11	-31	-397	3530	17.89	95.77	6.74
159	SLD 12	-32	-343	3532	17.83	95.82	6.15
159	SLD 13	-201	144	3907	0.24	104.76	-2.11
159	SLD 14	-202	198	3910	0.18	104.81	-2.69
159	SLD 15	-193	-81	3892	8.1	104.39	1.63
159	SLD 16	-194	-27	3894	8.05	104.44	1.05
159	SLV 1	507	8	2313	-2.02	66.7	-0.76
159	SLV 2	504	130	2317	-2.14	66.82	-2.08
159	SLV 3	526	-513	2276	16.17	65.84	7.91
159	SLV 4	523	-391	2281	16.05	65.95	6.59
159	SLV 5	139	736	3135	-24.64	86.32	-12.54
159	SLV 6	136	861	3140	-24.76	86.43	-13.88
159	SLV 7	201	-1001	3012	35.99	83.43	16.36
159	SLV 8	198	-876	3017	35.87	83.54	15.01
159	SLV 9	-158	840	3803	-25.84	102.26	-13.97
159	SLV 10	-160	965	3808	-25.97	102.38	-15.32
159	SLV 11	-96	-897	3681	34.79	99.37	14.92
159	SLV 12	-99	-772	3686	34.67	99.49	13.58
159	SLV 13	-482	355	4540	-6.02	119.85	-5.55
159	SLV 14	-485	477	4545	-6.14	119.97	-6.87
159	SLV 15	-464	-167	4503	12.17	118.98	3.12
159	SLV 16	-466	-44	4508	12.05	119.1	1.8
159	CRTFP Ux+	0	0	0	0	0	0
159	CRTFP Ux-	0	0	0	0	0	0
159	CRTFP Uy+	0	0	0	0	0	0
159	CRTFP Uy-	0	0	0	0	0	0
161	SLU 1	31	-25	4933	20.54	1144.69	6.04
161	SLU 2	31	-25	4933	20.54	1144.69	6.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
161	SLU 3	31	-25	4933	20.54	1144.69	6.04
161	SLU 4	31	-25	4933	20.54	1144.69	6.04
161	SLU 5	31	-25	4933	20.54	1144.69	6.04
161	SLU 6	31	-25	4933	20.54	1144.69	6.04
161	SLU 7	31	-25	4933	20.54	1144.69	6.04
161	SLU 8	31	-25	4933	20.54	1144.69	6.04
161	SLU 9	31	-25	4933	20.54	1144.69	6.04
161	SLU 10	34	-32	5874	24.85	1365.02	7.79
161	SLU 11	34	-32	5874	24.85	1365.02	7.79
161	SLU 12	34	-32	5874	24.85	1365.02	7.79
161	SLU 13	34	-32	5874	24.85	1365.02	7.79
161	SLU 14	34	-32	5874	24.85	1365.02	7.79
161	SLU 15	34	-32	5874	24.85	1365.02	7.79
161	SLU 16	34	-32	5874	24.85	1365.02	7.79
161	SLU 17	34	-32	5874	24.85	1365.02	7.79
161	SLU 18	35	-35	6277	26.7	1459.45	8.54
161	SLU 19	35	-35	6277	26.7	1459.45	8.54
161	SLU 20	35	-35	6277	26.7	1459.45	8.54
161	SLU 21	35	-35	6277	26.7	1459.45	8.54
161	SLU 22	33	-30	5601	23.83	1301.65	7.35
161	SLU 23	33	-30	5601	23.83	1301.65	7.35
161	SLU 24	33	-30	5601	23.83	1301.65	7.35
161	SLU 25	33	-30	5601	23.83	1301.65	7.35
161	SLU 26	33	-30	5601	23.83	1301.65	7.35
161	SLU 27	33	-30	5601	23.83	1301.65	7.35
161	SLU 28	33	-30	5601	23.83	1301.65	7.35
161	SLU 29	33	-30	5601	23.83	1301.65	7.35
161	SLU 30	33	-30	5601	23.83	1301.65	7.35
161	SLU 31	36	-37	6542	28.14	1521.98	9.1
161	SLU 32	36	-37	6542	28.14	1521.98	9.1
161	SLU 33	36	-37	6542	28.14	1521.98	9.1
161	SLU 34	36	-37	6542	28.14	1521.98	9.1
161	SLU 35	36	-37	6542	28.14	1521.98	9.1
161	SLU 36	36	-37	6542	28.14	1521.98	9.1
161	SLU 37	36	-37	6542	28.14	1521.98	9.1
161	SLU 38	36	-37	6542	28.14	1521.98	9.1
161	SLU 39	37	-40	6945	29.99	1616.41	9.85
161	SLU 40	37	-40	6945	29.99	1616.41	9.85
161	SLU 41	37	-40	6945	29.99	1616.41	9.85
161	SLU 42	37	-40	6945	29.99	1616.41	9.85
161	SLU 43	39	-30	6184	25.58	1434.28	7.4
161	SLU 44	39	-30	6184	25.58	1434.28	7.4
161	SLU 45	39	-30	6184	25.58	1434.28	7.4
161	SLU 46	39	-30	6184	25.58	1434.28	7.4
161	SLU 47	39	-30	6184	25.58	1434.28	7.4
161	SLU 48	39	-30	6184	25.58	1434.28	7.4
161	SLU 49	39	-30	6184	25.58	1434.28	7.4
161	SLU 50	39	-30	6184	25.58	1434.28	7.4
161	SLU 51	39	-30	6184	25.58	1434.28	7.4
161	SLU 52	42	-37	7125	29.89	1654.61	9.15
161	SLU 53	42	-37	7125	29.89	1654.61	9.15
161	SLU 54	42	-37	7125	29.89	1654.61	9.15
161	SLU 55	42	-37	7125	29.89	1654.61	9.15
161	SLU 56	42	-37	7125	29.89	1654.61	9.15
161	SLU 57	42	-37	7125	29.89	1654.61	9.15
161	SLU 58	42	-37	7125	29.89	1654.61	9.15
161	SLU 59	42	-37	7125	29.89	1654.61	9.15
161	SLU 60	43	-40	7529	31.74	1749.04	9.9
161	SLU 61	43	-40	7529	31.74	1749.04	9.9
161	SLU 62	43	-40	7529	31.74	1749.04	9.9
161	SLU 63	43	-40	7529	31.74	1749.04	9.9
161	SLU 64	41	-36	6852	28.86	1591.24	8.71
161	SLU 65	41	-36	6852	28.86	1591.24	8.71
161	SLU 66	41	-36	6852	28.86	1591.24	8.71
161	SLU 67	41	-36	6852	28.86	1591.24	8.71
161	SLU 68	41	-36	6852	28.86	1591.24	8.71
161	SLU 69	41	-36	6852	28.86	1591.24	8.71
161	SLU 70	41	-36	6852	28.86	1591.24	8.71
161	SLU 71	41	-36	6852	28.86	1591.24	8.71
161	SLU 72	41	-36	6852	28.86	1591.24	8.71
161	SLU 73	44	-43	7793	33.18	1811.57	10.46
161	SLU 74	44	-43	7793	33.18	1811.57	10.46
161	SLU 75	44	-43	7793	33.18	1811.57	10.46
161	SLU 76	44	-43	7793	33.18	1811.57	10.46
161	SLU 77	44	-43	7793	33.18	1811.57	10.46
161	SLU 78	44	-43	7793	33.18	1811.57	10.46
161	SLU 79	44	-43	7793	33.18	1811.57	10.46
161	SLU 80	44	-43	7793	33.18	1811.57	10.46
161	SLU 81	46	-46	8196	35.02	1906	11.21
161	SLU 82	46	-46	8196	35.02	1906	11.21
161	SLU 83	46	-46	8196	35.02	1906	11.21
161	SLU 84	46	-46	8196	35.02	1906	11.21
161	SLE RA 1	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 2	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 3	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 4	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 5	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 6	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 7	31	-26	5124	21.48	1189.53	6.41
161	SLE RA 8	31	-26	5124	21.48	1189.53	6.41



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
161	SLE RA 9	31	-26	5124		21.48	1189.53	6.41	
161	SLE RA 10	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 11	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 12	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 13	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 14	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 15	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 16	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 17	33	-31	5751		24.36	1336.42	7.58	
161	SLE RA 18	34	-33	6020		25.59	1399.37	8.08	
161	SLE RA 19	34	-33	6020		25.59	1399.37	8.08	
161	SLE RA 20	34	-33	6020		25.59	1399.37	8.08	
161	SLE RA 21	34	-33	6020		25.59	1399.37	8.08	
161	SLE FR 1	31	-26	5124		21.48	1189.53	6.41	
161	SLE FR 2	31	-26	5124		21.48	1189.53	6.41	
161	SLE FR 3	31	-26	5124		21.48	1189.53	6.41	
161	SLE FR 4	32	-28	5393		22.71	1252.48	6.91	
161	SLE FR 5	32	-28	5393		22.71	1252.48	6.91	
161	SLE FR 6	33	-30	5572		23.53	1294.45	7.25	
161	SLE QP 1	31	-26	5124		21.48	1189.53	6.41	
161	SLE QP 2	32	-28	5393		22.71	1252.48	6.91	
161	SLD 1	366	-15	4580		17.15	1086.25	2.39	
161	SLD 2	364	73	4583		17.11	1086.99	-18.07	
161	SLD 3	379	-377	4553		23.85	1080.83	88.48	
161	SLD 4	377	-289	4557		23.82	1081.56	68.02	
161	SLD 5	114	493	5188		10.89	1210.59	-117.77	
161	SLD 6	112	582	5192		10.86	1211.33	-138.41	
161	SLD 7	156	-713	5099		33.23	1192.49	169.21	
161	SLD 8	154	-624	5103		33.2	1193.24	148.58	
161	SLD 9	-90	567	5683		12.23	1311.73	-134.75	
161	SLD 10	-91	656	5686		12.19	1312.47	-155.38	
161	SLD 11	-48	-638	5594		34.57	1293.64	152.23	
161	SLD 12	-50	-550	5598		34.54	1294.38	131.6	
161	SLD 13	-312	232	6229		21.61	1423.41	-54.19	
161	SLD 14	-314	320	6233		21.58	1424.14	-74.65	
161	SLD 15	-300	-129	6203		28.31	1417.98	31.9	
161	SLD 16	-302	-41	6206		28.28	1418.71	11.44	
161	SLV 1	791	10	3547		9.93	875.09	-5.23	
161	SLV 2	786	210	3555		9.85	876.77	-51.75	
161	SLV 3	820	-828	3485		25.43	862.46	194.14	
161	SLV 4	816	-628	3493		25.35	864.14	147.62	
161	SLV 5	217	1182	4930		-4.61	1157.82	-282.41	
161	SLV 6	213	1386	4938		-4.68	1159.52	-329.75	
161	SLV 7	314	-1611	4724		47.07	1115.72	382.15	
161	SLV 8	310	-1407	4732		46.99	1117.43	334.81	
161	SLV 9	-246	1351	6054		-1.56	1387.54	-320.98	
161	SLV 10	-250	1554	6062		-1.64	1389.24	-368.32	
161	SLV 11	-148	-1442	5848		50.11	1345.45	343.58	
161	SLV 12	-152	-1238	5856		50.03	1347.15	296.24	
161	SLV 13	-751	572	7293		20.07	1640.83	-133.79	
161	SLV 14	-755	772	7301		20	1642.5	-180.32	
161	SLV 15	-722	-266	7231		35.58	1628.2	65.58	
161	SLV 16	-726	-66	7239		35.5	1629.88	19.05	
161	CRTFP Ux+	0	0	0		0	0.01	0	
161	CRTFP Ux-	0	0	0		0	-0.01	0	
161	CRTFP Uy+	0	0	0		0	0	0.01	
161	CRTFP Uy-	0	0	0		0	0	-0.01	
186	SLU 1	0	-2	1381		26.36	-0.33	0	
186	SLU 2	0	-2	1381		26.36	-0.33	0	
186	SLU 3	0	-2	1381		26.36	-0.33	0	
186	SLU 4	0	-2	1381		26.36	-0.33	0	
186	SLU 5	0	-2	1381		26.36	-0.33	0	
186	SLU 6	0	-2	1381		26.36	-0.33	0	
186	SLU 7	0	-2	1381		26.36	-0.33	0	
186	SLU 8	0	-2	1381		26.36	-0.33	0	
186	SLU 9	0	-2	1381		26.36	-0.33	0	
186	SLU 10	0	-2	1682		32.16	-0.28	0	
186	SLU 11	0	-2	1682		32.16	-0.28	0	
186	SLU 12	0	-2	1682		32.16	-0.28	0	
186	SLU 13	0	-2	1682		32.16	-0.28	0	
186	SLU 14	0	-2	1682		32.16	-0.28	0	
186	SLU 15	0	-2	1682		32.16	-0.28	0	
186	SLU 16	0	-2	1682		32.16	-0.28	0	
186	SLU 17	0	-2	1682		32.16	-0.28	0	
186	SLU 18	0	-2	1811		34.65	-0.25	-0.01	
186	SLU 19	0	-2	1811		34.65	-0.25	-0.01	
186	SLU 20	0	-2	1811		34.65	-0.25	-0.01	
186	SLU 21	0	-2	1811		34.65	-0.25	-0.01	
186	SLU 22	0	-2	1601		30.58	-0.12	0	
186	SLU 23	0	-2	1601		30.58	-0.12	0	
186	SLU 24	0	-2	1601		30.58	-0.12	0	
186	SLU 25	0	-2	1601		30.58	-0.12	0	
186	SLU 26	0	-2	1601		30.58	-0.12	0	
186	SLU 27	0	-2	1601		30.58	-0.12	0	
186	SLU 28	0	-2	1601		30.58	-0.12	0	
186	SLU 29	0	-2	1601		30.58	-0.12	0	
186	SLU 30	0	-2	1601		30.58	-0.12	0	
186	SLU 31	1	-3	1902		36.38	-0.06	-0.01	
186	SLU 32	1	-3	1902		36.38	-0.06	-0.01	
186	SLU 33	1	-3	1902		36.38	-0.06	-0.01	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
186	SLU 34	1	-3	1902		36.38	-0.06	-0.01
186	SLU 35	1	-3	1902		36.38	-0.06	-0.01
186	SLU 36	1	-3	1902		36.38	-0.06	-0.01
186	SLU 37	1	-3	1902		36.38	-0.06	-0.01
186	SLU 38	1	-3	1902		36.38	-0.06	-0.01
186	SLU 39	1	-3	2031		38.87	-0.04	-0.01
186	SLU 40	1	-3	2031		38.87	-0.04	-0.01
186	SLU 41	1	-3	2031		38.87	-0.04	-0.01
186	SLU 42	1	-3	2031		38.87	-0.04	-0.01
186	SLU 43	0	-3	1720		32.83	-0.51	0.01
186	SLU 44	0	-3	1720		32.83	-0.51	0.01
186	SLU 45	0	-3	1720		32.83	-0.51	0.01
186	SLU 46	0	-3	1720		32.83	-0.51	0.01
186	SLU 47	0	-3	1720		32.83	-0.51	0.01
186	SLU 48	0	-3	1720		32.83	-0.51	0.01
186	SLU 49	0	-3	1720		32.83	-0.51	0.01
186	SLU 50	0	-3	1720		32.83	-0.51	0.01
186	SLU 51	0	-3	1720		32.83	-0.51	0.01
186	SLU 52	0	-3	2021		38.63	-0.45	0
186	SLU 53	0	-3	2021		38.63	-0.45	0
186	SLU 54	0	-3	2021		38.63	-0.45	0
186	SLU 55	0	-3	2021		38.63	-0.45	0
186	SLU 56	0	-3	2021		38.63	-0.45	0
186	SLU 57	0	-3	2021		38.63	-0.45	0
186	SLU 58	0	-3	2021		38.63	-0.45	0
186	SLU 59	0	-3	2021		38.63	-0.45	0
186	SLU 60	0	-3	2150		41.11	-0.43	0
186	SLU 61	0	-3	2150		41.11	-0.43	0
186	SLU 62	0	-3	2150		41.11	-0.43	0
186	SLU 63	0	-3	2150		41.11	-0.43	0
186	SLU 64	0	-3	1940		37.04	-0.29	0
186	SLU 65	0	-3	1940		37.04	-0.29	0
186	SLU 66	0	-3	1940		37.04	-0.29	0
186	SLU 67	0	-3	1940		37.04	-0.29	0
186	SLU 68	0	-3	1940		37.04	-0.29	0
186	SLU 69	0	-3	1940		37.04	-0.29	0
186	SLU 70	0	-3	1940		37.04	-0.29	0
186	SLU 71	0	-3	1940		37.04	-0.29	0
186	SLU 72	0	-3	1940		37.04	-0.29	0
186	SLU 73	0	-3	2241		42.84	-0.24	-0.01
186	SLU 74	0	-3	2241		42.84	-0.24	-0.01
186	SLU 75	0	-3	2241		42.84	-0.24	-0.01
186	SLU 76	0	-3	2241		42.84	-0.24	-0.01
186	SLU 77	0	-3	2241		42.84	-0.24	-0.01
186	SLU 78	0	-3	2241		42.84	-0.24	-0.01
186	SLU 79	0	-3	2241		42.84	-0.24	-0.01
186	SLU 80	0	-3	2241		42.84	-0.24	-0.01
186	SLU 81	1	-3	2370		45.33	-0.21	-0.01
186	SLU 82	1	-3	2370		45.33	-0.21	-0.01
186	SLU 83	1	-3	2370		45.33	-0.21	-0.01
186	SLU 84	1	-3	2370		45.33	-0.21	-0.01
186	SLE RA 1	0	-2	1444		27.57	-0.27	0
186	SLE RA 2	0	-2	1444		27.57	-0.27	0
186	SLE RA 3	0	-2	1444		27.57	-0.27	0
186	SLE RA 4	0	-2	1444		27.57	-0.27	0
186	SLE RA 5	0	-2	1444		27.57	-0.27	0
186	SLE RA 6	0	-2	1444		27.57	-0.27	0
186	SLE RA 7	0	-2	1444		27.57	-0.27	0
186	SLE RA 8	0	-2	1444		27.57	-0.27	0
186	SLE RA 9	0	-2	1444		27.57	-0.27	0
186	SLE RA 10	0	-2	1644		31.43	-0.23	0
186	SLE RA 11	0	-2	1644		31.43	-0.23	0
186	SLE RA 12	0	-2	1644		31.43	-0.23	0
186	SLE RA 13	0	-2	1644		31.43	-0.23	0
186	SLE RA 14	0	-2	1644		31.43	-0.23	0
186	SLE RA 15	0	-2	1644		31.43	-0.23	0
186	SLE RA 16	0	-2	1644		31.43	-0.23	0
186	SLE RA 17	0	-2	1644		31.43	-0.23	0
186	SLE RA 18	0	-2	1730		33.09	-0.22	-0.01
186	SLE RA 19	0	-2	1730		33.09	-0.22	-0.01
186	SLE RA 20	0	-2	1730		33.09	-0.22	-0.01
186	SLE RA 21	0	-2	1730		33.09	-0.22	-0.01
186	SLE FR 1	0	-2	1444		27.57	-0.27	0
186	SLE FR 2	0	-2	1444		27.57	-0.27	0
186	SLE FR 3	0	-2	1444		27.57	-0.27	0
186	SLE FR 4	0	-2	1530		29.23	-0.26	0
186	SLE FR 5	0	-2	1530		29.23	-0.26	0
186	SLE FR 6	0	-2	1587		30.33	-0.25	0
186	SLE QP 1	0	-2	1444		27.57	-0.27	0
186	SLE QP 2	0	-2	1530		29.23	-0.26	0
186	SLD 1	112	10	1521		29.16	1.07	-2.09
186	SLD 2	109	10	1521		29.15	1.08	-1.99
186	SLD 3	115	-21	1529		29.46	1.21	-2.16
186	SLD 4	113	-21	1529		29.45	1.23	-2.06
186	SLD 5	29	47	1515		28.75	-0.09	-0.55
186	SLD 6	26	48	1515		28.74	-0.07	-0.45
186	SLD 7	41	-54	1542		29.76	0.4	-0.8
186	SLD 8	39	-54	1542		29.75	0.42	-0.69
186	SLD 9	-38	49	1518		28.7	-0.93	0.69
186	SLD 10	-41	50	1518		28.69	-0.91	0.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
186	SLD 11	-26	-52	1545	29.71	-0.44	0.45
186	SLD 12	-29	-52	1545	29.7	-0.43	0.55
186	SLD 13	-113	16	1530	29	-1.74	2.06
186	SLD 14	-115	17	1530	28.99	-1.73	2.16
186	SLD 15	-109	-15	1539	29.3	-1.6	1.99
186	SLD 16	-112	-14	1539	29.29	-1.58	2.09
186	SLV 1	254	25	1510	29.07	2.77	-4.74
186	SLV 2	247	26	1510	29.05	2.81	-4.51
186	SLV 3	262	-46	1529	29.77	3.12	-4.91
186	SLV 4	256	-44	1529	29.75	3.16	-4.68
186	SLV 5	65	113	1495	28.12	0.1	-1.25
186	SLV 6	58	114	1495	28.1	0.13	-1.01
186	SLV 7	94	-123	1558	30.46	1.29	-1.82
186	SLV 8	88	-122	1558	30.44	1.32	-1.58
186	SLV 9	-88	117	1502	28.01	-1.84	1.58
186	SLV 10	-94	118	1502	27.99	-1.8	1.82
186	SLV 11	-58	-118	1565	30.35	-0.65	1.01
186	SLV 12	-65	-117	1565	30.33	-0.61	1.25
186	SLV 13	-256	40	1531	28.7	-3.67	4.68
186	SLV 14	-262	41	1531	28.68	-3.64	4.91
186	SLV 15	-247	-31	1550	29.4	-3.32	4.51
186	SLV 16	-254	-30	1550	29.38	-3.28	4.74
186	CRTFP Ux+	0	0	0	0	0	0
186	CRTFP Ux-	0	0	0	0	0	0
186	CRTFP Uy+	0	0	0	0	0	0
186	CRTFP Uy-	0	0	0	0	0	0
187	SLU 1	-12	4	1865	33.96	-388.46	1
187	SLU 2	-12	4	1865	33.96	-388.46	1
187	SLU 3	-12	4	1865	33.96	-388.46	1
187	SLU 4	-12	4	1865	33.96	-388.46	1
187	SLU 5	-12	4	1865	33.96	-388.46	1
187	SLU 6	-12	4	1865	33.96	-388.46	1
187	SLU 7	-12	4	1865	33.96	-388.46	1
187	SLU 8	-12	4	1865	33.96	-388.46	1
187	SLU 9	-12	4	1865	33.96	-388.46	1
187	SLU 10	-12	5	2246	40.89	-466.81	1.41
187	SLU 11	-12	5	2246	40.89	-466.81	1.41
187	SLU 12	-12	5	2246	40.89	-466.81	1.41
187	SLU 13	-12	5	2246	40.89	-466.81	1.41
187	SLU 14	-12	5	2246	40.89	-466.81	1.41
187	SLU 15	-12	5	2246	40.89	-466.81	1.41
187	SLU 16	-12	5	2246	40.89	-466.81	1.41
187	SLU 17	-12	5	2246	40.89	-466.81	1.41
187	SLU 18	-13	6	2410	43.86	-500.38	1.59
187	SLU 19	-13	6	2410	43.86	-500.38	1.59
187	SLU 20	-13	6	2410	43.86	-500.38	1.59
187	SLU 21	-13	6	2410	43.86	-500.38	1.59
187	SLU 22	-11	4	2148	39.1	-447.02	1.13
187	SLU 23	-11	4	2148	39.1	-447.02	1.13
187	SLU 24	-11	4	2148	39.1	-447.02	1.13
187	SLU 25	-11	4	2148	39.1	-447.02	1.13
187	SLU 26	-11	4	2148	39.1	-447.02	1.13
187	SLU 27	-11	4	2148	39.1	-447.02	1.13
187	SLU 28	-11	4	2148	39.1	-447.02	1.13
187	SLU 29	-11	4	2148	39.1	-447.02	1.13
187	SLU 30	-11	4	2148	39.1	-447.02	1.13
187	SLU 31	-12	6	2529	46.03	-525.37	1.54
187	SLU 32	-12	6	2529	46.03	-525.37	1.54
187	SLU 33	-12	6	2529	46.03	-525.37	1.54
187	SLU 34	-12	6	2529	46.03	-525.37	1.54
187	SLU 35	-12	6	2529	46.03	-525.37	1.54
187	SLU 36	-12	6	2529	46.03	-525.37	1.54
187	SLU 37	-12	6	2529	46.03	-525.37	1.54
187	SLU 38	-12	6	2529	46.03	-525.37	1.54
187	SLU 39	-13	7	2692	49	-558.94	1.72
187	SLU 40	-13	7	2692	49	-558.94	1.72
187	SLU 41	-13	7	2692	49	-558.94	1.72
187	SLU 42	-13	7	2692	49	-558.94	1.72
187	SLU 43	-15	5	2328	42.39	-484.92	1.25
187	SLU 44	-15	5	2328	42.39	-484.92	1.25
187	SLU 45	-15	5	2328	42.39	-484.92	1.25
187	SLU 46	-15	5	2328	42.39	-484.92	1.25
187	SLU 47	-15	5	2328	42.39	-484.92	1.25
187	SLU 48	-15	5	2328	42.39	-484.92	1.25
187	SLU 49	-15	5	2328	42.39	-484.92	1.25
187	SLU 50	-15	5	2328	42.39	-484.92	1.25
187	SLU 51	-15	5	2328	42.39	-484.92	1.25
187	SLU 52	-16	6	2709	49.32	-563.27	1.67
187	SLU 53	-16	6	2709	49.32	-563.27	1.67
187	SLU 54	-16	6	2709	49.32	-563.27	1.67
187	SLU 55	-16	6	2709	49.32	-563.27	1.67
187	SLU 56	-16	6	2709	49.32	-563.27	1.67
187	SLU 57	-16	6	2709	49.32	-563.27	1.67
187	SLU 58	-16	6	2709	49.32	-563.27	1.67
187	SLU 59	-16	6	2709	49.32	-563.27	1.67
187	SLU 60	-16	7	2873	52.29	-596.84	1.84
187	SLU 61	-16	7	2873	52.29	-596.84	1.84
187	SLU 62	-16	7	2873	52.29	-596.84	1.84
187	SLU 63	-16	7	2873	52.29	-596.84	1.84
187	SLU 64	-15	5	2610	47.52	-543.48	1.38



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
187	SLU 65	-15	5	2610		47.52	-543.48	1.38	
187	SLU 66	-15	5	2610		47.52	-543.48	1.38	
187	SLU 67	-15	5	2610		47.52	-543.48	1.38	
187	SLU 68	-15	5	2610		47.52	-543.48	1.38	
187	SLU 69	-15	5	2610		47.52	-543.48	1.38	
187	SLU 70	-15	5	2610		47.52	-543.48	1.38	
187	SLU 71	-15	5	2610		47.52	-543.48	1.38	
187	SLU 72	-15	5	2610		47.52	-543.48	1.38	
187	SLU 73	-16	7	2992		54.46	-621.83	1.8	
187	SLU 74	-16	7	2992		54.46	-621.83	1.8	
187	SLU 75	-16	7	2992		54.46	-621.83	1.8	
187	SLU 76	-16	7	2992		54.46	-621.83	1.8	
187	SLU 77	-16	7	2992		54.46	-621.83	1.8	
187	SLU 78	-16	7	2992		54.46	-621.83	1.8	
187	SLU 79	-16	7	2992		54.46	-621.83	1.8	
187	SLU 80	-16	7	2992		54.46	-621.83	1.8	
187	SLU 81	-16	8	3155		57.43	-655.4	1.98	
187	SLU 82	-16	8	3155		57.43	-655.4	1.98	
187	SLU 83	-16	8	3155		57.43	-655.4	1.98	
187	SLU 84	-16	8	3155		57.43	-655.4	1.98	
187	SLE RA 1	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 2	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 3	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 4	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 5	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 6	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 7	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 8	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 9	-11	4	1946		35.43	-405.19	1.03	
187	SLE RA 10	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 11	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 12	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 13	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 14	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 15	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 16	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 17	-12	5	2200		40.05	-457.42	1.31	
187	SLE RA 18	-12	5	2309		42.03	-479.81	1.43	
187	SLE RA 19	-12	5	2309		42.03	-479.81	1.43	
187	SLE RA 20	-12	5	2309		42.03	-479.81	1.43	
187	SLE RA 21	-12	5	2309		42.03	-479.81	1.43	
187	SLE FR 1	-11	4	1946		35.43	-405.19	1.03	
187	SLE FR 2	-11	4	1946		35.43	-405.19	1.03	
187	SLE FR 3	-11	4	1946		35.43	-405.19	1.03	
187	SLE FR 4	-12	4	2055		37.41	-427.58	1.15	
187	SLE FR 5	-12	4	2055		37.41	-427.58	1.15	
187	SLE FR 6	-12	5	2127		38.73	-442.5	1.23	
187	SLE QP 1	-11	4	1946		35.43	-405.19	1.03	
187	SLE QP 2	-12	4	2055		37.41	-427.58	1.15	
187	SLD 1	116	125	2318		41.94	-479.68	15.57	
187	SLD 2	111	92	2322		42.03	-480.27	7.28	
187	SLD 3	104	-16	2364		43.15	-484.72	-19.26	
187	SLD 4	100	-50	2368		43.24	-485.32	-27.55	
187	SLD 5	45	267	2063		36.9	-435.35	61.24	
187	SLD 6	41	233	2068		36.99	-435.95	52.88	
187	SLD 7	8	-204	2215		40.94	-452.15	-54.86	
187	SLD 8	4	-238	2219		41.02	-452.76	-63.22	
187	SLD 9	-27	247	1891		33.79	-402.4	65.52	
187	SLD 10	-31	213	1895		33.88	-403	57.17	
187	SLD 11	-64	-224	2042		37.83	-419.2	-50.58	
187	SLD 12	-68	-258	2046		37.91	-419.8	-58.93	
187	SLD 13	-124	58	1742		31.58	-369.84	29.85	
187	SLD 14	-128	24	1746		31.66	-370.43	21.57	
187	SLD 15	-135	-83	1788		32.79	-374.88	-4.98	
187	SLD 16	-139	-117	1792		32.87	-375.47	-13.26	
187	SLV 1	278	282	2652		47.67	-545.75	34.56	
187	SLV 2	268	206	2661		47.87	-547.1	15.72	
187	SLV 3	252	-44	2757		50.48	-557.45	-46.01	
187	SLV 4	242	-121	2766		50.67	-558.81	-64.85	
187	SLV 5	118	611	2071		36.16	-444.79	140.13	
187	SLV 6	108	533	2080		36.36	-446.17	120.96	
187	SLV 7	32	-478	2422		45.52	-483.8	-128.44	
187	SLV 8	22	-556	2432		45.71	-485.19	-147.61	
187	SLV 9	-45	565	1678		29.1	-369.97	149.91	
187	SLV 10	-55	487	1687		29.3	-371.35	130.74	
187	SLV 11	-132	-524	2030		38.46	-408.98	-118.66	
187	SLV 12	-141	-602	2039		38.65	-410.37	-137.83	
187	SLV 13	-266	130	1344		24.14	-296.34	67.15	
187	SLV 14	-275	53	1353		24.34	-297.7	48.31	
187	SLV 15	-292	-197	1449		26.95	-308.05	-13.42	
187	SLV 16	-301	-274	1458		27.14	-309.41	-32.26	
187	CRTFP Ux+	0	0	0		0	0	0	
187	CRTFP Ux-	0	0	0		0	0	0	
187	CRTFP Uy+	0	0	0		0	0	0	
187	CRTFP Uy-	0	0	0		0	0	0	
190	SLU 1	11	-9	2006		36.19	609.19	3.05	
190	SLU 2	11	-9	2006		36.19	609.19	3.05	
190	SLU 3	11	-9	2006		36.19	609.19	3.05	
190	SLU 4	11	-9	2006		36.19	609.19	3.05	
190	SLU 5	11	-9	2006		36.19	609.19	3.05	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
190	SLU 6	11	-9	2006	36.19	609.19	3.05	
190	SLU 7	11	-9	2006	36.19	609.19	3.05	
190	SLU 8	11	-9	2006	36.19	609.19	3.05	
190	SLU 9	11	-9	2006	36.19	609.19	3.05	
190	SLU 10	12	-12	2389	43.05	725.53	4.04	
190	SLU 11	12	-12	2389	43.05	725.53	4.04	
190	SLU 12	12	-12	2389	43.05	725.53	4.04	
190	SLU 13	12	-12	2389	43.05	725.53	4.04	
190	SLU 14	12	-12	2389	43.05	725.53	4.04	
190	SLU 15	12	-12	2389	43.05	725.53	4.04	
190	SLU 16	12	-12	2389	43.05	725.53	4.04	
190	SLU 17	12	-12	2389	43.05	725.53	4.04	
190	SLU 18	13	-13	2553	45.99	775.39	4.47	
190	SLU 19	13	-13	2553	45.99	775.39	4.47	
190	SLU 20	13	-13	2553	45.99	775.39	4.47	
190	SLU 21	13	-13	2553	45.99	775.39	4.47	
190	SLU 22	12	-11	2278	41.08	692.3	3.79	
190	SLU 23	12	-11	2278	41.08	692.3	3.79	
190	SLU 24	12	-11	2278	41.08	692.3	3.79	
190	SLU 25	12	-11	2278	41.08	692.3	3.79	
190	SLU 26	12	-11	2278	41.08	692.3	3.79	
190	SLU 27	12	-11	2278	41.08	692.3	3.79	
190	SLU 28	12	-11	2278	41.08	692.3	3.79	
190	SLU 29	12	-11	2278	41.08	692.3	3.79	
190	SLU 30	12	-11	2278	41.08	692.3	3.79	
190	SLU 31	13	-14	2662	47.95	808.64	4.78	
190	SLU 32	13	-14	2662	47.95	808.64	4.78	
190	SLU 33	13	-14	2662	47.95	808.64	4.78	
190	SLU 34	13	-14	2662	47.95	808.64	4.78	
190	SLU 35	13	-14	2662	47.95	808.64	4.78	
190	SLU 36	13	-14	2662	47.95	808.64	4.78	
190	SLU 37	13	-14	2662	47.95	808.64	4.78	
190	SLU 38	13	-14	2662	47.95	808.64	4.78	
190	SLU 39	14	-15	2826	50.89	858.5	5.21	
190	SLU 40	14	-15	2826	50.89	858.5	5.21	
190	SLU 41	14	-15	2826	50.89	858.5	5.21	
190	SLU 42	14	-15	2826	50.89	858.5	5.21	
190	SLU 43	15	-11	2514	45.36	763.46	3.71	
190	SLU 44	15	-11	2514	45.36	763.46	3.71	
190	SLU 45	15	-11	2514	45.36	763.46	3.71	
190	SLU 46	15	-11	2514	45.36	763.46	3.71	
190	SLU 47	15	-11	2514	45.36	763.46	3.71	
190	SLU 48	15	-11	2514	45.36	763.46	3.71	
190	SLU 49	15	-11	2514	45.36	763.46	3.71	
190	SLU 50	15	-11	2514	45.36	763.46	3.71	
190	SLU 51	15	-11	2514	45.36	763.46	3.71	
190	SLU 52	16	-14	2897	52.23	879.79	4.7	
190	SLU 53	16	-14	2897	52.23	879.79	4.7	
190	SLU 54	16	-14	2897	52.23	879.79	4.7	
190	SLU 55	16	-14	2897	52.23	879.79	4.7	
190	SLU 56	16	-14	2897	52.23	879.79	4.7	
190	SLU 57	16	-14	2897	52.23	879.79	4.7	
190	SLU 58	16	-14	2897	52.23	879.79	4.7	
190	SLU 59	16	-14	2897	52.23	879.79	4.7	
190	SLU 60	16	-15	3061	55.17	929.65	5.13	
190	SLU 61	16	-15	3061	55.17	929.65	5.13	
190	SLU 62	16	-15	3061	55.17	929.65	5.13	
190	SLU 63	16	-15	3061	55.17	929.65	5.13	
190	SLU 64	15	-13	2787	50.26	846.57	4.45	
190	SLU 65	15	-13	2787	50.26	846.57	4.45	
190	SLU 66	15	-13	2787	50.26	846.57	4.45	
190	SLU 67	15	-13	2787	50.26	846.57	4.45	
190	SLU 68	15	-13	2787	50.26	846.57	4.45	
190	SLU 69	15	-13	2787	50.26	846.57	4.45	
190	SLU 70	15	-13	2787	50.26	846.57	4.45	
190	SLU 71	15	-13	2787	50.26	846.57	4.45	
190	SLU 72	15	-13	2787	50.26	846.57	4.45	
190	SLU 73	16	-16	3170	57.13	962.9	5.44	
190	SLU 74	16	-16	3170	57.13	962.9	5.44	
190	SLU 75	16	-16	3170	57.13	962.9	5.44	
190	SLU 76	16	-16	3170	57.13	962.9	5.44	
190	SLU 77	16	-16	3170	57.13	962.9	5.44	
190	SLU 78	16	-16	3170	57.13	962.9	5.44	
190	SLU 79	16	-16	3170	57.13	962.9	5.44	
190	SLU 80	16	-16	3170	57.13	962.9	5.44	
190	SLU 81	17	-17	3334	60.07	1012.76	5.87	
190	SLU 82	17	-17	3334	60.07	1012.76	5.87	
190	SLU 83	17	-17	3334	60.07	1012.76	5.87	
190	SLU 84	17	-17	3334	60.07	1012.76	5.87	
190	SLE RA 1	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 2	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 3	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 4	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 5	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 6	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 7	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 8	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 9	12	-10	2084	37.59	632.94	3.26	
190	SLE RA 10	12	-12	2339	42.16	710.5	3.92	
190	SLE RA 11	12	-12	2339	42.16	710.5	3.92	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLE RA 12	12	-12	2339	42.16	710.5	3.92
190	SLE RA 13	12	-12	2339	42.16	710.5	3.92
190	SLE RA 14	12	-12	2339	42.16	710.5	3.92
190	SLE RA 15	12	-12	2339	42.16	710.5	3.92
190	SLE RA 16	12	-12	2339	42.16	710.5	3.92
190	SLE RA 17	12	-12	2339	42.16	710.5	3.92
190	SLE RA 18	13	-12	2449	44.12	743.74	4.21
190	SLE RA 19	13	-12	2449	44.12	743.74	4.21
190	SLE RA 20	13	-12	2449	44.12	743.74	4.21
190	SLE RA 21	13	-12	2449	44.12	743.74	4.21
190	SLE FR 1	12	-10	2084	37.59	632.94	3.26
190	SLE FR 2	12	-10	2084	37.59	632.94	3.26
190	SLE FR 3	12	-10	2084	37.59	632.94	3.26
190	SLE FR 4	12	-11	2193	39.55	666.18	3.54
190	SLE FR 5	12	-11	2193	39.55	666.18	3.54
190	SLE FR 6	12	-11	2266	40.86	688.34	3.73
190	SLE QP 1	12	-10	2084	37.59	632.94	3.26
190	SLE QP 2	12	-11	2193	39.55	666.18	3.54
190	SLD 1	151	-5	1866	33.54	584.31	-0.23
190	SLD 2	147	31	1867	33.56	584.74	-12.57
190	SLD 3	161	-153	1877	34.12	580.71	51.51
190	SLD 4	157	-118	1878	34.14	581.14	39.17
190	SLD 5	40	204	2077	36.87	646.93	-71.7
190	SLD 6	36	240	2079	36.89	647.36	-84.15
190	SLD 7	73	-292	2115	38.78	634.92	100.79
190	SLD 8	69	-256	2116	38.8	635.35	88.34
190	SLD 9	-45	234	2270	40.29	697	-81.25
190	SLD 10	-50	270	2271	40.31	697.43	-93.7
190	SLD 11	-12	-261	2308	42.21	685	91.23
190	SLD 12	-16	-225	2309	42.23	685.43	78.78
190	SLD 13	-133	97	2508	44.96	751.22	-32.08
190	SLD 14	-137	132	2509	44.98	751.65	-44.43
190	SLD 15	-123	-52	2519	45.53	747.62	19.66
190	SLD 16	-127	-16	2521	45.55	748.05	7.32
190	SLV 1	328	6	1449	25.9	480.35	-6.12
190	SLV 2	319	87	1452	25.94	481.31	-34.19
190	SLV 3	351	-339	1475	27.23	471.92	113.71
190	SLV 4	342	-257	1478	27.27	472.89	85.64
190	SLV 5	75	487	1929	33.42	622.85	-171.02
190	SLV 6	65	570	1932	33.46	623.84	-199.59
190	SLV 7	152	-660	2017	37.85	594.78	228.4
190	SLV 8	143	-578	2020	37.9	595.77	199.84
190	SLV 9	-119	557	2366	41.19	736.59	-192.75
190	SLV 10	-128	639	2369	41.24	737.57	-221.31
190	SLV 11	-41	-591	2455	45.63	708.52	206.67
190	SLV 12	-51	-509	2458	45.68	709.51	178.11
190	SLV 13	-318	236	2908	51.82	859.46	-78.55
190	SLV 14	-327	317	2911	51.87	860.43	-106.62
190	SLV 15	-295	-108	2934	53.15	851.04	41.28
190	SLV 16	-304	-27	2937	53.2	852.01	13.21
190	CRTFP Ux+	0	0	0	0	0	0
190	CRTFP Ux-	0	0	0	0	0	0
190	CRTFP Uy+	0	0	0	0	0	0
190	CRTFP Uy-	0	0	0	0	0	0
191	SLU 1	0	-2	1567	1.46	-0.2	0.01
191	SLU 2	0	-2	1567	1.46	-0.2	0.01
191	SLU 3	0	-2	1567	1.46	-0.2	0.01
191	SLU 4	0	-2	1567	1.46	-0.2	0.01
191	SLU 5	0	-2	1567	1.46	-0.2	0.01
191	SLU 6	0	-2	1567	1.46	-0.2	0.01
191	SLU 7	0	-2	1567	1.46	-0.2	0.01
191	SLU 8	0	-2	1567	1.46	-0.2	0.01
191	SLU 9	0	-2	1567	1.46	-0.2	0.01
191	SLU 10	0	-2	1911	1.91	-0.16	0.01
191	SLU 11	0	-2	1911	1.91	-0.16	0.01
191	SLU 12	0	-2	1911	1.91	-0.16	0.01
191	SLU 13	0	-2	1911	1.91	-0.16	0.01
191	SLU 14	0	-2	1911	1.91	-0.16	0.01
191	SLU 15	0	-2	1911	1.91	-0.16	0.01
191	SLU 16	0	-2	1911	1.91	-0.16	0.01
191	SLU 17	0	-2	1911	1.91	-0.16	0.01
191	SLU 18	0	-3	2059	2.1	-0.15	0.01
191	SLU 19	0	-3	2059	2.1	-0.15	0.01
191	SLU 20	0	-3	2059	2.1	-0.15	0.01
191	SLU 21	0	-3	2059	2.1	-0.15	0.01
191	SLU 22	0	-3	1817	1.71	-0.08	0.02
191	SLU 23	0	-3	1817	1.71	-0.08	0.02
191	SLU 24	0	-3	1817	1.71	-0.08	0.02
191	SLU 25	0	-3	1817	1.71	-0.08	0.02
191	SLU 26	0	-3	1817	1.71	-0.08	0.02
191	SLU 27	0	-3	1817	1.71	-0.08	0.02
191	SLU 28	0	-3	1817	1.71	-0.08	0.02
191	SLU 29	0	-3	1817	1.71	-0.08	0.02
191	SLU 30	0	-3	1817	1.71	-0.08	0.02
191	SLU 31	0	-3	2162	2.15	-0.04	0.02
191	SLU 32	0	-3	2162	2.15	-0.04	0.02
191	SLU 33	0	-3	2162	2.15	-0.04	0.02
191	SLU 34	0	-3	2162	2.15	-0.04	0.02
191	SLU 35	0	-3	2162	2.15	-0.04	0.02
191	SLU 36	0	-3	2162	2.15	-0.04	0.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLU 37	0	-3	2162	2.15	-0.04	0.02
191	SLU 38	0	-3	2162	2.15	-0.04	0.02
191	SLU 39	1	-3	2309	2.34	-0.03	0.02
191	SLU 40	1	-3	2309	2.34	-0.03	0.02
191	SLU 41	1	-3	2309	2.34	-0.03	0.02
191	SLU 42	1	-3	2309	2.34	-0.03	0.02
191	SLU 43	-1	-3	1951	1.82	-0.3	0.01
191	SLU 44	-1	-3	1951	1.82	-0.3	0.01
191	SLU 45	-1	-3	1951	1.82	-0.3	0.01
191	SLU 46	-1	-3	1951	1.82	-0.3	0.01
191	SLU 47	-1	-3	1951	1.82	-0.3	0.01
191	SLU 48	-1	-3	1951	1.82	-0.3	0.01
191	SLU 49	-1	-3	1951	1.82	-0.3	0.01
191	SLU 50	-1	-3	1951	1.82	-0.3	0.01
191	SLU 51	-1	-3	1951	1.82	-0.3	0.01
191	SLU 52	0	-3	2296	2.26	-0.26	0.02
191	SLU 53	0	-3	2296	2.26	-0.26	0.02
191	SLU 54	0	-3	2296	2.26	-0.26	0.02
191	SLU 55	0	-3	2296	2.26	-0.26	0.02
191	SLU 56	0	-3	2296	2.26	-0.26	0.02
191	SLU 57	0	-3	2296	2.26	-0.26	0.02
191	SLU 58	0	-3	2296	2.26	-0.26	0.02
191	SLU 59	0	-3	2296	2.26	-0.26	0.02
191	SLU 60	0	-3	2443	2.45	-0.25	0.02
191	SLU 61	0	-3	2443	2.45	-0.25	0.02
191	SLU 62	0	-3	2443	2.45	-0.25	0.02
191	SLU 63	0	-3	2443	2.45	-0.25	0.02
191	SLU 64	0	-3	2201	2.07	-0.18	0.02
191	SLU 65	0	-3	2201	2.07	-0.18	0.02
191	SLU 66	0	-3	2201	2.07	-0.18	0.02
191	SLU 67	0	-3	2201	2.07	-0.18	0.02
191	SLU 68	0	-3	2201	2.07	-0.18	0.02
191	SLU 69	0	-3	2201	2.07	-0.18	0.02
191	SLU 70	0	-3	2201	2.07	-0.18	0.02
191	SLU 71	0	-3	2201	2.07	-0.18	0.02
191	SLU 72	0	-3	2201	2.07	-0.18	0.02
191	SLU 73	0	-3	2546	2.51	-0.14	0.02
191	SLU 74	0	-3	2546	2.51	-0.14	0.02
191	SLU 75	0	-3	2546	2.51	-0.14	0.02
191	SLU 76	0	-3	2546	2.51	-0.14	0.02
191	SLU 77	0	-3	2546	2.51	-0.14	0.02
191	SLU 78	0	-3	2546	2.51	-0.14	0.02
191	SLU 79	0	-3	2546	2.51	-0.14	0.02
191	SLU 80	0	-3	2546	2.51	-0.14	0.02
191	SLU 81	0	-3	2693	2.7	-0.13	0.02
191	SLU 82	0	-3	2693	2.7	-0.13	0.02
191	SLU 83	0	-3	2693	2.7	-0.13	0.02
191	SLU 84	0	-3	2693	2.7	-0.13	0.02
191	SLE RA 1	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 2	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 3	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 4	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 5	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 6	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 7	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 8	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 9	0	-2	1638	1.53	-0.16	0.01
191	SLE RA 10	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 11	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 12	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 13	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 14	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 15	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 16	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 17	0	-3	1868	1.83	-0.14	0.01
191	SLE RA 18	0	-3	1966	1.96	-0.13	0.02
191	SLE RA 19	0	-3	1966	1.96	-0.13	0.02
191	SLE RA 20	0	-3	1966	1.96	-0.13	0.02
191	SLE RA 21	0	-3	1966	1.96	-0.13	0.02
191	SLE FR 1	0	-2	1638	1.53	-0.16	0.01
191	SLE FR 2	0	-2	1638	1.53	-0.16	0.01
191	SLE FR 3	0	-2	1638	1.53	-0.16	0.01
191	SLE FR 4	0	-2	1737	1.66	-0.15	0.01
191	SLE FR 5	0	-2	1737	1.66	-0.15	0.01
191	SLE FR 6	0	-2	1802	1.75	-0.15	0.01
191	SLE QP 1	0	-2	1638	1.53	-0.16	0.01
191	SLE QP 2	0	-2	1737	1.66	-0.15	0.01
191	SLD 1	123	11	1733	1.81	-1.73	0.08
191	SLD 2	118	11	1733	1.79	-1.72	0.14
191	SLD 3	128	-23	1749	2.02	-2	0.06
191	SLD 4	122	-23	1748	2	-1.99	0.12
191	SLD 5	32	52	1713	1.4	-0.22	0.04
191	SLD 6	27	53	1712	1.38	-0.22	0.1
191	SLD 7	46	-60	1764	2.09	-1.12	-0.02
191	SLD 8	41	-59	1763	2.07	-1.11	0.04
191	SLD 9	-42	54	1710	1.25	0.8	-0.02
191	SLD 10	-47	55	1710	1.23	0.81	0.05
191	SLD 11	-27	-58	1761	1.94	-0.09	-0.08
191	SLD 12	-33	-57	1761	1.92	-0.08	-0.01
191	SLD 13	-123	18	1725	1.32	1.69	-0.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLD 14	-128	18	1725	1.3	1.69	-0.03
191	SLD 15	-119	-16	1741	1.53	1.42	-0.11
191	SLD 16	-124	-15	1740	1.51	1.43	-0.05
191	SLV 1	280	28	1729	2	-3.89	0.16
191	SLV 2	268	29	1728	1.96	-3.87	0.31
191	SLV 3	290	-50	1764	2.48	-4.56	0.12
191	SLV 4	278	-49	1763	2.44	-4.54	0.26
191	SLV 5	73	124	1681	1.05	-0.26	0.07
191	SLV 6	61	125	1680	1	-0.24	0.22
191	SLV 7	106	-135	1799	2.65	-2.5	-0.07
191	SLV 8	94	-134	1798	2.61	-2.48	0.08
191	SLV 9	-94	129	1676	0.71	2.18	-0.05
191	SLV 10	-106	130	1675	0.67	2.2	0.1
191	SLV 11	-62	-130	1793	2.32	-0.07	-0.19
191	SLV 12	-74	-129	1792	2.27	-0.05	-0.04
191	SLV 13	-279	44	1710	0.88	4.24	-0.24
191	SLV 14	-290	45	1709	0.84	4.26	-0.09
191	SLV 15	-269	-34	1746	1.37	3.56	-0.28
191	SLV 16	-281	-32	1744	1.32	3.58	-0.13
191	CRTFP Ux+	0	0	0	0	0	0
191	CRTFP Ux-	0	0	0	0	0	0
191	CRTFP Uy+	0	0	0	0	0	0
191	CRTFP Uy-	0	0	0	0	0	0
192	SLU 1	-6	5	2014	-1.73	-377.19	1.02
192	SLU 2	-6	5	2014	-1.73	-377.19	1.02
192	SLU 3	-6	5	2014	-1.73	-377.19	1.02
192	SLU 4	-6	5	2014	-1.73	-377.19	1.02
192	SLU 5	-6	5	2014	-1.73	-377.19	1.02
192	SLU 6	-6	5	2014	-1.73	-377.19	1.02
192	SLU 7	-6	5	2014	-1.73	-377.19	1.02
192	SLU 8	-6	5	2014	-1.73	-377.19	1.02
192	SLU 9	-6	5	2014	-1.73	-377.19	1.02
192	SLU 10	-6	7	2425	-2.12	-451.9	1.5
192	SLU 11	-6	7	2425	-2.12	-451.9	1.5
192	SLU 12	-6	7	2425	-2.12	-451.9	1.5
192	SLU 13	-6	7	2425	-2.12	-451.9	1.5
192	SLU 14	-6	7	2425	-2.12	-451.9	1.5
192	SLU 15	-6	7	2425	-2.12	-451.9	1.5
192	SLU 16	-6	7	2425	-2.12	-451.9	1.5
192	SLU 17	-6	7	2425	-2.12	-451.9	1.5
192	SLU 18	-6	8	2601	-2.29	-483.91	1.7
192	SLU 19	-6	8	2601	-2.29	-483.91	1.7
192	SLU 20	-6	8	2601	-2.29	-483.91	1.7
192	SLU 21	-6	8	2601	-2.29	-483.91	1.7
192	SLU 22	-5	6	2318	-2.02	-433.2	1.19
192	SLU 23	-5	6	2318	-2.02	-433.2	1.19
192	SLU 24	-5	6	2318	-2.02	-433.2	1.19
192	SLU 25	-5	6	2318	-2.02	-433.2	1.19
192	SLU 26	-5	6	2318	-2.02	-433.2	1.19
192	SLU 27	-5	6	2318	-2.02	-433.2	1.19
192	SLU 28	-5	6	2318	-2.02	-433.2	1.19
192	SLU 29	-5	6	2318	-2.02	-433.2	1.19
192	SLU 30	-5	6	2318	-2.02	-433.2	1.19
192	SLU 31	-5	8	2729	-2.41	-507.91	1.66
192	SLU 32	-5	8	2729	-2.41	-507.91	1.66
192	SLU 33	-5	8	2729	-2.41	-507.91	1.66
192	SLU 34	-5	8	2729	-2.41	-507.91	1.66
192	SLU 35	-5	8	2729	-2.41	-507.91	1.66
192	SLU 36	-5	8	2729	-2.41	-507.91	1.66
192	SLU 37	-5	8	2729	-2.41	-507.91	1.66
192	SLU 38	-5	8	2729	-2.41	-507.91	1.66
192	SLU 39	-5	9	2905	-2.58	-539.93	1.86
192	SLU 40	-5	9	2905	-2.58	-539.93	1.86
192	SLU 41	-5	9	2905	-2.58	-539.93	1.86
192	SLU 42	-5	9	2905	-2.58	-539.93	1.86
192	SLU 43	-8	6	2514	-2.15	-471.15	1.28
192	SLU 44	-8	6	2514	-2.15	-471.15	1.28
192	SLU 45	-8	6	2514	-2.15	-471.15	1.28
192	SLU 46	-8	6	2514	-2.15	-471.15	1.28
192	SLU 47	-8	6	2514	-2.15	-471.15	1.28
192	SLU 48	-8	6	2514	-2.15	-471.15	1.28
192	SLU 49	-8	6	2514	-2.15	-471.15	1.28
192	SLU 50	-8	6	2514	-2.15	-471.15	1.28
192	SLU 51	-8	6	2514	-2.15	-471.15	1.28
192	SLU 52	-8	9	2925	-2.54	-545.85	1.75
192	SLU 53	-8	9	2925	-2.54	-545.85	1.75
192	SLU 54	-8	9	2925	-2.54	-545.85	1.75
192	SLU 55	-8	9	2925	-2.54	-545.85	1.75
192	SLU 56	-8	9	2925	-2.54	-545.85	1.75
192	SLU 57	-8	9	2925	-2.54	-545.85	1.75
192	SLU 58	-8	9	2925	-2.54	-545.85	1.75
192	SLU 59	-8	9	2925	-2.54	-545.85	1.75
192	SLU 60	-8	9	3101	-2.71	-577.87	1.95
192	SLU 61	-8	9	3101	-2.71	-577.87	1.95
192	SLU 62	-8	9	3101	-2.71	-577.87	1.95
192	SLU 63	-8	9	3101	-2.71	-577.87	1.95
192	SLU 64	-7	7	2818	-2.44	-527.16	1.44
192	SLU 65	-7	7	2818	-2.44	-527.16	1.44
192	SLU 66	-7	7	2818	-2.44	-527.16	1.44
192	SLU 67	-7	7	2818	-2.44	-527.16	1.44



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
192	SLU 68	-7	7	2818		-2.44	-527.16	1.44	
192	SLU 69	-7	7	2818		-2.44	-527.16	1.44	
192	SLU 70	-7	7	2818		-2.44	-527.16	1.44	
192	SLU 71	-7	7	2818		-2.44	-527.16	1.44	
192	SLU 72	-7	7	2818		-2.44	-527.16	1.44	
192	SLU 73	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 74	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 75	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 76	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 77	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 78	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 79	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 80	-7	9	3229		-2.83	-601.86	1.91	
192	SLU 81	-7	10	3405		-3	-633.88	2.11	
192	SLU 82	-7	10	3405		-3	-633.88	2.11	
192	SLU 83	-7	10	3405		-3	-633.88	2.11	
192	SLU 84	-7	10	3405		-3	-633.88	2.11	
192	SLE RA 1	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 2	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 3	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 4	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 5	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 6	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 7	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 8	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 9	-6	5	2101		-1.81	-393.2	1.07	
192	SLE RA 10	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 11	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 12	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 13	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 14	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 15	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 16	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 17	-6	7	2375		-2.07	-443	1.39	
192	SLE RA 18	-6	7	2492		-2.19	-464.34	1.52	
192	SLE RA 19	-6	7	2492		-2.19	-464.34	1.52	
192	SLE RA 20	-6	7	2492		-2.19	-464.34	1.52	
192	SLE RA 21	-6	7	2492		-2.19	-464.34	1.52	
192	SLE FR 1	-6	5	2101		-1.81	-393.2	1.07	
192	SLE FR 2	-6	5	2101		-1.81	-393.2	1.07	
192	SLE FR 3	-6	5	2101		-1.81	-393.2	1.07	
192	SLE FR 4	-6	6	2218		-1.92	-414.54	1.21	
192	SLE FR 5	-6	6	2218		-1.92	-414.54	1.21	
192	SLE FR 6	-6	6	2297		-2	-428.77	1.3	
192	SLE QP 1	-6	5	2101		-1.81	-393.2	1.07	
192	SLE QP 2	-6	6	2218		-1.92	-414.54	1.21	
192	SLD 1	141	140	2492		-2.59	-465.26	34.44	
192	SLD 2	134	103	2496		-2.58	-465.77	25.23	
192	SLD 3	120	-16	2556		-2.05	-469.51	-4.25	
192	SLD 4	112	-53	2561		-2.03	-470.02	-13.47	
192	SLD 5	74	296	2200		-2.95	-423.13	73.13	
192	SLD 6	66	258	2205		-2.94	-423.64	63.84	
192	SLD 7	1	-224	2416		-1.14	-437.3	-55.86	
192	SLD 8	-6	-262	2421		-1.13	-437.81	-65.15	
192	SLD 9	-5	274	2015		-2.72	-391.27	67.56	
192	SLD 10	-13	236	2020		-2.71	-391.78	58.27	
192	SLD 11	-78	-246	2232		-0.91	-405.44	-61.43	
192	SLD 12	-86	-284	2236		-0.89	-405.95	-70.72	
192	SLD 13	-123	65	1875		-1.82	-359.06	15.88	
192	SLD 14	-131	28	1880		-1.8	-359.57	6.66	
192	SLD 15	-145	-91	1940		-1.27	-363.31	-22.82	
192	SLD 16	-153	-128	1945		-1.26	-363.82	-32.03	
192	SLV 1	329	314	2837		-3.45	-529.67	77.54	
192	SLV 2	311	229	2848		-3.42	-530.82	56.58	
192	SLV 3	278	-47	2987		-2.2	-539.52	-11.97	
192	SLV 4	261	-132	2998		-2.16	-540.68	-32.93	
192	SLV 5	178	676	2172		-4.3	-433.71	167.39	
192	SLV 6	160	590	2183		-4.27	-434.89	146.06	
192	SLV 7	9	-527	2673		-0.11	-466.57	-130.99	
192	SLV 8	-9	-613	2684		-0.07	-467.75	-152.32	
192	SLV 9	-2	625	1752		-3.77	-361.33	154.73	
192	SLV 10	-20	539	1764		-3.74	-362.51	133.4	
192	SLV 11	-171	-578	2253		0.42	-394.19	-143.65	
192	SLV 12	-189	-664	2265		0.45	-395.37	-164.97	
192	SLV 13	-272	144	1438		-1.69	-288.4	35.34	
192	SLV 14	-290	59	1449		-1.65	-289.56	14.39	
192	SLV 15	-322	-217	1589		-0.43	-298.26	-54.17	
192	SLV 16	-340	-302	1600		-0.4	-299.41	-75.13	
192	CRTFP Ux+	0	0	0		0	0	0	
192	CRTFP Ux-	0	0	0		0	0	0	
192	CRTFP Uy+	0	0	0		0	0	0	
192	CRTFP Uy-	0	0	0		0	0	0	
195	SLU 1	9	-9	2146		-2.47	599.87	3.27	
195	SLU 2	9	-9	2146		-2.47	599.87	3.27	
195	SLU 3	9	-9	2146		-2.47	599.87	3.27	
195	SLU 4	9	-9	2146		-2.47	599.87	3.27	
195	SLU 5	9	-9	2146		-2.47	599.87	3.27	
195	SLU 6	9	-9	2146		-2.47	599.87	3.27	
195	SLU 7	9	-9	2146		-2.47	599.87	3.27	
195	SLU 8	9	-9	2146		-2.47	599.87	3.27	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
195	SLU 9	9	-9	2146	-2.47	599.87	3.27
195	SLU 10	10	-12	2553	-3.06	712.17	4.37
195	SLU 11	10	-12	2553	-3.06	712.17	4.37
195	SLU 12	10	-12	2553	-3.06	712.17	4.37
195	SLU 13	10	-12	2553	-3.06	712.17	4.37
195	SLU 14	10	-12	2553	-3.06	712.17	4.37
195	SLU 15	10	-12	2553	-3.06	712.17	4.37
195	SLU 16	10	-12	2553	-3.06	712.17	4.37
195	SLU 17	10	-12	2553	-3.06	712.17	4.37
195	SLU 18	10	-13	2728	-3.32	760.29	4.84
195	SLU 19	10	-13	2728	-3.32	760.29	4.84
195	SLU 20	10	-13	2728	-3.32	760.29	4.84
195	SLU 21	10	-13	2728	-3.32	760.29	4.84
195	SLU 22	10	-11	2436	-2.88	680.18	4.09
195	SLU 23	10	-11	2436	-2.88	680.18	4.09
195	SLU 24	10	-11	2436	-2.88	680.18	4.09
195	SLU 25	10	-11	2436	-2.88	680.18	4.09
195	SLU 26	10	-11	2436	-2.88	680.18	4.09
195	SLU 27	10	-11	2436	-2.88	680.18	4.09
195	SLU 28	10	-11	2436	-2.88	680.18	4.09
195	SLU 29	10	-11	2436	-2.88	680.18	4.09
195	SLU 30	10	-11	2436	-2.88	680.18	4.09
195	SLU 31	10	-14	2844	-3.47	792.48	5.18
195	SLU 32	10	-14	2844	-3.47	792.48	5.18
195	SLU 33	10	-14	2844	-3.47	792.48	5.18
195	SLU 34	10	-14	2844	-3.47	792.48	5.18
195	SLU 35	10	-14	2844	-3.47	792.48	5.18
195	SLU 36	10	-14	2844	-3.47	792.48	5.18
195	SLU 37	10	-14	2844	-3.47	792.48	5.18
195	SLU 38	10	-14	2844	-3.47	792.48	5.18
195	SLU 39	11	-16	3018	-3.72	840.6	5.65
195	SLU 40	11	-16	3018	-3.72	840.6	5.65
195	SLU 41	11	-16	3018	-3.72	840.6	5.65
195	SLU 42	11	-16	3018	-3.72	840.6	5.65
195	SLU 43	12	-11	2690	-3.07	752.29	3.98
195	SLU 44	12	-11	2690	-3.07	752.29	3.98
195	SLU 45	12	-11	2690	-3.07	752.29	3.98
195	SLU 46	12	-11	2690	-3.07	752.29	3.98
195	SLU 47	12	-11	2690	-3.07	752.29	3.98
195	SLU 48	12	-11	2690	-3.07	752.29	3.98
195	SLU 49	12	-11	2690	-3.07	752.29	3.98
195	SLU 50	12	-11	2690	-3.07	752.29	3.98
195	SLU 51	12	-11	2690	-3.07	752.29	3.98
195	SLU 52	13	-14	3098	-3.66	864.59	5.07
195	SLU 53	13	-14	3098	-3.66	864.59	5.07
195	SLU 54	13	-14	3098	-3.66	864.59	5.07
195	SLU 55	13	-14	3098	-3.66	864.59	5.07
195	SLU 56	13	-14	3098	-3.66	864.59	5.07
195	SLU 57	13	-14	3098	-3.66	864.59	5.07
195	SLU 58	13	-14	3098	-3.66	864.59	5.07
195	SLU 59	13	-14	3098	-3.66	864.59	5.07
195	SLU 60	13	-15	3272	-3.92	912.72	5.54
195	SLU 61	13	-15	3272	-3.92	912.72	5.54
195	SLU 62	13	-15	3272	-3.92	912.72	5.54
195	SLU 63	13	-15	3272	-3.92	912.72	5.54
195	SLU 64	13	-13	2981	-3.48	832.6	4.79
195	SLU 65	13	-13	2981	-3.48	832.6	4.79
195	SLU 66	13	-13	2981	-3.48	832.6	4.79
195	SLU 67	13	-13	2981	-3.48	832.6	4.79
195	SLU 68	13	-13	2981	-3.48	832.6	4.79
195	SLU 69	13	-13	2981	-3.48	832.6	4.79
195	SLU 70	13	-13	2981	-3.48	832.6	4.79
195	SLU 71	13	-13	2981	-3.48	832.6	4.79
195	SLU 72	13	-13	2981	-3.48	832.6	4.79
195	SLU 73	13	-16	3388	-4.07	944.9	5.89
195	SLU 74	13	-16	3388	-4.07	944.9	5.89
195	SLU 75	13	-16	3388	-4.07	944.9	5.89
195	SLU 76	13	-16	3388	-4.07	944.9	5.89
195	SLU 77	13	-16	3388	-4.07	944.9	5.89
195	SLU 78	13	-16	3388	-4.07	944.9	5.89
195	SLU 79	13	-16	3388	-4.07	944.9	5.89
195	SLU 80	13	-16	3388	-4.07	944.9	5.89
195	SLU 81	13	-18	3563	-4.33	993.03	6.36
195	SLU 82	13	-18	3563	-4.33	993.03	6.36
195	SLU 83	13	-18	3563	-4.33	993.03	6.36
195	SLU 84	13	-18	3563	-4.33	993.03	6.36
195	SLE RA 1	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 2	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 3	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 4	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 5	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 6	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 7	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 8	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 9	10	-10	2229	-2.59	622.81	3.51
195	SLE RA 10	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 11	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 12	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 13	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 14	10	-12	2501	-2.98	697.68	4.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLE RA 15	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 16	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 17	10	-12	2501	-2.98	697.68	4.24
195	SLE RA 18	10	-13	2617	-3.15	729.76	4.55
195	SLE RA 19	10	-13	2617	-3.15	729.76	4.55
195	SLE RA 20	10	-13	2617	-3.15	729.76	4.55
195	SLE RA 21	10	-13	2617	-3.15	729.76	4.55
195	SLE FR 1	10	-10	2229	-2.59	622.81	3.51
195	SLE FR 2	10	-10	2229	-2.59	622.81	3.51
195	SLE FR 3	10	-10	2229	-2.59	622.81	3.51
195	SLE FR 4	10	-11	2345	-2.76	654.9	3.82
195	SLE FR 5	10	-11	2345	-2.76	654.9	3.82
195	SLE FR 6	10	-11	2423	-2.87	676.29	4.03
195	SLE QP 1	10	-10	2229	-2.59	622.81	3.51
195	SLE QP 2	10	-11	2345	-2.76	654.9	3.82
195	SLD 1	163	-4	1992	-2.51	576.05	1.53
195	SLD 2	156	35	1993	-2.52	576.55	-12.13
195	SLD 3	177	-168	2018	-1.92	571.47	58.82
195	SLD 4	170	-129	2019	-1.93	571.96	45.16
195	SLD 5	37	226	2199	-3.58	638.02	-78.92
195	SLD 6	30	266	2200	-3.58	638.53	-92.69
195	SLD 7	84	-320	2286	-1.61	622.73	112.04
195	SLD 8	76	-281	2288	-1.61	623.24	98.27
195	SLD 9	-57	260	2403	-3.9	686.56	-90.64
195	SLD 10	-64	299	2405	-3.9	687.06	-104.41
195	SLD 11	-10	-287	2490	-1.93	671.27	100.33
195	SLD 12	-18	-247	2492	-1.93	671.77	86.56
195	SLD 13	-150	108	2672	-3.58	737.83	-37.53
195	SLD 14	-158	147	2673	-3.59	738.33	-51.18
195	SLD 15	-136	-56	2698	-2.99	733.24	19.76
195	SLD 16	-144	-17	2699	-3	733.74	6.11
195	SLV 1	358	7	1541	-2.22	475.97	-2.63
195	SLV 2	341	97	1544	-2.23	477.1	-33.68
195	SLV 3	391	-372	1602	-0.85	465.18	130.04
195	SLV 4	373	-283	1605	-0.86	466.31	98.99
195	SLV 5	71	538	2011	-4.66	617.18	-188.18
195	SLV 6	53	629	2014	-4.68	618.33	-219.78
195	SLV 7	180	-727	2213	-0.11	581.21	254.04
195	SLV 8	162	-636	2216	-0.12	582.35	222.44
195	SLV 9	-142	615	2475	-5.39	727.44	-214.8
195	SLV 10	-160	706	2478	-5.4	728.59	-246.4
195	SLV 11	-34	-650	2677	-0.83	691.46	227.42
195	SLV 12	-52	-559	2680	-0.85	692.61	195.82
195	SLV 13	-354	262	3086	-4.65	843.49	-91.35
195	SLV 14	-371	351	3089	-4.66	844.62	-122.4
195	SLV 15	-321	-118	3147	-3.28	832.69	41.32
195	SLV 16	-338	-28	3150	-3.29	833.82	10.26
195	CRTFP Ux+	0	0	0	0	0	0
195	CRTFP Ux-	0	0	0	0	0	0
195	CRTFP Uy+	0	0	0	0	0	0
195	CRTFP Uy-	0	0	0	0	0	0
196	SLU 1	-1	-2	1620	1.79	-0.09	0.02
196	SLU 2	-1	-2	1620	1.79	-0.09	0.02
196	SLU 3	-1	-2	1620	1.79	-0.09	0.02
196	SLU 4	-1	-2	1620	1.79	-0.09	0.02
196	SLU 5	-1	-2	1620	1.79	-0.09	0.02
196	SLU 6	-1	-2	1620	1.79	-0.09	0.02
196	SLU 7	-1	-2	1620	1.79	-0.09	0.02
196	SLU 8	-1	-2	1620	1.79	-0.09	0.02
196	SLU 9	-1	-2	1620	1.79	-0.09	0.02
196	SLU 10	-1	-2	1980	2.32	-0.07	0.03
196	SLU 11	-1	-2	1980	2.32	-0.07	0.03
196	SLU 12	-1	-2	1980	2.32	-0.07	0.03
196	SLU 13	-1	-2	1980	2.32	-0.07	0.03
196	SLU 14	-1	-2	1980	2.32	-0.07	0.03
196	SLU 15	-1	-2	1980	2.32	-0.07	0.03
196	SLU 16	-1	-2	1980	2.32	-0.07	0.03
196	SLU 17	-1	-2	1980	2.32	-0.07	0.03
196	SLU 18	-1	-3	2134	2.55	-0.07	0.03
196	SLU 19	-1	-3	2134	2.55	-0.07	0.03
196	SLU 20	-1	-3	2134	2.55	-0.07	0.03
196	SLU 21	-1	-3	2134	2.55	-0.07	0.03
196	SLU 22	-1	-3	1879	2.09	-0.03	0.03
196	SLU 23	-1	-3	1879	2.09	-0.03	0.03
196	SLU 24	-1	-3	1879	2.09	-0.03	0.03
196	SLU 25	-1	-3	1879	2.09	-0.03	0.03
196	SLU 26	-1	-3	1879	2.09	-0.03	0.03
196	SLU 27	-1	-3	1879	2.09	-0.03	0.03
196	SLU 28	-1	-3	1879	2.09	-0.03	0.03
196	SLU 29	-1	-3	1879	2.09	-0.03	0.03
196	SLU 30	-1	-3	1879	2.09	-0.03	0.03
196	SLU 31	-1	-3	2239	2.62	-0.01	0.04
196	SLU 32	-1	-3	2239	2.62	-0.01	0.04
196	SLU 33	-1	-3	2239	2.62	-0.01	0.04
196	SLU 34	-1	-3	2239	2.62	-0.01	0.04
196	SLU 35	-1	-3	2239	2.62	-0.01	0.04
196	SLU 36	-1	-3	2239	2.62	-0.01	0.04
196	SLU 37	-1	-3	2239	2.62	-0.01	0.04
196	SLU 38	-1	-3	2239	2.62	-0.01	0.04
196	SLU 39	0	-3	2393	2.85	-0.01	0.04



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
196	SLU 40	0	-3	2393		2.85	-0.01	0.04
196	SLU 41	0	-3	2393		2.85	-0.01	0.04
196	SLU 42	0	-3	2393		2.85	-0.01	0.04
196	SLU 43	-1	-3	2017		2.23	-0.14	0.03
196	SLU 44	-1	-3	2017		2.23	-0.14	0.03
196	SLU 45	-1	-3	2017		2.23	-0.14	0.03
196	SLU 46	-1	-3	2017		2.23	-0.14	0.03
196	SLU 47	-1	-3	2017		2.23	-0.14	0.03
196	SLU 48	-1	-3	2017		2.23	-0.14	0.03
196	SLU 49	-1	-3	2017		2.23	-0.14	0.03
196	SLU 50	-1	-3	2017		2.23	-0.14	0.03
196	SLU 51	-1	-3	2017		2.23	-0.14	0.03
196	SLU 52	-1	-3	2377		2.76	-0.12	0.03
196	SLU 53	-1	-3	2377		2.76	-0.12	0.03
196	SLU 54	-1	-3	2377		2.76	-0.12	0.03
196	SLU 55	-1	-3	2377		2.76	-0.12	0.03
196	SLU 56	-1	-3	2377		2.76	-0.12	0.03
196	SLU 57	-1	-3	2377		2.76	-0.12	0.03
196	SLU 58	-1	-3	2377		2.76	-0.12	0.03
196	SLU 59	-1	-3	2377		2.76	-0.12	0.03
196	SLU 60	-1	-3	2531		2.98	-0.11	0.04
196	SLU 61	-1	-3	2531		2.98	-0.11	0.04
196	SLU 62	-1	-3	2531		2.98	-0.11	0.04
196	SLU 63	-1	-3	2531		2.98	-0.11	0.04
196	SLU 64	-1	-3	2276		2.53	-0.08	0.04
196	SLU 65	-1	-3	2276		2.53	-0.08	0.04
196	SLU 66	-1	-3	2276		2.53	-0.08	0.04
196	SLU 67	-1	-3	2276		2.53	-0.08	0.04
196	SLU 68	-1	-3	2276		2.53	-0.08	0.04
196	SLU 69	-1	-3	2276		2.53	-0.08	0.04
196	SLU 70	-1	-3	2276		2.53	-0.08	0.04
196	SLU 71	-1	-3	2276		2.53	-0.08	0.04
196	SLU 72	-1	-3	2276		2.53	-0.08	0.04
196	SLU 73	-1	-3	2636		3.06	-0.06	0.04
196	SLU 74	-1	-3	2636		3.06	-0.06	0.04
196	SLU 75	-1	-3	2636		3.06	-0.06	0.04
196	SLU 76	-1	-3	2636		3.06	-0.06	0.04
196	SLU 77	-1	-3	2636		3.06	-0.06	0.04
196	SLU 78	-1	-3	2636		3.06	-0.06	0.04
196	SLU 79	-1	-3	2636		3.06	-0.06	0.04
196	SLU 80	-1	-3	2636		3.06	-0.06	0.04
196	SLU 81	-1	-3	2790		3.28	-0.06	0.05
196	SLU 82	-1	-3	2790		3.28	-0.06	0.05
196	SLU 83	-1	-3	2790		3.28	-0.06	0.05
196	SLU 84	-1	-3	2790		3.28	-0.06	0.05
196	SLE RA 1	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 2	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 3	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 4	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 5	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 6	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 7	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 8	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 9	-1	-2	1694		1.88	-0.07	0.03
196	SLE RA 10	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 11	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 12	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 13	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 14	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 15	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 16	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 17	-1	-2	1934		2.23	-0.06	0.03
196	SLE RA 18	-1	-3	2037		2.38	-0.06	0.03
196	SLE RA 19	-1	-3	2037		2.38	-0.06	0.03
196	SLE RA 20	-1	-3	2037		2.38	-0.06	0.03
196	SLE RA 21	-1	-3	2037		2.38	-0.06	0.03
196	SLE FR 1	-1	-2	1694		1.88	-0.07	0.03
196	SLE FR 2	-1	-2	1694		1.88	-0.07	0.03
196	SLE FR 3	-1	-2	1694		1.88	-0.07	0.03
196	SLE FR 4	-1	-2	1797		2.03	-0.07	0.03
196	SLE FR 5	-1	-2	1797		2.03	-0.07	0.03
196	SLE FR 6	-1	-2	1865		2.13	-0.07	0.03
196	SLE QP 1	-1	-2	1694		1.88	-0.07	0.03
196	SLE QP 2	-1	-2	1797		2.03	-0.07	0.03
196	SLD 1	122	10	1797		2.18	-2.17	0.09
196	SLD 2	114	11	1796		2.16	-2.16	0.16
196	SLD 3	126	-23	1820		2.44	-2.56	0.08
196	SLD 4	119	-22	1818		2.42	-2.56	0.14
196	SLD 5	32	52	1763		1.69	-0.1	0.05
196	SLD 6	25	52	1762		1.67	-0.09	0.12
196	SLD 7	46	-59	1838		2.55	-1.42	-0.01
196	SLD 8	39	-59	1837		2.53	-1.42	0.06
196	SLD 9	-40	54	1756		1.53	1.28	0
196	SLD 10	-48	55	1755		1.51	1.28	0.07
196	SLD 11	-27	-57	1831		2.39	-0.05	-0.06
196	SLD 12	-34	-57	1830		2.37	-0.04	0
196	SLD 13	-120	18	1775		1.64	2.42	-0.09
196	SLD 14	-128	18	1773		1.62	2.42	-0.02
196	SLD 15	-116	-16	1797		1.9	2.02	-0.1
196	SLD 16	-123	-15	1796		1.88	2.03	-0.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLV 1	277	27	1798	2.38	-5.14	0.18
196	SLV 2	261	29	1795	2.32	-5.13	0.33
196	SLV 3	287	-50	1850	2.97	-6.14	0.14
196	SLV 4	270	-49	1847	2.92	-6.14	0.29
196	SLV 5	74	123	1719	1.25	-0.07	0.08
196	SLV 6	57	125	1716	1.19	-0.06	0.24
196	SLV 7	106	-134	1893	3.24	-3.42	-0.06
196	SLV 8	89	-133	1890	3.18	-3.41	0.1
196	SLV 9	-91	128	1703	0.88	3.27	-0.04
196	SLV 10	-108	129	1700	0.82	3.28	0.11
196	SLV 11	-59	-129	1877	2.87	-0.08	-0.18
196	SLV 12	-76	-128	1875	2.81	-0.07	-0.03
196	SLV 13	-272	44	1746	1.14	6	-0.23
196	SLV 14	-289	45	1743	1.09	6.01	-0.08
196	SLV 15	-262	-33	1798	1.74	4.99	-0.27
196	SLV 16	-279	-32	1796	1.68	5	-0.12
196	CRTFP Ux+	0	0	0	0	0	0
196	CRTFP Ux-	0	0	0	0	0	0
196	CRTFP Uy+	0	0	0	0	0	0
196	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	3	6	1959	-1.85	-324.16	1.17
197	SLU 2	3	6	1959	-1.85	-324.16	1.17
197	SLU 3	3	6	1959	-1.85	-324.16	1.17
197	SLU 4	3	6	1959	-1.85	-324.16	1.17
197	SLU 5	3	6	1959	-1.85	-324.16	1.17
197	SLU 6	3	6	1959	-1.85	-324.16	1.17
197	SLU 7	3	6	1959	-1.85	-324.16	1.17
197	SLU 8	3	6	1959	-1.85	-324.16	1.17
197	SLU 9	3	6	1959	-1.85	-324.16	1.17
197	SLU 10	5	8	2357	-2.28	-386.6	1.67
197	SLU 11	5	8	2357	-2.28	-386.6	1.67
197	SLU 12	5	8	2357	-2.28	-386.6	1.67
197	SLU 13	5	8	2357	-2.28	-386.6	1.67
197	SLU 14	5	8	2357	-2.28	-386.6	1.67
197	SLU 15	5	8	2357	-2.28	-386.6	1.67
197	SLU 16	5	8	2357	-2.28	-386.6	1.67
197	SLU 17	5	8	2357	-2.28	-386.6	1.67
197	SLU 18	5	9	2528	-2.46	-413.37	1.88
197	SLU 19	5	9	2528	-2.46	-413.37	1.88
197	SLU 20	5	9	2528	-2.46	-413.37	1.88
197	SLU 21	5	9	2528	-2.46	-413.37	1.88
197	SLU 22	5	7	2254	-2.17	-371.1	1.35
197	SLU 23	5	7	2254	-2.17	-371.1	1.35
197	SLU 24	5	7	2254	-2.17	-371.1	1.35
197	SLU 25	5	7	2254	-2.17	-371.1	1.35
197	SLU 26	5	7	2254	-2.17	-371.1	1.35
197	SLU 27	5	7	2254	-2.17	-371.1	1.35
197	SLU 28	5	7	2254	-2.17	-371.1	1.35
197	SLU 29	5	7	2254	-2.17	-371.1	1.35
197	SLU 30	5	7	2254	-2.17	-371.1	1.35
197	SLU 31	7	9	2652	-2.59	-433.54	1.84
197	SLU 32	7	9	2652	-2.59	-433.54	1.84
197	SLU 33	7	9	2652	-2.59	-433.54	1.84
197	SLU 34	7	9	2652	-2.59	-433.54	1.84
197	SLU 35	7	9	2652	-2.59	-433.54	1.84
197	SLU 36	7	9	2652	-2.59	-433.54	1.84
197	SLU 37	7	9	2652	-2.59	-433.54	1.84
197	SLU 38	7	9	2652	-2.59	-433.54	1.84
197	SLU 39	8	10	2822	-2.78	-460.3	2.05
197	SLU 40	8	10	2822	-2.78	-460.3	2.05
197	SLU 41	8	10	2822	-2.78	-460.3	2.05
197	SLU 42	8	10	2822	-2.78	-460.3	2.05
197	SLU 43	3	8	2445	-2.3	-405.32	1.46
197	SLU 44	3	8	2445	-2.3	-405.32	1.46
197	SLU 45	3	8	2445	-2.3	-405.32	1.46
197	SLU 46	3	8	2445	-2.3	-405.32	1.46
197	SLU 47	3	8	2445	-2.3	-405.32	1.46
197	SLU 48	3	8	2445	-2.3	-405.32	1.46
197	SLU 49	3	8	2445	-2.3	-405.32	1.46
197	SLU 50	3	8	2445	-2.3	-405.32	1.46
197	SLU 51	3	8	2445	-2.3	-405.32	1.46
197	SLU 52	5	10	2843	-2.72	-467.76	1.96
197	SLU 53	5	10	2843	-2.72	-467.76	1.96
197	SLU 54	5	10	2843	-2.72	-467.76	1.96
197	SLU 55	5	10	2843	-2.72	-467.76	1.96
197	SLU 56	5	10	2843	-2.72	-467.76	1.96
197	SLU 57	5	10	2843	-2.72	-467.76	1.96
197	SLU 58	5	10	2843	-2.72	-467.76	1.96
197	SLU 59	5	10	2843	-2.72	-467.76	1.96
197	SLU 60	5	11	3014	-2.9	-494.52	2.17
197	SLU 61	5	11	3014	-2.9	-494.52	2.17
197	SLU 62	5	11	3014	-2.9	-494.52	2.17
197	SLU 63	5	11	3014	-2.9	-494.52	2.17
197	SLU 64	6	8	2740	-2.61	-452.25	1.64
197	SLU 65	6	8	2740	-2.61	-452.25	1.64
197	SLU 66	6	8	2740	-2.61	-452.25	1.64
197	SLU 67	6	8	2740	-2.61	-452.25	1.64
197	SLU 68	6	8	2740	-2.61	-452.25	1.64
197	SLU 69	6	8	2740	-2.61	-452.25	1.64
197	SLU 70	6	8	2740	-2.61	-452.25	1.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
197	SLU 71	6	8	2740	-2.61	-452.25	1.64
197	SLU 72	6	8	2740	-2.61	-452.25	1.64
197	SLU 73	7	11	3138	-3.04	-514.7	2.13
197	SLU 74	7	11	3138	-3.04	-514.7	2.13
197	SLU 75	7	11	3138	-3.04	-514.7	2.13
197	SLU 76	7	11	3138	-3.04	-514.7	2.13
197	SLU 77	7	11	3138	-3.04	-514.7	2.13
197	SLU 78	7	11	3138	-3.04	-514.7	2.13
197	SLU 79	7	11	3138	-3.04	-514.7	2.13
197	SLU 80	7	11	3138	-3.04	-514.7	2.13
197	SLU 81	8	11	3309	-3.22	-541.46	2.34
197	SLU 82	8	11	3309	-3.22	-541.46	2.34
197	SLU 83	8	11	3309	-3.22	-541.46	2.34
197	SLU 84	8	11	3309	-3.22	-541.46	2.34
197	SLE RA 1	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 2	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 3	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 4	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 5	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 6	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 7	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 8	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 9	4	6	2043	-1.94	-337.57	1.22
197	SLE RA 10	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 11	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 12	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 13	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 14	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 15	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 16	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 17	5	8	2308	-2.22	-379.2	1.55
197	SLE RA 18	5	8	2422	-2.35	-397.04	1.69
197	SLE RA 19	5	8	2422	-2.35	-397.04	1.69
197	SLE RA 20	5	8	2422	-2.35	-397.04	1.69
197	SLE RA 21	5	8	2422	-2.35	-397.04	1.69
197	SLE FR 1	4	6	2043	-1.94	-337.57	1.22
197	SLE FR 2	4	6	2043	-1.94	-337.57	1.22
197	SLE FR 3	4	6	2043	-1.94	-337.57	1.22
197	SLE FR 4	4	7	2157	-2.06	-355.41	1.36
197	SLE FR 5	4	7	2157	-2.06	-355.41	1.36
197	SLE FR 6	4	7	2233	-2.14	-367.31	1.46
197	SLE QP 1	4	6	2043	-1.94	-337.57	1.22
197	SLE QP 2	4	7	2157	-2.06	-355.41	1.36
197	SLD 1	158	142	2409	-2.78	-397.96	34.74
197	SLD 2	147	104	2414	-2.76	-398.37	25.51
197	SLD 3	128	-15	2491	-2.19	-401.83	-4.1
197	SLD 4	117	-52	2496	-2.17	-402.23	-13.33
197	SLD 5	101	298	2106	-3.18	-362.17	73.55
197	SLD 6	90	260	2112	-3.16	-362.58	64.24
197	SLD 7	-1	-224	2379	-1.21	-375.06	-55.91
197	SLD 8	-13	-261	2385	-1.19	-375.46	-65.22
197	SLD 9	21	275	1929	-2.93	-335.36	67.94
197	SLD 10	10	237	1934	-2.92	-335.77	58.63
197	SLD 11	-81	-246	2202	-0.96	-348.25	-61.51
197	SLD 12	-93	-284	2207	-0.95	-348.65	-70.82
197	SLD 13	-108	66	1817	-1.96	-308.59	16.05
197	SLD 14	-119	29	1823	-1.94	-309	6.82
197	SLD 15	-139	-90	1899	-1.36	-312.46	-22.78
197	SLD 16	-150	-128	1904	-1.35	-312.86	-32.01
197	SLV 1	355	316	2728	-3.7	-452.08	78.01
197	SLV 2	330	231	2740	-3.66	-453	57.02
197	SLV 3	284	-46	2917	-2.33	-461.04	-11.83
197	SLV 4	259	-131	2930	-2.29	-461.96	-32.82
197	SLV 5	226	679	2036	-4.64	-370.49	168.14
197	SLV 6	200	593	2048	-4.6	-371.43	146.78
197	SLV 7	-10	-527	2668	-0.08	-400.36	-131.32
197	SLV 8	-36	-614	2681	-0.04	-401.3	-152.68
197	SLV 9	45	628	1633	-4.08	-309.53	155.4
197	SLV 10	19	541	1645	-4.04	-310.46	134.04
197	SLV 11	-192	-579	2265	0.48	-339.4	-144.06
197	SLV 12	-218	-665	2278	0.52	-340.33	-165.42
197	SLV 13	-250	145	1384	-1.83	-248.87	35.54
197	SLV 14	-276	60	1396	-1.8	-249.78	14.55
197	SLV 15	-321	-217	1574	-0.47	-257.83	-54.3
197	SLV 16	-347	-302	1586	-0.43	-258.75	-75.29
197	CRTFP Ux+	0	0	0	0	0	0
197	CRTFP Ux-	0	0	0	0	0	0
197	CRTFP Uy+	0	0	0	0	0	0
197	CRTFP Uy-	0	0	0	0	0	0
200	SLU 1	6	-8	2070	-2.6	524.94	3.01
200	SLU 2	6	-8	2070	-2.6	524.94	3.01
200	SLU 3	6	-8	2070	-2.6	524.94	3.01
200	SLU 4	6	-8	2070	-2.6	524.94	3.01
200	SLU 5	6	-8	2070	-2.6	524.94	3.01
200	SLU 6	6	-8	2070	-2.6	524.94	3.01
200	SLU 7	6	-8	2070	-2.6	524.94	3.01
200	SLU 8	6	-8	2070	-2.6	524.94	3.01
200	SLU 9	6	-8	2070	-2.6	524.94	3.01
200	SLU 10	5	-11	2459	-3.24	620.17	4.09
200	SLU 11	5	-11	2459	-3.24	620.17	4.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
200	SLU 12	5	-11	2459	-3.24	620.17	4.09
200	SLU 13	5	-11	2459	-3.24	620.17	4.09
200	SLU 14	5	-11	2459	-3.24	620.17	4.09
200	SLU 15	5	-11	2459	-3.24	620.17	4.09
200	SLU 16	5	-11	2459	-3.24	620.17	4.09
200	SLU 17	5	-11	2459	-3.24	620.17	4.09
200	SLU 18	5	-13	2625	-3.51	660.98	4.56
200	SLU 19	5	-13	2625	-3.51	660.98	4.56
200	SLU 20	5	-13	2625	-3.51	660.98	4.56
200	SLU 21	5	-13	2625	-3.51	660.98	4.56
200	SLU 22	5	-10	2347	-3.03	593.13	3.8
200	SLU 23	5	-10	2347	-3.03	593.13	3.8
200	SLU 24	5	-10	2347	-3.03	593.13	3.8
200	SLU 25	5	-10	2347	-3.03	593.13	3.8
200	SLU 26	5	-10	2347	-3.03	593.13	3.8
200	SLU 27	5	-10	2347	-3.03	593.13	3.8
200	SLU 28	5	-10	2347	-3.03	593.13	3.8
200	SLU 29	5	-10	2347	-3.03	593.13	3.8
200	SLU 30	5	-10	2347	-3.03	593.13	3.8
200	SLU 31	5	-13	2736	-3.67	688.36	4.89
200	SLU 32	5	-13	2736	-3.67	688.36	4.89
200	SLU 33	5	-13	2736	-3.67	688.36	4.89
200	SLU 34	5	-13	2736	-3.67	688.36	4.89
200	SLU 35	5	-13	2736	-3.67	688.36	4.89
200	SLU 36	5	-13	2736	-3.67	688.36	4.89
200	SLU 37	5	-13	2736	-3.67	688.36	4.89
200	SLU 38	5	-13	2736	-3.67	688.36	4.89
200	SLU 39	5	-15	2903	-3.94	729.17	5.35
200	SLU 40	5	-15	2903	-3.94	729.17	5.35
200	SLU 41	5	-15	2903	-3.94	729.17	5.35
200	SLU 42	5	-15	2903	-3.94	729.17	5.35
200	SLU 43	7	-10	2596	-3.23	659.05	3.63
200	SLU 44	7	-10	2596	-3.23	659.05	3.63
200	SLU 45	7	-10	2596	-3.23	659.05	3.63
200	SLU 46	7	-10	2596	-3.23	659.05	3.63
200	SLU 47	7	-10	2596	-3.23	659.05	3.63
200	SLU 48	7	-10	2596	-3.23	659.05	3.63
200	SLU 49	7	-10	2596	-3.23	659.05	3.63
200	SLU 50	7	-10	2596	-3.23	659.05	3.63
200	SLU 51	7	-10	2596	-3.23	659.05	3.63
200	SLU 52	7	-13	2984	-3.87	754.28	4.72
200	SLU 53	7	-13	2984	-3.87	754.28	4.72
200	SLU 54	7	-13	2984	-3.87	754.28	4.72
200	SLU 55	7	-13	2984	-3.87	754.28	4.72
200	SLU 56	7	-13	2984	-3.87	754.28	4.72
200	SLU 57	7	-13	2984	-3.87	754.28	4.72
200	SLU 58	7	-13	2984	-3.87	754.28	4.72
200	SLU 59	7	-13	2984	-3.87	754.28	4.72
200	SLU 60	7	-14	3151	-4.14	795.09	5.19
200	SLU 61	7	-14	3151	-4.14	795.09	5.19
200	SLU 62	7	-14	3151	-4.14	795.09	5.19
200	SLU 63	7	-14	3151	-4.14	795.09	5.19
200	SLU 64	7	-12	2873	-3.66	727.23	4.43
200	SLU 65	7	-12	2873	-3.66	727.23	4.43
200	SLU 66	7	-12	2873	-3.66	727.23	4.43
200	SLU 67	7	-12	2873	-3.66	727.23	4.43
200	SLU 68	7	-12	2873	-3.66	727.23	4.43
200	SLU 69	7	-12	2873	-3.66	727.23	4.43
200	SLU 70	7	-12	2873	-3.66	727.23	4.43
200	SLU 71	7	-12	2873	-3.66	727.23	4.43
200	SLU 72	7	-12	2873	-3.66	727.23	4.43
200	SLU 73	7	-15	3262	-4.3	822.46	5.52
200	SLU 74	7	-15	3262	-4.3	822.46	5.52
200	SLU 75	7	-15	3262	-4.3	822.46	5.52
200	SLU 76	7	-15	3262	-4.3	822.46	5.52
200	SLU 77	7	-15	3262	-4.3	822.46	5.52
200	SLU 78	7	-15	3262	-4.3	822.46	5.52
200	SLU 79	7	-15	3262	-4.3	822.46	5.52
200	SLU 80	7	-15	3262	-4.3	822.46	5.52
200	SLU 81	7	-16	3429	-4.57	863.27	5.98
200	SLU 82	7	-16	3429	-4.57	863.27	5.98
200	SLU 83	7	-16	3429	-4.57	863.27	5.98
200	SLU 84	7	-16	3429	-4.57	863.27	5.98
200	SLE RA 1	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 2	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 3	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 4	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 5	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 6	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 7	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 8	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 9	6	-9	2149	-2.72	544.42	3.23
200	SLE RA 10	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 11	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 12	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 13	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 14	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 15	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 16	5	-11	2408	-3.15	607.91	3.96
200	SLE RA 17	5	-11	2408	-3.15	607.91	3.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
200	SLE RA 18	5	-12	2519	-3.33	635.12	4.27
200	SLE RA 19	5	-12	2519	-3.33	635.12	4.27
200	SLE RA 20	5	-12	2519	-3.33	635.12	4.27
200	SLE RA 21	5	-12	2519	-3.33	635.12	4.27
200	SLE FR 1	6	-9	2149	-2.72	544.42	3.23
200	SLE FR 2	6	-9	2149	-2.72	544.42	3.23
200	SLE FR 3	6	-9	2149	-2.72	544.42	3.23
200	SLE FR 4	5	-10	2260	-2.9	571.63	3.54
200	SLE FR 5	5	-10	2260	-2.9	571.63	3.54
200	SLE FR 6	5	-10	2334	-3.03	589.77	3.75
200	SLE QP 1	6	-9	2149	-2.72	544.42	3.23
200	SLE QP 2	5	-10	2260	-2.9	571.63	3.54
200	SLD 1	160	-3	1914	-2.67	504.89	1.24
200	SLD 2	150	36	1915	-2.67	505.39	-12.43
200	SLD 3	175	-168	1958	-2.02	500.38	58.76
200	SLD 4	165	-128	1959	-2.03	500.88	45.09
200	SLD 5	33	227	2090	-3.82	558.28	-79.54
200	SLD 6	22	267	2091	-3.82	558.78	-93.33
200	SLD 7	83	-320	2235	-1.66	543.23	112.19
200	SLD 8	72	-281	2237	-1.66	543.74	98.4
200	SLD 9	-61	261	2284	-4.15	599.53	-91.31
200	SLD 10	-72	301	2285	-4.15	600.03	-105.1
200	SLD 11	-11	-287	2430	-1.99	584.48	100.41
200	SLD 12	-22	-247	2431	-1.99	584.99	86.62
200	SLD 13	-154	109	2562	-3.78	642.39	-38
200	SLD 14	-164	148	2563	-3.79	642.89	-51.67
200	SLD 15	-139	-55	2605	-3.14	637.87	19.52
200	SLD 16	-149	-16	2607	-3.14	638.37	5.84
200	SLV 1	357	8	1473	-2.38	420.22	-2.93
200	SLV 2	332	98	1475	-2.39	421.35	-34.03
200	SLV 3	392	-373	1574	-0.89	409.47	130.26
200	SLV 4	367	-283	1577	-0.89	410.61	99.17
200	SLV 5	67	541	1870	-5.02	542.1	-189.25
200	SLV 6	42	632	1872	-5.03	543.25	-220.89
200	SLV 7	183	-728	2207	-0.02	506.28	254.72
200	SLV 8	158	-637	2210	-0.03	507.44	223.08
200	SLV 9	-147	617	2311	-5.78	635.83	-215.99
200	SLV 10	-172	709	2314	-5.79	636.98	-247.64
200	SLV 11	-31	-651	2648	-0.78	600.01	227.98
200	SLV 12	-56	-560	2651	-0.79	601.17	196.34
200	SLV 13	-356	264	2944	-4.92	732.65	-92.08
200	SLV 14	-381	353	2947	-4.92	733.79	-123.17
200	SLV 15	-321	-117	3045	-3.42	721.91	41.11
200	SLV 16	-346	-27	3048	-3.43	723.05	10.02
200	CRTFP Ux+	0	0	0	0	0	0
200	CRTFP Ux-	0	0	0	0	0	0
200	CRTFP Uy+	0	0	0	0	0	0
200	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	-2	-2	1678	1.81	-0.03	0.04
201	SLU 2	-2	-2	1678	1.81	-0.03	0.04
201	SLU 3	-2	-2	1678	1.81	-0.03	0.04
201	SLU 4	-2	-2	1678	1.81	-0.03	0.04
201	SLU 5	-2	-2	1678	1.81	-0.03	0.04
201	SLU 6	-2	-2	1678	1.81	-0.03	0.04
201	SLU 7	-2	-2	1678	1.81	-0.03	0.04
201	SLU 8	-2	-2	1678	1.81	-0.03	0.04
201	SLU 9	-2	-2	1678	1.81	-0.03	0.04
201	SLU 10	-2	-2	2055	2.32	-0.01	0.05
201	SLU 11	-2	-2	2055	2.32	-0.01	0.05
201	SLU 12	-2	-2	2055	2.32	-0.01	0.05
201	SLU 13	-2	-2	2055	2.32	-0.01	0.05
201	SLU 14	-2	-2	2055	2.32	-0.01	0.05
201	SLU 15	-2	-2	2055	2.32	-0.01	0.05
201	SLU 16	-2	-2	2055	2.32	-0.01	0.05
201	SLU 17	-2	-2	2055	2.32	-0.01	0.05
201	SLU 18	-2	-2	2216	2.53	-0.01	0.05
201	SLU 19	-2	-2	2216	2.53	-0.01	0.05
201	SLU 20	-2	-2	2216	2.53	-0.01	0.05
201	SLU 21	-2	-2	2216	2.53	-0.01	0.05
201	SLU 22	-2	-2	1947	2.11	0.01	0.05
201	SLU 23	-2	-2	1947	2.11	0.01	0.05
201	SLU 24	-2	-2	1947	2.11	0.01	0.05
201	SLU 25	-2	-2	1947	2.11	0.01	0.05
201	SLU 26	-2	-2	1947	2.11	0.01	0.05
201	SLU 27	-2	-2	1947	2.11	0.01	0.05
201	SLU 28	-2	-2	1947	2.11	0.01	0.05
201	SLU 29	-2	-2	1947	2.11	0.01	0.05
201	SLU 30	-2	-2	1947	2.11	0.01	0.05
201	SLU 31	-2	-3	2323	2.61	0.02	0.06
201	SLU 32	-2	-3	2323	2.61	0.02	0.06
201	SLU 33	-2	-3	2323	2.61	0.02	0.06
201	SLU 34	-2	-3	2323	2.61	0.02	0.06
201	SLU 35	-2	-3	2323	2.61	0.02	0.06
201	SLU 36	-2	-3	2323	2.61	0.02	0.06
201	SLU 37	-2	-3	2323	2.61	0.02	0.06
201	SLU 38	-2	-3	2323	2.61	0.02	0.06
201	SLU 39	-2	-3	2485	2.83	0.02	0.06
201	SLU 40	-2	-3	2485	2.83	0.02	0.06
201	SLU 41	-2	-3	2485	2.83	0.02	0.06
201	SLU 42	-2	-3	2485	2.83	0.02	0.06



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
201	SLU 43	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 44	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 45	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 46	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 47	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 48	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 49	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 50	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 51	-2	-3	2089		2.25	-0.05	0.04	
201	SLU 52	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 53	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 54	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 55	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 56	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 57	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 58	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 59	-2	-3	2466		2.76	-0.03	0.05	
201	SLU 60	-2	-3	2627		2.97	-0.03	0.06	
201	SLU 61	-2	-3	2627		2.97	-0.03	0.06	
201	SLU 62	-2	-3	2627		2.97	-0.03	0.06	
201	SLU 63	-2	-3	2627		2.97	-0.03	0.06	
201	SLU 64	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 65	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 66	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 67	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 68	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 69	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 70	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 71	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 72	-3	-3	2358		2.55	-0.01	0.06	
201	SLU 73	-3	-3	2735		3.05	0	0.07	
201	SLU 74	-3	-3	2735		3.05	0	0.07	
201	SLU 75	-3	-3	2735		3.05	0	0.07	
201	SLU 76	-3	-3	2735		3.05	0	0.07	
201	SLU 77	-3	-3	2735		3.05	0	0.07	
201	SLU 78	-3	-3	2735		3.05	0	0.07	
201	SLU 79	-3	-3	2735		3.05	0	0.07	
201	SLU 80	-3	-3	2735		3.05	0	0.07	
201	SLU 81	-3	-3	2896		3.27	0	0.07	
201	SLU 82	-3	-3	2896		3.27	0	0.07	
201	SLU 83	-3	-3	2896		3.27	0	0.07	
201	SLU 84	-3	-3	2896		3.27	0	0.07	
201	SLE RA 1	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 2	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 3	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 4	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 5	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 6	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 7	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 8	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 9	-2	-2	1755		1.9	-0.02	0.04	
201	SLE RA 10	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 11	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 12	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 13	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 14	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 15	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 16	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 17	-2	-2	2006		2.23	-0.01	0.05	
201	SLE RA 18	-2	-2	2113		2.38	-0.01	0.05	
201	SLE RA 19	-2	-2	2113		2.38	-0.01	0.05	
201	SLE RA 20	-2	-2	2113		2.38	-0.01	0.05	
201	SLE RA 21	-2	-2	2113		2.38	-0.01	0.05	
201	SLE FR 1	-2	-2	1755		1.9	-0.02	0.04	
201	SLE FR 2	-2	-2	1755		1.9	-0.02	0.04	
201	SLE FR 3	-2	-2	1755		1.9	-0.02	0.04	
201	SLE FR 4	-2	-2	1862		2.04	-0.01	0.04	
201	SLE FR 5	-2	-2	1862		2.04	-0.01	0.04	
201	SLE FR 6	-2	-2	1934		2.14	-0.01	0.05	
201	SLE QP 1	-2	-2	1755		1.9	-0.02	0.04	
201	SLE QP 2	-2	-2	1862		2.04	-0.01	0.04	
201	SLD 1	120	10	1867		2.14	-2.7	0.09	
201	SLD 2	111	11	1865		2.11	-2.7	0.16	
201	SLD 3	124	-23	1899		2.48	-3.21	0.07	
201	SLD 4	115	-22	1897		2.45	-3.21	0.14	
201	SLD 5	32	52	1816		1.56	-0.05	0.06	
201	SLD 6	22	52	1814		1.54	-0.05	0.13	
201	SLD 7	45	-59	1923		2.7	-1.74	0	
201	SLD 8	36	-58	1921		2.67	-1.74	0.07	
201	SLD 9	-40	54	1804		1.41	1.71	0.02	
201	SLD 10	-49	54	1802		1.38	1.71	0.09	
201	SLD 11	-26	-57	1911		2.54	0.02	-0.05	
201	SLD 12	-36	-56	1909		2.52	0.02	0.02	
201	SLD 13	-119	17	1828		1.63	3.18	-0.06	
201	SLD 14	-128	18	1826		1.6	3.18	0.01	
201	SLD 15	-115	-16	1860		1.97	2.68	-0.08	
201	SLD 16	-124	-15	1858		1.94	2.67	-0.01	
201	SLV 1	275	27	1872		2.25	-6.57	0.16	
201	SLV 2	254	29	1867		2.2	-6.57	0.32	
201	SLV 3	285	-49	1946		3.04	-7.85	0.11	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
201	SLV 4	263	-48	1942	2.99	-7.85	0.27
201	SLV 5	74	122	1754	0.93	-0.03	0.09
201	SLV 6	52	124	1749	0.87	-0.03	0.25
201	SLV 7	106	-133	2002	3.55	-4.32	-0.06
201	SLV 8	84	-132	1997	3.5	-4.32	0.1
201	SLV 9	-88	127	1727	0.58	4.29	-0.01
201	SLV 10	-110	129	1723	0.53	4.29	0.15
201	SLV 11	-56	-128	1975	3.21	0	-0.17
201	SLV 12	-78	-127	1970	3.15	0	-0.01
201	SLV 13	-267	43	1783	1.09	7.83	-0.18
201	SLV 14	-289	45	1778	1.04	7.82	-0.02
201	SLV 15	-258	-33	1857	1.88	6.54	-0.23
201	SLV 16	-279	-32	1853	1.83	6.54	-0.07
201	CRTFP Ux+	0	0	0	0	0	0
201	CRTFP Ux-	0	0	0	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
202	SLU 1	14	7	1906	-1.57	-276.47	1.27
202	SLU 2	14	7	1906	-1.57	-276.47	1.27
202	SLU 3	14	7	1906	-1.57	-276.47	1.27
202	SLU 4	14	7	1906	-1.57	-276.47	1.27
202	SLU 5	14	7	1906	-1.57	-276.47	1.27
202	SLU 6	14	7	1906	-1.57	-276.47	1.27
202	SLU 7	14	7	1906	-1.57	-276.47	1.27
202	SLU 8	14	7	1906	-1.57	-276.47	1.27
202	SLU 9	14	7	1906	-1.57	-276.47	1.27
202	SLU 10	17	9	2292	-1.94	-327.78	1.78
202	SLU 11	17	9	2292	-1.94	-327.78	1.78
202	SLU 12	17	9	2292	-1.94	-327.78	1.78
202	SLU 13	17	9	2292	-1.94	-327.78	1.78
202	SLU 14	17	9	2292	-1.94	-327.78	1.78
202	SLU 15	17	9	2292	-1.94	-327.78	1.78
202	SLU 16	17	9	2292	-1.94	-327.78	1.78
202	SLU 17	17	9	2292	-1.94	-327.78	1.78
202	SLU 18	18	10	2458	-2.09	-349.78	2
202	SLU 19	18	10	2458	-2.09	-349.78	2
202	SLU 20	18	10	2458	-2.09	-349.78	2
202	SLU 21	18	10	2458	-2.09	-349.78	2
202	SLU 22	18	8	2192	-1.84	-315.12	1.45
202	SLU 23	18	8	2192	-1.84	-315.12	1.45
202	SLU 24	18	8	2192	-1.84	-315.12	1.45
202	SLU 25	18	8	2192	-1.84	-315.12	1.45
202	SLU 26	18	8	2192	-1.84	-315.12	1.45
202	SLU 27	18	8	2192	-1.84	-315.12	1.45
202	SLU 28	18	8	2192	-1.84	-315.12	1.45
202	SLU 29	18	8	2192	-1.84	-315.12	1.45
202	SLU 30	18	8	2192	-1.84	-315.12	1.45
202	SLU 31	21	10	2578	-2.21	-366.43	1.96
202	SLU 32	21	10	2578	-2.21	-366.43	1.96
202	SLU 33	21	10	2578	-2.21	-366.43	1.96
202	SLU 34	21	10	2578	-2.21	-366.43	1.96
202	SLU 35	21	10	2578	-2.21	-366.43	1.96
202	SLU 36	21	10	2578	-2.21	-366.43	1.96
202	SLU 37	21	10	2578	-2.21	-366.43	1.96
202	SLU 38	21	10	2578	-2.21	-366.43	1.96
202	SLU 39	22	11	2744	-2.36	-388.43	2.18
202	SLU 40	22	11	2744	-2.36	-388.43	2.18
202	SLU 41	22	11	2744	-2.36	-388.43	2.18
202	SLU 42	22	11	2744	-2.36	-388.43	2.18
202	SLU 43	17	8	2380	-1.95	-346.16	1.59
202	SLU 44	17	8	2380	-1.95	-346.16	1.59
202	SLU 45	17	8	2380	-1.95	-346.16	1.59
202	SLU 46	17	8	2380	-1.95	-346.16	1.59
202	SLU 47	17	8	2380	-1.95	-346.16	1.59
202	SLU 48	17	8	2380	-1.95	-346.16	1.59
202	SLU 49	17	8	2380	-1.95	-346.16	1.59
202	SLU 50	17	8	2380	-1.95	-346.16	1.59
202	SLU 51	17	8	2380	-1.95	-346.16	1.59
202	SLU 52	19	10	2766	-2.32	-397.48	2.1
202	SLU 53	19	10	2766	-2.32	-397.48	2.1
202	SLU 54	19	10	2766	-2.32	-397.48	2.1
202	SLU 55	19	10	2766	-2.32	-397.48	2.1
202	SLU 56	19	10	2766	-2.32	-397.48	2.1
202	SLU 57	19	10	2766	-2.32	-397.48	2.1
202	SLU 58	19	10	2766	-2.32	-397.48	2.1
202	SLU 59	19	10	2766	-2.32	-397.48	2.1
202	SLU 60	21	11	2932	-2.47	-419.47	2.32
202	SLU 61	21	11	2932	-2.47	-419.47	2.32
202	SLU 62	21	11	2932	-2.47	-419.47	2.32
202	SLU 63	21	11	2932	-2.47	-419.47	2.32
202	SLU 64	21	9	2666	-2.22	-384.81	1.77
202	SLU 65	21	9	2666	-2.22	-384.81	1.77
202	SLU 66	21	9	2666	-2.22	-384.81	1.77
202	SLU 67	21	9	2666	-2.22	-384.81	1.77
202	SLU 68	21	9	2666	-2.22	-384.81	1.77
202	SLU 69	21	9	2666	-2.22	-384.81	1.77
202	SLU 70	21	9	2666	-2.22	-384.81	1.77
202	SLU 71	21	9	2666	-2.22	-384.81	1.77
202	SLU 72	21	9	2666	-2.22	-384.81	1.77
202	SLU 73	23	11	3052	-2.59	-436.13	2.28



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
202	SLU 74	23	11	3052		-2.59	-436.13	2.28
202	SLU 75	23	11	3052		-2.59	-436.13	2.28
202	SLU 76	23	11	3052		-2.59	-436.13	2.28
202	SLU 77	23	11	3052		-2.59	-436.13	2.28
202	SLU 78	23	11	3052		-2.59	-436.13	2.28
202	SLU 79	23	11	3052		-2.59	-436.13	2.28
202	SLU 80	23	11	3052		-2.59	-436.13	2.28
202	SLU 81	25	12	3218		-2.74	-458.12	2.5
202	SLU 82	25	12	3218		-2.74	-458.12	2.5
202	SLU 83	25	12	3218		-2.74	-458.12	2.5
202	SLU 84	25	12	3218		-2.74	-458.12	2.5
202	SLE RA 1	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 2	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 3	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 4	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 5	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 6	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 7	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 8	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 9	15	7	1988		-1.65	-287.52	1.32
202	SLE RA 10	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 11	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 12	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 13	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 14	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 15	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 16	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 17	17	8	2245		-1.89	-321.72	1.66
202	SLE RA 18	18	9	2356		-2	-336.38	1.81
202	SLE RA 19	18	9	2356		-2	-336.38	1.81
202	SLE RA 20	18	9	2356		-2	-336.38	1.81
202	SLE RA 21	18	9	2356		-2	-336.38	1.81
202	SLE FR 1	15	7	1988		-1.65	-287.52	1.32
202	SLE FR 2	15	7	1988		-1.65	-287.52	1.32
202	SLE FR 3	15	7	1988		-1.65	-287.52	1.32
202	SLE FR 4	16	8	2098		-1.75	-302.18	1.47
202	SLE FR 5	16	8	2098		-1.75	-302.18	1.47
202	SLE FR 6	16	8	2172		-1.82	-311.95	1.57
202	SLE QP 1	15	7	1988		-1.65	-287.52	1.32
202	SLE QP 2	16	8	2098		-1.75	-302.18	1.47
202	SLD 1	179	143	2330		-2.43	-336.57	34.91
202	SLD 2	164	105	2336		-2.41	-336.91	25.68
202	SLD 3	140	-14	2430		-1.79	-340.96	-4.03
202	SLD 4	125	-52	2436		-1.78	-341.3	-13.27
202	SLD 5	129	299	2014		-2.93	-305.72	73.84
202	SLD 6	114	261	2019		-2.91	-306.06	64.52
202	SLD 7	0	-224	2348		-0.81	-320.34	-55.97
202	SLD 8	-15	-261	2354		-0.79	-320.69	-65.29
202	SLD 9	47	276	1843		-2.72	-283.67	68.23
202	SLD 10	32	239	1849		-2.7	-284.01	58.91
202	SLD 11	-82	-246	2177		-0.6	-298.29	-61.58
202	SLD 12	-97	-284	2183		-0.58	-298.63	-70.9
202	SLD 13	-94	67	1761		-1.73	-263.05	16.21
202	SLD 14	-109	29	1767		-1.72	-263.39	6.97
202	SLD 15	-133	-90	1861		-1.1	-267.44	-22.74
202	SLD 16	-147	-128	1867		-1.08	-267.78	-31.97
202	SLV 1	387	318	2621		-3.29	-380.43	78.27
202	SLV 2	353	233	2635		-3.26	-381.2	57.27
202	SLV 3	298	-45	2854		-1.82	-390.59	-11.81
202	SLV 4	264	-130	2867		-1.79	-391.37	-32.82
202	SLV 5	275	681	1898		-4.46	-309.96	168.67
202	SLV 6	241	595	1912		-4.42	-310.75	147.3
202	SLV 7	-24	-528	2673		0.44	-343.84	-131.6
202	SLV 8	-58	-615	2686		0.48	-344.62	-152.98
202	SLV 9	90	630	1511		-3.99	-259.73	155.92
202	SLV 10	55	543	1524		-3.95	-260.52	134.54
202	SLV 11	-209	-580	2285		0.92	-293.6	-144.36
202	SLV 12	-244	-666	2299		0.95	-294.39	-165.74
202	SLV 13	-232	145	1330		-1.72	-212.99	35.75
202	SLV 14	-266	60	1343		-1.68	-213.76	14.75
202	SLV 15	-322	-217	1562		-0.25	-223.15	-54.33
202	SLV 16	-356	-303	1575		-0.21	-223.92	-75.34
202	CRTFP Ux+	0	0	0		0	0	0
202	CRTFP Ux-	0	0	0		0	0	0
202	CRTFP Uy+	0	0	0		0	0	0
202	CRTFP Uy-	0	0	0		0	0	0
205	SLU 1	1	-8	1999		-2.11	457.75	2.78
205	SLU 2	1	-8	1999		-2.11	457.75	2.78
205	SLU 3	1	-8	1999		-2.11	457.75	2.78
205	SLU 4	1	-8	1999		-2.11	457.75	2.78
205	SLU 5	1	-8	1999		-2.11	457.75	2.78
205	SLU 6	1	-8	1999		-2.11	457.75	2.78
205	SLU 7	1	-8	1999		-2.11	457.75	2.78
205	SLU 8	1	-8	1999		-2.11	457.75	2.78
205	SLU 9	1	-8	1999		-2.11	457.75	2.78
205	SLU 10	0	-11	2371		-2.65	537.49	3.86
205	SLU 11	0	-11	2371		-2.65	537.49	3.86
205	SLU 12	0	-11	2371		-2.65	537.49	3.86
205	SLU 13	0	-11	2371		-2.65	537.49	3.86
205	SLU 14	0	-11	2371		-2.65	537.49	3.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
205	SLU 15	0	-11	2371	-2.65	537.49	3.86
205	SLU 16	0	-11	2371	-2.65	537.49	3.86
205	SLU 17	0	-11	2371	-2.65	537.49	3.86
205	SLU 18	0	-12	2530	-2.88	571.66	4.32
205	SLU 19	0	-12	2530	-2.88	571.66	4.32
205	SLU 20	0	-12	2530	-2.88	571.66	4.32
205	SLU 21	0	-12	2530	-2.88	571.66	4.32
205	SLU 22	1	-10	2265	-2.47	514.94	3.56
205	SLU 23	1	-10	2265	-2.47	514.94	3.56
205	SLU 24	1	-10	2265	-2.47	514.94	3.56
205	SLU 25	1	-10	2265	-2.47	514.94	3.56
205	SLU 26	1	-10	2265	-2.47	514.94	3.56
205	SLU 27	1	-10	2265	-2.47	514.94	3.56
205	SLU 28	1	-10	2265	-2.47	514.94	3.56
205	SLU 29	1	-10	2265	-2.47	514.94	3.56
205	SLU 30	1	-10	2265	-2.47	514.94	3.56
205	SLU 31	0	-13	2636	-3.01	594.68	4.64
205	SLU 32	0	-13	2636	-3.01	594.68	4.64
205	SLU 33	0	-13	2636	-3.01	594.68	4.64
205	SLU 34	0	-13	2636	-3.01	594.68	4.64
205	SLU 35	0	-13	2636	-3.01	594.68	4.64
205	SLU 36	0	-13	2636	-3.01	594.68	4.64
205	SLU 37	0	-13	2636	-3.01	594.68	4.64
205	SLU 38	0	-13	2636	-3.01	594.68	4.64
205	SLU 39	-1	-14	2795	-3.24	628.86	5.1
205	SLU 40	-1	-14	2795	-3.24	628.86	5.1
205	SLU 41	-1	-14	2795	-3.24	628.86	5.1
205	SLU 42	-1	-14	2795	-3.24	628.86	5.1
205	SLU 43	2	-9	2508	-2.62	575.46	3.35
205	SLU 44	2	-9	2508	-2.62	575.46	3.35
205	SLU 45	2	-9	2508	-2.62	575.46	3.35
205	SLU 46	2	-9	2508	-2.62	575.46	3.35
205	SLU 47	2	-9	2508	-2.62	575.46	3.35
205	SLU 48	2	-9	2508	-2.62	575.46	3.35
205	SLU 49	2	-9	2508	-2.62	575.46	3.35
205	SLU 50	2	-9	2508	-2.62	575.46	3.35
205	SLU 51	2	-9	2508	-2.62	575.46	3.35
205	SLU 52	1	-12	2879	-3.16	655.2	4.43
205	SLU 53	1	-12	2879	-3.16	655.2	4.43
205	SLU 54	1	-12	2879	-3.16	655.2	4.43
205	SLU 55	1	-12	2879	-3.16	655.2	4.43
205	SLU 56	1	-12	2879	-3.16	655.2	4.43
205	SLU 57	1	-12	2879	-3.16	655.2	4.43
205	SLU 58	1	-12	2879	-3.16	655.2	4.43
205	SLU 59	1	-12	2879	-3.16	655.2	4.43
205	SLU 60	1	-13	3038	-3.39	689.38	4.89
205	SLU 61	1	-13	3038	-3.39	689.38	4.89
205	SLU 62	1	-13	3038	-3.39	689.38	4.89
205	SLU 63	1	-13	3038	-3.39	689.38	4.89
205	SLU 64	1	-11	2774	-2.98	632.66	4.13
205	SLU 65	1	-11	2774	-2.98	632.66	4.13
205	SLU 66	1	-11	2774	-2.98	632.66	4.13
205	SLU 67	1	-11	2774	-2.98	632.66	4.13
205	SLU 68	1	-11	2774	-2.98	632.66	4.13
205	SLU 69	1	-11	2774	-2.98	632.66	4.13
205	SLU 70	1	-11	2774	-2.98	632.66	4.13
205	SLU 71	1	-11	2774	-2.98	632.66	4.13
205	SLU 72	1	-11	2774	-2.98	632.66	4.13
205	SLU 73	0	-14	3145	-3.52	712.4	5.21
205	SLU 74	0	-14	3145	-3.52	712.4	5.21
205	SLU 75	0	-14	3145	-3.52	712.4	5.21
205	SLU 76	0	-14	3145	-3.52	712.4	5.21
205	SLU 77	0	-14	3145	-3.52	712.4	5.21
205	SLU 78	0	-14	3145	-3.52	712.4	5.21
205	SLU 79	0	-14	3145	-3.52	712.4	5.21
205	SLU 80	0	-14	3145	-3.52	712.4	5.21
205	SLU 81	0	-15	3304	-3.75	746.57	5.67
205	SLU 82	0	-15	3304	-3.75	746.57	5.67
205	SLU 83	0	-15	3304	-3.75	746.57	5.67
205	SLU 84	0	-15	3304	-3.75	746.57	5.67
205	SLE RA 1	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 2	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 3	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 4	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 5	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 6	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 7	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 8	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 9	1	-8	2075	-2.21	474.09	3.01
205	SLE RA 10	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 11	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 12	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 13	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 14	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 15	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 16	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 17	0	-10	2323	-2.57	527.25	3.72
205	SLE RA 18	0	-11	2429	-2.72	550.03	4.03
205	SLE RA 19	0	-11	2429	-2.72	550.03	4.03
205	SLE RA 20	0	-11	2429	-2.72	550.03	4.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
205	SLE RA 21	0	-11	2429	-2.72	550.03	4.03
205	SLE FR 1	1	-8	2075	-2.21	474.09	3.01
205	SLE FR 2	1	-8	2075	-2.21	474.09	3.01
205	SLE FR 3	1	-8	2075	-2.21	474.09	3.01
205	SLE FR 4	1	-9	2181	-2.37	496.87	3.31
205	SLE FR 5	1	-9	2181	-2.37	496.87	3.31
205	SLE FR 6	1	-10	2252	-2.47	512.06	3.52
205	SLE QP 1	1	-8	2075	-2.21	474.09	3.01
205	SLE QP 2	1	-9	2181	-2.37	496.87	3.31
205	SLD 1	159	-3	1840	-2.25	437.03	1
205	SLD 2	145	37	1841	-2.26	437.46	-12.69
205	SLD 3	173	-168	1904	-1.54	441.19	58.69
205	SLD 4	159	-128	1905	-1.54	441.63	45.01
205	SLD 5	31	229	1982	-3.42	472.44	-80.04
205	SLD 6	17	268	1983	-3.42	472.88	-93.84
205	SLD 7	79	-320	2194	-1.03	486.33	112.28
205	SLD 8	65	-281	2195	-1.04	486.77	98.48
205	SLD 9	-64	263	2168	-3.7	506.97	-91.85
205	SLD 10	-78	302	2169	-3.7	507.41	-105.65
205	SLD 11	-15	-286	2379	-1.32	520.86	100.46
205	SLD 12	-30	-247	2380	-1.32	521.3	86.66
205	SLD 13	-158	110	2458	-3.19	552.11	-38.38
205	SLD 14	-172	150	2459	-3.19	552.55	-52.07
205	SLD 15	-143	-55	2521	-2.48	556.28	19.31
205	SLD 16	-157	-15	2522	-2.48	556.72	5.63
205	SLV 1	359	8	1405	-2.12	360.53	-3.2
205	SLV 2	327	98	1408	-2.13	361.52	-34.32
205	SLV 3	392	-373	1552	-0.47	370.59	130.41
205	SLV 4	361	-283	1555	-0.48	371.58	99.29
205	SLV 5	69	543	1725	-4.8	440.35	-190.11
205	SLV 6	36	634	1727	-4.8	441.36	-221.77
205	SLV 7	181	-729	2214	0.71	473.9	255.24
205	SLV 8	148	-638	2217	0.71	474.9	223.57
205	SLV 9	-147	620	2146	-5.44	518.84	-216.95
205	SLV 10	-179	711	2148	-5.44	519.85	-248.61
205	SLV 11	-35	-652	2635	0.07	552.38	228.4
205	SLV 12	-67	-561	2638	0.07	553.39	196.73
205	SLV 13	-359	265	2808	-4.26	622.16	-92.66
205	SLV 14	-391	355	2810	-4.26	623.15	-123.78
205	SLV 15	-325	-116	2955	-2.61	632.22	40.94
205	SLV 16	-357	-26	2957	-2.61	633.21	9.82
205	CRTFP Ux+	0	0	0	0	0	0
205	CRTFP Ux-	0	0	0	0	0	0
205	CRTFP Uy+	0	0	0	0	0	0
205	CRTFP Uy-	0	0	0	0	0	0
206	SLU 1	-3	-2	1733	1.63	0.02	0.05
206	SLU 2	-3	-2	1733	1.63	0.02	0.05
206	SLU 3	-3	-2	1733	1.63	0.02	0.05
206	SLU 4	-3	-2	1733	1.63	0.02	0.05
206	SLU 5	-3	-2	1733	1.63	0.02	0.05
206	SLU 6	-3	-2	1733	1.63	0.02	0.05
206	SLU 7	-3	-2	1733	1.63	0.02	0.05
206	SLU 8	-3	-2	1733	1.63	0.02	0.05
206	SLU 9	-3	-2	1733	1.63	0.02	0.05
206	SLU 10	-4	-2	2124	2.03	0.04	0.06
206	SLU 11	-4	-2	2124	2.03	0.04	0.06
206	SLU 12	-4	-2	2124	2.03	0.04	0.06
206	SLU 13	-4	-2	2124	2.03	0.04	0.06
206	SLU 14	-4	-2	2124	2.03	0.04	0.06
206	SLU 15	-4	-2	2124	2.03	0.04	0.06
206	SLU 16	-4	-2	2124	2.03	0.04	0.06
206	SLU 17	-4	-2	2124	2.03	0.04	0.06
206	SLU 18	-4	-2	2292	2.2	0.04	0.07
206	SLU 19	-4	-2	2292	2.2	0.04	0.07
206	SLU 20	-4	-2	2292	2.2	0.04	0.07
206	SLU 21	-4	-2	2292	2.2	0.04	0.07
206	SLU 22	-4	-2	2010	1.88	0.04	0.07
206	SLU 23	-4	-2	2010	1.88	0.04	0.07
206	SLU 24	-4	-2	2010	1.88	0.04	0.07
206	SLU 25	-4	-2	2010	1.88	0.04	0.07
206	SLU 26	-4	-2	2010	1.88	0.04	0.07
206	SLU 27	-4	-2	2010	1.88	0.04	0.07
206	SLU 28	-4	-2	2010	1.88	0.04	0.07
206	SLU 29	-4	-2	2010	1.88	0.04	0.07
206	SLU 30	-4	-2	2010	1.88	0.04	0.07
206	SLU 31	-4	-3	2402	2.28	0.06	0.08
206	SLU 32	-4	-3	2402	2.28	0.06	0.08
206	SLU 33	-4	-3	2402	2.28	0.06	0.08
206	SLU 34	-4	-3	2402	2.28	0.06	0.08
206	SLU 35	-4	-3	2402	2.28	0.06	0.08
206	SLU 36	-4	-3	2402	2.28	0.06	0.08
206	SLU 37	-4	-3	2402	2.28	0.06	0.08
206	SLU 38	-4	-3	2402	2.28	0.06	0.08
206	SLU 39	-4	-3	2570	2.45	0.07	0.08
206	SLU 40	-4	-3	2570	2.45	0.07	0.08
206	SLU 41	-4	-3	2570	2.45	0.07	0.08
206	SLU 42	-4	-3	2570	2.45	0.07	0.08
206	SLU 43	-4	-3	2158	2.03	0.02	0.06
206	SLU 44	-4	-3	2158	2.03	0.02	0.06
206	SLU 45	-4	-3	2158	2.03	0.02	0.06



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
206	SLU 46	-4	-3	2158		2.03	0.02	0.06	
206	SLU 47	-4	-3	2158		2.03	0.02	0.06	
206	SLU 48	-4	-3	2158		2.03	0.02	0.06	
206	SLU 49	-4	-3	2158		2.03	0.02	0.06	
206	SLU 50	-4	-3	2158		2.03	0.02	0.06	
206	SLU 51	-4	-3	2158		2.03	0.02	0.06	
206	SLU 52	-4	-3	2549		2.43	0.03	0.07	
206	SLU 53	-4	-3	2549		2.43	0.03	0.07	
206	SLU 54	-4	-3	2549		2.43	0.03	0.07	
206	SLU 55	-4	-3	2549		2.43	0.03	0.07	
206	SLU 56	-4	-3	2549		2.43	0.03	0.07	
206	SLU 57	-4	-3	2549		2.43	0.03	0.07	
206	SLU 58	-4	-3	2549		2.43	0.03	0.07	
206	SLU 59	-4	-3	2549		2.43	0.03	0.07	
206	SLU 60	-5	-3	2717		2.61	0.04	0.08	
206	SLU 61	-5	-3	2717		2.61	0.04	0.08	
206	SLU 62	-5	-3	2717		2.61	0.04	0.08	
206	SLU 63	-5	-3	2717		2.61	0.04	0.08	
206	SLU 64	-5	-3	2435		2.28	0.04	0.08	
206	SLU 65	-5	-3	2435		2.28	0.04	0.08	
206	SLU 66	-5	-3	2435		2.28	0.04	0.08	
206	SLU 67	-5	-3	2435		2.28	0.04	0.08	
206	SLU 68	-5	-3	2435		2.28	0.04	0.08	
206	SLU 69	-5	-3	2435		2.28	0.04	0.08	
206	SLU 70	-5	-3	2435		2.28	0.04	0.08	
206	SLU 71	-5	-3	2435		2.28	0.04	0.08	
206	SLU 72	-5	-3	2435		2.28	0.04	0.08	
206	SLU 73	-5	-3	2827		2.68	0.06	0.09	
206	SLU 74	-5	-3	2827		2.68	0.06	0.09	
206	SLU 75	-5	-3	2827		2.68	0.06	0.09	
206	SLU 76	-5	-3	2827		2.68	0.06	0.09	
206	SLU 77	-5	-3	2827		2.68	0.06	0.09	
206	SLU 78	-5	-3	2827		2.68	0.06	0.09	
206	SLU 79	-5	-3	2827		2.68	0.06	0.09	
206	SLU 80	-5	-3	2827		2.68	0.06	0.09	
206	SLU 81	-5	-3	2994		2.86	0.06	0.09	
206	SLU 82	-5	-3	2994		2.86	0.06	0.09	
206	SLU 83	-5	-3	2994		2.86	0.06	0.09	
206	SLU 84	-5	-3	2994		2.86	0.06	0.09	
206	SLE RA 1	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 2	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 3	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 4	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 5	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 6	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 7	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 8	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 9	-4	-2	1812		1.7	0.03	0.06	
206	SLE RA 10	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 11	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 12	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 13	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 14	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 15	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 16	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 17	-4	-2	2073		1.97	0.04	0.06	
206	SLE RA 18	-4	-2	2185		2.08	0.04	0.07	
206	SLE RA 19	-4	-2	2185		2.08	0.04	0.07	
206	SLE RA 20	-4	-2	2185		2.08	0.04	0.07	
206	SLE RA 21	-4	-2	2185		2.08	0.04	0.07	
206	SLE FR 1	-4	-2	1812		1.7	0.03	0.06	
206	SLE FR 2	-4	-2	1812		1.7	0.03	0.06	
206	SLE FR 3	-4	-2	1812		1.7	0.03	0.06	
206	SLE FR 4	-4	-2	1924		1.81	0.03	0.06	
206	SLE FR 5	-4	-2	1924		1.81	0.03	0.06	
206	SLE FR 6	-4	-2	1999		1.89	0.03	0.06	
206	SLE QP 1	-4	-2	1812		1.7	0.03	0.06	
206	SLE QP 2	-4	-2	1924		1.81	0.03	0.06	
206	SLD 1	120	10	1930		1.82	-3.14	0.1	
206	SLD 2	108	11	1927		1.8	-3.14	0.18	
206	SLD 3	124	-23	1975		2.25	-3.72	0.08	
206	SLD 4	112	-22	1972		2.23	-3.72	0.16	
206	SLD 5	31	51	1859		1.17	-0.04	0.08	
206	SLD 6	19	52	1857		1.15	-0.04	0.16	
206	SLD 7	45	-59	2008		2.6	-1.97	0	
206	SLD 8	33	-58	2005		2.58	-1.97	0.08	
206	SLD 9	-40	53	1843		1.04	2.04	0.04	
206	SLD 10	-52	54	1841		1.03	2.03	0.11	
206	SLD 11	-27	-56	1991		2.47	0.1	-0.04	
206	SLD 12	-39	-56	1989		2.45	0.1	0.04	
206	SLD 13	-119	17	1876		1.4	3.78	-0.04	
206	SLD 14	-131	18	1874		1.38	3.78	0.04	
206	SLD 15	-115	-16	1921		1.82	3.2	-0.06	
206	SLD 16	-127	-15	1918		1.8	3.2	0.01	
206	SLV 1	276	27	1937		1.83	-7.7	0.16	
206	SLV 2	249	28	1931		1.78	-7.71	0.34	
206	SLV 3	285	-49	2040		2.82	-9.18	0.11	
206	SLV 4	258	-48	2034		2.77	-9.18	0.28	
206	SLV 5	75	122	1774		0.33	-0.05	0.11	
206	SLV 6	48	123	1768		0.29	-0.06	0.28	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
206	SLV 7	107	-132	2117	3.63	-4.97	-0.07
206	SLV 8	80	-131	2111	3.59	-4.97	0.11
206	SLV 9	-87	127	1738	0.04	5.03	0.01
206	SLV 10	-114	128	1731	-0.01	5.03	0.19
206	SLV 11	-55	-128	2080	3.34	0.12	-0.17
206	SLV 12	-83	-126	2074	3.3	0.11	0.01
206	SLV 13	-266	43	1814	0.85	9.25	-0.17
206	SLV 14	-293	45	1808	0.81	9.24	0.01
206	SLV 15	-256	-33	1917	1.84	7.77	-0.22
206	SLV 16	-283	-32	1911	1.8	7.77	-0.05
206	CRTFP Ux+	0	0	0	0	0	0
206	CRTFP Ux-	0	0	0	0	0	0
206	CRTFP Uy+	0	0	0	0	0	0
206	CRTFP Uy-	0	0	0	0	0	0
207	SLU 1	26	7	1866	-1.08	-238.24	1.34
207	SLU 2	26	7	1866	-1.08	-238.24	1.34
207	SLU 3	26	7	1866	-1.08	-238.24	1.34
207	SLU 4	26	7	1866	-1.08	-238.24	1.34
207	SLU 5	26	7	1866	-1.08	-238.24	1.34
207	SLU 6	26	7	1866	-1.08	-238.24	1.34
207	SLU 7	26	7	1866	-1.08	-238.24	1.34
207	SLU 8	26	7	1866	-1.08	-238.24	1.34
207	SLU 9	26	7	1866	-1.08	-238.24	1.34
207	SLU 10	30	9	2242	-1.34	-280.55	1.85
207	SLU 11	30	9	2242	-1.34	-280.55	1.85
207	SLU 12	30	9	2242	-1.34	-280.55	1.85
207	SLU 13	30	9	2242	-1.34	-280.55	1.85
207	SLU 14	30	9	2242	-1.34	-280.55	1.85
207	SLU 15	30	9	2242	-1.34	-280.55	1.85
207	SLU 16	30	9	2242	-1.34	-280.55	1.85
207	SLU 17	30	9	2242	-1.34	-280.55	1.85
207	SLU 18	32	10	2404	-1.45	-298.69	2.08
207	SLU 19	32	10	2404	-1.45	-298.69	2.08
207	SLU 20	32	10	2404	-1.45	-298.69	2.08
207	SLU 21	32	10	2404	-1.45	-298.69	2.08
207	SLU 22	32	8	2145	-1.27	-270.18	1.52
207	SLU 23	32	8	2145	-1.27	-270.18	1.52
207	SLU 24	32	8	2145	-1.27	-270.18	1.52
207	SLU 25	32	8	2145	-1.27	-270.18	1.52
207	SLU 26	32	8	2145	-1.27	-270.18	1.52
207	SLU 27	32	8	2145	-1.27	-270.18	1.52
207	SLU 28	32	8	2145	-1.27	-270.18	1.52
207	SLU 29	32	8	2145	-1.27	-270.18	1.52
207	SLU 30	32	8	2145	-1.27	-270.18	1.52
207	SLU 31	36	10	2521	-1.52	-312.49	2.04
207	SLU 32	36	10	2521	-1.52	-312.49	2.04
207	SLU 33	36	10	2521	-1.52	-312.49	2.04
207	SLU 34	36	10	2521	-1.52	-312.49	2.04
207	SLU 35	36	10	2521	-1.52	-312.49	2.04
207	SLU 36	36	10	2521	-1.52	-312.49	2.04
207	SLU 37	36	10	2521	-1.52	-312.49	2.04
207	SLU 38	36	10	2521	-1.52	-312.49	2.04
207	SLU 39	38	11	2683	-1.63	-330.62	2.26
207	SLU 40	38	11	2683	-1.63	-330.62	2.26
207	SLU 41	38	11	2683	-1.63	-330.62	2.26
207	SLU 42	38	11	2683	-1.63	-330.62	2.26
207	SLU 43	32	9	2330	-1.35	-298.77	1.67
207	SLU 44	32	9	2330	-1.35	-298.77	1.67
207	SLU 45	32	9	2330	-1.35	-298.77	1.67
207	SLU 46	32	9	2330	-1.35	-298.77	1.67
207	SLU 47	32	9	2330	-1.35	-298.77	1.67
207	SLU 48	32	9	2330	-1.35	-298.77	1.67
207	SLU 49	32	9	2330	-1.35	-298.77	1.67
207	SLU 50	32	9	2330	-1.35	-298.77	1.67
207	SLU 51	32	9	2330	-1.35	-298.77	1.67
207	SLU 52	36	11	2706	-1.6	-341.08	2.19
207	SLU 53	36	11	2706	-1.6	-341.08	2.19
207	SLU 54	36	11	2706	-1.6	-341.08	2.19
207	SLU 55	36	11	2706	-1.6	-341.08	2.19
207	SLU 56	36	11	2706	-1.6	-341.08	2.19
207	SLU 57	36	11	2706	-1.6	-341.08	2.19
207	SLU 58	36	11	2706	-1.6	-341.08	2.19
207	SLU 59	36	11	2706	-1.6	-341.08	2.19
207	SLU 60	38	12	2868	-1.71	-359.21	2.41
207	SLU 61	38	12	2868	-1.71	-359.21	2.41
207	SLU 62	38	12	2868	-1.71	-359.21	2.41
207	SLU 63	38	12	2868	-1.71	-359.21	2.41
207	SLU 64	38	10	2609	-1.53	-330.7	1.86
207	SLU 65	38	10	2609	-1.53	-330.7	1.86
207	SLU 66	38	10	2609	-1.53	-330.7	1.86
207	SLU 67	38	10	2609	-1.53	-330.7	1.86
207	SLU 68	38	10	2609	-1.53	-330.7	1.86
207	SLU 69	38	10	2609	-1.53	-330.7	1.86
207	SLU 70	38	10	2609	-1.53	-330.7	1.86
207	SLU 71	38	10	2609	-1.53	-330.7	1.86
207	SLU 72	38	10	2609	-1.53	-330.7	1.86
207	SLU 73	42	12	2985	-1.78	-373.01	2.38
207	SLU 74	42	12	2985	-1.78	-373.01	2.38
207	SLU 75	42	12	2985	-1.78	-373.01	2.38
207	SLU 76	42	12	2985	-1.78	-373.01	2.38



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
207	SLU 77	42	12	2985		-1.78	-373.01	2.38
207	SLU 78	42	12	2985		-1.78	-373.01	2.38
207	SLU 79	42	12	2985		-1.78	-373.01	2.38
207	SLU 80	42	12	2985		-1.78	-373.01	2.38
207	SLU 81	44	13	3147		-1.89	-391.14	2.6
207	SLU 82	44	13	3147		-1.89	-391.14	2.6
207	SLU 83	44	13	3147		-1.89	-391.14	2.6
207	SLU 84	44	13	3147		-1.89	-391.14	2.6
207	SLE RA 1	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 2	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 3	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 4	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 5	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 6	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 7	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 8	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 9	28	7	1946		-1.14	-247.37	1.39
207	SLE RA 10	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 11	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 12	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 13	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 14	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 15	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 16	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 17	30	9	2197		-1.3	-275.57	1.73
207	SLE RA 18	32	9	2304		-1.38	-287.66	1.88
207	SLE RA 19	32	9	2304		-1.38	-287.66	1.88
207	SLE RA 20	32	9	2304		-1.38	-287.66	1.88
207	SLE RA 21	32	9	2304		-1.38	-287.66	1.88
207	SLE FR 1	28	7	1946		-1.14	-247.37	1.39
207	SLE FR 2	28	7	1946		-1.14	-247.37	1.39
207	SLE FR 3	28	7	1946		-1.14	-247.37	1.39
207	SLE FR 4	29	8	2053		-1.21	-259.45	1.54
207	SLE FR 5	29	8	2053		-1.21	-259.45	1.54
207	SLE FR 6	30	8	2125		-1.26	-267.51	1.63
207	SLE QP 1	28	7	1946		-1.14	-247.37	1.39
207	SLE QP 2	29	8	2053		-1.21	-259.45	1.54
207	SLD 1	204	143	2266		-1.79	-286.62	35
207	SLD 2	185	106	2272		-1.78	-286.93	25.77
207	SLD 3	158	-14	2386		-1.11	-292.41	-4.01
207	SLD 4	139	-51	2392		-1.1	-292.71	-13.25
207	SLD 5	159	300	1933		-2.41	-258.72	74.02
207	SLD 6	140	262	1939		-2.4	-259.03	64.71
207	SLD 7	4	-223	2333		-0.16	-278.01	-56.03
207	SLD 8	-16	-261	2339		-0.14	-278.31	-65.35
207	SLD 9	73	277	1767		-2.27	-240.6	68.42
207	SLD 10	54	239	1773		-2.26	-240.9	59.1
207	SLD 11	-82	-246	2167		-0.02	-259.88	-61.64
207	SLD 12	-101	-284	2174		0	-260.19	-70.95
207	SLD 13	-81	67	1714		-1.32	-226.2	16.32
207	SLD 14	-100	30	1720		-1.3	-226.5	7.08
207	SLD 15	-128	-90	1834		-0.64	-231.98	-22.7
207	SLD 16	-147	-128	1840		-0.63	-232.29	-31.93
207	SLV 1	428	319	2533		-2.54	-321.38	78.4
207	SLV 2	385	234	2547		-2.51	-322.07	57.4
207	SLV 3	320	-44	2811		-0.97	-334.78	-11.86
207	SLV 4	277	-130	2826		-0.95	-335.47	-32.86
207	SLV 5	328	683	1770		-3.99	-257.47	169.02
207	SLV 6	284	596	1785		-3.96	-258.17	147.64
207	SLV 7	-32	-528	2697		1.23	-302.12	-131.83
207	SLV 8	-76	-615	2712		1.26	-302.82	-153.2
207	SLV 9	134	631	1395		-3.67	-216.09	156.27
207	SLV 10	90	544	1409		-3.64	-216.79	134.9
207	SLV 11	-226	-580	2321		1.55	-260.74	-144.57
207	SLV 12	-270	-667	2336		1.58	-261.44	-165.94
207	SLV 13	-219	146	1281		-1.47	-183.44	35.93
207	SLV 14	-263	60	1295		-1.44	-184.13	14.93
207	SLV 15	-327	-218	1559		0.1	-196.84	-54.32
207	SLV 16	-371	-303	1573		0.12	-197.53	-75.33
207	CRTFP Ux+	0	0	0		0	0	0
207	CRTFP Ux-	0	0	0		0	0	0
207	CRTFP Uy+	0	0	0		0	0	0
207	CRTFP Uy-	0	0	0		0	0	0
210	SLU 1	-4	-7	1949		-1.22	406.82	2.59
210	SLU 2	-4	-7	1949		-1.22	406.82	2.59
210	SLU 3	-4	-7	1949		-1.22	406.82	2.59
210	SLU 4	-4	-7	1949		-1.22	406.82	2.59
210	SLU 5	-4	-7	1949		-1.22	406.82	2.59
210	SLU 6	-4	-7	1949		-1.22	406.82	2.59
210	SLU 7	-4	-7	1949		-1.22	406.82	2.59
210	SLU 8	-4	-7	1949		-1.22	406.82	2.59
210	SLU 9	-4	-7	1949		-1.22	406.82	2.59
210	SLU 10	-5	-10	2308		-1.56	474.67	3.66
210	SLU 11	-5	-10	2308		-1.56	474.67	3.66
210	SLU 12	-5	-10	2308		-1.56	474.67	3.66
210	SLU 13	-5	-10	2308		-1.56	474.67	3.66
210	SLU 14	-5	-10	2308		-1.56	474.67	3.66
210	SLU 15	-5	-10	2308		-1.56	474.67	3.66
210	SLU 16	-5	-10	2308		-1.56	474.67	3.66
210	SLU 17	-5	-10	2308		-1.56	474.67	3.66



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
210	SLU 18	-6	-11	2461		-1.7	503.76	4.12	
210	SLU 19	-6	-11	2461		-1.7	503.76	4.12	
210	SLU 20	-6	-11	2461		-1.7	503.76	4.12	
210	SLU 21	-6	-11	2461		-1.7	503.76	4.12	
210	SLU 22	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 23	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 24	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 25	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 26	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 27	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 28	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 29	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 30	-5	-9	2207		-1.43	455.62	3.36	
210	SLU 31	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 32	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 33	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 34	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 35	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 36	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 37	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 38	-6	-12	2565		-1.77	523.48	4.43	
210	SLU 39	-7	-13	2718		-1.91	552.56	4.88	
210	SLU 40	-7	-13	2718		-1.91	552.56	4.88	
210	SLU 41	-7	-13	2718		-1.91	552.56	4.88	
210	SLU 42	-7	-13	2718		-1.91	552.56	4.88	
210	SLU 43	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 44	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 45	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 46	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 47	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 48	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 49	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 50	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 51	-4	-8	2446		-1.51	512.13	3.11	
210	SLU 52	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 53	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 54	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 55	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 56	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 57	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 58	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 59	-6	-11	2804		-1.85	579.98	4.18	
210	SLU 60	-6	-13	2958		-1.99	609.07	4.63	
210	SLU 61	-6	-13	2958		-1.99	609.07	4.63	
210	SLU 62	-6	-13	2958		-1.99	609.07	4.63	
210	SLU 63	-6	-13	2958		-1.99	609.07	4.63	
210	SLU 64	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 65	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 66	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 67	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 68	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 69	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 70	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 71	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 72	-6	-10	2703		-1.72	560.93	3.88	
210	SLU 73	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 74	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 75	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 76	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 77	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 78	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 79	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 80	-7	-13	3062		-2.06	628.79	4.94	
210	SLU 81	-8	-15	3215		-2.21	657.87	5.4	
210	SLU 82	-8	-15	3215		-2.21	657.87	5.4	
210	SLU 83	-8	-15	3215		-2.21	657.87	5.4	
210	SLU 84	-8	-15	3215		-2.21	657.87	5.4	
210	SLE RA 1	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 2	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 3	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 4	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 5	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 6	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 7	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 8	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 9	-4	-8	2023		-1.28	420.76	2.81	
210	SLE RA 10	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 11	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 12	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 13	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 14	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 15	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 16	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 17	-5	-10	2262		-1.5	466	3.52	
210	SLE RA 18	-5	-10	2364		-1.6	485.39	3.83	
210	SLE RA 19	-5	-10	2364		-1.6	485.39	3.83	
210	SLE RA 20	-5	-10	2364		-1.6	485.39	3.83	
210	SLE RA 21	-5	-10	2364		-1.6	485.39	3.83	
210	SLE FR 1	-4	-8	2023		-1.28	420.76	2.81	
210	SLE FR 2	-4	-8	2023		-1.28	420.76	2.81	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
210	SLE FR 3	-4	-8	2023		-1.28	420.76	2.81	
210	SLE FR 4	-4	-8	2125		-1.38	440.15	3.12	
210	SLE FR 5	-4	-8	2125		-1.38	440.15	3.12	
210	SLE FR 6	-5	-9	2194		-1.44	453.07	3.32	
210	SLE QP 1	-4	-8	2023		-1.28	420.76	2.81	
210	SLE QP 2	-4	-8	2125		-1.38	440.15	3.12	
210	SLD 1	158	-2	1785		-1.47	388.19	0.76	
210	SLD 2	141	37	1786		-1.47	388.49	-12.93	
210	SLD 3	171	-167	1870		-0.67	394.3	58.57	
210	SLD 4	154	-128	1871		-0.67	394.6	44.89	
210	SLD 5	31	230	1893		-2.61	415.19	-80.43	
210	SLD 6	14	269	1894		-2.61	415.49	-94.23	
210	SLD 7	74	-320	2178		0.04	435.56	112.29	
210	SLD 8	56	-280	2179		0.04	435.85	98.49	
210	SLD 9	-65	264	2071		-2.8	444.45	-92.25	
210	SLD 10	-83	303	2073		-2.8	444.74	-106.06	
210	SLD 11	-23	-286	2356		-0.14	464.81	100.47	
210	SLD 12	-40	-246	2358		-0.14	465.1	86.66	
210	SLD 13	-163	111	2379		-2.08	485.7	-38.65	
210	SLD 14	-180	151	2380		-2.08	485.99	-52.34	
210	SLD 15	-150	-54	2465		-1.29	491.81	19.16	
210	SLD 16	-167	-14	2466		-1.29	492.1	5.48	
210	SLV 1	365	9	1350		-1.6	321.71	-3.5	
210	SLV 2	326	99	1352		-1.59	322.38	-34.62	
210	SLV 3	395	-373	1548		0.25	336.14	130.39	
210	SLV 4	355	-283	1550		0.25	336.81	99.27	
210	SLV 5	75	544	1592		-4.24	382.49	-190.76	
210	SLV 6	35	635	1594		-4.24	383.17	-222.43	
210	SLV 7	174	-729	2251		1.9	430.59	255.52	
210	SLV 8	134	-638	2254		1.91	431.28	223.85	
210	SLV 9	-143	621	1997		-4.66	449.02	-217.62	
210	SLV 10	-183	713	1999		-4.66	449.7	-249.29	
210	SLV 11	-44	-652	2656		1.48	497.13	228.66	
210	SLV 12	-84	-561	2659		1.49	497.81	196.99	
210	SLV 13	-364	267	2701		-3	543.49	-93.03	
210	SLV 14	-403	356	2703		-3	544.16	-124.15	
210	SLV 15	-334	-115	2898		-1.16	557.92	40.85	
210	SLV 16	-374	-26	2901		-1.16	558.59	9.73	
210	CRTFP Ux+	0	0	0		0	0	0	
210	CRTFP Ux-	0	0	0		0	0	0	
210	CRTFP Uy+	0	0	0		0	0	0	
210	CRTFP Uy-	0	0	0		0	0	0	
211	SLU 1	-5	-2	1781		1.36	0.08	0.06	
211	SLU 2	-5	-2	1781		1.36	0.08	0.06	
211	SLU 3	-5	-2	1781		1.36	0.08	0.06	
211	SLU 4	-5	-2	1781		1.36	0.08	0.06	
211	SLU 5	-5	-2	1781		1.36	0.08	0.06	
211	SLU 6	-5	-2	1781		1.36	0.08	0.06	
211	SLU 7	-5	-2	1781		1.36	0.08	0.06	
211	SLU 8	-5	-2	1781		1.36	0.08	0.06	
211	SLU 9	-5	-2	1781		1.36	0.08	0.06	
211	SLU 10	-6	-2	2183		1.64	0.1	0.08	
211	SLU 11	-6	-2	2183		1.64	0.1	0.08	
211	SLU 12	-6	-2	2183		1.64	0.1	0.08	
211	SLU 13	-6	-2	2183		1.64	0.1	0.08	
211	SLU 14	-6	-2	2183		1.64	0.1	0.08	
211	SLU 15	-6	-2	2183		1.64	0.1	0.08	
211	SLU 16	-6	-2	2183		1.64	0.1	0.08	
211	SLU 17	-6	-2	2183		1.64	0.1	0.08	
211	SLU 18	-6	-2	2356		1.76	0.11	0.09	
211	SLU 19	-6	-2	2356		1.76	0.11	0.09	
211	SLU 20	-6	-2	2356		1.76	0.11	0.09	
211	SLU 21	-6	-2	2356		1.76	0.11	0.09	
211	SLU 22	-6	-2	2065		1.55	0.1	0.08	
211	SLU 23	-6	-2	2065		1.55	0.1	0.08	
211	SLU 24	-6	-2	2065		1.55	0.1	0.08	
211	SLU 25	-6	-2	2065		1.55	0.1	0.08	
211	SLU 26	-6	-2	2065		1.55	0.1	0.08	
211	SLU 27	-6	-2	2065		1.55	0.1	0.08	
211	SLU 28	-6	-2	2065		1.55	0.1	0.08	
211	SLU 29	-6	-2	2065		1.55	0.1	0.08	
211	SLU 30	-6	-2	2065		1.55	0.1	0.08	
211	SLU 31	-7	-3	2468		1.83	0.12	0.1	
211	SLU 32	-7	-3	2468		1.83	0.12	0.1	
211	SLU 33	-7	-3	2468		1.83	0.12	0.1	
211	SLU 34	-7	-3	2468		1.83	0.12	0.1	
211	SLU 35	-7	-3	2468		1.83	0.12	0.1	
211	SLU 36	-7	-3	2468		1.83	0.12	0.1	
211	SLU 37	-7	-3	2468		1.83	0.12	0.1	
211	SLU 38	-7	-3	2468		1.83	0.12	0.1	
211	SLU 39	-8	-3	2640		1.95	0.13	0.11	
211	SLU 40	-8	-3	2640		1.95	0.13	0.11	
211	SLU 41	-8	-3	2640		1.95	0.13	0.11	
211	SLU 42	-8	-3	2640		1.95	0.13	0.11	
211	SLU 43	-6	-3	2217		1.71	0.09	0.08	
211	SLU 44	-6	-3	2217		1.71	0.09	0.08	
211	SLU 45	-6	-3	2217		1.71	0.09	0.08	
211	SLU 46	-6	-3	2217		1.71	0.09	0.08	
211	SLU 47	-6	-3	2217		1.71	0.09	0.08	
211	SLU 48	-6	-3	2217		1.71	0.09	0.08	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
211	SLU 49	-6	-3	2217		1.71	0.09	0.08	
211	SLU 50	-6	-3	2217		1.71	0.09	0.08	
211	SLU 51	-6	-3	2217		1.71	0.09	0.08	
211	SLU 52	-7	-3	2620		1.98	0.11	0.09	
211	SLU 53	-7	-3	2620		1.98	0.11	0.09	
211	SLU 54	-7	-3	2620		1.98	0.11	0.09	
211	SLU 55	-7	-3	2620		1.98	0.11	0.09	
211	SLU 56	-7	-3	2620		1.98	0.11	0.09	
211	SLU 57	-7	-3	2620		1.98	0.11	0.09	
211	SLU 58	-7	-3	2620		1.98	0.11	0.09	
211	SLU 59	-7	-3	2620		1.98	0.11	0.09	
211	SLU 60	-7	-3	2792		2.1	0.12	0.1	
211	SLU 61	-7	-3	2792		2.1	0.12	0.1	
211	SLU 62	-7	-3	2792		2.1	0.12	0.1	
211	SLU 63	-7	-3	2792		2.1	0.12	0.1	
211	SLU 64	-8	-3	2502		1.9	0.11	0.1	
211	SLU 65	-8	-3	2502		1.9	0.11	0.1	
211	SLU 66	-8	-3	2502		1.9	0.11	0.1	
211	SLU 67	-8	-3	2502		1.9	0.11	0.1	
211	SLU 68	-8	-3	2502		1.9	0.11	0.1	
211	SLU 69	-8	-3	2502		1.9	0.11	0.1	
211	SLU 70	-8	-3	2502		1.9	0.11	0.1	
211	SLU 71	-8	-3	2502		1.9	0.11	0.1	
211	SLU 72	-8	-3	2502		1.9	0.11	0.1	
211	SLU 73	-8	-3	2904		2.17	0.14	0.11	
211	SLU 74	-8	-3	2904		2.17	0.14	0.11	
211	SLU 75	-8	-3	2904		2.17	0.14	0.11	
211	SLU 76	-8	-3	2904		2.17	0.14	0.11	
211	SLU 77	-8	-3	2904		2.17	0.14	0.11	
211	SLU 78	-8	-3	2904		2.17	0.14	0.11	
211	SLU 79	-8	-3	2904		2.17	0.14	0.11	
211	SLU 80	-8	-3	2904		2.17	0.14	0.11	
211	SLU 81	-9	-3	3077		2.29	0.15	0.12	
211	SLU 82	-9	-3	3077		2.29	0.15	0.12	
211	SLU 83	-9	-3	3077		2.29	0.15	0.12	
211	SLU 84	-9	-3	3077		2.29	0.15	0.12	
211	SLE RA 1	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 2	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 3	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 4	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 5	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 6	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 7	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 8	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 9	-6	-2	1862		1.42	0.08	0.07	
211	SLE RA 10	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 11	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 12	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 13	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 14	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 15	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 16	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 17	-6	-2	2130		1.6	0.1	0.08	
211	SLE RA 18	-6	-2	2245		1.68	0.1	0.09	
211	SLE RA 19	-6	-2	2245		1.68	0.1	0.09	
211	SLE RA 20	-6	-2	2245		1.68	0.1	0.09	
211	SLE RA 21	-6	-2	2245		1.68	0.1	0.09	
211	SLE FR 1	-6	-2	1862		1.42	0.08	0.07	
211	SLE FR 2	-6	-2	1862		1.42	0.08	0.07	
211	SLE FR 3	-6	-2	1862		1.42	0.08	0.07	
211	SLE FR 4	-6	-2	1977		1.5	0.09	0.07	
211	SLE FR 5	-6	-2	1977		1.5	0.09	0.07	
211	SLE FR 6	-6	-2	2054		1.55	0.09	0.08	
211	SLE QP 1	-6	-2	1862		1.42	0.08	0.07	
211	SLE QP 2	-6	-2	1977		1.5	0.09	0.07	
211	SLD 1	120	10	1982		1.42	-3.33	-0.07	
211	SLD 2	106	11	1979		1.4	-3.34	0.02	
211	SLD 3	124	-22	2041		1.92	-3.94	-0.09	
211	SLD 4	110	-22	2038		1.91	-3.94	-0.01	
211	SLD 5	31	51	1890		0.71	-0.02	0.04	
211	SLD 6	17	52	1886		0.7	-0.02	0.13	
211	SLD 7	44	-58	2087		2.4	-2.04	-0.04	
211	SLD 8	30	-58	2084		2.38	-2.04	0.04	
211	SLD 9	-42	53	1870		0.62	2.22	0.11	
211	SLD 10	-56	54	1867		0.6	2.22	0.19	
211	SLD 11	-28	-56	2068		2.3	0.2	0.02	
211	SLD 12	-43	-56	2064		2.28	0.19	0.11	
211	SLD 13	-122	17	1916		1.09	4.12	0.16	
211	SLD 14	-136	18	1913		1.07	4.12	0.24	
211	SLD 15	-118	-15	1975		1.59	3.51	0.13	
211	SLD 16	-132	-15	1972		1.58	3.51	0.21	
211	SLV 1	281	27	1987		1.3	-8.27	-0.24	
211	SLV 2	248	28	1980		1.27	-8.28	-0.05	
211	SLV 3	290	-49	2124		2.47	-9.82	-0.3	
211	SLV 4	257	-47	2117		2.44	-9.83	-0.11	
211	SLV 5	77	121	1775		-0.32	-0.07	0	
211	SLV 6	44	122	1767		-0.35	-0.08	0.2	
211	SLV 7	109	-132	2232		3.57	-5.23	-0.2	
211	SLV 8	76	-130	2225		3.54	-5.24	-0.01	
211	SLV 9	-88	126	1730		-0.54	5.41	0.15	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
211	SLV 10	-121	127	1722	-0.58	5.41	0.35
211	SLV 11	-56	-127	2187	3.35	0.25	-0.05
211	SLV 12	-89	-126	2179	3.31	0.25	0.15
211	SLV 13	-269	43	1837	0.56	10.01	0.26
211	SLV 14	-302	44	1830	0.52	10	0.45
211	SLV 15	-259	-33	1974	1.73	8.46	0.2
211	SLV 16	-292	-32	1967	1.69	8.45	0.39
211	CRTFP Ux+	0	0	0	0	0	0
211	CRTFP Ux-	0	0	0	0	0	0
211	CRTFP Uy+	0	0	0	0	0	0
211	CRTFP Uy-	0	0	0	0	0	0
212	SLU 1	39	7	1842	-0.51	-211.42	1.37
212	SLU 2	39	7	1842	-0.51	-211.42	1.37
212	SLU 3	39	7	1842	-0.51	-211.42	1.37
212	SLU 4	39	7	1842	-0.51	-211.42	1.37
212	SLU 5	39	7	1842	-0.51	-211.42	1.37
212	SLU 6	39	7	1842	-0.51	-211.42	1.37
212	SLU 7	39	7	1842	-0.51	-211.42	1.37
212	SLU 8	39	7	1842	-0.51	-211.42	1.37
212	SLU 9	39	7	1842	-0.51	-211.42	1.37
212	SLU 10	45	10	2212	-0.63	-247.35	1.89
212	SLU 11	45	10	2212	-0.63	-247.35	1.89
212	SLU 12	45	10	2212	-0.63	-247.35	1.89
212	SLU 13	45	10	2212	-0.63	-247.35	1.89
212	SLU 14	45	10	2212	-0.63	-247.35	1.89
212	SLU 15	45	10	2212	-0.63	-247.35	1.89
212	SLU 16	45	10	2212	-0.63	-247.35	1.89
212	SLU 17	45	10	2212	-0.63	-247.35	1.89
212	SLU 18	48	11	2371	-0.68	-262.74	2.12
212	SLU 19	48	11	2371	-0.68	-262.74	2.12
212	SLU 20	48	11	2371	-0.68	-262.74	2.12
212	SLU 21	48	11	2371	-0.68	-262.74	2.12
212	SLU 22	48	8	2117	-0.59	-238.59	1.55
212	SLU 23	48	8	2117	-0.59	-238.59	1.55
212	SLU 24	48	8	2117	-0.59	-238.59	1.55
212	SLU 25	48	8	2117	-0.59	-238.59	1.55
212	SLU 26	48	8	2117	-0.59	-238.59	1.55
212	SLU 27	48	8	2117	-0.59	-238.59	1.55
212	SLU 28	48	8	2117	-0.59	-238.59	1.55
212	SLU 29	48	8	2117	-0.59	-238.59	1.55
212	SLU 30	48	8	2117	-0.59	-238.59	1.55
212	SLU 31	53	11	2488	-0.71	-274.51	2.07
212	SLU 32	53	11	2488	-0.71	-274.51	2.07
212	SLU 33	53	11	2488	-0.71	-274.51	2.07
212	SLU 34	53	11	2488	-0.71	-274.51	2.07
212	SLU 35	53	11	2488	-0.71	-274.51	2.07
212	SLU 36	53	11	2488	-0.71	-274.51	2.07
212	SLU 37	53	11	2488	-0.71	-274.51	2.07
212	SLU 38	53	11	2488	-0.71	-274.51	2.07
212	SLU 39	56	12	2646	-0.76	-289.91	2.3
212	SLU 40	56	12	2646	-0.76	-289.91	2.3
212	SLU 41	56	12	2646	-0.76	-289.91	2.3
212	SLU 42	56	12	2646	-0.76	-289.91	2.3
212	SLU 43	49	9	2300	-0.63	-265.54	1.72
212	SLU 44	49	9	2300	-0.63	-265.54	1.72
212	SLU 45	49	9	2300	-0.63	-265.54	1.72
212	SLU 46	49	9	2300	-0.63	-265.54	1.72
212	SLU 47	49	9	2300	-0.63	-265.54	1.72
212	SLU 48	49	9	2300	-0.63	-265.54	1.72
212	SLU 49	49	9	2300	-0.63	-265.54	1.72
212	SLU 50	49	9	2300	-0.63	-265.54	1.72
212	SLU 51	49	9	2300	-0.63	-265.54	1.72
212	SLU 52	54	11	2671	-0.76	-301.46	2.24
212	SLU 53	54	11	2671	-0.76	-301.46	2.24
212	SLU 54	54	11	2671	-0.76	-301.46	2.24
212	SLU 55	54	11	2671	-0.76	-301.46	2.24
212	SLU 56	54	11	2671	-0.76	-301.46	2.24
212	SLU 57	54	11	2671	-0.76	-301.46	2.24
212	SLU 58	54	11	2671	-0.76	-301.46	2.24
212	SLU 59	54	11	2671	-0.76	-301.46	2.24
212	SLU 60	57	12	2830	-0.81	-316.85	2.46
212	SLU 61	57	12	2830	-0.81	-316.85	2.46
212	SLU 62	57	12	2830	-0.81	-316.85	2.46
212	SLU 63	57	12	2830	-0.81	-316.85	2.46
212	SLU 64	57	10	2575	-0.71	-292.7	1.9
212	SLU 65	57	10	2575	-0.71	-292.7	1.9
212	SLU 66	57	10	2575	-0.71	-292.7	1.9
212	SLU 67	57	10	2575	-0.71	-292.7	1.9
212	SLU 68	57	10	2575	-0.71	-292.7	1.9
212	SLU 69	57	10	2575	-0.71	-292.7	1.9
212	SLU 70	57	10	2575	-0.71	-292.7	1.9
212	SLU 71	57	10	2575	-0.71	-292.7	1.9
212	SLU 72	57	10	2575	-0.71	-292.7	1.9
212	SLU 73	62	13	2946	-0.84	-328.63	2.42
212	SLU 74	62	13	2946	-0.84	-328.63	2.42
212	SLU 75	62	13	2946	-0.84	-328.63	2.42
212	SLU 76	62	13	2946	-0.84	-328.63	2.42
212	SLU 77	62	13	2946	-0.84	-328.63	2.42
212	SLU 78	62	13	2946	-0.84	-328.63	2.42
212	SLU 79	62	13	2946	-0.84	-328.63	2.42



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
212	SLU 80	62	13	2946		-0.84	-328.63	2.42
212	SLU 81	65	14	3105		-0.89	-344.02	2.65
212	SLU 82	65	14	3105		-0.89	-344.02	2.65
212	SLU 83	65	14	3105		-0.89	-344.02	2.65
212	SLU 84	65	14	3105		-0.89	-344.02	2.65
212	SLE RA 1	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 2	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 3	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 4	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 5	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 6	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 7	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 8	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 9	42	8	1920		-0.53	-219.19	1.42
212	SLE RA 10	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 11	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 12	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 13	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 14	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 15	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 16	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 17	46	9	2167		-0.61	-243.13	1.77
212	SLE RA 18	47	10	2273		-0.65	-253.4	1.92
212	SLE RA 19	47	10	2273		-0.65	-253.4	1.92
212	SLE RA 20	47	10	2273		-0.65	-253.4	1.92
212	SLE RA 21	47	10	2273		-0.65	-253.4	1.92
212	SLE FR 1	42	8	1920		-0.53	-219.19	1.42
212	SLE FR 2	42	8	1920		-0.53	-219.19	1.42
212	SLE FR 3	42	8	1920		-0.53	-219.19	1.42
212	SLE FR 4	43	8	2026		-0.57	-229.45	1.57
212	SLE FR 5	43	8	2026		-0.57	-229.45	1.57
212	SLE FR 6	45	9	2097		-0.59	-236.29	1.67
212	SLE QP 1	42	8	1920		-0.53	-219.19	1.42
212	SLE QP 2	43	8	2026		-0.57	-229.45	1.57
212	SLD 1	235	144	2223		-1.03	-250.73	35.02
212	SLD 2	212	107	2230		-1.03	-251.02	25.79
212	SLD 3	181	-13	2364		-0.32	-258.8	-4.04
212	SLD 4	157	-51	2371		-0.31	-259.09	-13.27
212	SLD 5	192	301	1869		-1.8	-223.5	74.12
212	SLD 6	169	263	1876		-1.79	-223.79	64.81
212	SLD 7	10	-223	2339		0.59	-250.38	-56.09
212	SLD 8	-14	-261	2346		0.6	-250.68	-65.4
212	SLD 9	101	278	1706		-1.73	-208.22	68.54
212	SLD 10	77	240	1713		-1.72	-208.52	59.23
212	SLD 11	-82	-246	2177		0.66	-235.1	-61.67
212	SLD 12	-106	-284	2183		0.66	-235.4	-70.98
212	SLD 13	-70	67	1681		-0.82	-199.81	16.41
212	SLD 14	-94	30	1688		-0.81	-200.1	7.18
212	SLD 15	-125	-90	1823		-0.1	-207.88	-22.65
212	SLD 16	-149	-128	1829		-0.1	-208.17	-31.88
212	SLV 1	481	320	2471		-1.65	-278.05	78.39
212	SLV 2	427	235	2485		-1.63	-278.71	57.41
212	SLV 3	354	-44	2797		0.01	-296.71	-11.97
212	SLV 4	300	-129	2812		0.03	-297.38	-32.95
212	SLV 5	386	685	1659		-3.41	-215.48	169.2
212	SLV 6	332	598	1674		-3.39	-216.16	147.84
212	SLV 7	-36	-529	2748		2.12	-277.7	-132.01
212	SLV 8	-91	-616	2763		2.13	-278.38	-153.37
212	SLV 9	178	632	1290		-3.27	-180.52	156.51
212	SLV 10	123	545	1305		-3.25	-181.2	135.15
212	SLV 11	-245	-581	2378		2.26	-242.74	-144.7
212	SLV 12	-300	-668	2394		2.28	-243.42	-166.06
212	SLV 13	-213	146	1240		-1.16	-161.52	36.1
212	SLV 14	-267	60	1255		-1.14	-162.19	15.11
212	SLV 15	-340	-218	1567		0.5	-180.18	-54.27
212	SLV 16	-394	-304	1582		0.52	-180.85	-75.25
212	CRTFP Ux+	0	0	0		0	0	0
212	CRTFP Ux-	0	0	0		0	0	0
212	CRTFP Uy+	0	0	0		0	0	0
212	CRTFP Uy-	0	0	0		0	0	0
215	SLU 1	-9	-6	1930		-0.06	378.12	2.44
215	SLU 2	-9	-6	1930		-0.06	378.12	2.44
215	SLU 3	-9	-6	1930		-0.06	378.12	2.44
215	SLU 4	-9	-6	1930		-0.06	378.12	2.44
215	SLU 5	-9	-6	1930		-0.06	378.12	2.44
215	SLU 6	-9	-6	1930		-0.06	378.12	2.44
215	SLU 7	-9	-6	1930		-0.06	378.12	2.44
215	SLU 8	-9	-6	1930		-0.06	378.12	2.44
215	SLU 9	-9	-6	1930		-0.06	378.12	2.44
215	SLU 10	-11	-9	2282		-0.14	439.05	3.5
215	SLU 11	-11	-9	2282		-0.14	439.05	3.5
215	SLU 12	-11	-9	2282		-0.14	439.05	3.5
215	SLU 13	-11	-9	2282		-0.14	439.05	3.5
215	SLU 14	-11	-9	2282		-0.14	439.05	3.5
215	SLU 15	-11	-9	2282		-0.14	439.05	3.5
215	SLU 16	-11	-9	2282		-0.14	439.05	3.5
215	SLU 17	-11	-9	2282		-0.14	439.05	3.5
215	SLU 18	-12	-11	2433		-0.17	465.17	3.95
215	SLU 19	-12	-11	2433		-0.17	465.17	3.95
215	SLU 20	-12	-11	2433		-0.17	465.17	3.95



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
215	SLU 21	-12	-11	2433		-0.17	465.17	3.95
215	SLU 22	-11	-9	2184		-0.08	422.15	3.19
215	SLU 23	-11	-9	2184		-0.08	422.15	3.19
215	SLU 24	-11	-9	2184		-0.08	422.15	3.19
215	SLU 25	-11	-9	2184		-0.08	422.15	3.19
215	SLU 26	-11	-9	2184		-0.08	422.15	3.19
215	SLU 27	-11	-9	2184		-0.08	422.15	3.19
215	SLU 28	-11	-9	2184		-0.08	422.15	3.19
215	SLU 29	-11	-9	2184		-0.08	422.15	3.19
215	SLU 30	-11	-9	2184		-0.08	422.15	3.19
215	SLU 31	-13	-11	2536		-0.16	483.08	4.25
215	SLU 32	-13	-11	2536		-0.16	483.08	4.25
215	SLU 33	-13	-11	2536		-0.16	483.08	4.25
215	SLU 34	-13	-11	2536		-0.16	483.08	4.25
215	SLU 35	-13	-11	2536		-0.16	483.08	4.25
215	SLU 36	-13	-11	2536		-0.16	483.08	4.25
215	SLU 37	-13	-11	2536		-0.16	483.08	4.25
215	SLU 38	-13	-11	2536		-0.16	483.08	4.25
215	SLU 39	-14	-13	2687		-0.19	509.19	4.7
215	SLU 40	-14	-13	2687		-0.19	509.19	4.7
215	SLU 41	-14	-13	2687		-0.19	509.19	4.7
215	SLU 42	-14	-13	2687		-0.19	509.19	4.7
215	SLU 43	-10	-8	2422		-0.08	476.46	2.92
215	SLU 44	-10	-8	2422		-0.08	476.46	2.92
215	SLU 45	-10	-8	2422		-0.08	476.46	2.92
215	SLU 46	-10	-8	2422		-0.08	476.46	2.92
215	SLU 47	-10	-8	2422		-0.08	476.46	2.92
215	SLU 48	-10	-8	2422		-0.08	476.46	2.92
215	SLU 49	-10	-8	2422		-0.08	476.46	2.92
215	SLU 50	-10	-8	2422		-0.08	476.46	2.92
215	SLU 51	-10	-8	2422		-0.08	476.46	2.92
215	SLU 52	-13	-11	2774		-0.15	537.4	3.97
215	SLU 53	-13	-11	2774		-0.15	537.4	3.97
215	SLU 54	-13	-11	2774		-0.15	537.4	3.97
215	SLU 55	-13	-11	2774		-0.15	537.4	3.97
215	SLU 56	-13	-11	2774		-0.15	537.4	3.97
215	SLU 57	-13	-11	2774		-0.15	537.4	3.97
215	SLU 58	-13	-11	2774		-0.15	537.4	3.97
215	SLU 59	-13	-11	2774		-0.15	537.4	3.97
215	SLU 60	-14	-12	2925		-0.18	563.51	4.42
215	SLU 61	-14	-12	2925		-0.18	563.51	4.42
215	SLU 62	-14	-12	2925		-0.18	563.51	4.42
215	SLU 63	-14	-12	2925		-0.18	563.51	4.42
215	SLU 64	-13	-10	2676		-0.1	520.49	3.67
215	SLU 65	-13	-10	2676		-0.1	520.49	3.67
215	SLU 66	-13	-10	2676		-0.1	520.49	3.67
215	SLU 67	-13	-10	2676		-0.1	520.49	3.67
215	SLU 68	-13	-10	2676		-0.1	520.49	3.67
215	SLU 69	-13	-10	2676		-0.1	520.49	3.67
215	SLU 70	-13	-10	2676		-0.1	520.49	3.67
215	SLU 71	-13	-10	2676		-0.1	520.49	3.67
215	SLU 72	-13	-10	2676		-0.1	520.49	3.67
215	SLU 73	-15	-13	3028		-0.17	581.42	4.72
215	SLU 74	-15	-13	3028		-0.17	581.42	4.72
215	SLU 75	-15	-13	3028		-0.17	581.42	4.72
215	SLU 76	-15	-13	3028		-0.17	581.42	4.72
215	SLU 77	-15	-13	3028		-0.17	581.42	4.72
215	SLU 78	-15	-13	3028		-0.17	581.42	4.72
215	SLU 79	-15	-13	3028		-0.17	581.42	4.72
215	SLU 80	-15	-13	3028		-0.17	581.42	4.72
215	SLU 81	-16	-14	3179		-0.2	607.54	5.18
215	SLU 82	-16	-14	3179		-0.2	607.54	5.18
215	SLU 83	-16	-14	3179		-0.2	607.54	5.18
215	SLU 84	-16	-14	3179		-0.2	607.54	5.18
215	SLE RA 1	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 2	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 3	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 4	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 5	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 6	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 7	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 8	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 9	-9	-7	2003		-0.07	390.7	2.66
215	SLE RA 10	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 11	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 12	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 13	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 14	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 15	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 16	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 17	-11	-9	2237		-0.12	431.32	3.36
215	SLE RA 18	-11	-10	2338		-0.14	448.73	3.66
215	SLE RA 19	-11	-10	2338		-0.14	448.73	3.66
215	SLE RA 20	-11	-10	2338		-0.14	448.73	3.66
215	SLE RA 21	-11	-10	2338		-0.14	448.73	3.66
215	SLE FR 1	-9	-7	2003		-0.07	390.7	2.66
215	SLE FR 2	-9	-7	2003		-0.07	390.7	2.66
215	SLE FR 3	-9	-7	2003		-0.07	390.7	2.66
215	SLE FR 4	-10	-8	2103		-0.09	408.11	2.96
215	SLE FR 5	-10	-8	2103		-0.09	408.11	2.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
215	SLE FR 6	-10	-8	2170	-0.11	419.72	3.16
215	SLE QP 1	-9	-7	2003	-0.07	390.7	2.66
215	SLE QP 2	-10	-8	2103	-0.09	408.11	2.96
215	SLD 1	160	-2	1756	-0.43	358.77	0.56
215	SLD 2	139	38	1757	-0.43	358.87	-13.11
215	SLD 3	171	-167	1866	0.47	370.45	58.45
215	SLD 4	150	-128	1867	0.47	370.56	44.77
215	SLD 5	33	230	1831	-1.56	375.55	-80.7
215	SLD 6	12	270	1832	-1.56	375.65	-94.5
215	SLD 7	68	-320	2199	1.44	414.5	112.24
215	SLD 8	47	-280	2200	1.44	414.6	98.44
215	SLD 9	-66	264	2006	-1.63	401.61	-92.52
215	SLD 10	-87	304	2007	-1.62	401.72	-106.32
215	SLD 11	-31	-286	2374	1.37	440.56	100.41
215	SLD 12	-52	-246	2375	1.38	440.67	86.62
215	SLD 13	-170	112	2339	-0.65	445.66	-38.85
215	SLD 14	-190	151	2340	-0.65	445.77	-52.53
215	SLD 15	-159	-53	2449	0.25	457.34	19.03
215	SLD 16	-180	-14	2450	0.25	457.45	5.35
215	SLV 1	376	9	1312	-0.88	295.55	-3.74
215	SLV 2	328	99	1315	-0.87	295.79	-34.84
215	SLV 3	400	-373	1567	1.2	322.71	130.3
215	SLV 4	353	-283	1570	1.21	322.95	99.19
215	SLV 5	86	545	1478	-3.49	333.07	-191.18
215	SLV 6	37	636	1480	-3.48	333.31	-222.83
215	SLV 7	167	-729	2329	3.45	423.59	255.61
215	SLV 8	119	-638	2331	3.46	423.84	223.95
215	SLV 9	-139	622	1875	-3.64	392.38	-218.04
215	SLV 10	-187	714	1878	-3.64	392.63	-249.69
215	SLV 11	-57	-652	2726	3.3	482.91	228.75
215	SLV 12	-105	-561	2729	3.31	483.15	197.09
215	SLV 13	-373	268	2636	-1.39	493.27	-93.27
215	SLV 14	-420	357	2639	-1.38	493.51	-124.38
215	SLV 15	-348	-115	2892	0.69	520.42	40.76
215	SLV 16	-395	-25	2894	0.7	520.67	9.65
215	CRTFP Ux+	0	0	0	0	0	0
215	CRTFP Ux-	0	0	0	0	0	0
215	CRTFP Uy+	0	0	0	0	0	0
215	CRTFP Uy-	0	0	0	0	0	0
216	SLU 1	-8	-2	1820	1.13	0.16	0.08
216	SLU 2	-8	-2	1820	1.13	0.16	0.08
216	SLU 3	-8	-2	1820	1.13	0.16	0.08
216	SLU 4	-8	-2	1820	1.13	0.16	0.08
216	SLU 5	-8	-2	1820	1.13	0.16	0.08
216	SLU 6	-8	-2	1820	1.13	0.16	0.08
216	SLU 7	-8	-2	1820	1.13	0.16	0.08
216	SLU 8	-8	-2	1820	1.13	0.16	0.08
216	SLU 9	-8	-2	1820	1.13	0.16	0.08
216	SLU 10	-9	-2	2230	1.27	0.2	0.1
216	SLU 11	-9	-2	2230	1.27	0.2	0.1
216	SLU 12	-9	-2	2230	1.27	0.2	0.1
216	SLU 13	-9	-2	2230	1.27	0.2	0.1
216	SLU 14	-9	-2	2230	1.27	0.2	0.1
216	SLU 15	-9	-2	2230	1.27	0.2	0.1
216	SLU 16	-9	-2	2230	1.27	0.2	0.1
216	SLU 17	-9	-2	2230	1.27	0.2	0.1
216	SLU 18	-9	-2	2405	1.34	0.22	0.11
216	SLU 19	-9	-2	2405	1.34	0.22	0.11
216	SLU 20	-9	-2	2405	1.34	0.22	0.11
216	SLU 21	-9	-2	2405	1.34	0.22	0.11
216	SLU 22	-9	-2	2110	1.26	0.2	0.1
216	SLU 23	-9	-2	2110	1.26	0.2	0.1
216	SLU 24	-9	-2	2110	1.26	0.2	0.1
216	SLU 25	-9	-2	2110	1.26	0.2	0.1
216	SLU 26	-9	-2	2110	1.26	0.2	0.1
216	SLU 27	-9	-2	2110	1.26	0.2	0.1
216	SLU 28	-9	-2	2110	1.26	0.2	0.1
216	SLU 29	-9	-2	2110	1.26	0.2	0.1
216	SLU 30	-9	-2	2110	1.26	0.2	0.1
216	SLU 31	-11	-3	2519	1.41	0.24	0.12
216	SLU 32	-11	-3	2519	1.41	0.24	0.12
216	SLU 33	-11	-3	2519	1.41	0.24	0.12
216	SLU 34	-11	-3	2519	1.41	0.24	0.12
216	SLU 35	-11	-3	2519	1.41	0.24	0.12
216	SLU 36	-11	-3	2519	1.41	0.24	0.12
216	SLU 37	-11	-3	2519	1.41	0.24	0.12
216	SLU 38	-11	-3	2519	1.41	0.24	0.12
216	SLU 39	-11	-3	2695	1.47	0.26	0.13
216	SLU 40	-11	-3	2695	1.47	0.26	0.13
216	SLU 41	-11	-3	2695	1.47	0.26	0.13
216	SLU 42	-11	-3	2695	1.47	0.26	0.13
216	SLU 43	-9	-3	2267	1.42	0.2	0.09
216	SLU 44	-9	-3	2267	1.42	0.2	0.09
216	SLU 45	-9	-3	2267	1.42	0.2	0.09
216	SLU 46	-9	-3	2267	1.42	0.2	0.09
216	SLU 47	-9	-3	2267	1.42	0.2	0.09
216	SLU 48	-9	-3	2267	1.42	0.2	0.09
216	SLU 49	-9	-3	2267	1.42	0.2	0.09
216	SLU 50	-9	-3	2267	1.42	0.2	0.09
216	SLU 51	-9	-3	2267	1.42	0.2	0.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
216	SLU 52	-10	-3	2676	1.57	0.24	0.11
216	SLU 53	-10	-3	2676	1.57	0.24	0.11
216	SLU 54	-10	-3	2676	1.57	0.24	0.11
216	SLU 55	-10	-3	2676	1.57	0.24	0.11
216	SLU 56	-10	-3	2676	1.57	0.24	0.11
216	SLU 57	-10	-3	2676	1.57	0.24	0.11
216	SLU 58	-10	-3	2676	1.57	0.24	0.11
216	SLU 59	-10	-3	2676	1.57	0.24	0.11
216	SLU 60	-11	-3	2852	1.63	0.26	0.12
216	SLU 61	-11	-3	2852	1.63	0.26	0.12
216	SLU 62	-11	-3	2852	1.63	0.26	0.12
216	SLU 63	-11	-3	2852	1.63	0.26	0.12
216	SLU 64	-11	-3	2557	1.55	0.23	0.12
216	SLU 65	-11	-3	2557	1.55	0.23	0.12
216	SLU 66	-11	-3	2557	1.55	0.23	0.12
216	SLU 67	-11	-3	2557	1.55	0.23	0.12
216	SLU 68	-11	-3	2557	1.55	0.23	0.12
216	SLU 69	-11	-3	2557	1.55	0.23	0.12
216	SLU 70	-11	-3	2557	1.55	0.23	0.12
216	SLU 71	-11	-3	2557	1.55	0.23	0.12
216	SLU 72	-11	-3	2557	1.55	0.23	0.12
216	SLU 73	-12	-3	2966	1.7	0.28	0.13
216	SLU 74	-12	-3	2966	1.7	0.28	0.13
216	SLU 75	-12	-3	2966	1.7	0.28	0.13
216	SLU 76	-12	-3	2966	1.7	0.28	0.13
216	SLU 77	-12	-3	2966	1.7	0.28	0.13
216	SLU 78	-12	-3	2966	1.7	0.28	0.13
216	SLU 79	-12	-3	2966	1.7	0.28	0.13
216	SLU 80	-12	-3	2966	1.7	0.28	0.13
216	SLU 81	-13	-3	3141	1.76	0.29	0.14
216	SLU 82	-13	-3	3141	1.76	0.29	0.14
216	SLU 83	-13	-3	3141	1.76	0.29	0.14
216	SLU 84	-13	-3	3141	1.76	0.29	0.14
216	SLE RA 1	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 2	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 3	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 4	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 5	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 6	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 7	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 8	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 9	-8	-2	1903	1.16	0.17	0.08
216	SLE RA 10	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 11	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 12	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 13	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 14	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 15	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 16	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 17	-9	-2	2176	1.26	0.2	0.1
216	SLE RA 18	-9	-2	2293	1.3	0.21	0.1
216	SLE RA 19	-9	-2	2293	1.3	0.21	0.1
216	SLE RA 20	-9	-2	2293	1.3	0.21	0.1
216	SLE RA 21	-9	-2	2293	1.3	0.21	0.1
216	SLE FR 1	-8	-2	1903	1.16	0.17	0.08
216	SLE FR 2	-8	-2	1903	1.16	0.17	0.08
216	SLE FR 3	-8	-2	1903	1.16	0.17	0.08
216	SLE FR 4	-8	-2	2020	1.21	0.18	0.09
216	SLE FR 5	-8	-2	2020	1.21	0.18	0.09
216	SLE FR 6	-9	-2	2098	1.23	0.19	0.09
216	SLE QP 1	-8	-2	1903	1.16	0.17	0.08
216	SLE QP 2	-8	-2	2020	1.21	0.18	0.09
216	SLD 1	123	10	2021	1.04	-3.22	-0.12
216	SLD 2	106	11	2017	1.03	-3.23	-0.02
216	SLD 3	127	-22	2097	1.61	-3.81	-0.14
216	SLD 4	110	-22	2094	1.6	-3.81	-0.05
216	SLD 5	31	51	1906	0.3	0.06	0.04
216	SLD 6	13	51	1902	0.29	0.05	0.13
216	SLD 7	45	-58	2161	2.19	-1.91	-0.06
216	SLD 8	27	-57	2157	2.18	-1.91	0.04
216	SLD 9	-44	53	1883	0.23	2.28	0.14
216	SLD 10	-62	53	1880	0.22	2.27	0.24
216	SLD 11	-30	-56	2138	2.12	0.32	0.05
216	SLD 12	-48	-55	2135	2.11	0.31	0.14
216	SLD 13	-127	17	1946	0.81	4.18	0.23
216	SLD 14	-144	18	1943	0.8	4.18	0.32
216	SLD 15	-123	-15	2023	1.38	3.59	0.2
216	SLD 16	-140	-15	2019	1.37	3.59	0.29
216	SLV 1	290	27	2021	0.83	-8.13	-0.37
216	SLV 2	251	28	2013	0.8	-8.14	-0.16
216	SLV 3	300	-48	2198	2.13	-9.63	-0.44
216	SLV 4	261	-47	2189	2.11	-9.64	-0.23
216	SLV 5	80	120	1755	-0.89	-0.03	-0.02
216	SLV 6	40	122	1747	-0.91	-0.04	0.19
216	SLV 7	113	-131	2344	3.48	-5.04	-0.25
216	SLV 8	74	-130	2336	3.46	-5.04	-0.03
216	SLV 9	-90	125	1704	-1.04	5.41	0.21
216	SLV 10	-130	126	1696	-1.07	5.4	0.43
216	SLV 11	-57	-126	2293	3.32	0.41	-0.01
216	SLV 12	-97	-125	2285	3.3	0.4	0.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
216	SLV 13	-278	43	1851	0.3	10.01	0.41
216	SLV 14	-317	44	1843	0.28	10	0.62
216	SLV 15	-268	-33	2028	1.61	8.51	0.34
216	SLV 16	-307	-31	2019	1.59	8.5	0.55
216	CRTFP Ux+	0	0	0	0	0	0
216	CRTFP Ux-	0	0	0	0	0	0
216	CRTFP Uy+	0	0	0	0	0	0
216	CRTFP Uy-	0	0	0	0	0	0
217	SLU 1	54	8	1835	0.07	-196.36	1.38
217	SLU 2	54	8	1835	0.07	-196.36	1.38
217	SLU 3	54	8	1835	0.07	-196.36	1.38
217	SLU 4	54	8	1835	0.07	-196.36	1.38
217	SLU 5	54	8	1835	0.07	-196.36	1.38
217	SLU 6	54	8	1835	0.07	-196.36	1.38
217	SLU 7	54	8	1835	0.07	-196.36	1.38
217	SLU 8	54	8	1835	0.07	-196.36	1.38
217	SLU 9	54	8	1835	0.07	-196.36	1.38
217	SLU 10	62	10	2204	0.08	-228.6	1.9
217	SLU 11	62	10	2204	0.08	-228.6	1.9
217	SLU 12	62	10	2204	0.08	-228.6	1.9
217	SLU 13	62	10	2204	0.08	-228.6	1.9
217	SLU 14	62	10	2204	0.08	-228.6	1.9
217	SLU 15	62	10	2204	0.08	-228.6	1.9
217	SLU 16	62	10	2204	0.08	-228.6	1.9
217	SLU 17	62	10	2204	0.08	-228.6	1.9
217	SLU 18	65	11	2362	0.08	-242.42	2.13
217	SLU 19	65	11	2362	0.08	-242.42	2.13
217	SLU 20	65	11	2362	0.08	-242.42	2.13
217	SLU 21	65	11	2362	0.08	-242.42	2.13
217	SLU 22	65	9	2109	0.09	-220.78	1.56
217	SLU 23	65	9	2109	0.09	-220.78	1.56
217	SLU 24	65	9	2109	0.09	-220.78	1.56
217	SLU 25	65	9	2109	0.09	-220.78	1.56
217	SLU 26	65	9	2109	0.09	-220.78	1.56
217	SLU 27	65	9	2109	0.09	-220.78	1.56
217	SLU 28	65	9	2109	0.09	-220.78	1.56
217	SLU 29	65	9	2109	0.09	-220.78	1.56
217	SLU 30	65	9	2109	0.09	-220.78	1.56
217	SLU 31	72	11	2478	0.1	-253.03	2.08
217	SLU 32	72	11	2478	0.1	-253.03	2.08
217	SLU 33	72	11	2478	0.1	-253.03	2.08
217	SLU 34	72	11	2478	0.1	-253.03	2.08
217	SLU 35	72	11	2478	0.1	-253.03	2.08
217	SLU 36	72	11	2478	0.1	-253.03	2.08
217	SLU 37	72	11	2478	0.1	-253.03	2.08
217	SLU 38	72	11	2478	0.1	-253.03	2.08
217	SLU 39	75	12	2637	0.1	-266.85	2.31
217	SLU 40	75	12	2637	0.1	-266.85	2.31
217	SLU 41	75	12	2637	0.1	-266.85	2.31
217	SLU 42	75	12	2637	0.1	-266.85	2.31
217	SLU 43	67	10	2291	0.08	-246.89	1.73
217	SLU 44	67	10	2291	0.08	-246.89	1.73
217	SLU 45	67	10	2291	0.08	-246.89	1.73
217	SLU 46	67	10	2291	0.08	-246.89	1.73
217	SLU 47	67	10	2291	0.08	-246.89	1.73
217	SLU 48	67	10	2291	0.08	-246.89	1.73
217	SLU 49	67	10	2291	0.08	-246.89	1.73
217	SLU 50	67	10	2291	0.08	-246.89	1.73
217	SLU 51	67	10	2291	0.08	-246.89	1.73
217	SLU 52	74	12	2661	0.09	-279.13	2.26
217	SLU 53	74	12	2661	0.09	-279.13	2.26
217	SLU 54	74	12	2661	0.09	-279.13	2.26
217	SLU 55	74	12	2661	0.09	-279.13	2.26
217	SLU 56	74	12	2661	0.09	-279.13	2.26
217	SLU 57	74	12	2661	0.09	-279.13	2.26
217	SLU 58	74	12	2661	0.09	-279.13	2.26
217	SLU 59	74	12	2661	0.09	-279.13	2.26
217	SLU 60	78	13	2819	0.09	-292.95	2.48
217	SLU 61	78	13	2819	0.09	-292.95	2.48
217	SLU 62	78	13	2819	0.09	-292.95	2.48
217	SLU 63	78	13	2819	0.09	-292.95	2.48
217	SLU 64	78	11	2566	0.1	-271.32	1.91
217	SLU 65	78	11	2566	0.1	-271.32	1.91
217	SLU 66	78	11	2566	0.1	-271.32	1.91
217	SLU 67	78	11	2566	0.1	-271.32	1.91
217	SLU 68	78	11	2566	0.1	-271.32	1.91
217	SLU 69	78	11	2566	0.1	-271.32	1.91
217	SLU 70	78	11	2566	0.1	-271.32	1.91
217	SLU 71	78	11	2566	0.1	-271.32	1.91
217	SLU 72	78	11	2566	0.1	-271.32	1.91
217	SLU 73	85	13	2935	0.11	-303.56	2.43
217	SLU 74	85	13	2935	0.11	-303.56	2.43
217	SLU 75	85	13	2935	0.11	-303.56	2.43
217	SLU 76	85	13	2935	0.11	-303.56	2.43
217	SLU 77	85	13	2935	0.11	-303.56	2.43
217	SLU 78	85	13	2935	0.11	-303.56	2.43
217	SLU 79	85	13	2935	0.11	-303.56	2.43
217	SLU 80	85	13	2935	0.11	-303.56	2.43
217	SLU 81	88	14	3093	0.12	-317.38	2.66
217	SLU 82	88	14	3093	0.12	-317.38	2.66



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
217	SLU 83	88	14	3093		0.12	-317.38	2.66
217	SLU 84	88	14	3093		0.12	-317.38	2.66
217	SLE RA 1	58	8	1913		0.07	-203.34	1.43
217	SLE RA 2	58	8	1913		0.07	-203.34	1.43
217	SLE RA 3	58	8	1913		0.07	-203.34	1.43
217	SLE RA 4	58	8	1913		0.07	-203.34	1.43
217	SLE RA 5	58	8	1913		0.07	-203.34	1.43
217	SLE RA 6	58	8	1913		0.07	-203.34	1.43
217	SLE RA 7	58	8	1913		0.07	-203.34	1.43
217	SLE RA 8	58	8	1913		0.07	-203.34	1.43
217	SLE RA 9	58	8	1913		0.07	-203.34	1.43
217	SLE RA 10	62	9	2159		0.08	-224.83	1.78
217	SLE RA 11	62	9	2159		0.08	-224.83	1.78
217	SLE RA 12	62	9	2159		0.08	-224.83	1.78
217	SLE RA 13	62	9	2159		0.08	-224.83	1.78
217	SLE RA 14	62	9	2159		0.08	-224.83	1.78
217	SLE RA 15	62	9	2159		0.08	-224.83	1.78
217	SLE RA 16	62	9	2159		0.08	-224.83	1.78
217	SLE RA 17	62	9	2159		0.08	-224.83	1.78
217	SLE RA 18	64	10	2265		0.08	-234.05	1.93
217	SLE RA 19	64	10	2265		0.08	-234.05	1.93
217	SLE RA 20	64	10	2265		0.08	-234.05	1.93
217	SLE RA 21	64	10	2265		0.08	-234.05	1.93
217	SLE FR 1	58	8	1913		0.07	-203.34	1.43
217	SLE FR 2	58	8	1913		0.07	-203.34	1.43
217	SLE FR 3	58	8	1913		0.07	-203.34	1.43
217	SLE FR 4	60	9	2019		0.08	-212.55	1.58
217	SLE FR 5	60	9	2019		0.08	-212.55	1.58
217	SLE FR 6	61	9	2089		0.08	-218.69	1.68
217	SLE QP 1	58	8	1913		0.07	-203.34	1.43
217	SLE QP 2	60	9	2019		0.08	-212.55	1.58
217	SLD 1	273	145	2204		-0.23	-229.28	34.99
217	SLD 2	244	107	2211		-0.23	-229.59	25.78
217	SLD 3	210	-13	2367		0.52	-240.55	-4.09
217	SLD 4	181	-50	2374		0.53	-240.86	-13.31
217	SLD 5	230	302	1824		-1.16	-200.36	74.15
217	SLD 6	201	264	1831		-1.16	-200.68	64.86
217	SLD 7	19	-223	2369		1.36	-237.93	-56.14
217	SLD 8	-11	-261	2375		1.36	-238.25	-65.44
217	SLD 9	130	279	1662		-1.21	-186.85	68.6
217	SLD 10	100	241	1669		-1.2	-187.17	59.3
217	SLD 11	-82	-247	2207		1.31	-224.42	-61.7
217	SLD 12	-111	-285	2213		1.32	-224.73	-70.99
217	SLD 13	-62	68	1664		-0.37	-184.24	16.47
217	SLD 14	-91	30	1670		-0.37	-184.55	7.25
217	SLD 15	-125	-90	1827		0.38	-195.51	-22.61
217	SLD 16	-154	-128	1834		0.38	-195.82	-31.83
217	SLV 1	546	321	2436		-0.64	-250.77	78.33
217	SLV 2	480	236	2451		-0.63	-251.49	57.36
217	SLV 3	399	-43	2814		1.11	-276.85	-12.09
217	SLV 4	333	-129	2829		1.12	-277.56	-33.06
217	SLV 5	452	686	1565		-2.79	-184.21	169.26
217	SLV 6	385	599	1581		-2.79	-184.94	147.93
217	SLV 7	-38	-529	2825		3.04	-271.13	-132.14
217	SLV 8	-105	-616	2841		3.04	-271.86	-153.47
217	SLV 9	224	633	1197		-2.89	-153.24	156.63
217	SLV 10	157	546	1212		-2.88	-153.97	135.3
217	SLV 11	-266	-582	2457		2.94	-240.16	-144.77
217	SLV 12	-333	-669	2473		2.94	-240.89	-166.1
217	SLV 13	-214	146	1208		-0.97	-147.53	36.22
217	SLV 14	-280	60	1224		-0.96	-148.25	15.25
217	SLV 15	-361	-218	1586		0.78	-173.61	-54.2
217	SLV 16	-427	-304	1602		0.79	-174.33	-75.17
217	CRTFP Ux+	0	0	0		0	0	0
217	CRTFP Ux-	0	0	0		0	0	0
217	CRTFP Uy+	0	0	0		0	0	0
217	CRTFP Uy-	0	0	0		0	0	0
220	SLU 1	-14	-6	1948		1.26	376.25	2.33
220	SLU 2	-14	-6	1948		1.26	376.25	2.33
220	SLU 3	-14	-6	1948		1.26	376.25	2.33
220	SLU 4	-14	-6	1948		1.26	376.25	2.33
220	SLU 5	-14	-6	1948		1.26	376.25	2.33
220	SLU 6	-14	-6	1948		1.26	376.25	2.33
220	SLU 7	-14	-6	1948		1.26	376.25	2.33
220	SLU 8	-14	-6	1948		1.26	376.25	2.33
220	SLU 9	-14	-6	1948		1.26	376.25	2.33
220	SLU 10	-17	-9	2302		1.49	436.19	3.38
220	SLU 11	-17	-9	2302		1.49	436.19	3.38
220	SLU 12	-17	-9	2302		1.49	436.19	3.38
220	SLU 13	-17	-9	2302		1.49	436.19	3.38
220	SLU 14	-17	-9	2302		1.49	436.19	3.38
220	SLU 15	-17	-9	2302		1.49	436.19	3.38
220	SLU 16	-17	-9	2302		1.49	436.19	3.38
220	SLU 17	-17	-9	2302		1.49	436.19	3.38
220	SLU 18	-19	-10	2454		1.59	461.87	3.83
220	SLU 19	-19	-10	2454		1.59	461.87	3.83
220	SLU 20	-19	-10	2454		1.59	461.87	3.83
220	SLU 21	-19	-10	2454		1.59	461.87	3.83
220	SLU 22	-17	-8	2204		1.46	419.83	3.07
220	SLU 23	-17	-8	2204		1.46	419.83	3.07



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
220	SLU 24	-17	-8	2204	1.46	419.83	3.07		
220	SLU 25	-17	-8	2204	1.46	419.83	3.07		
220	SLU 26	-17	-8	2204	1.46	419.83	3.07		
220	SLU 27	-17	-8	2204	1.46	419.83	3.07		
220	SLU 28	-17	-8	2204	1.46	419.83	3.07		
220	SLU 29	-17	-8	2204	1.46	419.83	3.07		
220	SLU 30	-17	-8	2204	1.46	419.83	3.07		
220	SLU 31	-20	-11	2558	1.69	479.76	4.12		
220	SLU 32	-20	-11	2558	1.69	479.76	4.12		
220	SLU 33	-20	-11	2558	1.69	479.76	4.12		
220	SLU 34	-20	-11	2558	1.69	479.76	4.12		
220	SLU 35	-20	-11	2558	1.69	479.76	4.12		
220	SLU 36	-20	-11	2558	1.69	479.76	4.12		
220	SLU 37	-20	-11	2558	1.69	479.76	4.12		
220	SLU 38	-20	-11	2558	1.69	479.76	4.12		
220	SLU 39	-22	-12	2710	1.79	505.45	4.57		
220	SLU 40	-22	-12	2710	1.79	505.45	4.57		
220	SLU 41	-22	-12	2710	1.79	505.45	4.57		
220	SLU 42	-22	-12	2710	1.79	505.45	4.57		
220	SLU 43	-17	-7	2444	1.57	474.19	2.78		
220	SLU 44	-17	-7	2444	1.57	474.19	2.78		
220	SLU 45	-17	-7	2444	1.57	474.19	2.78		
220	SLU 46	-17	-7	2444	1.57	474.19	2.78		
220	SLU 47	-17	-7	2444	1.57	474.19	2.78		
220	SLU 48	-17	-7	2444	1.57	474.19	2.78		
220	SLU 49	-17	-7	2444	1.57	474.19	2.78		
220	SLU 50	-17	-7	2444	1.57	474.19	2.78		
220	SLU 51	-17	-7	2444	1.57	474.19	2.78		
220	SLU 52	-20	-10	2798	1.8	534.12	3.83		
220	SLU 53	-20	-10	2798	1.8	534.12	3.83		
220	SLU 54	-20	-10	2798	1.8	534.12	3.83		
220	SLU 55	-20	-10	2798	1.8	534.12	3.83		
220	SLU 56	-20	-10	2798	1.8	534.12	3.83		
220	SLU 57	-20	-10	2798	1.8	534.12	3.83		
220	SLU 58	-20	-10	2798	1.8	534.12	3.83		
220	SLU 59	-20	-10	2798	1.8	534.12	3.83		
220	SLU 60	-22	-11	2950	1.9	559.81	4.27		
220	SLU 61	-22	-11	2950	1.9	559.81	4.27		
220	SLU 62	-22	-11	2950	1.9	559.81	4.27		
220	SLU 63	-22	-11	2950	1.9	559.81	4.27		
220	SLU 64	-20	-9	2700	1.78	517.76	3.52		
220	SLU 65	-20	-9	2700	1.78	517.76	3.52		
220	SLU 66	-20	-9	2700	1.78	517.76	3.52		
220	SLU 67	-20	-9	2700	1.78	517.76	3.52		
220	SLU 68	-20	-9	2700	1.78	517.76	3.52		
220	SLU 69	-20	-9	2700	1.78	517.76	3.52		
220	SLU 70	-20	-9	2700	1.78	517.76	3.52		
220	SLU 71	-20	-9	2700	1.78	517.76	3.52		
220	SLU 72	-20	-9	2700	1.78	517.76	3.52		
220	SLU 73	-23	-12	3054	2	577.7	4.56		
220	SLU 74	-23	-12	3054	2	577.7	4.56		
220	SLU 75	-23	-12	3054	2	577.7	4.56		
220	SLU 76	-23	-12	3054	2	577.7	4.56		
220	SLU 77	-23	-12	3054	2	577.7	4.56		
220	SLU 78	-23	-12	3054	2	577.7	4.56		
220	SLU 79	-23	-12	3054	2	577.7	4.56		
220	SLU 80	-23	-12	3054	2	577.7	4.56		
220	SLU 81	-25	-13	3206	2.1	603.39	5.01		
220	SLU 82	-25	-13	3206	2.1	603.39	5.01		
220	SLU 83	-25	-13	3206	2.1	603.39	5.01		
220	SLU 84	-25	-13	3206	2.1	603.39	5.01		
220	SLE RA 1	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 2	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 3	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 4	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 5	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 6	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 7	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 8	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 9	-15	-7	2021	1.32	388.7	2.54		
220	SLE RA 10	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 11	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 12	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 13	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 14	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 15	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 16	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 17	-17	-9	2257	1.47	428.66	3.24		
220	SLE RA 18	-18	-9	2358	1.54	445.78	3.54		
220	SLE RA 19	-18	-9	2358	1.54	445.78	3.54		
220	SLE RA 20	-18	-9	2358	1.54	445.78	3.54		
220	SLE RA 21	-18	-9	2358	1.54	445.78	3.54		
220	SLE FR 1	-15	-7	2021	1.32	388.7	2.54		
220	SLE FR 2	-15	-7	2021	1.32	388.7	2.54		
220	SLE FR 3	-15	-7	2021	1.32	388.7	2.54		
220	SLE FR 4	-16	-8	2122	1.39	405.83	2.84		
220	SLE FR 5	-16	-8	2122	1.39	405.83	2.84		
220	SLE FR 6	-16	-8	2189	1.43	417.24	3.04		
220	SLE QP 1	-15	-7	2021	1.32	388.7	2.54		
220	SLE QP 2	-16	-8	2122	1.39	405.83	2.84		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
220	SLD 1	164	-2	1760	0.71	353.38	0.41
220	SLD 2	139	38	1761	0.71	353.32	-13.26
220	SLD 3	172	-167	1898	1.74	373.51	58.29
220	SLD 4	147	-127	1900	1.74	373.45	44.63
220	SLD 5	34	231	1803	-0.38	359.58	-80.84
220	SLD 6	9	270	1804	-0.37	359.52	-94.62
220	SLD 7	62	-320	2265	3.05	426.69	112.12
220	SLD 8	37	-280	2266	3.06	426.63	98.33
220	SLD 9	-68	265	1978	-0.28	385.03	-92.65
220	SLD 10	-93	305	1979	-0.28	384.96	-106.43
220	SLD 11	-41	-286	2440	3.15	452.13	100.31
220	SLD 12	-66	-246	2441	3.15	452.07	86.53
220	SLD 13	-179	112	2344	1.03	438.2	-38.94
220	SLD 14	-203	152	2346	1.03	438.14	-52.61
220	SLD 15	-170	-53	2483	2.06	458.33	18.95
220	SLD 16	-195	-14	2484	2.06	458.27	5.28
220	SLV 1	391	10	1296	-0.17	286.08	-3.95
220	SLV 2	335	99	1299	-0.16	285.95	-35.02
220	SLV 3	410	-373	1617	2.21	332.7	130.1
220	SLV 4	354	-283	1620	2.22	332.56	99.03
220	SLV 5	97	545	1387	-2.7	299.26	-191.35
220	SLV 6	40	637	1390	-2.69	299.12	-222.98
220	SLV 7	162	-729	2456	5.24	454.63	255.48
220	SLV 8	105	-638	2459	5.25	454.49	223.86
220	SLV 9	-136	623	1785	-2.48	357.16	-218.17
220	SLV 10	-193	714	1788	-2.47	357.02	-249.8
220	SLV 11	-71	-652	2854	5.46	512.54	228.66
220	SLV 12	-128	-560	2857	5.47	512.4	197.04
220	SLV 13	-386	268	2624	0.55	479.09	-93.34
220	SLV 14	-442	358	2627	0.56	478.95	-124.42
220	SLV 15	-366	-114	2945	2.93	525.7	40.71
220	SLV 16	-422	-25	2948	2.95	525.57	9.63
220	CRTFP Ux+	0	0	0	0	0	0
220	CRTFP Ux-	0	0	0	0	0	0
220	CRTFP Uy+	0	0	0	0	0	0
220	CRTFP Uy-	0	0	0	0	0	0
221	SLU 1	-10	-2	1854	0.98	0.32	0.09
221	SLU 2	-10	-2	1854	0.98	0.32	0.09
221	SLU 3	-10	-2	1854	0.98	0.32	0.09
221	SLU 4	-10	-2	1854	0.98	0.32	0.09
221	SLU 5	-10	-2	1854	0.98	0.32	0.09
221	SLU 6	-10	-2	1854	0.98	0.32	0.09
221	SLU 7	-10	-2	1854	0.98	0.32	0.09
221	SLU 8	-10	-2	1854	0.98	0.32	0.09
221	SLU 9	-10	-2	1854	0.98	0.32	0.09
221	SLU 10	-12	-2	2266	1.03	0.4	0.11
221	SLU 11	-12	-2	2266	1.03	0.4	0.11
221	SLU 12	-12	-2	2266	1.03	0.4	0.11
221	SLU 13	-12	-2	2266	1.03	0.4	0.11
221	SLU 14	-12	-2	2266	1.03	0.4	0.11
221	SLU 15	-12	-2	2266	1.03	0.4	0.11
221	SLU 16	-12	-2	2266	1.03	0.4	0.11
221	SLU 17	-12	-2	2266	1.03	0.4	0.11
221	SLU 18	-13	-2	2443	1.05	0.43	0.12
221	SLU 19	-13	-2	2443	1.05	0.43	0.12
221	SLU 20	-13	-2	2443	1.05	0.43	0.12
221	SLU 21	-13	-2	2443	1.05	0.43	0.12
221	SLU 22	-13	-2	2147	1.07	0.38	0.11
221	SLU 23	-13	-2	2147	1.07	0.38	0.11
221	SLU 24	-13	-2	2147	1.07	0.38	0.11
221	SLU 25	-13	-2	2147	1.07	0.38	0.11
221	SLU 26	-13	-2	2147	1.07	0.38	0.11
221	SLU 27	-13	-2	2147	1.07	0.38	0.11
221	SLU 28	-13	-2	2147	1.07	0.38	0.11
221	SLU 29	-13	-2	2147	1.07	0.38	0.11
221	SLU 30	-13	-2	2147	1.07	0.38	0.11
221	SLU 31	-15	-3	2559	1.12	0.46	0.14
221	SLU 32	-15	-3	2559	1.12	0.46	0.14
221	SLU 33	-15	-3	2559	1.12	0.46	0.14
221	SLU 34	-15	-3	2559	1.12	0.46	0.14
221	SLU 35	-15	-3	2559	1.12	0.46	0.14
221	SLU 36	-15	-3	2559	1.12	0.46	0.14
221	SLU 37	-15	-3	2559	1.12	0.46	0.14
221	SLU 38	-15	-3	2559	1.12	0.46	0.14
221	SLU 39	-16	-3	2736	1.14	0.5	0.14
221	SLU 40	-16	-3	2736	1.14	0.5	0.14
221	SLU 41	-16	-3	2736	1.14	0.5	0.14
221	SLU 42	-16	-3	2736	1.14	0.5	0.14
221	SLU 43	-12	-2	2309	1.25	0.39	0.11
221	SLU 44	-12	-2	2309	1.25	0.39	0.11
221	SLU 45	-12	-2	2309	1.25	0.39	0.11
221	SLU 46	-12	-2	2309	1.25	0.39	0.11
221	SLU 47	-12	-2	2309	1.25	0.39	0.11
221	SLU 48	-12	-2	2309	1.25	0.39	0.11
221	SLU 49	-12	-2	2309	1.25	0.39	0.11
221	SLU 50	-12	-2	2309	1.25	0.39	0.11
221	SLU 51	-12	-2	2309	1.25	0.39	0.11
221	SLU 52	-14	-3	2722	1.29	0.47	0.13
221	SLU 53	-14	-3	2722	1.29	0.47	0.13
221	SLU 54	-14	-3	2722	1.29	0.47	0.13



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
221	SLU 55	-14	-3	2722		1.29	0.47	0.13	
221	SLU 56	-14	-3	2722		1.29	0.47	0.13	
221	SLU 57	-14	-3	2722		1.29	0.47	0.13	
221	SLU 58	-14	-3	2722		1.29	0.47	0.13	
221	SLU 59	-14	-3	2722		1.29	0.47	0.13	
221	SLU 60	-15	-3	2898		1.31	0.5	0.14	
221	SLU 61	-15	-3	2898		1.31	0.5	0.14	
221	SLU 62	-15	-3	2898		1.31	0.5	0.14	
221	SLU 63	-15	-3	2898		1.31	0.5	0.14	
221	SLU 64	-15	-3	2603		1.34	0.46	0.13	
221	SLU 65	-15	-3	2603		1.34	0.46	0.13	
221	SLU 66	-15	-3	2603		1.34	0.46	0.13	
221	SLU 67	-15	-3	2603		1.34	0.46	0.13	
221	SLU 68	-15	-3	2603		1.34	0.46	0.13	
221	SLU 69	-15	-3	2603		1.34	0.46	0.13	
221	SLU 70	-15	-3	2603		1.34	0.46	0.13	
221	SLU 71	-15	-3	2603		1.34	0.46	0.13	
221	SLU 72	-15	-3	2603		1.34	0.46	0.13	
221	SLU 73	-17	-3	3015		1.38	0.53	0.16	
221	SLU 74	-17	-3	3015		1.38	0.53	0.16	
221	SLU 75	-17	-3	3015		1.38	0.53	0.16	
221	SLU 76	-17	-3	3015		1.38	0.53	0.16	
221	SLU 77	-17	-3	3015		1.38	0.53	0.16	
221	SLU 78	-17	-3	3015		1.38	0.53	0.16	
221	SLU 79	-17	-3	3015		1.38	0.53	0.16	
221	SLU 80	-17	-3	3015		1.38	0.53	0.16	
221	SLU 81	-18	-3	3191		1.4	0.57	0.16	
221	SLU 82	-18	-3	3191		1.4	0.57	0.16	
221	SLU 83	-18	-3	3191		1.4	0.57	0.16	
221	SLU 84	-18	-3	3191		1.4	0.57	0.16	
221	SLE RA 1	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 2	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 3	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 4	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 5	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 6	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 7	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 8	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 9	-11	-2	1938		1.01	0.34	0.1	
221	SLE RA 10	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 11	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 12	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 13	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 14	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 15	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 16	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 17	-12	-2	2212		1.04	0.39	0.11	
221	SLE RA 18	-13	-2	2330		1.05	0.41	0.12	
221	SLE RA 19	-13	-2	2330		1.05	0.41	0.12	
221	SLE RA 20	-13	-2	2330		1.05	0.41	0.12	
221	SLE RA 21	-13	-2	2330		1.05	0.41	0.12	
221	SLE FR 1	-11	-2	1938		1.01	0.34	0.1	
221	SLE FR 2	-11	-2	1938		1.01	0.34	0.1	
221	SLE FR 3	-11	-2	1938		1.01	0.34	0.1	
221	SLE FR 4	-11	-2	2055		1.02	0.36	0.1	
221	SLE FR 5	-11	-2	2055		1.02	0.36	0.1	
221	SLE FR 6	-12	-2	2134		1.03	0.37	0.11	
221	SLE QP 1	-11	-2	1938		1.01	0.34	0.1	
221	SLE QP 2	-11	-2	2055		1.02	0.36	0.1	
221	SLD 1	128	10	2050		0.79	-2.77	-0.17	
221	SLD 2	107	11	2046		0.78	-2.78	-0.07	
221	SLD 3	132	-22	2145		1.41	-3.3	-0.2	
221	SLD 4	112	-22	2141		1.4	-3.3	-0.1	
221	SLD 5	31	51	1910		0.02	0.22	0.03	
221	SLD 6	10	51	1906		0.01	0.21	0.14	
221	SLD 7	46	-57	2228		2.08	-1.54	-0.07	
221	SLD 8	25	-57	2224		2.07	-1.54	0.03	
221	SLD 9	-48	53	1886		-0.03	2.26	0.18	
221	SLD 10	-69	53	1882		-0.03	2.25	0.28	
221	SLD 11	-33	-55	2204		2.03	0.5	0.07	
221	SLD 12	-54	-55	2200		2.03	0.5	0.17	
221	SLD 13	-135	17	1970		0.64	4.02	0.31	
221	SLD 14	-155	18	1966		0.63	4.02	0.41	
221	SLD 15	-130	-15	2065		1.26	3.5	0.28	
221	SLD 16	-151	-15	2061		1.25	3.49	0.38	
221	SLV 1	304	27	2041		0.49	-7.27	-0.51	
221	SLV 2	258	28	2032		0.47	-7.28	-0.28	
221	SLV 3	315	-48	2261		1.92	-8.61	-0.58	
221	SLV 4	269	-47	2253		1.9	-8.62	-0.36	
221	SLV 5	83	120	1720		-1.3	0.11	-0.05	
221	SLV 6	36	121	1711		-1.32	0.1	0.18	
221	SLV 7	119	-130	2455		3.46	-4.37	-0.29	
221	SLV 8	73	-129	2446		3.45	-4.38	-0.06	
221	SLV 9	-96	125	1665		-1.41	5.09	0.27	
221	SLV 10	-142	126	1656		-1.42	5.08	0.5	
221	SLV 11	-59	-125	2400		3.36	0.61	0.03	
221	SLV 12	-106	-124	2391		3.35	0.61	0.26	
221	SLV 13	-292	43	1858		0.14	9.34	0.56	
221	SLV 14	-338	44	1849		0.13	9.33	0.79	
221	SLV 15	-281	-32	2078		1.57	7.99	0.49	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLV 16	-327	-31	2070	1.56	7.99	0.72
221	CRTFP Ux+	0	0	0	0	0	0
221	CRTFP Ux-	0	0	0	0	0	0
221	CRTFP Uy+	0	0	0	0	0	0
221	CRTFP Uy-	0	0	0	0	0	0
222	SLU 1	71	8	1845	0.58	-192.09	1.38
222	SLU 2	71	8	1845	0.58	-192.09	1.38
222	SLU 3	71	8	1845	0.58	-192.09	1.38
222	SLU 4	71	8	1845	0.58	-192.09	1.38
222	SLU 5	71	8	1845	0.58	-192.09	1.38
222	SLU 6	71	8	1845	0.58	-192.09	1.38
222	SLU 7	71	8	1845	0.58	-192.09	1.38
222	SLU 8	71	8	1845	0.58	-192.09	1.38
222	SLU 9	71	8	1845	0.58	-192.09	1.38
222	SLU 10	80	10	2216	0.7	-223.17	1.9
222	SLU 11	80	10	2216	0.7	-223.17	1.9
222	SLU 12	80	10	2216	0.7	-223.17	1.9
222	SLU 13	80	10	2216	0.7	-223.17	1.9
222	SLU 14	80	10	2216	0.7	-223.17	1.9
222	SLU 15	80	10	2216	0.7	-223.17	1.9
222	SLU 16	80	10	2216	0.7	-223.17	1.9
222	SLU 17	80	10	2216	0.7	-223.17	1.9
222	SLU 18	84	11	2375	0.76	-236.5	2.12
222	SLU 19	84	11	2375	0.76	-236.5	2.12
222	SLU 20	84	11	2375	0.76	-236.5	2.12
222	SLU 21	84	11	2375	0.76	-236.5	2.12
222	SLU 22	85	9	2121	0.7	-215.65	1.55
222	SLU 23	85	9	2121	0.7	-215.65	1.55
222	SLU 24	85	9	2121	0.7	-215.65	1.55
222	SLU 25	85	9	2121	0.7	-215.65	1.55
222	SLU 26	85	9	2121	0.7	-215.65	1.55
222	SLU 27	85	9	2121	0.7	-215.65	1.55
222	SLU 28	85	9	2121	0.7	-215.65	1.55
222	SLU 29	85	9	2121	0.7	-215.65	1.55
222	SLU 30	85	9	2121	0.7	-215.65	1.55
222	SLU 31	93	11	2492	0.82	-246.74	2.07
222	SLU 32	93	11	2492	0.82	-246.74	2.07
222	SLU 33	93	11	2492	0.82	-246.74	2.07
222	SLU 34	93	11	2492	0.82	-246.74	2.07
222	SLU 35	93	11	2492	0.82	-246.74	2.07
222	SLU 36	93	11	2492	0.82	-246.74	2.07
222	SLU 37	93	11	2492	0.82	-246.74	2.07
222	SLU 38	93	11	2492	0.82	-246.74	2.07
222	SLU 39	97	12	2652	0.87	-260.06	2.3
222	SLU 40	97	12	2652	0.87	-260.06	2.3
222	SLU 41	97	12	2652	0.87	-260.06	2.3
222	SLU 42	97	12	2652	0.87	-260.06	2.3
222	SLU 43	88	10	2304	0.71	-241.63	1.73
222	SLU 44	88	10	2304	0.71	-241.63	1.73
222	SLU 45	88	10	2304	0.71	-241.63	1.73
222	SLU 46	88	10	2304	0.71	-241.63	1.73
222	SLU 47	88	10	2304	0.71	-241.63	1.73
222	SLU 48	88	10	2304	0.71	-241.63	1.73
222	SLU 49	88	10	2304	0.71	-241.63	1.73
222	SLU 50	88	10	2304	0.71	-241.63	1.73
222	SLU 51	88	10	2304	0.71	-241.63	1.73
222	SLU 52	96	12	2675	0.84	-272.72	2.25
222	SLU 53	96	12	2675	0.84	-272.72	2.25
222	SLU 54	96	12	2675	0.84	-272.72	2.25
222	SLU 55	96	12	2675	0.84	-272.72	2.25
222	SLU 56	96	12	2675	0.84	-272.72	2.25
222	SLU 57	96	12	2675	0.84	-272.72	2.25
222	SLU 58	96	12	2675	0.84	-272.72	2.25
222	SLU 59	96	12	2675	0.84	-272.72	2.25
222	SLU 60	100	13	2834	0.89	-286.04	2.48
222	SLU 61	100	13	2834	0.89	-286.04	2.48
222	SLU 62	100	13	2834	0.89	-286.04	2.48
222	SLU 63	100	13	2834	0.89	-286.04	2.48
222	SLU 64	101	11	2580	0.83	-265.2	1.91
222	SLU 65	101	11	2580	0.83	-265.2	1.91
222	SLU 66	101	11	2580	0.83	-265.2	1.91
222	SLU 67	101	11	2580	0.83	-265.2	1.91
222	SLU 68	101	11	2580	0.83	-265.2	1.91
222	SLU 69	101	11	2580	0.83	-265.2	1.91
222	SLU 70	101	11	2580	0.83	-265.2	1.91
222	SLU 71	101	11	2580	0.83	-265.2	1.91
222	SLU 72	101	11	2580	0.83	-265.2	1.91
222	SLU 73	110	13	2951	0.95	-296.29	2.43
222	SLU 74	110	13	2951	0.95	-296.29	2.43
222	SLU 75	110	13	2951	0.95	-296.29	2.43
222	SLU 76	110	13	2951	0.95	-296.29	2.43
222	SLU 77	110	13	2951	0.95	-296.29	2.43
222	SLU 78	110	13	2951	0.95	-296.29	2.43
222	SLU 79	110	13	2951	0.95	-296.29	2.43
222	SLU 80	110	13	2951	0.95	-296.29	2.43
222	SLU 81	114	14	3110	1.01	-309.61	2.65
222	SLU 82	114	14	3110	1.01	-309.61	2.65
222	SLU 83	114	14	3110	1.01	-309.61	2.65
222	SLU 84	114	14	3110	1.01	-309.61	2.65
222	SLE RA 1	75	8	1924	0.61	-198.82	1.43



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
222	SLE RA 2	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 3	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 4	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 5	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 6	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 7	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 8	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 9	75	8	1924		0.61	-198.82	1.43	
222	SLE RA 10	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 11	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 12	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 13	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 14	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 15	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 16	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 17	81	10	2171		0.7	-219.54	1.77	
222	SLE RA 18	83	10	2277		0.73	-228.43	1.92	
222	SLE RA 19	83	10	2277		0.73	-228.43	1.92	
222	SLE RA 20	83	10	2277		0.73	-228.43	1.92	
222	SLE RA 21	83	10	2277		0.73	-228.43	1.92	
222	SLE FR 1	75	8	1924		0.61	-198.82	1.43	
222	SLE FR 2	75	8	1924		0.61	-198.82	1.43	
222	SLE FR 3	75	8	1924		0.61	-198.82	1.43	
222	SLE FR 4	77	9	2030		0.65	-207.7	1.58	
222	SLE FR 5	77	9	2030		0.65	-207.7	1.58	
222	SLE FR 6	79	9	2101		0.67	-213.62	1.68	
222	SLE QP 1	75	8	1924		0.61	-198.82	1.43	
222	SLE QP 2	77	9	2030		0.65	-207.7	1.58	
222	SLD 1	318	145	2207		0.44	-220.87	34.94	
222	SLD 2	283	107	2214		0.43	-221.26	25.73	
222	SLD 3	245	-12	2394		1.23	-236.29	-4.16	
222	SLD 4	210	-50	2400		1.23	-236.69	-13.36	
222	SLD 5	272	302	1797		-0.62	-188.12	74.15	
222	SLD 6	237	264	1804		-0.62	-188.51	64.86	
222	SLD 7	29	-223	2420		2.03	-239.53	-56.18	
222	SLD 8	-6	-261	2427		2.02	-239.93	-65.46	
222	SLD 9	161	279	1633		-0.73	-175.47	68.62	
222	SLD 10	125	241	1640		-0.73	-175.87	59.33	
222	SLD 11	-82	-247	2256		1.92	-226.89	-61.71	
222	SLD 12	-118	-285	2262		1.91	-227.29	-70.99	
222	SLD 13	-55	68	1660		0.07	-178.71	16.52	
222	SLD 14	-90	30	1666		0.07	-179.11	7.31	
222	SLD 15	-128	-90	1846		0.86	-194.14	-22.58	
222	SLD 16	-163	-128	1853		0.86	-194.53	-31.79	
222	SLV 1	625	322	2428		0.15	-237.72	78.21	
222	SLV 2	545	236	2443		0.14	-238.62	57.28	
222	SLV 3	456	-43	2860		1.99	-273.41	-12.23	
222	SLV 4	376	-128	2875		1.98	-274.31	-33.16	
222	SLV 5	527	687	1488		-2.28	-162.25	169.25	
222	SLV 6	445	599	1504		-2.29	-163.17	147.94	
222	SLV 7	-37	-529	2929		3.83	-281.23	-132.22	
222	SLV 8	-118	-616	2944		3.83	-282.14	-153.53	
222	SLV 9	273	634	1115		-2.53	-133.26	156.68	
222	SLV 10	192	547	1131		-2.54	-134.18	135.37	
222	SLV 11	-291	-582	2556		3.58	-252.24	-144.79	
222	SLV 12	-372	-669	2572		3.58	-253.15	-166.09	
222	SLV 13	-222	146	1185		-0.68	-141.09	36.32	
222	SLV 14	-301	60	1200		-0.69	-141.99	15.38	
222	SLV 15	-391	-219	1617		1.15	-176.78	-54.12	
222	SLV 16	-470	-304	1632		1.14	-177.68	-75.06	
222	CRTFP Ux+	0	0	0		0	0	0	
222	CRTFP Ux-	0	0	0		0	0	0	
222	CRTFP Uy+	0	0	0		0	0	0	
222	CRTFP Uy-	0	0	0		0	0	0	
225	SLU 1	-19	-6	2006		2.7	404.94	2.27	
225	SLU 2	-19	-6	2006		2.7	404.94	2.27	
225	SLU 3	-19	-6	2006		2.7	404.94	2.27	
225	SLU 4	-19	-6	2006		2.7	404.94	2.27	
225	SLU 5	-19	-6	2006		2.7	404.94	2.27	
225	SLU 6	-19	-6	2006		2.7	404.94	2.27	
225	SLU 7	-19	-6	2006		2.7	404.94	2.27	
225	SLU 8	-19	-6	2006		2.7	404.94	2.27	
225	SLU 9	-19	-6	2006		2.7	404.94	2.27	
225	SLU 10	-23	-9	2372		3.25	470.58	3.31	
225	SLU 11	-23	-9	2372		3.25	470.58	3.31	
225	SLU 12	-23	-9	2372		3.25	470.58	3.31	
225	SLU 13	-23	-9	2372		3.25	470.58	3.31	
225	SLU 14	-23	-9	2372		3.25	470.58	3.31	
225	SLU 15	-23	-9	2372		3.25	470.58	3.31	
225	SLU 16	-23	-9	2372		3.25	470.58	3.31	
225	SLU 17	-23	-9	2372		3.25	470.58	3.31	
225	SLU 18	-25	-10	2528		3.49	498.71	3.75	
225	SLU 19	-25	-10	2528		3.49	498.71	3.75	
225	SLU 20	-25	-10	2528		3.49	498.71	3.75	
225	SLU 21	-25	-10	2528		3.49	498.71	3.75	
225	SLU 22	-23	-8	2271		3.14	452.97	3	
225	SLU 23	-23	-8	2271		3.14	452.97	3	
225	SLU 24	-23	-8	2271		3.14	452.97	3	
225	SLU 25	-23	-8	2271		3.14	452.97	3	
225	SLU 26	-23	-8	2271		3.14	452.97	3	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
225	SLU 27	-23	-8	2271	3.14	452.97	3
225	SLU 28	-23	-8	2271	3.14	452.97	3
225	SLU 29	-23	-8	2271	3.14	452.97	3
225	SLU 30	-23	-8	2271	3.14	452.97	3
225	SLU 31	-27	-11	2637	3.69	518.6	4.04
225	SLU 32	-27	-11	2637	3.69	518.6	4.04
225	SLU 33	-27	-11	2637	3.69	518.6	4.04
225	SLU 34	-27	-11	2637	3.69	518.6	4.04
225	SLU 35	-27	-11	2637	3.69	518.6	4.04
225	SLU 36	-27	-11	2637	3.69	518.6	4.04
225	SLU 37	-27	-11	2637	3.69	518.6	4.04
225	SLU 38	-27	-11	2637	3.69	518.6	4.04
225	SLU 39	-29	-12	2794	3.93	546.73	4.48
225	SLU 40	-29	-12	2794	3.93	546.73	4.48
225	SLU 41	-29	-12	2794	3.93	546.73	4.48
225	SLU 42	-29	-12	2794	3.93	546.73	4.48
225	SLU 43	-23	-7	2517	3.36	509.96	2.7
225	SLU 44	-23	-7	2517	3.36	509.96	2.7
225	SLU 45	-23	-7	2517	3.36	509.96	2.7
225	SLU 46	-23	-7	2517	3.36	509.96	2.7
225	SLU 47	-23	-7	2517	3.36	509.96	2.7
225	SLU 48	-23	-7	2517	3.36	509.96	2.7
225	SLU 49	-23	-7	2517	3.36	509.96	2.7
225	SLU 50	-23	-7	2517	3.36	509.96	2.7
225	SLU 51	-23	-7	2517	3.36	509.96	2.7
225	SLU 52	-28	-10	2882	3.91	575.59	3.74
225	SLU 53	-28	-10	2882	3.91	575.59	3.74
225	SLU 54	-28	-10	2882	3.91	575.59	3.74
225	SLU 55	-28	-10	2882	3.91	575.59	3.74
225	SLU 56	-28	-10	2882	3.91	575.59	3.74
225	SLU 57	-28	-10	2882	3.91	575.59	3.74
225	SLU 58	-28	-10	2882	3.91	575.59	3.74
225	SLU 59	-28	-10	2882	3.91	575.59	3.74
225	SLU 60	-30	-11	3039	4.15	603.72	4.19
225	SLU 61	-30	-11	3039	4.15	603.72	4.19
225	SLU 62	-30	-11	3039	4.15	603.72	4.19
225	SLU 63	-30	-11	3039	4.15	603.72	4.19
225	SLU 64	-27	-9	2782	3.8	557.98	3.43
225	SLU 65	-27	-9	2782	3.8	557.98	3.43
225	SLU 66	-27	-9	2782	3.8	557.98	3.43
225	SLU 67	-27	-9	2782	3.8	557.98	3.43
225	SLU 68	-27	-9	2782	3.8	557.98	3.43
225	SLU 69	-27	-9	2782	3.8	557.98	3.43
225	SLU 70	-27	-9	2782	3.8	557.98	3.43
225	SLU 71	-27	-9	2782	3.8	557.98	3.43
225	SLU 72	-27	-9	2782	3.8	557.98	3.43
225	SLU 73	-32	-12	3148	4.35	623.62	4.47
225	SLU 74	-32	-12	3148	4.35	623.62	4.47
225	SLU 75	-32	-12	3148	4.35	623.62	4.47
225	SLU 76	-32	-12	3148	4.35	623.62	4.47
225	SLU 77	-32	-12	3148	4.35	623.62	4.47
225	SLU 78	-32	-12	3148	4.35	623.62	4.47
225	SLU 79	-32	-12	3148	4.35	623.62	4.47
225	SLU 80	-32	-12	3148	4.35	623.62	4.47
225	SLU 81	-34	-13	3305	4.59	651.75	4.92
225	SLU 82	-34	-13	3305	4.59	651.75	4.92
225	SLU 83	-34	-13	3305	4.59	651.75	4.92
225	SLU 84	-34	-13	3305	4.59	651.75	4.92
225	SLE RA 1	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 2	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 3	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 4	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 5	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 6	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 7	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 8	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 9	-20	-7	2082	2.82	418.66	2.48
225	SLE RA 10	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 11	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 12	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 13	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 14	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 15	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 16	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 17	-23	-8	2326	3.19	462.42	3.17
225	SLE RA 18	-24	-9	2430	3.35	481.17	3.47
225	SLE RA 19	-24	-9	2430	3.35	481.17	3.47
225	SLE RA 20	-24	-9	2430	3.35	481.17	3.47
225	SLE RA 21	-24	-9	2430	3.35	481.17	3.47
225	SLE FR 1	-20	-7	2082	2.82	418.66	2.48
225	SLE FR 2	-20	-7	2082	2.82	418.66	2.48
225	SLE FR 3	-20	-7	2082	2.82	418.66	2.48
225	SLE FR 4	-21	-7	2186	2.98	437.42	2.77
225	SLE FR 5	-21	-7	2186	2.98	437.42	2.77
225	SLE FR 6	-22	-8	2256	3.09	449.92	2.97
225	SLE QP 1	-20	-7	2082	2.82	418.66	2.48
225	SLE QP 2	-21	-7	2186	2.98	437.42	2.77
225	SLD 1	169	-2	1800	1.99	375.58	0.33
225	SLD 2	140	38	1801	1.99	375.44	-13.32
225	SLD 3	176	-167	1971	3.17	406.81	58.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
225	SLD 4	147	-127	1972	3.17	406.68	44.52
225	SLD 5	35	231	1810	0.89	371.54	-80.85
225	SLD 6	7	270	1812	0.89	371.4	-94.62
225	SLD 7	58	-319	2381	4.83	475.66	111.96
225	SLD 8	29	-280	2382	4.83	475.52	98.19
225	SLD 9	-72	265	1990	1.13	399.31	-92.64
225	SLD 10	-101	305	1992	1.14	399.18	-106.41
225	SLD 11	-49	-285	2561	5.07	503.43	100.16
225	SLD 12	-78	-245	2562	5.08	503.3	86.4
225	SLD 13	-190	112	2400	2.79	468.16	-38.97
225	SLD 14	-219	152	2402	2.8	468.02	-52.62
225	SLD 15	-183	-53	2571	3.97	499.39	18.87
225	SLD 16	-212	-13	2573	3.98	499.26	5.22
225	SLV 1	410	9	1305	0.69	296.16	-4.04
225	SLV 2	345	99	1308	0.71	295.85	-35.07
225	SLV 3	426	-373	1701	3.43	368.43	129.91
225	SLV 4	361	-283	1704	3.44	368.12	98.87
225	SLV 5	107	545	1320	-1.86	285.55	-191.28
225	SLV 6	41	636	1324	-1.85	285.23	-222.86
225	SLV 7	161	-729	2640	7.26	526.44	255.2
225	SLV 8	95	-637	2643	7.27	526.12	223.62
225	SLV 9	-137	623	1729	-1.31	348.71	-218.07
225	SLV 10	-203	714	1733	-1.3	348.4	-249.65
225	SLV 11	-83	-651	3049	7.81	589.6	228.41
225	SLV 12	-150	-560	3052	7.82	589.29	196.83
225	SLV 13	-404	268	2669	2.52	506.71	-93.32
225	SLV 14	-469	358	2672	2.54	506.4	-124.36
225	SLV 15	-388	-114	3065	5.26	578.98	40.62
225	SLV 16	-453	-24	3068	5.27	578.67	9.59
225	CRTFP Ux+	0	0	0	0	0	0
225	CRTFP Ux-	0	0	0	0	0	0
225	CRTFP Uy+	0	0	0	0	0	0
225	CRTFP Uy-	0	0	0	0	0	0
226	SLU 1	-13	-2	1885	1	0.6	0.1
226	SLU 2	-13	-2	1885	1	0.6	0.1
226	SLU 3	-13	-2	1885	1	0.6	0.1
226	SLU 4	-13	-2	1885	1	0.6	0.1
226	SLU 5	-13	-2	1885	1	0.6	0.1
226	SLU 6	-13	-2	1885	1	0.6	0.1
226	SLU 7	-13	-2	1885	1	0.6	0.1
226	SLU 8	-13	-2	1885	1	0.6	0.1
226	SLU 9	-13	-2	1885	1	0.6	0.1
226	SLU 10	-16	-2	2298	0.99	0.75	0.13
226	SLU 11	-16	-2	2298	0.99	0.75	0.13
226	SLU 12	-16	-2	2298	0.99	0.75	0.13
226	SLU 13	-16	-2	2298	0.99	0.75	0.13
226	SLU 14	-16	-2	2298	0.99	0.75	0.13
226	SLU 15	-16	-2	2298	0.99	0.75	0.13
226	SLU 16	-16	-2	2298	0.99	0.75	0.13
226	SLU 17	-16	-2	2298	0.99	0.75	0.13
226	SLU 18	-17	-2	2474	0.98	0.82	0.14
226	SLU 19	-17	-2	2474	0.98	0.82	0.14
226	SLU 20	-17	-2	2474	0.98	0.82	0.14
226	SLU 21	-17	-2	2474	0.98	0.82	0.14
226	SLU 22	-17	-2	2181	1.08	0.73	0.13
226	SLU 23	-17	-2	2181	1.08	0.73	0.13
226	SLU 24	-17	-2	2181	1.08	0.73	0.13
226	SLU 25	-17	-2	2181	1.08	0.73	0.13
226	SLU 26	-17	-2	2181	1.08	0.73	0.13
226	SLU 27	-17	-2	2181	1.08	0.73	0.13
226	SLU 28	-17	-2	2181	1.08	0.73	0.13
226	SLU 29	-17	-2	2181	1.08	0.73	0.13
226	SLU 30	-17	-2	2181	1.08	0.73	0.13
226	SLU 31	-19	-3	2593	1.07	0.88	0.15
226	SLU 32	-19	-3	2593	1.07	0.88	0.15
226	SLU 33	-19	-3	2593	1.07	0.88	0.15
226	SLU 34	-19	-3	2593	1.07	0.88	0.15
226	SLU 35	-19	-3	2593	1.07	0.88	0.15
226	SLU 36	-19	-3	2593	1.07	0.88	0.15
226	SLU 37	-19	-3	2593	1.07	0.88	0.15
226	SLU 38	-19	-3	2593	1.07	0.88	0.15
226	SLU 39	-20	-3	2770	1.06	0.94	0.16
226	SLU 40	-20	-3	2770	1.06	0.94	0.16
226	SLU 41	-20	-3	2770	1.06	0.94	0.16
226	SLU 42	-20	-3	2770	1.06	0.94	0.16
226	SLU 43	-16	-2	2349	1.28	0.74	0.13
226	SLU 44	-16	-2	2349	1.28	0.74	0.13
226	SLU 45	-16	-2	2349	1.28	0.74	0.13
226	SLU 46	-16	-2	2349	1.28	0.74	0.13
226	SLU 47	-16	-2	2349	1.28	0.74	0.13
226	SLU 48	-16	-2	2349	1.28	0.74	0.13
226	SLU 49	-16	-2	2349	1.28	0.74	0.13
226	SLU 50	-16	-2	2349	1.28	0.74	0.13
226	SLU 51	-16	-2	2349	1.28	0.74	0.13
226	SLU 52	-19	-3	2762	1.26	0.89	0.15
226	SLU 53	-19	-3	2762	1.26	0.89	0.15
226	SLU 54	-19	-3	2762	1.26	0.89	0.15
226	SLU 55	-19	-3	2762	1.26	0.89	0.15
226	SLU 56	-19	-3	2762	1.26	0.89	0.15
226	SLU 57	-19	-3	2762	1.26	0.89	0.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
226	SLU 58	-19	-3	2762	1.26	0.89	0.15
226	SLU 59	-19	-3	2762	1.26	0.89	0.15
226	SLU 60	-20	-3	2938	1.26	0.96	0.16
226	SLU 61	-20	-3	2938	1.26	0.96	0.16
226	SLU 62	-20	-3	2938	1.26	0.96	0.16
226	SLU 63	-20	-3	2938	1.26	0.96	0.16
226	SLU 64	-19	-3	2645	1.35	0.87	0.15
226	SLU 65	-19	-3	2645	1.35	0.87	0.15
226	SLU 66	-19	-3	2645	1.35	0.87	0.15
226	SLU 67	-19	-3	2645	1.35	0.87	0.15
226	SLU 68	-19	-3	2645	1.35	0.87	0.15
226	SLU 69	-19	-3	2645	1.35	0.87	0.15
226	SLU 70	-19	-3	2645	1.35	0.87	0.15
226	SLU 71	-19	-3	2645	1.35	0.87	0.15
226	SLU 72	-19	-3	2645	1.35	0.87	0.15
226	SLU 73	-22	-3	3058	1.34	1.01	0.17
226	SLU 74	-22	-3	3058	1.34	1.01	0.17
226	SLU 75	-22	-3	3058	1.34	1.01	0.17
226	SLU 76	-22	-3	3058	1.34	1.01	0.17
226	SLU 77	-22	-3	3058	1.34	1.01	0.17
226	SLU 78	-22	-3	3058	1.34	1.01	0.17
226	SLU 79	-22	-3	3058	1.34	1.01	0.17
226	SLU 80	-22	-3	3058	1.34	1.01	0.17
226	SLU 81	-23	-3	3234	1.34	1.08	0.18
226	SLU 82	-23	-3	3234	1.34	1.08	0.18
226	SLU 83	-23	-3	3234	1.34	1.08	0.18
226	SLU 84	-23	-3	3234	1.34	1.08	0.18
226	SLE RA 1	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 2	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 3	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 4	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 5	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 6	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 7	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 8	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 9	-14	-2	1970	1.02	0.64	0.11
226	SLE RA 10	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 11	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 12	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 13	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 14	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 15	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 16	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 17	-16	-2	2245	1.02	0.74	0.13
226	SLE RA 18	-17	-2	2362	1.01	0.78	0.13
226	SLE RA 19	-17	-2	2362	1.01	0.78	0.13
226	SLE RA 20	-17	-2	2362	1.01	0.78	0.13
226	SLE RA 21	-17	-2	2362	1.01	0.78	0.13
226	SLE FR 1	-14	-2	1970	1.02	0.64	0.11
226	SLE FR 2	-14	-2	1970	1.02	0.64	0.11
226	SLE FR 3	-14	-2	1970	1.02	0.64	0.11
226	SLE FR 4	-15	-2	2087	1.02	0.68	0.12
226	SLE FR 5	-15	-2	2087	1.02	0.68	0.12
226	SLE FR 6	-16	-2	2166	1.02	0.71	0.12
226	SLE QP 1	-14	-2	1970	1.02	0.64	0.11
226	SLE QP 2	-15	-2	2087	1.02	0.68	0.12
226	SLD 1	134	10	2073	0.74	-2	-0.24
226	SLD 2	110	11	2069	0.74	-2	-0.14
226	SLD 3	139	-22	2189	1.41	-2.43	-0.21
226	SLD 4	115	-21	2185	1.41	-2.44	-0.1
226	SLD 5	30	50	1909	-0.08	0.53	-0.08
226	SLD 6	6	51	1905	-0.08	0.53	0.03
226	SLD 7	47	-57	2295	2.15	-0.9	0.03
226	SLD 8	24	-57	2291	2.15	-0.91	0.14
226	SLD 9	-54	52	1884	-0.11	2.27	0.09
226	SLD 10	-77	53	1880	-0.11	2.27	0.2
226	SLD 11	-37	-55	2270	2.12	0.84	0.21
226	SLD 12	-60	-55	2266	2.12	0.83	0.31
226	SLD 13	-145	17	1990	0.63	3.8	0.34
226	SLD 14	-169	18	1986	0.63	3.79	0.44
226	SLD 15	-140	-15	2106	1.3	3.37	0.37
226	SLD 16	-164	-15	2102	1.3	3.36	0.48
226	SLV 1	323	27	2053	0.38	-5.81	-0.7
226	SLV 2	269	28	2044	0.38	-5.82	-0.46
226	SLV 3	335	-48	2321	1.93	-6.9	-0.62
226	SLV 4	281	-47	2312	1.93	-6.91	-0.38
226	SLV 5	87	119	1674	-1.52	0.4	-0.34
226	SLV 6	33	121	1665	-1.52	0.39	-0.09
226	SLV 7	127	-129	2567	3.64	-3.26	-0.07
226	SLV 8	73	-128	2558	3.64	-3.27	0.18
226	SLV 9	-103	124	1617	-1.6	4.63	0.06
226	SLV 10	-158	125	1608	-1.6	4.62	0.3
226	SLV 11	-63	-125	2510	3.56	0.97	0.32
226	SLV 12	-117	-123	2501	3.56	0.96	0.57
226	SLV 13	-311	42	1863	0.11	8.28	0.61
226	SLV 14	-365	44	1854	0.11	8.27	0.85
226	SLV 15	-299	-32	2131	1.66	7.18	0.69
226	SLV 16	-353	-31	2122	1.66	7.17	0.93
226	CRTFP Ux+	0	0	0	0	0	0
226	CRTFP Ux-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
226	CRTFP Uy+	0	0	0	0	0	0
226	CRTFP Uy-	0	0	0	0	0	0
227	SLU 1	109	10	2251	93.57	-245.05	-3.14
227	SLU 2	109	10	2251	93.57	-245.05	-3.14
227	SLU 3	109	10	2251	93.57	-245.05	-3.14
227	SLU 4	109	10	2251	93.57	-245.05	-3.14
227	SLU 5	109	10	2251	93.57	-245.05	-3.14
227	SLU 6	109	10	2251	93.57	-245.05	-3.14
227	SLU 7	109	10	2251	93.57	-245.05	-3.14
227	SLU 8	109	10	2251	93.57	-245.05	-3.14
227	SLU 9	109	10	2251	93.57	-245.05	-3.14
227	SLU 10	122	12	2704	112.45	-285.5	-3.09
227	SLU 11	122	12	2704	112.45	-285.5	-3.09
227	SLU 12	122	12	2704	112.45	-285.5	-3.09
227	SLU 13	122	12	2704	112.45	-285.5	-3.09
227	SLU 14	122	12	2704	112.45	-285.5	-3.09
227	SLU 15	122	12	2704	112.45	-285.5	-3.09
227	SLU 16	122	12	2704	112.45	-285.5	-3.09
227	SLU 17	122	12	2704	112.45	-285.5	-3.09
227	SLU 18	128	14	2899	120.55	-302.84	-3.06
227	SLU 19	128	14	2899	120.55	-302.84	-3.06
227	SLU 20	128	14	2899	120.55	-302.84	-3.06
227	SLU 21	128	14	2899	120.55	-302.84	-3.06
227	SLU 22	130	11	2590	107.72	-275.65	-3.84
227	SLU 23	130	11	2590	107.72	-275.65	-3.84
227	SLU 24	130	11	2590	107.72	-275.65	-3.84
227	SLU 25	130	11	2590	107.72	-275.65	-3.84
227	SLU 26	130	11	2590	107.72	-275.65	-3.84
227	SLU 27	130	11	2590	107.72	-275.65	-3.84
227	SLU 28	130	11	2590	107.72	-275.65	-3.84
227	SLU 29	130	11	2590	107.72	-275.65	-3.84
227	SLU 30	130	11	2590	107.72	-275.65	-3.84
227	SLU 31	143	14	3043	126.6	-316.1	-3.79
227	SLU 32	143	14	3043	126.6	-316.1	-3.79
227	SLU 33	143	14	3043	126.6	-316.1	-3.79
227	SLU 34	143	14	3043	126.6	-316.1	-3.79
227	SLU 35	143	14	3043	126.6	-316.1	-3.79
227	SLU 36	143	14	3043	126.6	-316.1	-3.79
227	SLU 37	143	14	3043	126.6	-316.1	-3.79
227	SLU 38	143	14	3043	126.6	-316.1	-3.79
227	SLU 39	149	15	3237	134.69	-333.44	-3.76
227	SLU 40	149	15	3237	134.69	-333.44	-3.76
227	SLU 41	149	15	3237	134.69	-333.44	-3.76
227	SLU 42	149	15	3237	134.69	-333.44	-3.76
227	SLU 43	135	12	2810	116.79	-308.07	-3.85
227	SLU 44	135	12	2810	116.79	-308.07	-3.85
227	SLU 45	135	12	2810	116.79	-308.07	-3.85
227	SLU 46	135	12	2810	116.79	-308.07	-3.85
227	SLU 47	135	12	2810	116.79	-308.07	-3.85
227	SLU 48	135	12	2810	116.79	-308.07	-3.85
227	SLU 49	135	12	2810	116.79	-308.07	-3.85
227	SLU 50	135	12	2810	116.79	-308.07	-3.85
227	SLU 51	135	12	2810	116.79	-308.07	-3.85
227	SLU 52	148	15	3264	135.68	-348.53	-3.79
227	SLU 53	148	15	3264	135.68	-348.53	-3.79
227	SLU 54	148	15	3264	135.68	-348.53	-3.79
227	SLU 55	148	15	3264	135.68	-348.53	-3.79
227	SLU 56	148	15	3264	135.68	-348.53	-3.79
227	SLU 57	148	15	3264	135.68	-348.53	-3.79
227	SLU 58	148	15	3264	135.68	-348.53	-3.79
227	SLU 59	148	15	3264	135.68	-348.53	-3.79
227	SLU 60	154	16	3458	143.77	-365.86	-3.77
227	SLU 61	154	16	3458	143.77	-365.86	-3.77
227	SLU 62	154	16	3458	143.77	-365.86	-3.77
227	SLU 63	154	16	3458	143.77	-365.86	-3.77
227	SLU 64	156	13	3149	130.94	-338.67	-4.54
227	SLU 65	156	13	3149	130.94	-338.67	-4.54
227	SLU 66	156	13	3149	130.94	-338.67	-4.54
227	SLU 67	156	13	3149	130.94	-338.67	-4.54
227	SLU 68	156	13	3149	130.94	-338.67	-4.54
227	SLU 69	156	13	3149	130.94	-338.67	-4.54
227	SLU 70	156	13	3149	130.94	-338.67	-4.54
227	SLU 71	156	13	3149	130.94	-338.67	-4.54
227	SLU 72	156	13	3149	130.94	-338.67	-4.54
227	SLU 73	169	16	3602	149.82	-379.13	-4.49
227	SLU 74	169	16	3602	149.82	-379.13	-4.49
227	SLU 75	169	16	3602	149.82	-379.13	-4.49
227	SLU 76	169	16	3602	149.82	-379.13	-4.49
227	SLU 77	169	16	3602	149.82	-379.13	-4.49
227	SLU 78	169	16	3602	149.82	-379.13	-4.49
227	SLU 79	169	16	3602	149.82	-379.13	-4.49
227	SLU 80	169	16	3602	149.82	-379.13	-4.49
227	SLU 81	174	17	3797	157.92	-396.46	-4.47
227	SLU 82	174	17	3797	157.92	-396.46	-4.47
227	SLU 83	174	17	3797	157.92	-396.46	-4.47
227	SLU 84	174	17	3797	157.92	-396.46	-4.47
227	SLE RA 1	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 2	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 3	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 4	115	10	2348	97.62	-253.79	-3.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
227	SLE RA 5	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 6	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 7	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 8	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 9	115	10	2348	97.62	-253.79	-3.34
227	SLE RA 10	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 11	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 12	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 13	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 14	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 15	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 16	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 17	124	12	2650	110.2	-280.76	-3.31
227	SLE RA 18	128	13	2780	115.6	-292.32	-3.29
227	SLE RA 19	128	13	2780	115.6	-292.32	-3.29
227	SLE RA 20	128	13	2780	115.6	-292.32	-3.29
227	SLE RA 21	128	13	2780	115.6	-292.32	-3.29
227	SLE FR 1	115	10	2348	97.62	-253.79	-3.34
227	SLE FR 2	115	10	2348	97.62	-253.79	-3.34
227	SLE FR 3	115	10	2348	97.62	-253.79	-3.34
227	SLE FR 4	119	11	2477	103.01	-265.35	-3.33
227	SLE FR 5	119	11	2477	103.01	-265.35	-3.33
227	SLE FR 6	121	11	2564	106.61	-273.06	-3.32
227	SLE QP 1	115	10	2348	97.62	-253.79	-3.34
227	SLE QP 2	119	11	2477	103.01	-265.35	-3.33
227	SLD 1	450	175	2683	111.18	-277.8	13.48
227	SLD 2	399	130	2691	111.49	-278.57	4.62
227	SLD 3	348	-15	2940	123.09	-304.15	-29.3
227	SLD 4	297	-60	2948	123.4	-304.92	-38.16
227	SLD 5	390	364	2147	87.29	-228.85	69.72
227	SLD 6	338	318	2155	87.59	-229.62	60.79
227	SLD 7	52	-268	3003	126.99	-316.68	-72.85
227	SLD 8	1	-314	3011	127.3	-317.46	-81.79
227	SLD 9	237	336	1944	78.72	-213.24	75.13
227	SLD 10	185	290	1952	79.03	-214.02	66.2
227	SLD 11	-100	-296	2800	118.43	-301.08	-67.44
227	SLD 12	-152	-342	2808	118.73	-301.85	-76.38
227	SLD 13	-60	82	2007	82.62	-225.78	31.5
227	SLD 14	-111	36	2015	82.93	-226.55	22.65
227	SLD 15	-161	-108	2264	94.53	-252.13	-11.27
227	SLD 16	-212	-153	2271	94.84	-252.9	-20.13
227	SLV 1	873	388	2939	121.32	-293.48	35.36
227	SLV 2	757	285	2957	122.01	-295.23	15.22
227	SLV 3	638	-51	3534	148.89	-354.45	-63.57
227	SLV 4	522	-154	3552	149.58	-356.2	-83.71
227	SLV 5	743	826	1708	66.43	-180.69	165.54
227	SLV 6	625	721	1726	67.14	-182.47	145.05
227	SLV 7	-39	-636	3690	158.34	-383.93	-164.21
227	SLV 8	-158	-741	3708	159.05	-385.71	-184.71
227	SLV 9	395	763	1247	46.97	-144.99	178.05
227	SLV 10	277	658	1265	47.68	-146.77	157.56
227	SLV 11	-387	-700	3229	138.88	-348.23	-151.7
227	SLV 12	-505	-805	3247	139.59	-350.01	-172.2
227	SLV 13	-284	175	1403	56.44	-174.5	77.06
227	SLV 14	-400	72	1421	57.13	-176.25	56.91
227	SLV 15	-519	-263	1997	84.01	-235.47	-21.87
227	SLV 16	-635	-366	2015	84.7	-237.22	-42.01
227	CRTFP Ux+	0	0	0	0	0	0
227	CRTFP Ux-	0	0	0	0	0	0
227	CRTFP Uy+	0	0	0	0	0	0
227	CRTFP Uy-	0	0	0	0	0	0
230	SLU 1	-24	-6	2107	4.18	466.9	2.25
230	SLU 2	-24	-6	2107	4.18	466.9	2.25
230	SLU 3	-24	-6	2107	4.18	466.9	2.25
230	SLU 4	-24	-6	2107	4.18	466.9	2.25
230	SLU 5	-24	-6	2107	4.18	466.9	2.25
230	SLU 6	-24	-6	2107	4.18	466.9	2.25
230	SLU 7	-24	-6	2107	4.18	466.9	2.25
230	SLU 8	-24	-6	2107	4.18	466.9	2.25
230	SLU 9	-24	-6	2107	4.18	466.9	2.25
230	SLU 10	-29	-9	2494	5.06	545.5	3.28
230	SLU 11	-29	-9	2494	5.06	545.5	3.28
230	SLU 12	-29	-9	2494	5.06	545.5	3.28
230	SLU 13	-29	-9	2494	5.06	545.5	3.28
230	SLU 14	-29	-9	2494	5.06	545.5	3.28
230	SLU 15	-29	-9	2494	5.06	545.5	3.28
230	SLU 16	-29	-9	2494	5.06	545.5	3.28
230	SLU 17	-29	-9	2494	5.06	545.5	3.28
230	SLU 18	-32	-10	2660	5.44	579.18	3.73
230	SLU 19	-32	-10	2660	5.44	579.18	3.73
230	SLU 20	-32	-10	2660	5.44	579.18	3.73
230	SLU 21	-32	-10	2660	5.44	579.18	3.73
230	SLU 22	-29	-8	2390	4.86	524.69	2.97
230	SLU 23	-29	-8	2390	4.86	524.69	2.97
230	SLU 24	-29	-8	2390	4.86	524.69	2.97
230	SLU 25	-29	-8	2390	4.86	524.69	2.97
230	SLU 26	-29	-8	2390	4.86	524.69	2.97
230	SLU 27	-29	-8	2390	4.86	524.69	2.97
230	SLU 28	-29	-8	2390	4.86	524.69	2.97
230	SLU 29	-29	-8	2390	4.86	524.69	2.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
230	SLU 30	-29	-8	2390	4.86	524.69	2.97
230	SLU 31	-34	-11	2777	5.75	603.29	4.01
230	SLU 32	-34	-11	2777	5.75	603.29	4.01
230	SLU 33	-34	-11	2777	5.75	603.29	4.01
230	SLU 34	-34	-11	2777	5.75	603.29	4.01
230	SLU 35	-34	-11	2777	5.75	603.29	4.01
230	SLU 36	-34	-11	2777	5.75	603.29	4.01
230	SLU 37	-34	-11	2777	5.75	603.29	4.01
230	SLU 38	-34	-11	2777	5.75	603.29	4.01
230	SLU 39	-37	-12	2942	6.13	636.98	4.45
230	SLU 40	-37	-12	2942	6.13	636.98	4.45
230	SLU 41	-37	-12	2942	6.13	636.98	4.45
230	SLU 42	-37	-12	2942	6.13	636.98	4.45
230	SLU 43	-29	-7	2643	5.2	587.15	2.67
230	SLU 44	-29	-7	2643	5.2	587.15	2.67
230	SLU 45	-29	-7	2643	5.2	587.15	2.67
230	SLU 46	-29	-7	2643	5.2	587.15	2.67
230	SLU 47	-29	-7	2643	5.2	587.15	2.67
230	SLU 48	-29	-7	2643	5.2	587.15	2.67
230	SLU 49	-29	-7	2643	5.2	587.15	2.67
230	SLU 50	-29	-7	2643	5.2	587.15	2.67
230	SLU 51	-29	-7	2643	5.2	587.15	2.67
230	SLU 52	-35	-10	3030	6.08	665.75	3.71
230	SLU 53	-35	-10	3030	6.08	665.75	3.71
230	SLU 54	-35	-10	3030	6.08	665.75	3.71
230	SLU 55	-35	-10	3030	6.08	665.75	3.71
230	SLU 56	-35	-10	3030	6.08	665.75	3.71
230	SLU 57	-35	-10	3030	6.08	665.75	3.71
230	SLU 58	-35	-10	3030	6.08	665.75	3.71
230	SLU 59	-35	-10	3030	6.08	665.75	3.71
230	SLU 60	-37	-11	3196	6.46	699.43	4.16
230	SLU 61	-37	-11	3196	6.46	699.43	4.16
230	SLU 62	-37	-11	3196	6.46	699.43	4.16
230	SLU 63	-37	-11	3196	6.46	699.43	4.16
230	SLU 64	-34	-9	2925	5.88	644.95	3.4
230	SLU 65	-34	-9	2925	5.88	644.95	3.4
230	SLU 66	-34	-9	2925	5.88	644.95	3.4
230	SLU 67	-34	-9	2925	5.88	644.95	3.4
230	SLU 68	-34	-9	2925	5.88	644.95	3.4
230	SLU 69	-34	-9	2925	5.88	644.95	3.4
230	SLU 70	-34	-9	2925	5.88	644.95	3.4
230	SLU 71	-34	-9	2925	5.88	644.95	3.4
230	SLU 72	-34	-9	2925	5.88	644.95	3.4
230	SLU 73	-40	-12	3312	6.77	723.55	4.43
230	SLU 74	-40	-12	3312	6.77	723.55	4.43
230	SLU 75	-40	-12	3312	6.77	723.55	4.43
230	SLU 76	-40	-12	3312	6.77	723.55	4.43
230	SLU 77	-40	-12	3312	6.77	723.55	4.43
230	SLU 78	-40	-12	3312	6.77	723.55	4.43
230	SLU 79	-40	-12	3312	6.77	723.55	4.43
230	SLU 80	-40	-12	3312	6.77	723.55	4.43
230	SLU 81	-42	-13	3478	7.15	757.23	4.88
230	SLU 82	-42	-13	3478	7.15	757.23	4.88
230	SLU 83	-42	-13	3478	7.15	757.23	4.88
230	SLU 84	-42	-13	3478	7.15	757.23	4.88
230	SLE RA 1	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 2	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 3	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 4	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 5	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 6	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 7	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 8	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 9	-25	-7	2188	4.37	483.41	2.45
230	SLE RA 10	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 11	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 12	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 13	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 14	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 15	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 16	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 17	-29	-8	2446	4.96	535.81	3.15
230	SLE RA 18	-30	-9	2556	5.22	558.27	3.44
230	SLE RA 19	-30	-9	2556	5.22	558.27	3.44
230	SLE RA 20	-30	-9	2556	5.22	558.27	3.44
230	SLE RA 21	-30	-9	2556	5.22	558.27	3.44
230	SLE FR 1	-25	-7	2188	4.37	483.41	2.45
230	SLE FR 2	-25	-7	2188	4.37	483.41	2.45
230	SLE FR 3	-25	-7	2188	4.37	483.41	2.45
230	SLE FR 4	-27	-7	2298	4.63	505.87	2.75
230	SLE FR 5	-27	-7	2298	4.63	505.87	2.75
230	SLE FR 6	-28	-8	2372	4.8	520.84	2.95
230	SLE QP 1	-25	-7	2188	4.37	483.41	2.45
230	SLE QP 2	-27	-7	2298	4.63	505.87	2.75
230	SLD 1	176	-2	1878	3.29	427.78	0.32
230	SLD 2	143	38	1879	3.3	427.68	-13.31
230	SLD 3	183	-166	2086	4.65	473.07	58.07
230	SLD 4	150	-127	2088	4.65	472.97	44.44
230	SLD 5	35	230	1856	2.17	413.78	-80.74
230	SLD 6	2	270	1857	2.18	413.68	-94.48



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
230	SLD 7	58	-319	2550	6.68	564.76	111.76
230	SLD 8	25	-279	2552	6.69	564.66	98.02
230	SLD 9	-78	265	2045	2.57	447.08	-92.52
230	SLD 10	-112	304	2047	2.57	446.97	-106.26
230	SLD 11	-56	-285	2740	7.07	598.05	99.98
230	SLD 12	-89	-245	2741	7.08	597.95	86.24
230	SLD 13	-203	112	2509	4.6	538.76	-38.94
230	SLD 14	-236	152	2511	4.61	538.66	-52.57
230	SLD 15	-196	-52	2718	5.95	584.06	18.81
230	SLD 16	-229	-13	2719	5.96	583.95	5.18
230	SLV 1	433	9	1339	1.57	327.47	-4.03
230	SLV 2	358	99	1342	1.59	327.24	-35.02
230	SLV 3	449	-372	1821	4.7	432.26	129.7
230	SLV 4	374	-283	1824	4.72	432.03	98.71
230	SLV 5	114	544	1278	-1.04	293.51	-190.99
230	SLV 6	37	635	1282	-1.03	293.27	-222.52
230	SLV 7	167	-728	2885	9.39	642.79	254.77
230	SLV 8	91	-637	2889	9.41	642.56	223.24
230	SLV 9	-144	622	1708	-0.15	369.18	-217.74
230	SLV 10	-220	713	1712	-0.14	368.94	-249.27
230	SLV 11	-91	-650	3315	10.28	718.46	228.02
230	SLV 12	-167	-559	3319	10.29	718.22	196.49
230	SLV 13	-427	268	2773	4.54	579.71	-93.21
230	SLV 14	-502	358	2776	4.55	579.47	-124.2
230	SLV 15	-411	-113	3255	7.67	684.49	40.52
230	SLV 16	-486	-24	3258	7.68	684.26	9.53
230	CRTFP Ux+	0	0	0	0	0	0
230	CRTFP Ux-	0	0	0	0	0	0
230	CRTFP Uy+	0	0	0	0	0	0
230	CRTFP Uy-	0	0	0	0	0	0
231	SLU 1	-17	-2	1921	1.25	1.13	0.11
231	SLU 2	-17	-2	1921	1.25	1.13	0.11
231	SLU 3	-17	-2	1921	1.25	1.13	0.11
231	SLU 4	-17	-2	1921	1.25	1.13	0.11
231	SLU 5	-17	-2	1921	1.25	1.13	0.11
231	SLU 6	-17	-2	1921	1.25	1.13	0.11
231	SLU 7	-17	-2	1921	1.25	1.13	0.11
231	SLU 8	-17	-2	1921	1.25	1.13	0.11
231	SLU 9	-17	-2	1921	1.25	1.13	0.11
231	SLU 10	-20	-2	2333	1.25	1.42	0.14
231	SLU 11	-20	-2	2333	1.25	1.42	0.14
231	SLU 12	-20	-2	2333	1.25	1.42	0.14
231	SLU 13	-20	-2	2333	1.25	1.42	0.14
231	SLU 14	-20	-2	2333	1.25	1.42	0.14
231	SLU 15	-20	-2	2333	1.25	1.42	0.14
231	SLU 16	-20	-2	2333	1.25	1.42	0.14
231	SLU 17	-20	-2	2333	1.25	1.42	0.14
231	SLU 18	-22	-2	2509	1.24	1.54	0.15
231	SLU 19	-22	-2	2509	1.24	1.54	0.15
231	SLU 20	-22	-2	2509	1.24	1.54	0.15
231	SLU 21	-22	-2	2509	1.24	1.54	0.15
231	SLU 22	-21	-2	2219	1.36	1.36	0.14
231	SLU 23	-21	-2	2219	1.36	1.36	0.14
231	SLU 24	-21	-2	2219	1.36	1.36	0.14
231	SLU 25	-21	-2	2219	1.36	1.36	0.14
231	SLU 26	-21	-2	2219	1.36	1.36	0.14
231	SLU 27	-21	-2	2219	1.36	1.36	0.14
231	SLU 28	-21	-2	2219	1.36	1.36	0.14
231	SLU 29	-21	-2	2219	1.36	1.36	0.14
231	SLU 30	-21	-2	2219	1.36	1.36	0.14
231	SLU 31	-24	-2	2631	1.35	1.65	0.16
231	SLU 32	-24	-2	2631	1.35	1.65	0.16
231	SLU 33	-24	-2	2631	1.35	1.65	0.16
231	SLU 34	-24	-2	2631	1.35	1.65	0.16
231	SLU 35	-24	-2	2631	1.35	1.65	0.16
231	SLU 36	-24	-2	2631	1.35	1.65	0.16
231	SLU 37	-24	-2	2631	1.35	1.65	0.16
231	SLU 38	-24	-2	2631	1.35	1.65	0.16
231	SLU 39	-26	-3	2808	1.35	1.77	0.17
231	SLU 40	-26	-3	2808	1.35	1.77	0.17
231	SLU 41	-26	-3	2808	1.35	1.77	0.17
231	SLU 42	-26	-3	2808	1.35	1.77	0.17
231	SLU 43	-20	-2	2394	1.59	1.39	0.14
231	SLU 44	-20	-2	2394	1.59	1.39	0.14
231	SLU 45	-20	-2	2394	1.59	1.39	0.14
231	SLU 46	-20	-2	2394	1.59	1.39	0.14
231	SLU 47	-20	-2	2394	1.59	1.39	0.14
231	SLU 48	-20	-2	2394	1.59	1.39	0.14
231	SLU 49	-20	-2	2394	1.59	1.39	0.14
231	SLU 50	-20	-2	2394	1.59	1.39	0.14
231	SLU 51	-20	-2	2394	1.59	1.39	0.14
231	SLU 52	-24	-3	2806	1.58	1.68	0.17
231	SLU 53	-24	-3	2806	1.58	1.68	0.17
231	SLU 54	-24	-3	2806	1.58	1.68	0.17
231	SLU 55	-24	-3	2806	1.58	1.68	0.17
231	SLU 56	-24	-3	2806	1.58	1.68	0.17
231	SLU 57	-24	-3	2806	1.58	1.68	0.17
231	SLU 58	-24	-3	2806	1.58	1.68	0.17
231	SLU 59	-24	-3	2806	1.58	1.68	0.17
231	SLU 60	-26	-3	2983	1.58	1.8	0.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
231	SLU 61	-26	-3	2983	1.58	1.8	0.18
231	SLU 62	-26	-3	2983	1.58	1.8	0.18
231	SLU 63	-26	-3	2983	1.58	1.8	0.18
231	SLU 64	-24	-3	2693	1.7	1.62	0.16
231	SLU 65	-24	-3	2693	1.7	1.62	0.16
231	SLU 66	-24	-3	2693	1.7	1.62	0.16
231	SLU 67	-24	-3	2693	1.7	1.62	0.16
231	SLU 68	-24	-3	2693	1.7	1.62	0.16
231	SLU 69	-24	-3	2693	1.7	1.62	0.16
231	SLU 70	-24	-3	2693	1.7	1.62	0.16
231	SLU 71	-24	-3	2693	1.7	1.62	0.16
231	SLU 72	-24	-3	2693	1.7	1.62	0.16
231	SLU 73	-28	-3	3105	1.69	1.91	0.19
231	SLU 74	-28	-3	3105	1.69	1.91	0.19
231	SLU 75	-28	-3	3105	1.69	1.91	0.19
231	SLU 76	-28	-3	3105	1.69	1.91	0.19
231	SLU 77	-28	-3	3105	1.69	1.91	0.19
231	SLU 78	-28	-3	3105	1.69	1.91	0.19
231	SLU 79	-28	-3	3105	1.69	1.91	0.19
231	SLU 80	-28	-3	3105	1.69	1.91	0.19
231	SLU 81	-29	-3	3282	1.69	2.03	0.2
231	SLU 82	-29	-3	3282	1.69	2.03	0.2
231	SLU 83	-29	-3	3282	1.69	2.03	0.2
231	SLU 84	-29	-3	3282	1.69	2.03	0.2
231	SLE RA 1	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 2	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 3	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 4	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 5	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 6	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 7	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 8	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 9	-18	-2	2006	1.28	1.2	0.12
231	SLE RA 10	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 11	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 12	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 13	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 14	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 15	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 16	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 17	-20	-2	2281	1.28	1.39	0.14
231	SLE RA 18	-21	-2	2398	1.28	1.47	0.14
231	SLE RA 19	-21	-2	2398	1.28	1.47	0.14
231	SLE RA 20	-21	-2	2398	1.28	1.47	0.14
231	SLE RA 21	-21	-2	2398	1.28	1.47	0.14
231	SLE FR 1	-18	-2	2006	1.28	1.2	0.12
231	SLE FR 2	-18	-2	2006	1.28	1.2	0.12
231	SLE FR 3	-18	-2	2006	1.28	1.2	0.12
231	SLE FR 4	-19	-2	2124	1.28	1.28	0.13
231	SLE FR 5	-19	-2	2124	1.28	1.28	0.13
231	SLE FR 6	-20	-2	2202	1.28	1.33	0.13
231	SLE QP 1	-18	-2	2006	1.28	1.2	0.12
231	SLE QP 2	-19	-2	2124	1.28	1.28	0.13
231	SLD 1	141	10	2098	0.84	-0.95	-0.26
231	SLD 2	114	11	2094	0.85	-0.95	-0.15
231	SLD 3	147	-22	2236	1.57	-1.26	-0.23
231	SLD 4	120	-21	2233	1.58	-1.26	-0.12
231	SLD 5	30	50	1908	0.04	1.09	-0.09
231	SLD 6	3	51	1904	0.05	1.09	0.02
231	SLD 7	49	-57	2368	2.47	0.04	0.04
231	SLD 8	22	-56	2365	2.48	0.04	0.15
231	SLD 9	-60	52	1883	0.08	2.52	0.1
231	SLD 10	-87	53	1879	0.09	2.52	0.21
231	SLD 11	-40	-55	2343	2.51	1.47	0.23
231	SLD 12	-68	-54	2339	2.52	1.47	0.34
231	SLD 13	-158	17	2015	0.98	3.82	0.37
231	SLD 14	-185	18	2011	0.99	3.82	0.48
231	SLD 15	-152	-15	2153	1.71	3.51	0.41
231	SLD 16	-179	-14	2149	1.72	3.5	0.52
231	SLV 1	344	27	2064	0.27	-4.01	-0.76
231	SLV 2	282	28	2055	0.28	-4.02	-0.51
231	SLV 3	357	-48	2383	1.96	-4.81	-0.67
231	SLV 4	296	-46	2375	1.97	-4.82	-0.43
231	SLV 5	91	119	1624	-1.59	0.91	-0.36
231	SLV 6	28	120	1615	-1.57	0.9	-0.11
231	SLV 7	137	-129	2689	4.04	-1.76	-0.07
231	SLV 8	74	-128	2681	4.05	-1.77	0.18
231	SLV 9	-112	123	1567	-1.49	4.33	0.07
231	SLV 10	-175	125	1558	-1.48	4.32	0.33
231	SLV 11	-66	-124	2632	4.14	1.66	0.36
231	SLV 12	-129	-123	2623	4.15	1.65	0.61
231	SLV 13	-334	42	1873	0.59	7.38	0.68
231	SLV 14	-395	43	1864	0.61	7.37	0.93
231	SLV 15	-320	-32	2192	2.28	6.58	0.77
231	SLV 16	-381	-31	2183	2.29	6.57	1.01
231	CRTFP Ux+	0	0	0	0	0	0
231	CRTFP Ux-	0	0	0	0	0	0
231	CRTFP Uy+	0	0	0	0	0	0
231	CRTFP Uy-	0	0	0	0	0	0
232	SLU 1	110	8	1870	148.6	-203.02	-7.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
232	SLU 2	110	8	1870	148.6	-203.02	-7.3
232	SLU 3	110	8	1870	148.6	-203.02	-7.3
232	SLU 4	110	8	1870	148.6	-203.02	-7.3
232	SLU 5	110	8	1870	148.6	-203.02	-7.3
232	SLU 6	110	8	1870	148.6	-203.02	-7.3
232	SLU 7	110	8	1870	148.6	-203.02	-7.3
232	SLU 8	110	8	1870	148.6	-203.02	-7.3
232	SLU 9	110	8	1870	148.6	-203.02	-7.3
232	SLU 10	123	10	2248	178.62	-236.71	-7.8
232	SLU 11	123	10	2248	178.62	-236.71	-7.8
232	SLU 12	123	10	2248	178.62	-236.71	-7.8
232	SLU 13	123	10	2248	178.62	-236.71	-7.8
232	SLU 14	123	10	2248	178.62	-236.71	-7.8
232	SLU 15	123	10	2248	178.62	-236.71	-7.8
232	SLU 16	123	10	2248	178.62	-236.71	-7.8
232	SLU 17	123	10	2248	178.62	-236.71	-7.8
232	SLU 18	129	11	2410	191.48	-251.15	-8.02
232	SLU 19	129	11	2410	191.48	-251.15	-8.02
232	SLU 20	129	11	2410	191.48	-251.15	-8.02
232	SLU 21	129	11	2410	191.48	-251.15	-8.02
232	SLU 22	131	9	2153	171.11	-228.48	-8.76
232	SLU 23	131	9	2153	171.11	-228.48	-8.76
232	SLU 24	131	9	2153	171.11	-228.48	-8.76
232	SLU 25	131	9	2153	171.11	-228.48	-8.76
232	SLU 26	131	9	2153	171.11	-228.48	-8.76
232	SLU 27	131	9	2153	171.11	-228.48	-8.76
232	SLU 28	131	9	2153	171.11	-228.48	-8.76
232	SLU 29	131	9	2153	171.11	-228.48	-8.76
232	SLU 30	131	9	2153	171.11	-228.48	-8.76
232	SLU 31	144	12	2531	201.13	-262.17	-9.26
232	SLU 32	144	12	2531	201.13	-262.17	-9.26
232	SLU 33	144	12	2531	201.13	-262.17	-9.26
232	SLU 34	144	12	2531	201.13	-262.17	-9.26
232	SLU 35	144	12	2531	201.13	-262.17	-9.26
232	SLU 36	144	12	2531	201.13	-262.17	-9.26
232	SLU 37	144	12	2531	201.13	-262.17	-9.26
232	SLU 38	144	12	2531	201.13	-262.17	-9.26
232	SLU 39	149	13	2692	213.99	-276.61	-9.47
232	SLU 40	149	13	2692	213.99	-276.61	-9.47
232	SLU 41	149	13	2692	213.99	-276.61	-9.47
232	SLU 42	149	13	2692	213.99	-276.61	-9.47
232	SLU 43	136	10	2335	185.47	-255.2	-8.99
232	SLU 44	136	10	2335	185.47	-255.2	-8.99
232	SLU 45	136	10	2335	185.47	-255.2	-8.99
232	SLU 46	136	10	2335	185.47	-255.2	-8.99
232	SLU 47	136	10	2335	185.47	-255.2	-8.99
232	SLU 48	136	10	2335	185.47	-255.2	-8.99
232	SLU 49	136	10	2335	185.47	-255.2	-8.99
232	SLU 50	136	10	2335	185.47	-255.2	-8.99
232	SLU 51	136	10	2335	185.47	-255.2	-8.99
232	SLU 52	149	12	2712	215.48	-288.89	-9.49
232	SLU 53	149	12	2712	215.48	-288.89	-9.49
232	SLU 54	149	12	2712	215.48	-288.89	-9.49
232	SLU 55	149	12	2712	215.48	-288.89	-9.49
232	SLU 56	149	12	2712	215.48	-288.89	-9.49
232	SLU 57	149	12	2712	215.48	-288.89	-9.49
232	SLU 58	149	12	2712	215.48	-288.89	-9.49
232	SLU 59	149	12	2712	215.48	-288.89	-9.49
232	SLU 60	155	13	2874	228.34	-303.33	-9.71
232	SLU 61	155	13	2874	228.34	-303.33	-9.71
232	SLU 62	155	13	2874	228.34	-303.33	-9.71
232	SLU 63	155	13	2874	228.34	-303.33	-9.71
232	SLU 64	157	11	2617	207.98	-280.66	-10.45
232	SLU 65	157	11	2617	207.98	-280.66	-10.45
232	SLU 66	157	11	2617	207.98	-280.66	-10.45
232	SLU 67	157	11	2617	207.98	-280.66	-10.45
232	SLU 68	157	11	2617	207.98	-280.66	-10.45
232	SLU 69	157	11	2617	207.98	-280.66	-10.45
232	SLU 70	157	11	2617	207.98	-280.66	-10.45
232	SLU 71	157	11	2617	207.98	-280.66	-10.45
232	SLU 72	157	11	2617	207.98	-280.66	-10.45
232	SLU 73	170	14	2995	237.99	-314.35	-10.95
232	SLU 74	170	14	2995	237.99	-314.35	-10.95
232	SLU 75	170	14	2995	237.99	-314.35	-10.95
232	SLU 76	170	14	2995	237.99	-314.35	-10.95
232	SLU 77	170	14	2995	237.99	-314.35	-10.95
232	SLU 78	170	14	2995	237.99	-314.35	-10.95
232	SLU 79	170	14	2995	237.99	-314.35	-10.95
232	SLU 80	170	14	2995	237.99	-314.35	-10.95
232	SLU 81	175	15	3157	250.85	-328.79	-11.16
232	SLU 82	175	15	3157	250.85	-328.79	-11.16
232	SLU 83	175	15	3157	250.85	-328.79	-11.16
232	SLU 84	175	15	3157	250.85	-328.79	-11.16
232	SLE RA 1	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 2	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 3	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 4	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 5	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 6	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 7	116	8	1951	155.04	-210.3	-7.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
232	SLE RA 8	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 9	116	8	1951	155.04	-210.3	-7.71
232	SLE RA 10	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 11	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 12	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 13	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 14	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 15	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 16	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 17	125	10	2203	175.04	-232.76	-8.05
232	SLE RA 18	128	11	2311	183.62	-242.38	-8.19
232	SLE RA 19	128	11	2311	183.62	-242.38	-8.19
232	SLE RA 20	128	11	2311	183.62	-242.38	-8.19
232	SLE RA 21	128	11	2311	183.62	-242.38	-8.19
232	SLE FR 1	116	8	1951	155.04	-210.3	-7.71
232	SLE FR 2	116	8	1951	155.04	-210.3	-7.71
232	SLE FR 3	116	8	1951	155.04	-210.3	-7.71
232	SLE FR 4	120	9	2059	163.61	-219.92	-7.86
232	SLE FR 5	120	9	2059	163.61	-219.92	-7.86
232	SLE FR 6	122	10	2131	169.33	-226.34	-7.95
232	SLE QP 1	116	8	1951	155.04	-210.3	-7.71
232	SLE QP 2	120	9	2059	163.61	-219.92	-7.86
232	SLD 1	427	143	2223	176.47	-225.47	-4.04
232	SLD 2	377	106	2229	176.94	-226.44	-9.19
232	SLD 3	333	-11	2460	195.9	-252.66	-35.11
232	SLD 4	284	-48	2466	196.37	-253.63	-40.25
232	SLD 5	372	297	1748	137.84	-180.01	42.22
232	SLD 6	322	259	1754	138.32	-180.98	37.04
232	SLD 7	59	-218	2535	202.59	-270.64	-61.33
232	SLD 8	9	-256	2542	203.06	-271.61	-66.51
232	SLD 9	230	274	1576	124.16	-168.23	50.8
232	SLD 10	181	236	1583	124.63	-169.21	45.61
232	SLD 11	-82	-241	2364	188.9	-258.86	-52.75
232	SLD 12	-132	-279	2370	189.38	-259.83	-57.94
232	SLD 13	-44	67	1652	130.86	-186.22	24.54
232	SLD 14	-93	30	1658	131.32	-187.18	19.39
232	SLD 15	-138	-88	1889	150.28	-213.4	-6.53
232	SLD 16	-187	-125	1895	150.75	-214.37	-11.67
232	SLV 1	820	317	2427	192.41	-232.25	1.09
232	SLV 2	708	233	2441	193.48	-234.44	-10.6
232	SLV 3	602	-41	2974	237.37	-295.16	-70.74
232	SLV 4	490	-125	2988	238.43	-297.35	-82.43
232	SLV 5	700	674	1335	103.68	-127.41	107.97
232	SLV 6	586	588	1349	104.77	-129.65	96.07
232	SLV 7	-26	-518	3158	253.54	-337.12	-131.48
232	SLV 8	-140	-603	3172	254.63	-339.36	-143.38
232	SLV 9	379	622	946	72.59	-100.49	127.66
232	SLV 10	265	536	960	73.68	-102.72	115.76
232	SLV 11	-347	-570	2769	222.46	-310.2	-111.79
232	SLV 12	-461	-656	2783	223.54	-312.43	-123.69
232	SLV 13	-251	143	1130	88.79	-142.49	66.72
232	SLV 14	-362	59	1144	89.85	-144.69	55.02
232	SLV 15	-468	-215	1677	133.75	-205.4	-5.12
232	SLV 16	-580	-299	1691	134.81	-207.6	-16.81
232	CRTFP Ux+	0	0	0	0	0	0
232	CRTFP Ux-	0	0	0	0	0	0
232	CRTFP Uy+	0	0	0	0	0	0
232	CRTFP Uy-	0	0	0	0	0	0
234	SLU 1	-28	-6	2252	5.61	563.42	2.26
234	SLU 2	-28	-6	2252	5.61	563.42	2.26
234	SLU 3	-28	-6	2252	5.61	563.42	2.26
234	SLU 4	-28	-6	2252	5.61	563.42	2.26
234	SLU 5	-28	-6	2252	5.61	563.42	2.26
234	SLU 6	-28	-6	2252	5.61	563.42	2.26
234	SLU 7	-28	-6	2252	5.61	563.42	2.26
234	SLU 8	-28	-6	2252	5.61	563.42	2.26
234	SLU 9	-28	-6	2252	5.61	563.42	2.26
234	SLU 10	-34	-9	2670	6.81	662.53	3.3
234	SLU 11	-34	-9	2670	6.81	662.53	3.3
234	SLU 12	-34	-9	2670	6.81	662.53	3.3
234	SLU 13	-34	-9	2670	6.81	662.53	3.3
234	SLU 14	-34	-9	2670	6.81	662.53	3.3
234	SLU 15	-34	-9	2670	6.81	662.53	3.3
234	SLU 16	-34	-9	2670	6.81	662.53	3.3
234	SLU 17	-34	-9	2670	6.81	662.53	3.3
234	SLU 18	-37	-10	2849	7.33	705	3.74
234	SLU 19	-37	-10	2849	7.33	705	3.74
234	SLU 20	-37	-10	2849	7.33	705	3.74
234	SLU 21	-37	-10	2849	7.33	705	3.74
234	SLU 22	-34	-8	2558	6.53	636.52	2.98
234	SLU 23	-34	-8	2558	6.53	636.52	2.98
234	SLU 24	-34	-8	2558	6.53	636.52	2.98
234	SLU 25	-34	-8	2558	6.53	636.52	2.98
234	SLU 26	-34	-8	2558	6.53	636.52	2.98
234	SLU 27	-34	-8	2558	6.53	636.52	2.98
234	SLU 28	-34	-8	2558	6.53	636.52	2.98
234	SLU 29	-34	-8	2558	6.53	636.52	2.98
234	SLU 30	-34	-8	2558	6.53	636.52	2.98
234	SLU 31	-41	-11	2976	7.73	735.62	4.02
234	SLU 32	-41	-11	2976	7.73	735.62	4.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
234	SLU 33	-41	-11	2976	7.73	735.62	4.02
234	SLU 34	-41	-11	2976	7.73	735.62	4.02
234	SLU 35	-41	-11	2976	7.73	735.62	4.02
234	SLU 36	-41	-11	2976	7.73	735.62	4.02
234	SLU 37	-41	-11	2976	7.73	735.62	4.02
234	SLU 38	-41	-11	2976	7.73	735.62	4.02
234	SLU 39	-43	-12	3155	8.25	778.1	4.46
234	SLU 40	-43	-12	3155	8.25	778.1	4.46
234	SLU 41	-43	-12	3155	8.25	778.1	4.46
234	SLU 42	-43	-12	3155	8.25	778.1	4.46
234	SLU 43	-34	-7	2823	6.97	707.39	2.69
234	SLU 44	-34	-7	2823	6.97	707.39	2.69
234	SLU 45	-34	-7	2823	6.97	707.39	2.69
234	SLU 46	-34	-7	2823	6.97	707.39	2.69
234	SLU 47	-34	-7	2823	6.97	707.39	2.69
234	SLU 48	-34	-7	2823	6.97	707.39	2.69
234	SLU 49	-34	-7	2823	6.97	707.39	2.69
234	SLU 50	-34	-7	2823	6.97	707.39	2.69
234	SLU 51	-34	-7	2823	6.97	707.39	2.69
234	SLU 52	-40	-10	3240	8.18	806.49	3.72
234	SLU 53	-40	-10	3240	8.18	806.49	3.72
234	SLU 54	-40	-10	3240	8.18	806.49	3.72
234	SLU 55	-40	-10	3240	8.18	806.49	3.72
234	SLU 56	-40	-10	3240	8.18	806.49	3.72
234	SLU 57	-40	-10	3240	8.18	806.49	3.72
234	SLU 58	-40	-10	3240	8.18	806.49	3.72
234	SLU 59	-40	-10	3240	8.18	806.49	3.72
234	SLU 60	-43	-11	3420	8.7	848.97	4.17
234	SLU 61	-43	-11	3420	8.7	848.97	4.17
234	SLU 62	-43	-11	3420	8.7	848.97	4.17
234	SLU 63	-43	-11	3420	8.7	848.97	4.17
234	SLU 64	-40	-9	3129	7.89	780.48	3.41
234	SLU 65	-40	-9	3129	7.89	780.48	3.41
234	SLU 66	-40	-9	3129	7.89	780.48	3.41
234	SLU 67	-40	-9	3129	7.89	780.48	3.41
234	SLU 68	-40	-9	3129	7.89	780.48	3.41
234	SLU 69	-40	-9	3129	7.89	780.48	3.41
234	SLU 70	-40	-9	3129	7.89	780.48	3.41
234	SLU 71	-40	-9	3129	7.89	780.48	3.41
234	SLU 72	-40	-9	3129	7.89	780.48	3.41
234	SLU 73	-47	-12	3546	9.1	879.59	4.45
234	SLU 74	-47	-12	3546	9.1	879.59	4.45
234	SLU 75	-47	-12	3546	9.1	879.59	4.45
234	SLU 76	-47	-12	3546	9.1	879.59	4.45
234	SLU 77	-47	-12	3546	9.1	879.59	4.45
234	SLU 78	-47	-12	3546	9.1	879.59	4.45
234	SLU 79	-47	-12	3546	9.1	879.59	4.45
234	SLU 80	-47	-12	3546	9.1	879.59	4.45
234	SLU 81	-50	-13	3726	9.62	922.06	4.89
234	SLU 82	-50	-13	3726	9.62	922.06	4.89
234	SLU 83	-50	-13	3726	9.62	922.06	4.89
234	SLU 84	-50	-13	3726	9.62	922.06	4.89
234	SLE RA 1	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 2	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 3	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 4	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 5	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 6	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 7	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 8	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 9	-30	-7	2339	5.87	584.31	2.46
234	SLE RA 10	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 11	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 12	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 13	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 14	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 15	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 16	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 17	-34	-9	2618	6.67	650.38	3.16
234	SLE RA 18	-36	-9	2737	7.02	678.69	3.45
234	SLE RA 19	-36	-9	2737	7.02	678.69	3.45
234	SLE RA 20	-36	-9	2737	7.02	678.69	3.45
234	SLE RA 21	-36	-9	2737	7.02	678.69	3.45
234	SLE FR 1	-30	-7	2339	5.87	584.31	2.46
234	SLE FR 2	-30	-7	2339	5.87	584.31	2.46
234	SLE FR 3	-30	-7	2339	5.87	584.31	2.46
234	SLE FR 4	-31	-7	2459	6.21	612.62	2.76
234	SLE FR 5	-31	-7	2459	6.21	612.62	2.76
234	SLE FR 6	-33	-8	2538	6.44	631.5	2.96
234	SLE QP 1	-30	-7	2339	5.87	584.31	2.46
234	SLE QP 2	-31	-7	2459	6.21	612.62	2.76
234	SLD 1	184	-2	1994	4.56	511.06	0.36
234	SLD 2	147	37	1996	4.57	511.09	-13.25
234	SLD 3	192	-166	2245	6.09	573.85	57.97
234	SLD 4	155	-127	2247	6.09	573.88	44.36
234	SLD 5	35	230	1938	3.4	486.92	-80.52
234	SLD 6	-3	270	1940	3.41	486.94	-94.24
234	SLD 7	61	-319	2774	8.49	696.21	111.52
234	SLD 8	23	-279	2776	8.49	696.24	97.8
234	SLD 9	-86	264	2141	3.93	529.01	-92.28



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
234	SLD 10	-123	304	2143	3.94	529.03	-106
234	SLD 11	-60	-284	2977	9.02	738.3	99.76
234	SLD 12	-98	-245	2979	9.03	738.33	86.04
234	SLD 13	-217	112	2671	6.34	651.37	-38.84
234	SLD 14	-255	152	2673	6.34	651.39	-52.45
234	SLD 15	-210	-52	2922	7.86	714.16	18.77
234	SLD 16	-247	-13	2923	7.87	714.18	5.16
234	SLV 1	458	9	1398	2.42	380.6	-3.95
234	SLV 2	373	98	1402	2.44	380.65	-34.89
234	SLV 3	476	-372	1978	5.96	525.87	129.46
234	SLV 4	391	-283	1982	5.97	525.93	98.52
234	SLV 5	119	543	1259	-0.29	322.66	-190.5
234	SLV 6	32	634	1263	-0.27	322.72	-221.98
234	SLV 7	179	-727	3193	11.49	806.91	254.22
234	SLV 8	92	-636	3197	11.5	806.97	222.73
234	SLV 9	-155	621	1720	0.92	418.27	-217.21
234	SLV 10	-242	712	1724	0.94	418.33	-248.7
234	SLV 11	-95	-649	3654	12.7	902.53	227.5
234	SLV 12	-181	-558	3658	12.71	902.59	196.02
234	SLV 13	-453	268	2935	6.46	699.32	-93
234	SLV 14	-539	357	2939	6.47	699.37	-123.94
234	SLV 15	-435	-113	3515	9.99	844.59	40.41
234	SLV 16	-521	-24	3519	10	844.65	9.47
234	CRTFP Ux+	0	0	0	0	0	0
234	CRTFP Ux-	0	0	0	0	0	0
234	CRTFP Uy+	0	0	0	0	0.01	0
234	CRTFP Uy-	0	0	0	0	-0.01	0
235	SLU 1	-20	-2	1969	1.81	2.12	0.12
235	SLU 2	-20	-2	1969	1.81	2.12	0.12
235	SLU 3	-20	-2	1969	1.81	2.12	0.12
235	SLU 4	-20	-2	1969	1.81	2.12	0.12
235	SLU 5	-20	-2	1969	1.81	2.12	0.12
235	SLU 6	-20	-2	1969	1.81	2.12	0.12
235	SLU 7	-20	-2	1969	1.81	2.12	0.12
235	SLU 8	-20	-2	1969	1.81	2.12	0.12
235	SLU 9	-20	-2	1969	1.81	2.12	0.12
235	SLU 10	-25	-2	2382	1.89	2.66	0.15
235	SLU 11	-25	-2	2382	1.89	2.66	0.15
235	SLU 12	-25	-2	2382	1.89	2.66	0.15
235	SLU 13	-25	-2	2382	1.89	2.66	0.15
235	SLU 14	-25	-2	2382	1.89	2.66	0.15
235	SLU 15	-25	-2	2382	1.89	2.66	0.15
235	SLU 16	-25	-2	2382	1.89	2.66	0.15
235	SLU 17	-25	-2	2382	1.89	2.66	0.15
235	SLU 18	-27	-2	2559	1.93	2.89	0.16
235	SLU 19	-27	-2	2559	1.93	2.89	0.16
235	SLU 20	-27	-2	2559	1.93	2.89	0.16
235	SLU 21	-27	-2	2559	1.93	2.89	0.16
235	SLU 22	-25	-2	2272	2	2.56	0.14
235	SLU 23	-25	-2	2272	2	2.56	0.14
235	SLU 24	-25	-2	2272	2	2.56	0.14
235	SLU 25	-25	-2	2272	2	2.56	0.14
235	SLU 26	-25	-2	2272	2	2.56	0.14
235	SLU 27	-25	-2	2272	2	2.56	0.14
235	SLU 28	-25	-2	2272	2	2.56	0.14
235	SLU 29	-25	-2	2272	2	2.56	0.14
235	SLU 30	-25	-2	2272	2	2.56	0.14
235	SLU 31	-30	-2	2685	2.09	3.1	0.17
235	SLU 32	-30	-2	2685	2.09	3.1	0.17
235	SLU 33	-30	-2	2685	2.09	3.1	0.17
235	SLU 34	-30	-2	2685	2.09	3.1	0.17
235	SLU 35	-30	-2	2685	2.09	3.1	0.17
235	SLU 36	-30	-2	2685	2.09	3.1	0.17
235	SLU 37	-30	-2	2685	2.09	3.1	0.17
235	SLU 38	-30	-2	2685	2.09	3.1	0.17
235	SLU 39	-31	-3	2862	2.12	3.33	0.18
235	SLU 40	-31	-3	2862	2.12	3.33	0.18
235	SLU 41	-31	-3	2862	2.12	3.33	0.18
235	SLU 42	-31	-3	2862	2.12	3.33	0.18
235	SLU 43	-25	-2	2455	2.28	2.6	0.15
235	SLU 44	-25	-2	2455	2.28	2.6	0.15
235	SLU 45	-25	-2	2455	2.28	2.6	0.15
235	SLU 46	-25	-2	2455	2.28	2.6	0.15
235	SLU 47	-25	-2	2455	2.28	2.6	0.15
235	SLU 48	-25	-2	2455	2.28	2.6	0.15
235	SLU 49	-25	-2	2455	2.28	2.6	0.15
235	SLU 50	-25	-2	2455	2.28	2.6	0.15
235	SLU 51	-25	-2	2455	2.28	2.6	0.15
235	SLU 52	-29	-3	2868	2.37	3.14	0.17
235	SLU 53	-29	-3	2868	2.37	3.14	0.17
235	SLU 54	-29	-3	2868	2.37	3.14	0.17
235	SLU 55	-29	-3	2868	2.37	3.14	0.17
235	SLU 56	-29	-3	2868	2.37	3.14	0.17
235	SLU 57	-29	-3	2868	2.37	3.14	0.17
235	SLU 58	-29	-3	2868	2.37	3.14	0.17
235	SLU 59	-29	-3	2868	2.37	3.14	0.17
235	SLU 60	-31	-3	3045	2.4	3.37	0.19
235	SLU 61	-31	-3	3045	2.4	3.37	0.19
235	SLU 62	-31	-3	3045	2.4	3.37	0.19
235	SLU 63	-31	-3	3045	2.4	3.37	0.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
235	SLU 64	-30	-3	2759	2.48	3.04	0.17
235	SLU 65	-30	-3	2759	2.48	3.04	0.17
235	SLU 66	-30	-3	2759	2.48	3.04	0.17
235	SLU 67	-30	-3	2759	2.48	3.04	0.17
235	SLU 68	-30	-3	2759	2.48	3.04	0.17
235	SLU 69	-30	-3	2759	2.48	3.04	0.17
235	SLU 70	-30	-3	2759	2.48	3.04	0.17
235	SLU 71	-30	-3	2759	2.48	3.04	0.17
235	SLU 72	-30	-3	2759	2.48	3.04	0.17
235	SLU 73	-34	-3	3172	2.56	3.58	0.2
235	SLU 74	-34	-3	3172	2.56	3.58	0.2
235	SLU 75	-34	-3	3172	2.56	3.58	0.2
235	SLU 76	-34	-3	3172	2.56	3.58	0.2
235	SLU 77	-34	-3	3172	2.56	3.58	0.2
235	SLU 78	-34	-3	3172	2.56	3.58	0.2
235	SLU 79	-34	-3	3172	2.56	3.58	0.2
235	SLU 80	-34	-3	3172	2.56	3.58	0.2
235	SLU 81	-36	-3	3349	2.6	3.81	0.21
235	SLU 82	-36	-3	3349	2.6	3.81	0.21
235	SLU 83	-36	-3	3349	2.6	3.81	0.21
235	SLU 84	-36	-3	3349	2.6	3.81	0.21
235	SLE RA 1	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 2	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 3	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 4	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 5	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 6	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 7	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 8	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 9	-22	-2	2055	1.86	2.24	0.13
235	SLE RA 10	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 11	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 12	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 13	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 14	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 15	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 16	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 17	-25	-2	2331	1.92	2.6	0.14
235	SLE RA 18	-26	-2	2449	1.94	2.76	0.15
235	SLE RA 19	-26	-2	2449	1.94	2.76	0.15
235	SLE RA 20	-26	-2	2449	1.94	2.76	0.15
235	SLE RA 21	-26	-2	2449	1.94	2.76	0.15
235	SLE FR 1	-22	-2	2055	1.86	2.24	0.13
235	SLE FR 2	-22	-2	2055	1.86	2.24	0.13
235	SLE FR 3	-22	-2	2055	1.86	2.24	0.13
235	SLE FR 4	-23	-2	2173	1.89	2.4	0.13
235	SLE FR 5	-23	-2	2173	1.89	2.4	0.13
235	SLE FR 6	-24	-2	2252	1.9	2.5	0.14
235	SLE QP 1	-22	-2	2055	1.86	2.24	0.13
235	SLE QP 2	-23	-2	2173	1.89	2.4	0.13
235	SLD 1	148	10	2135	1.38	4.73	-0.25
235	SLD 2	118	11	2131	1.39	4.72	-0.15
235	SLD 3	155	-22	2298	2.19	4.52	-0.21
235	SLD 4	124	-21	2294	2.2	4.52	-0.11
235	SLD 5	29	50	1916	0.5	3.41	-0.08
235	SLD 6	-2	51	1913	0.51	3.41	0.03
235	SLD 7	51	-57	2459	3.2	2.72	0.05
235	SLD 8	21	-56	2455	3.22	2.72	0.16
235	SLD 9	-67	52	1892	0.56	2.07	0.11
235	SLD 10	-97	53	1888	0.57	2.07	0.21
235	SLD 11	-44	-55	2434	3.26	1.39	0.24
235	SLD 12	-75	-54	2431	3.28	1.39	0.35
235	SLD 13	-171	17	2053	1.57	0.28	0.37
235	SLD 14	-201	18	2049	1.58	0.27	0.48
235	SLD 15	-164	-15	2215	2.38	0.07	0.41
235	SLD 16	-194	-14	2212	2.4	0.07	0.52
235	SLV 1	365	27	2084	0.71	7.81	-0.74
235	SLV 2	296	28	2076	0.74	7.81	-0.5
235	SLV 3	381	-47	2460	2.59	7.29	-0.65
235	SLV 4	312	-46	2452	2.62	7.29	-0.41
235	SLV 5	94	118	1578	-1.32	4.81	-0.35
235	SLV 6	24	120	1570	-1.29	4.8	-0.11
235	SLV 7	147	-128	2833	4.93	3.08	-0.05
235	SLV 8	76	-127	2825	4.96	3.08	0.2
235	SLV 9	-123	123	1522	-1.19	1.72	0.07
235	SLV 10	-193	124	1514	-1.16	1.71	0.31
235	SLV 11	-70	-124	2776	5.07	-0.01	0.38
235	SLV 12	-140	-122	2768	5.1	-0.01	0.62
235	SLV 13	-358	42	1895	1.16	-2.49	0.67
235	SLV 14	-427	43	1887	1.19	-2.5	0.91
235	SLV 15	-342	-32	2271	3.03	-3.01	0.76
235	SLV 16	-411	-31	2263	3.06	-3.02	1.01
235	CRTFP Ux+	0	0	0	0	0	0
235	CRTFP Ux-	0	0	0	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	-27	-5	2095	-54.1	593.08	1.21
240	SLU 2	-27	-5	2095	-54.1	593.08	1.21
240	SLU 3	-27	-5	2095	-54.1	593.08	1.21
240	SLU 4	-27	-5	2095	-54.1	593.08	1.21



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
240	SLU 5	-27	-5	2095		-54.1	593.08	1.21
240	SLU 6	-27	-5	2095		-54.1	593.08	1.21
240	SLU 7	-27	-5	2095		-54.1	593.08	1.21
240	SLU 8	-27	-5	2095		-54.1	593.08	1.21
240	SLU 9	-27	-5	2095		-54.1	593.08	1.21
240	SLU 10	-33	-8	2488		-64.13	701.41	1.92
240	SLU 11	-33	-8	2488		-64.13	701.41	1.92
240	SLU 12	-33	-8	2488		-64.13	701.41	1.92
240	SLU 13	-33	-8	2488		-64.13	701.41	1.92
240	SLU 14	-33	-8	2488		-64.13	701.41	1.92
240	SLU 15	-33	-8	2488		-64.13	701.41	1.92
240	SLU 16	-33	-8	2488		-64.13	701.41	1.92
240	SLU 17	-33	-8	2488		-64.13	701.41	1.92
240	SLU 18	-36	-9	2657		-68.43	747.84	2.23
240	SLU 19	-36	-9	2657		-68.43	747.84	2.23
240	SLU 20	-36	-9	2657		-68.43	747.84	2.23
240	SLU 21	-36	-9	2657		-68.43	747.84	2.23
240	SLU 22	-33	-7	2384		-61.45	673.09	1.65
240	SLU 23	-33	-7	2384		-61.45	673.09	1.65
240	SLU 24	-33	-7	2384		-61.45	673.09	1.65
240	SLU 25	-33	-7	2384		-61.45	673.09	1.65
240	SLU 26	-33	-7	2384		-61.45	673.09	1.65
240	SLU 27	-33	-7	2384		-61.45	673.09	1.65
240	SLU 28	-33	-7	2384		-61.45	673.09	1.65
240	SLU 29	-33	-7	2384		-61.45	673.09	1.65
240	SLU 30	-33	-7	2384		-61.45	673.09	1.65
240	SLU 31	-39	-10	2777		-71.48	781.43	2.36
240	SLU 32	-39	-10	2777		-71.48	781.43	2.36
240	SLU 33	-39	-10	2777		-71.48	781.43	2.36
240	SLU 34	-39	-10	2777		-71.48	781.43	2.36
240	SLU 35	-39	-10	2777		-71.48	781.43	2.36
240	SLU 36	-39	-10	2777		-71.48	781.43	2.36
240	SLU 37	-39	-10	2777		-71.48	781.43	2.36
240	SLU 38	-39	-10	2777		-71.48	781.43	2.36
240	SLU 39	-42	-11	2946		-75.78	827.86	2.67
240	SLU 40	-42	-11	2946		-75.78	827.86	2.67
240	SLU 41	-42	-11	2946		-75.78	827.86	2.67
240	SLU 42	-42	-11	2946		-75.78	827.86	2.67
240	SLU 43	-32	-6	2624		-67.81	743.57	1.42
240	SLU 44	-32	-6	2624		-67.81	743.57	1.42
240	SLU 45	-32	-6	2624		-67.81	743.57	1.42
240	SLU 46	-32	-6	2624		-67.81	743.57	1.42
240	SLU 47	-32	-6	2624		-67.81	743.57	1.42
240	SLU 48	-32	-6	2624		-67.81	743.57	1.42
240	SLU 49	-32	-6	2624		-67.81	743.57	1.42
240	SLU 50	-32	-6	2624		-67.81	743.57	1.42
240	SLU 51	-32	-6	2624		-67.81	743.57	1.42
240	SLU 52	-39	-9	3018		-77.84	851.91	2.13
240	SLU 53	-39	-9	3018		-77.84	851.91	2.13
240	SLU 54	-39	-9	3018		-77.84	851.91	2.13
240	SLU 55	-39	-9	3018		-77.84	851.91	2.13
240	SLU 56	-39	-9	3018		-77.84	851.91	2.13
240	SLU 57	-39	-9	3018		-77.84	851.91	2.13
240	SLU 58	-39	-9	3018		-77.84	851.91	2.13
240	SLU 59	-39	-9	3018		-77.84	851.91	2.13
240	SLU 60	-42	-10	3186		-82.14	898.33	2.44
240	SLU 61	-42	-10	3186		-82.14	898.33	2.44
240	SLU 62	-42	-10	3186		-82.14	898.33	2.44
240	SLU 63	-42	-10	3186		-82.14	898.33	2.44
240	SLU 64	-39	-8	2913		-75.16	823.59	1.86
240	SLU 65	-39	-8	2913		-75.16	823.59	1.86
240	SLU 66	-39	-8	2913		-75.16	823.59	1.86
240	SLU 67	-39	-8	2913		-75.16	823.59	1.86
240	SLU 68	-39	-8	2913		-75.16	823.59	1.86
240	SLU 69	-39	-8	2913		-75.16	823.59	1.86
240	SLU 70	-39	-8	2913		-75.16	823.59	1.86
240	SLU 71	-39	-8	2913		-75.16	823.59	1.86
240	SLU 72	-39	-8	2913		-75.16	823.59	1.86
240	SLU 73	-45	-11	3307		-85.19	931.92	2.57
240	SLU 74	-45	-11	3307		-85.19	931.92	2.57
240	SLU 75	-45	-11	3307		-85.19	931.92	2.57
240	SLU 76	-45	-11	3307		-85.19	931.92	2.57
240	SLU 77	-45	-11	3307		-85.19	931.92	2.57
240	SLU 78	-45	-11	3307		-85.19	931.92	2.57
240	SLU 79	-45	-11	3307		-85.19	931.92	2.57
240	SLU 80	-45	-11	3307		-85.19	931.92	2.57
240	SLU 81	-48	-12	3475		-89.49	978.35	2.88
240	SLU 82	-48	-12	3475		-89.49	978.35	2.88
240	SLU 83	-48	-12	3475		-89.49	978.35	2.88
240	SLU 84	-48	-12	3475		-89.49	978.35	2.88
240	SLE RA 1	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 2	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 3	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 4	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 5	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 6	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 7	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 8	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 9	-28	-6	2178		-56.2	615.94	1.33
240	SLE RA 10	-33	-8	2440		-62.89	688.16	1.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
240	SLE RA 11	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 12	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 13	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 14	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 15	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 16	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 17	-33	-8	2440	-62.89	688.16	1.81
240	SLE RA 18	-35	-8	2552	-65.75	719.12	2.01
240	SLE RA 19	-35	-8	2552	-65.75	719.12	2.01
240	SLE RA 20	-35	-8	2552	-65.75	719.12	2.01
240	SLE RA 21	-35	-8	2552	-65.75	719.12	2.01
240	SLE FR 1	-28	-6	2178	-56.2	615.94	1.33
240	SLE FR 2	-28	-6	2178	-56.2	615.94	1.33
240	SLE FR 3	-28	-6	2178	-56.2	615.94	1.33
240	SLE FR 4	-30	-7	2290	-59.07	646.89	1.54
240	SLE FR 5	-30	-7	2290	-59.07	646.89	1.54
240	SLE FR 6	-31	-7	2365	-60.98	667.53	1.67
240	SLE QP 1	-28	-6	2178	-56.2	615.94	1.33
240	SLE QP 2	-30	-7	2290	-59.07	646.89	1.54
240	SLD 1	167	-2	1846	-47.9	534.33	4.42
240	SLD 2	131	32	1847	-47.94	534.48	-8.38
240	SLD 3	175	-144	2101	-53.93	605.96	54.16
240	SLD 4	139	-110	2102	-53.98	606.11	41.36
240	SLD 5	30	198	1769	-46.55	504.43	-68.5
240	SLD 6	-6	233	1771	-46.59	504.58	-81.41
240	SLD 7	56	-275	2619	-66.66	743.2	97.29
240	SLD 8	19	-241	2621	-66.71	743.36	84.38
240	SLD 9	-80	228	1959	-51.43	550.43	-81.31
240	SLD 10	-116	262	1961	-51.47	550.59	-94.22
240	SLD 11	-54	-246	2809	-71.54	789.21	84.48
240	SLD 12	-91	-212	2810	-71.58	789.36	71.57
240	SLD 13	-199	97	2478	-64.16	687.68	-38.28
240	SLD 14	-236	131	2479	-64.2	687.83	-51.08
240	SLD 15	-192	-45	2733	-70.19	759.31	11.45
240	SLD 16	-228	-11	2734	-70.23	759.46	-1.34
240	SLV 1	418	7	1276	-33.57	389.72	6.95
240	SLV 2	336	85	1279	-33.67	390.06	-22.15
240	SLV 3	436	-322	1865	-47.54	555.48	122.14
240	SLV 4	353	-245	1869	-47.64	555.82	93.03
240	SLV 5	107	469	1090	-30.2	318.21	-161.09
240	SLV 6	23	548	1093	-30.3	318.56	-190.7
240	SLV 7	166	-628	3056	-76.75	870.75	222.85
240	SLV 8	82	-549	3060	-76.85	871.1	193.24
240	SLV 9	-143	536	1520	-41.28	422.69	-190.16
240	SLV 10	-227	615	1524	-41.38	423.04	-219.78
240	SLV 11	-83	-561	3486	-87.83	975.23	193.78
240	SLV 12	-167	-482	3490	-87.93	975.58	164.16
240	SLV 13	-414	231	2711	-70.5	737.97	-89.96
240	SLV 14	-496	309	2714	-70.59	738.31	-119.06
240	SLV 15	-396	-98	3301	-84.46	903.73	25.23
240	SLV 16	-478	-20	3304	-84.56	904.07	-3.88
240	CRTFP Ux+	0	0	0	0	0	0
240	CRTFP Ux-	0	0	0	0	0	0
240	CRTFP Uy+	0	0	0	0	0.01	0
240	CRTFP Uy-	0	0	0	0	-0.01	0
241	SLU 1	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 2	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 3	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 4	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 5	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 6	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 7	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 8	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 9	-21	-2	1736	-46.8	3.23	-0.5
241	SLU 10	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 11	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 12	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 13	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 14	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 15	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 16	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 17	-25	-2	2093	-56.6	4.07	-0.61
241	SLU 18	-27	-2	2246	-60.8	4.43	-0.65
241	SLU 19	-27	-2	2246	-60.8	4.43	-0.65
241	SLU 20	-27	-2	2246	-60.8	4.43	-0.65
241	SLU 21	-27	-2	2246	-60.8	4.43	-0.65
241	SLU 22	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 23	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 24	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 25	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 26	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 27	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 28	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 29	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 30	-25	-2	2002	-54.01	3.92	-0.61
241	SLU 31	-30	-2	2358	-63.8	4.75	-0.72
241	SLU 32	-30	-2	2358	-63.8	4.75	-0.72
241	SLU 33	-30	-2	2358	-63.8	4.75	-0.72
241	SLU 34	-30	-2	2358	-63.8	4.75	-0.72
241	SLU 35	-30	-2	2358	-63.8	4.75	-0.72



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
241	SLU 36	-30	-2	2358		-63.8	4.75	-0.72
241	SLU 37	-30	-2	2358		-63.8	4.75	-0.72
241	SLU 38	-30	-2	2358		-63.8	4.75	-0.72
241	SLU 39	-31	-2	2511		-68	5.11	-0.77
241	SLU 40	-31	-2	2511		-68	5.11	-0.77
241	SLU 41	-31	-2	2511		-68	5.11	-0.77
241	SLU 42	-31	-2	2511		-68	5.11	-0.77
241	SLU 43	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 44	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 45	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 46	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 47	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 48	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 49	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 50	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 51	-25	-2	2166		-58.38	3.97	-0.61
241	SLU 52	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 53	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 54	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 55	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 56	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 57	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 58	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 59	-30	-2	2523		-68.17	4.8	-0.72
241	SLU 60	-32	-2	2676		-72.37	5.16	-0.76
241	SLU 61	-32	-2	2676		-72.37	5.16	-0.76
241	SLU 62	-32	-2	2676		-72.37	5.16	-0.76
241	SLU 63	-32	-2	2676		-72.37	5.16	-0.76
241	SLU 64	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 65	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 66	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 67	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 68	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 69	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 70	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 71	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 72	-30	-2	2432		-65.58	4.65	-0.72
241	SLU 73	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 74	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 75	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 76	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 77	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 78	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 79	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 80	-34	-2	2788		-75.38	5.49	-0.83
241	SLU 81	-36	-3	2941		-79.57	5.85	-0.88
241	SLU 82	-36	-3	2941		-79.57	5.85	-0.88
241	SLU 83	-36	-3	2941		-79.57	5.85	-0.88
241	SLU 84	-36	-3	2941		-79.57	5.85	-0.88
241	SLE RA 1	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 2	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 3	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 4	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 5	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 6	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 7	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 8	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 9	-22	-2	1812		-48.86	3.43	-0.53
241	SLE RA 10	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 11	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 12	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 13	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 14	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 15	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 16	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 17	-25	-2	2050		-55.39	3.99	-0.6
241	SLE RA 18	-26	-2	2152		-58.19	4.22	-0.63
241	SLE RA 19	-26	-2	2152		-58.19	4.22	-0.63
241	SLE RA 20	-26	-2	2152		-58.19	4.22	-0.63
241	SLE RA 21	-26	-2	2152		-58.19	4.22	-0.63
241	SLE FR 1	-22	-2	1812		-48.86	3.43	-0.53
241	SLE FR 2	-22	-2	1812		-48.86	3.43	-0.53
241	SLE FR 3	-22	-2	1812		-48.86	3.43	-0.53
241	SLE FR 4	-23	-2	1914		-51.66	3.67	-0.56
241	SLE FR 5	-23	-2	1914		-51.66	3.67	-0.56
241	SLE FR 6	-24	-2	1982		-53.53	3.83	-0.58
241	SLE QP 1	-22	-2	1812		-48.86	3.43	-0.53
241	SLE QP 2	-23	-2	1914		-51.66	3.67	-0.56
241	SLD 1	131	9	1869		-50.73	6.28	3.56
241	SLD 2	103	9	1867		-50.64	6.28	2.83
241	SLD 3	138	-18	2030		-54.64	6.1	3.73
241	SLD 4	109	-18	2027		-54.56	6.1	2.99
241	SLD 5	24	43	1658		-45.47	4.72	0.69
241	SLD 6	-5	43	1655		-45.39	4.72	-0.05
241	SLD 7	45	-48	2193		-58.53	4.13	1.23
241	SLD 8	16	-48	2191		-58.44	4.13	0.49
241	SLD 9	-62	44	1637		-44.88	3.21	-1.61
241	SLD 10	-91	45	1635		-44.8	3.21	-2.36
241	SLD 11	-41	-46	2173		-57.94	2.62	-1.07
241	SLD 12	-70	-46	2170		-57.85	2.62	-1.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
241	SLD 13	-155	15	1801	-48.76	1.24	-4.11
241	SLD 14	-184	15	1798	-48.68	1.24	-4.85
241	SLD 15	-149	-13	1961	-52.68	1.06	-3.95
241	SLD 16	-178	-12	1959	-52.6	1.06	-4.69
241	SLV 1	327	23	1810	-49.48	9.61	8.79
241	SLV 2	262	24	1804	-49.29	9.61	7.11
241	SLV 3	342	-40	2182	-58.54	9.18	9.18
241	SLV 4	277	-39	2176	-58.35	9.19	7.5
241	SLV 5	82	101	1321	-37.34	6.09	2.26
241	SLV 6	16	102	1315	-37.14	6.09	0.56
241	SLV 7	133	-109	2560	-67.53	4.68	3.54
241	SLV 8	67	-108	2554	-67.34	4.68	1.84
241	SLV 9	-113	105	1274	-35.99	2.65	-2.96
241	SLV 10	-179	106	1268	-35.79	2.65	-4.67
241	SLV 11	-62	-105	2513	-66.18	1.25	-1.68
241	SLV 12	-129	-104	2507	-65.98	1.25	-3.39
241	SLV 13	-323	36	1652	-44.97	-1.85	-8.62
241	SLV 14	-388	37	1646	-44.78	-1.85	-10.3
241	SLV 15	-308	-27	2024	-54.03	-2.27	-8.24
241	SLV 16	-373	-26	2018	-53.84	-2.27	-9.91
241	CRTFP Ux+	0	0	0	0	0	0
241	CRTFP Ux-	0	0	0	0	0	0
241	CRTFP Uy+	0	0	0	0	0	0
241	CRTFP Uy-	0	0	0	0	0	0
264	SLU 1	-20	141	1836	-205.94	77.39	-11.64
264	SLU 2	-20	141	1836	-205.94	77.39	-11.64
264	SLU 3	-20	141	1836	-205.94	77.39	-11.64
264	SLU 4	-20	141	1836	-205.94	77.39	-11.64
264	SLU 5	-20	141	1836	-205.94	77.39	-11.64
264	SLU 6	-20	141	1836	-205.94	77.39	-11.64
264	SLU 7	-20	141	1836	-205.94	77.39	-11.64
264	SLU 8	-20	141	1836	-205.94	77.39	-11.64
264	SLU 9	-20	141	1836	-205.94	77.39	-11.64
264	SLU 10	-24	163	2203	-240.83	92.88	-13.66
264	SLU 11	-24	163	2203	-240.83	92.88	-13.66
264	SLU 12	-24	163	2203	-240.83	92.88	-13.66
264	SLU 13	-24	163	2203	-240.83	92.88	-13.66
264	SLU 14	-24	163	2203	-240.83	92.88	-13.66
264	SLU 15	-24	163	2203	-240.83	92.88	-13.66
264	SLU 16	-24	163	2203	-240.83	92.88	-13.66
264	SLU 17	-24	163	2203	-240.83	92.88	-13.66
264	SLU 18	-26	173	2360	-255.79	99.52	-14.52
264	SLU 19	-26	173	2360	-255.79	99.52	-14.52
264	SLU 20	-26	173	2360	-255.79	99.52	-14.52
264	SLU 21	-26	173	2360	-255.79	99.52	-14.52
264	SLU 22	-24	168	2118	-232.7	89.29	-13.93
264	SLU 23	-24	168	2118	-232.7	89.29	-13.93
264	SLU 24	-24	168	2118	-232.7	89.29	-13.93
264	SLU 25	-24	168	2118	-232.7	89.29	-13.93
264	SLU 26	-24	168	2118	-232.7	89.29	-13.93
264	SLU 27	-24	168	2118	-232.7	89.29	-13.93
264	SLU 28	-24	168	2118	-232.7	89.29	-13.93
264	SLU 29	-24	168	2118	-232.7	89.29	-13.93
264	SLU 30	-24	168	2118	-232.7	89.29	-13.93
264	SLU 31	-28	190	2484	-267.59	104.78	-15.94
264	SLU 32	-28	190	2484	-267.59	104.78	-15.94
264	SLU 33	-28	190	2484	-267.59	104.78	-15.94
264	SLU 34	-28	190	2484	-267.59	104.78	-15.94
264	SLU 35	-28	190	2484	-267.59	104.78	-15.94
264	SLU 36	-28	190	2484	-267.59	104.78	-15.94
264	SLU 37	-28	190	2484	-267.59	104.78	-15.94
264	SLU 38	-28	190	2484	-267.59	104.78	-15.94
264	SLU 39	-30	200	2642	-282.55	111.42	-16.81
264	SLU 40	-30	200	2642	-282.55	111.42	-16.81
264	SLU 41	-30	200	2642	-282.55	111.42	-16.81
264	SLU 42	-30	200	2642	-282.55	111.42	-16.81
264	SLU 43	-25	174	2290	-258.55	96.52	-14.35
264	SLU 44	-25	174	2290	-258.55	96.52	-14.35
264	SLU 45	-25	174	2290	-258.55	96.52	-14.35
264	SLU 46	-25	174	2290	-258.55	96.52	-14.35
264	SLU 47	-25	174	2290	-258.55	96.52	-14.35
264	SLU 48	-25	174	2290	-258.55	96.52	-14.35
264	SLU 49	-25	174	2290	-258.55	96.52	-14.35
264	SLU 50	-25	174	2290	-258.55	96.52	-14.35
264	SLU 51	-25	174	2290	-258.55	96.52	-14.35
264	SLU 52	-29	197	2657	-293.44	112.02	-16.36
264	SLU 53	-29	197	2657	-293.44	112.02	-16.36
264	SLU 54	-29	197	2657	-293.44	112.02	-16.36
264	SLU 55	-29	197	2657	-293.44	112.02	-16.36
264	SLU 56	-29	197	2657	-293.44	112.02	-16.36
264	SLU 57	-29	197	2657	-293.44	112.02	-16.36
264	SLU 58	-29	197	2657	-293.44	112.02	-16.36
264	SLU 59	-29	197	2657	-293.44	112.02	-16.36
264	SLU 60	-30	206	2814	-308.39	118.65	-17.23
264	SLU 61	-30	206	2814	-308.39	118.65	-17.23
264	SLU 62	-30	206	2814	-308.39	118.65	-17.23
264	SLU 63	-30	206	2814	-308.39	118.65	-17.23
264	SLU 64	-29	201	2572	-285.31	108.43	-16.64
264	SLU 65	-29	201	2572	-285.31	108.43	-16.64
264	SLU 66	-29	201	2572	-285.31	108.43	-16.64



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
264	SLU 67	-29	201	2572		-285.31	108.43	-16.64
264	SLU 68	-29	201	2572		-285.31	108.43	-16.64
264	SLU 69	-29	201	2572		-285.31	108.43	-16.64
264	SLU 70	-29	201	2572		-285.31	108.43	-16.64
264	SLU 71	-29	201	2572		-285.31	108.43	-16.64
264	SLU 72	-29	201	2572		-285.31	108.43	-16.64
264	SLU 73	-33	223	2939		-320.2	123.92	-18.65
264	SLU 74	-33	223	2939		-320.2	123.92	-18.65
264	SLU 75	-33	223	2939		-320.2	123.92	-18.65
264	SLU 76	-33	223	2939		-320.2	123.92	-18.65
264	SLU 77	-33	223	2939		-320.2	123.92	-18.65
264	SLU 78	-33	223	2939		-320.2	123.92	-18.65
264	SLU 79	-33	223	2939		-320.2	123.92	-18.65
264	SLU 80	-33	223	2939		-320.2	123.92	-18.65
264	SLU 81	-34	233	3096		-335.15	130.56	-19.52
264	SLU 82	-34	233	3096		-335.15	130.56	-19.52
264	SLU 83	-34	233	3096		-335.15	130.56	-19.52
264	SLU 84	-34	233	3096		-335.15	130.56	-19.52
264	SLE RA 1	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 2	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 3	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 4	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 5	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 6	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 7	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 8	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 9	-21	149	1916		-213.58	80.79	-12.29
264	SLE RA 10	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 11	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 12	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 13	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 14	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 15	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 16	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 17	-24	164	2161		-236.85	91.12	-13.64
264	SLE RA 18	-25	170	2266		-246.82	95.54	-14.21
264	SLE RA 19	-25	170	2266		-246.82	95.54	-14.21
264	SLE RA 20	-25	170	2266		-246.82	95.54	-14.21
264	SLE RA 21	-25	170	2266		-246.82	95.54	-14.21
264	SLE FR 1	-21	149	1916		-213.58	80.79	-12.29
264	SLE FR 2	-21	149	1916		-213.58	80.79	-12.29
264	SLE FR 3	-21	149	1916		-213.58	80.79	-12.29
264	SLE FR 4	-22	155	2021		-223.55	85.21	-12.87
264	SLE FR 5	-22	155	2021		-223.55	85.21	-12.87
264	SLE FR 6	-23	159	2091		-230.2	88.17	-13.25
264	SLE QP 1	-21	149	1916		-213.58	80.79	-12.29
264	SLE QP 2	-22	155	2021		-223.55	85.21	-12.87
264	SLD 1	158	373	2219		-252.88	94.21	23.85
264	SLD 2	124	328	2214		-252.03	94.01	17.43
264	SLD 3	166	184	2419		-268.05	102.85	31.56
264	SLD 4	132	139	2414		-267.2	102.65	25.14
264	SLD 5	31	522	1778		-209.65	74.88	-11.27
264	SLD 6	-3	477	1773		-208.79	74.68	-17.75
264	SLD 7	59	-106	2447		-260.21	103.68	14.43
264	SLD 8	25	-152	2442		-259.35	103.48	7.95
264	SLD 9	-69	462	1601		-187.76	66.95	-33.69
264	SLD 10	-104	416	1596		-186.9	66.75	-40.17
264	SLD 11	-41	-167	2269		-238.32	95.75	-7.99
264	SLD 12	-76	-212	2264		-237.46	95.55	-14.47
264	SLD 13	-177	171	1628		-179.91	67.78	-50.88
264	SLD 14	-211	126	1623		-179.06	67.58	-57.31
264	SLD 15	-168	-18	1828		-195.08	76.42	-43.17
264	SLD 16	-202	-63	1824		-194.23	76.22	-49.59
264	SLV 1	386	655	2466		-289.82	105.49	70.22
264	SLV 2	309	553	2455		-287.88	105.02	55.61
264	SLV 3	405	218	2930		-324.98	125.48	88.16
264	SLV 4	328	116	2919		-323.05	125.01	73.55
264	SLV 5	98	1004	1455		-190.79	61.15	-9.92
264	SLV 6	19	900	1443		-188.83	60.67	-24.78
264	SLV 7	163	-452	3002		-308.01	127.78	49.89
264	SLV 8	85	-556	2990		-306.04	127.31	35.03
264	SLV 9	-130	866	1052		-141.06	43.12	-60.77
264	SLV 10	-208	762	1040		-139.1	42.65	-75.64
264	SLV 11	-64	-590	2599		-258.28	109.76	-0.96
264	SLV 12	-143	-694	2588		-256.32	109.28	-15.83
264	SLV 13	-373	194	1123		-124.06	45.42	-99.29
264	SLV 14	-450	92	1112		-122.13	44.95	-113.9
264	SLV 15	-353	-243	1587		-159.23	65.41	-81.35
264	SLV 16	-431	-345	1576		-157.29	64.94	-95.96
264	CRTFP Ux+	0	0	0		0	0	0
264	CRTFP Ux-	0	0	0		0	0	0
264	CRTFP Uy+	0	0	0		0	0	0
264	CRTFP Uy-	0	0	0		0	0	0
265	SLU 1	-25	142	2238		-248.17	64.08	-11.58
265	SLU 2	-25	142	2238		-248.17	64.08	-11.58
265	SLU 3	-25	142	2238		-248.17	64.08	-11.58
265	SLU 4	-25	142	2238		-248.17	64.08	-11.58
265	SLU 5	-25	142	2238		-248.17	64.08	-11.58
265	SLU 6	-25	142	2238		-248.17	64.08	-11.58
265	SLU 7	-25	142	2238		-248.17	64.08	-11.58



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
265	SLU 8	-25	142	2238	-248.17	64.08	-11.58
265	SLU 9	-25	142	2238	-248.17	64.08	-11.58
265	SLU 10	-30	164	2684	-290.23	76.89	-13.63
265	SLU 11	-30	164	2684	-290.23	76.89	-13.63
265	SLU 12	-30	164	2684	-290.23	76.89	-13.63
265	SLU 13	-30	164	2684	-290.23	76.89	-13.63
265	SLU 14	-30	164	2684	-290.23	76.89	-13.63
265	SLU 15	-30	164	2684	-290.23	76.89	-13.63
265	SLU 16	-30	164	2684	-290.23	76.89	-13.63
265	SLU 17	-30	164	2684	-290.23	76.89	-13.63
265	SLU 18	-32	174	2875	-308.26	82.38	-14.51
265	SLU 19	-32	174	2875	-308.26	82.38	-14.51
265	SLU 20	-32	174	2875	-308.26	82.38	-14.51
265	SLU 21	-32	174	2875	-308.26	82.38	-14.51
265	SLU 22	-30	169	2580	-280.15	73.92	-13.88
265	SLU 23	-30	169	2580	-280.15	73.92	-13.88
265	SLU 24	-30	169	2580	-280.15	73.92	-13.88
265	SLU 25	-30	169	2580	-280.15	73.92	-13.88
265	SLU 26	-30	169	2580	-280.15	73.92	-13.88
265	SLU 27	-30	169	2580	-280.15	73.92	-13.88
265	SLU 28	-30	169	2580	-280.15	73.92	-13.88
265	SLU 29	-30	169	2580	-280.15	73.92	-13.88
265	SLU 30	-30	169	2580	-280.15	73.92	-13.88
265	SLU 31	-35	191	3026	-322.21	86.74	-15.93
265	SLU 32	-35	191	3026	-322.21	86.74	-15.93
265	SLU 33	-35	191	3026	-322.21	86.74	-15.93
265	SLU 34	-35	191	3026	-322.21	86.74	-15.93
265	SLU 35	-35	191	3026	-322.21	86.74	-15.93
265	SLU 36	-35	191	3026	-322.21	86.74	-15.93
265	SLU 37	-35	191	3026	-322.21	86.74	-15.93
265	SLU 38	-35	191	3026	-322.21	86.74	-15.93
265	SLU 39	-37	201	3217	-340.24	92.23	-16.81
265	SLU 40	-37	201	3217	-340.24	92.23	-16.81
265	SLU 41	-37	201	3217	-340.24	92.23	-16.81
265	SLU 42	-37	201	3217	-340.24	92.23	-16.81
265	SLU 43	-31	175	2792	-311.66	79.93	-14.26
265	SLU 44	-31	175	2792	-311.66	79.93	-14.26
265	SLU 45	-31	175	2792	-311.66	79.93	-14.26
265	SLU 46	-31	175	2792	-311.66	79.93	-14.26
265	SLU 47	-31	175	2792	-311.66	79.93	-14.26
265	SLU 48	-31	175	2792	-311.66	79.93	-14.26
265	SLU 49	-31	175	2792	-311.66	79.93	-14.26
265	SLU 50	-31	175	2792	-311.66	79.93	-14.26
265	SLU 51	-31	175	2792	-311.66	79.93	-14.26
265	SLU 52	-36	197	3238	-353.72	92.74	-16.31
265	SLU 53	-36	197	3238	-353.72	92.74	-16.31
265	SLU 54	-36	197	3238	-353.72	92.74	-16.31
265	SLU 55	-36	197	3238	-353.72	92.74	-16.31
265	SLU 56	-36	197	3238	-353.72	92.74	-16.31
265	SLU 57	-36	197	3238	-353.72	92.74	-16.31
265	SLU 58	-36	197	3238	-353.72	92.74	-16.31
265	SLU 59	-36	197	3238	-353.72	92.74	-16.31
265	SLU 60	-38	207	3429	-371.75	98.23	-17.19
265	SLU 61	-38	207	3429	-371.75	98.23	-17.19
265	SLU 62	-38	207	3429	-371.75	98.23	-17.19
265	SLU 63	-38	207	3429	-371.75	98.23	-17.19
265	SLU 64	-36	202	3134	-343.64	89.77	-16.56
265	SLU 65	-36	202	3134	-343.64	89.77	-16.56
265	SLU 66	-36	202	3134	-343.64	89.77	-16.56
265	SLU 67	-36	202	3134	-343.64	89.77	-16.56
265	SLU 68	-36	202	3134	-343.64	89.77	-16.56
265	SLU 69	-36	202	3134	-343.64	89.77	-16.56
265	SLU 70	-36	202	3134	-343.64	89.77	-16.56
265	SLU 71	-36	202	3134	-343.64	89.77	-16.56
265	SLU 72	-36	202	3134	-343.64	89.77	-16.56
265	SLU 73	-41	224	3580	-385.7	102.59	-18.61
265	SLU 74	-41	224	3580	-385.7	102.59	-18.61
265	SLU 75	-41	224	3580	-385.7	102.59	-18.61
265	SLU 76	-41	224	3580	-385.7	102.59	-18.61
265	SLU 77	-41	224	3580	-385.7	102.59	-18.61
265	SLU 78	-41	224	3580	-385.7	102.59	-18.61
265	SLU 79	-41	224	3580	-385.7	102.59	-18.61
265	SLU 80	-41	224	3580	-385.7	102.59	-18.61
265	SLU 81	-43	234	3771	-403.73	108.08	-19.49
265	SLU 82	-43	234	3771	-403.73	108.08	-19.49
265	SLU 83	-43	234	3771	-403.73	108.08	-19.49
265	SLU 84	-43	234	3771	-403.73	108.08	-19.49
265	SLE RA 1	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 2	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 3	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 4	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 5	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 6	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 7	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 8	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 9	-27	149	2336	-257.31	66.89	-12.23
265	SLE RA 10	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 11	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 12	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 13	-30	164	2633	-285.35	75.43	-13.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLE RA 14	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 15	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 16	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 17	-30	164	2633	-285.35	75.43	-13.6
265	SLE RA 18	-31	171	2761	-297.37	79.1	-14.19
265	SLE RA 19	-31	171	2761	-297.37	79.1	-14.19
265	SLE RA 20	-31	171	2761	-297.37	79.1	-14.19
265	SLE RA 21	-31	171	2761	-297.37	79.1	-14.19
265	SLE FR 1	-27	149	2336	-257.31	66.89	-12.23
265	SLE FR 2	-27	149	2336	-257.31	66.89	-12.23
265	SLE FR 3	-27	149	2336	-257.31	66.89	-12.23
265	SLE FR 4	-28	156	2463	-269.33	70.55	-12.82
265	SLE FR 5	-28	156	2463	-269.33	70.55	-12.82
265	SLE FR 6	-29	160	2548	-277.34	72.99	-13.21
265	SLE QP 1	-27	149	2336	-257.31	66.89	-12.23
265	SLE QP 2	-28	156	2463	-269.33	70.55	-12.82
265	SLD 1	195	384	2673	-296.57	77.86	36.73
265	SLD 2	153	336	2667	-295.86	77.69	27.89
265	SLD 3	205	187	2909	-315.1	84.96	42.73
265	SLD 4	163	140	2903	-314.38	84.79	33.9
265	SLD 5	38	539	2170	-249.66	62.04	-3.93
265	SLD 6	-4	491	2163	-248.95	61.86	-12.84
265	SLD 7	72	-116	2958	-311.4	85.71	16.08
265	SLD 8	30	-164	2951	-310.68	85.53	7.17
265	SLD 9	-86	475	1975	-227.97	55.57	-32.81
265	SLD 10	-128	428	1968	-227.25	55.4	-41.72
265	SLD 11	-52	-180	2763	-289.71	79.24	-12.8
265	SLD 12	-94	-227	2756	-288.99	79.07	-21.71
265	SLD 13	-219	172	2023	-224.27	56.31	-59.54
265	SLD 14	-261	124	2017	-223.56	56.14	-68.37
265	SLD 15	-209	-25	2259	-242.79	63.42	-53.53
265	SLD 16	-251	-72	2253	-242.08	63.24	-62.37
265	SLV 1	477	678	2936	-330.81	87.02	99.39
265	SLV 2	382	571	2921	-329.18	86.63	79.3
265	SLV 3	501	223	3482	-373.77	103.45	113.4
265	SLV 4	406	116	3468	-372.14	103.06	93.31
265	SLV 5	122	1041	1781	-223.2	50.72	6.8
265	SLV 6	24	932	1766	-221.55	50.32	-13.63
265	SLV 7	201	-476	3603	-366.4	105.48	53.5
265	SLV 8	104	-585	3589	-364.75	105.08	33.06
265	SLV 9	-160	897	1337	-173.91	36.02	-58.7
265	SLV 10	-257	788	1323	-172.26	35.63	-79.14
265	SLV 11	-80	-621	3160	-317.11	90.79	-12.01
265	SLV 12	-177	-730	3146	-315.46	90.39	-32.44
265	SLV 13	-461	196	1458	-166.51	38.05	-118.95
265	SLV 14	-557	88	1444	-164.89	37.66	-139.04
265	SLV 15	-438	-260	2005	-209.47	54.48	-104.95
265	SLV 16	-533	-367	1991	-207.85	54.09	-125.03
265	CRTFP Ux+	0	0	0	0	0	0
265	CRTFP Ux-	0	0	0	0	0	0
265	CRTFP Uy+	0	0	0	0	0	0
265	CRTFP Uy-	0	0	0	0	0	0
266	SLU 1	-22	95	1940	-206.98	0.42	-6.39
266	SLU 2	-22	95	1940	-206.98	0.42	-6.39
266	SLU 3	-22	95	1940	-206.98	0.42	-6.39
266	SLU 4	-22	95	1940	-206.98	0.42	-6.39
266	SLU 5	-22	95	1940	-206.98	0.42	-6.39
266	SLU 6	-22	95	1940	-206.98	0.42	-6.39
266	SLU 7	-22	95	1940	-206.98	0.42	-6.39
266	SLU 8	-22	95	1940	-206.98	0.42	-6.39
266	SLU 9	-22	95	1940	-206.98	0.42	-6.39
266	SLU 10	-26	111	2326	-241.83	0.52	-7.6
266	SLU 11	-26	111	2326	-241.83	0.52	-7.6
266	SLU 12	-26	111	2326	-241.83	0.52	-7.6
266	SLU 13	-26	111	2326	-241.83	0.52	-7.6
266	SLU 14	-26	111	2326	-241.83	0.52	-7.6
266	SLU 15	-26	111	2326	-241.83	0.52	-7.6
266	SLU 16	-26	111	2326	-241.83	0.52	-7.6
266	SLU 17	-26	111	2326	-241.83	0.52	-7.6
266	SLU 18	-28	117	2491	-256.77	0.56	-8.11
266	SLU 19	-28	117	2491	-256.77	0.56	-8.11
266	SLU 20	-28	117	2491	-256.77	0.56	-8.11
266	SLU 21	-28	117	2491	-256.77	0.56	-8.11
266	SLU 22	-27	114	2235	-233.23	0.51	-7.7
266	SLU 23	-27	114	2235	-233.23	0.51	-7.7
266	SLU 24	-27	114	2235	-233.23	0.51	-7.7
266	SLU 25	-27	114	2235	-233.23	0.51	-7.7
266	SLU 26	-27	114	2235	-233.23	0.51	-7.7
266	SLU 27	-27	114	2235	-233.23	0.51	-7.7
266	SLU 28	-27	114	2235	-233.23	0.51	-7.7
266	SLU 29	-27	114	2235	-233.23	0.51	-7.7
266	SLU 30	-27	114	2235	-233.23	0.51	-7.7
266	SLU 31	-31	129	2622	-268.08	0.61	-8.9
266	SLU 32	-31	129	2622	-268.08	0.61	-8.9
266	SLU 33	-31	129	2622	-268.08	0.61	-8.9
266	SLU 34	-31	129	2622	-268.08	0.61	-8.9
266	SLU 35	-31	129	2622	-268.08	0.61	-8.9
266	SLU 36	-31	129	2622	-268.08	0.61	-8.9
266	SLU 37	-31	129	2622	-268.08	0.61	-8.9
266	SLU 38	-31	129	2622	-268.08	0.61	-8.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLU 39	-33	135	2787	-283.02	0.65	-9.42
266	SLU 40	-33	135	2787	-283.02	0.65	-9.42
266	SLU 41	-33	135	2787	-283.02	0.65	-9.42
266	SLU 42	-33	135	2787	-283.02	0.65	-9.42
266	SLU 43	-27	118	2420	-260.07	0.52	-7.86
266	SLU 44	-27	118	2420	-260.07	0.52	-7.86
266	SLU 45	-27	118	2420	-260.07	0.52	-7.86
266	SLU 46	-27	118	2420	-260.07	0.52	-7.86
266	SLU 47	-27	118	2420	-260.07	0.52	-7.86
266	SLU 48	-27	118	2420	-260.07	0.52	-7.86
266	SLU 49	-27	118	2420	-260.07	0.52	-7.86
266	SLU 50	-27	118	2420	-260.07	0.52	-7.86
266	SLU 51	-27	118	2420	-260.07	0.52	-7.86
266	SLU 52	-32	133	2806	-294.93	0.62	-9.07
266	SLU 53	-32	133	2806	-294.93	0.62	-9.07
266	SLU 54	-32	133	2806	-294.93	0.62	-9.07
266	SLU 55	-32	133	2806	-294.93	0.62	-9.07
266	SLU 56	-32	133	2806	-294.93	0.62	-9.07
266	SLU 57	-32	133	2806	-294.93	0.62	-9.07
266	SLU 58	-32	133	2806	-294.93	0.62	-9.07
266	SLU 59	-32	133	2806	-294.93	0.62	-9.07
266	SLU 60	-33	139	2972	-309.87	0.66	-9.58
266	SLU 61	-33	139	2972	-309.87	0.66	-9.58
266	SLU 62	-33	139	2972	-309.87	0.66	-9.58
266	SLU 63	-33	139	2972	-309.87	0.66	-9.58
266	SLU 64	-32	136	2716	-286.32	0.61	-9.17
266	SLU 65	-32	136	2716	-286.32	0.61	-9.17
266	SLU 66	-32	136	2716	-286.32	0.61	-9.17
266	SLU 67	-32	136	2716	-286.32	0.61	-9.17
266	SLU 68	-32	136	2716	-286.32	0.61	-9.17
266	SLU 69	-32	136	2716	-286.32	0.61	-9.17
266	SLU 70	-32	136	2716	-286.32	0.61	-9.17
266	SLU 71	-32	136	2716	-286.32	0.61	-9.17
266	SLU 72	-32	136	2716	-286.32	0.61	-9.17
266	SLU 73	-36	151	3102	-321.17	0.7	-10.37
266	SLU 74	-36	151	3102	-321.17	0.7	-10.37
266	SLU 75	-36	151	3102	-321.17	0.7	-10.37
266	SLU 76	-36	151	3102	-321.17	0.7	-10.37
266	SLU 77	-36	151	3102	-321.17	0.7	-10.37
266	SLU 78	-36	151	3102	-321.17	0.7	-10.37
266	SLU 79	-36	151	3102	-321.17	0.7	-10.37
266	SLU 80	-36	151	3102	-321.17	0.7	-10.37
266	SLU 81	-38	158	3268	-336.11	0.74	-10.89
266	SLU 82	-38	158	3268	-336.11	0.74	-10.89
266	SLU 83	-38	158	3268	-336.11	0.74	-10.89
266	SLU 84	-38	158	3268	-336.11	0.74	-10.89
266	SLE RA 1	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 2	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 3	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 4	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 5	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 6	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 7	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 8	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 9	-23	100	2024	-214.48	0.45	-6.76
266	SLE RA 10	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 11	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 12	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 13	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 14	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 15	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 16	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 17	-26	111	2282	-237.71	0.51	-7.57
266	SLE RA 18	-28	115	2392	-247.67	0.54	-7.91
266	SLE RA 19	-28	115	2392	-247.67	0.54	-7.91
266	SLE RA 20	-28	115	2392	-247.67	0.54	-7.91
266	SLE RA 21	-28	115	2392	-247.67	0.54	-7.91
266	SLE FR 1	-23	100	2024	-214.48	0.45	-6.76
266	SLE FR 2	-23	100	2024	-214.48	0.45	-6.76
266	SLE FR 3	-23	100	2024	-214.48	0.45	-6.76
266	SLE FR 4	-25	105	2135	-224.44	0.48	-7.11
266	SLE FR 5	-25	105	2135	-224.44	0.48	-7.11
266	SLE FR 6	-26	108	2208	-231.08	0.49	-7.34
266	SLE QP 1	-23	100	2024	-214.48	0.45	-6.76
266	SLE QP 2	-25	105	2135	-224.44	0.48	-7.11
266	SLD 1	170	269	2288	-240.37	1.42	41.26
266	SLD 2	134	235	2282	-240	1.42	32.28
266	SLD 3	179	128	2486	-255.21	1.66	43.18
266	SLD 4	143	94	2480	-254.83	1.66	34.21
266	SLD 5	33	380	1882	-206.86	0.39	7.66
266	SLD 6	-4	346	1877	-206.48	0.39	-1.39
266	SLD 7	63	-91	2542	-256.29	1.2	14.08
266	SLD 8	26	-125	2536	-255.92	1.2	5.02
266	SLD 9	-75	334	1733	-192.96	-0.24	-19.24
266	SLD 10	-112	300	1727	-192.58	-0.24	-28.29
266	SLD 11	-46	-136	2393	-242.39	0.56	-12.83
266	SLD 12	-83	-171	2387	-242.02	0.56	-21.88
266	SLD 13	-192	116	1789	-194.04	-0.7	-48.42
266	SLD 14	-229	82	1784	-193.67	-0.7	-57.4
266	SLD 15	-183	-25	1987	-208.87	-0.46	-46.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
266	SLD 16	-220	-59	1982	-208.5	-0.46	-55.48
266	SLV 1	418	481	2479	-260.31	2.6	102.55
266	SLV 2	334	404	2466	-259.47	2.6	82.14
266	SLV 3	439	154	2937	-294.74	3.16	107.08
266	SLV 4	355	76	2924	-293.9	3.16	86.67
266	SLV 5	107	741	1548	-183.29	0.27	26.25
266	SLV 6	21	663	1535	-182.43	0.27	5.48
266	SLV 7	176	-349	3074	-298.04	2.13	41.34
266	SLV 8	91	-427	3061	-297.19	2.13	20.56
266	SLV 9	-140	637	1208	-151.69	-1.18	-34.78
266	SLV 10	-225	559	1195	-150.83	-1.18	-55.55
266	SLV 11	-71	-453	2734	-266.44	0.69	-19.69
266	SLV 12	-156	-532	2721	-265.59	0.69	-40.47
266	SLV 13	-404	133	1345	-154.97	-2.21	-100.88
266	SLV 14	-488	56	1332	-154.13	-2.21	-121.29
266	SLV 15	-384	-194	1803	-189.4	-1.65	-96.36
266	SLV 16	-467	-271	1790	-188.56	-1.65	-116.77
266	CRTFP Ux+	0	0	0	0	0	0
266	CRTFP Ux-	0	0	0	0	0	0
266	CRTFP Uy+	0	0	0	0	0	0
266	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 2	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 3	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 4	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 5	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 6	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 7	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 8	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 9	-23	71	1934	-209.81	-0.06	-6.39
267	SLU 10	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 11	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 12	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 13	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 14	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 15	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 16	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 17	-27	82	2319	-245.62	-0.09	-7.61
267	SLU 18	-29	87	2484	-260.96	-0.1	-8.13
267	SLU 19	-29	87	2484	-260.96	-0.1	-8.13
267	SLU 20	-29	87	2484	-260.96	-0.1	-8.13
267	SLU 21	-29	87	2484	-260.96	-0.1	-8.13
267	SLU 22	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 23	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 24	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 25	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 26	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 27	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 28	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 29	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 30	-27	84	2228	-236.56	-0.06	-7.7
267	SLU 31	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 32	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 33	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 34	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 35	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 36	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 37	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 38	-32	96	2613	-272.37	-0.09	-8.92
267	SLU 39	-33	100	2778	-287.72	-0.1	-9.44
267	SLU 40	-33	100	2778	-287.72	-0.1	-9.44
267	SLU 41	-33	100	2778	-287.72	-0.1	-9.44
267	SLU 42	-33	100	2778	-287.72	-0.1	-9.44
267	SLU 43	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 44	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 45	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 46	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 47	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 48	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 49	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 50	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 51	-28	87	2413	-263.57	-0.08	-7.86
267	SLU 52	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 53	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 54	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 55	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 56	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 57	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 58	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 59	-32	98	2798	-299.38	-0.11	-9.08
267	SLU 60	-34	103	2963	-314.73	-0.12	-9.6
267	SLU 61	-34	103	2963	-314.73	-0.12	-9.6
267	SLU 62	-34	103	2963	-314.73	-0.12	-9.6
267	SLU 63	-34	103	2963	-314.73	-0.12	-9.6
267	SLU 64	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 65	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 66	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 67	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 68	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 69	-32	101	2708	-290.33	-0.08	-9.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
267	SLU 70	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 71	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 72	-32	101	2708	-290.33	-0.08	-9.17
267	SLU 73	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 74	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 75	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 76	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 77	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 78	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 79	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 80	-37	112	3093	-326.14	-0.11	-10.39
267	SLU 81	-39	117	3258	-341.49	-0.12	-10.91
267	SLU 82	-39	117	3258	-341.49	-0.12	-10.91
267	SLU 83	-39	117	3258	-341.49	-0.12	-10.91
267	SLU 84	-39	117	3258	-341.49	-0.12	-10.91
267	SLE RA 1	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 2	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 3	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 4	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 5	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 6	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 7	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 8	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 9	-24	74	2018	-217.45	-0.06	-6.77
267	SLE RA 10	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 11	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 12	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 13	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 14	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 15	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 16	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 17	-27	82	2275	-241.33	-0.08	-7.58
267	SLE RA 18	-28	85	2385	-251.56	-0.09	-7.93
267	SLE RA 19	-28	85	2385	-251.56	-0.09	-7.93
267	SLE RA 20	-28	85	2385	-251.56	-0.09	-7.93
267	SLE RA 21	-28	85	2385	-251.56	-0.09	-7.93
267	SLE FR 1	-24	74	2018	-217.45	-0.06	-6.77
267	SLE FR 2	-24	74	2018	-217.45	-0.06	-6.77
267	SLE FR 3	-24	74	2018	-217.45	-0.06	-6.77
267	SLE FR 4	-25	78	2128	-227.68	-0.07	-7.12
267	SLE FR 5	-25	78	2128	-227.68	-0.07	-7.12
267	SLE FR 6	-26	80	2202	-234.5	-0.07	-7.35
267	SLE QP 1	-24	74	2018	-217.45	-0.06	-6.77
267	SLE QP 2	-25	78	2128	-227.68	-0.07	-7.12
267	SLD 1	170	211	2253	-237.63	0.86	41.26
267	SLD 2	133	184	2247	-237.41	0.86	32.28
267	SLD 3	179	96	2445	-252.15	1.02	43.2
267	SLD 4	142	68	2439	-251.92	1.01	34.21
267	SLD 5	33	303	1876	-208.74	-0.02	7.65
267	SLD 6	-4	275	1871	-208.51	-0.03	-1.42
267	SLD 7	62	-82	2516	-257.11	0.49	14.1
267	SLD 8	25	-110	2511	-256.89	0.49	5.03
267	SLD 9	-76	265	1746	-198.48	-0.63	-19.26
267	SLD 10	-113	238	1740	-198.25	-0.63	-28.33
267	SLD 11	-46	-119	2385	-246.86	-0.11	-12.81
267	SLD 12	-83	-147	2380	-246.63	-0.12	-21.88
267	SLD 13	-192	87	1817	-203.45	-1.15	-48.44
267	SLD 14	-229	59	1812	-203.22	-1.16	-57.43
267	SLD 15	-183	-28	2009	-217.96	-1	-46.51
267	SLD 16	-220	-56	2004	-217.73	-1	-55.49
267	SLV 1	417	384	2408	-249.98	2.04	102.57
267	SLV 2	334	321	2395	-249.47	2.03	82.13
267	SLV 3	438	117	2852	-283.68	2.4	107.12
267	SLV 4	354	54	2839	-283.17	2.39	86.68
267	SLV 5	106	598	1543	-183.44	0.02	26.23
267	SLV 6	21	534	1530	-182.92	0.01	5.43
267	SLV 7	175	-294	3023	-295.78	1.22	41.39
267	SLV 8	90	-358	3010	-295.26	1.21	20.59
267	SLV 9	-140	513	1246	-160.11	-1.35	-34.82
267	SLV 10	-225	449	1233	-159.59	-1.36	-55.62
267	SLV 11	-72	-378	2726	-272.44	-0.15	-19.66
267	SLV 12	-157	-442	2713	-271.92	-0.16	-40.46
267	SLV 13	-404	101	1417	-172.2	-2.53	-100.91
267	SLV 14	-488	39	1405	-171.68	-2.54	-121.35
267	SLV 15	-384	-166	1861	-205.9	-2.17	-96.36
267	SLV 16	-467	-229	1849	-205.38	-2.18	-116.8
267	CRTFP Ux+	0	0	0	0	0	0
267	CRTFP Ux-	0	0	0	0	0	0
267	CRTFP Uy+	0	0	0	0	0	0
267	CRTFP Uy-	0	0	0	0	0	0
268	SLU 1	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 2	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 3	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 4	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 5	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 6	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 7	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 8	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 9	-23	49	1944	-223.67	-0.61	-6.4
268	SLU 10	-27	56	2332	-262.96	-0.76	-7.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
268	SLU 11	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 12	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 13	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 14	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 15	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 16	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 17	-27	56	2332	-262.96	-0.76	-7.63
268	SLU 18	-29	60	2498	-279.8	-0.83	-8.16
268	SLU 19	-29	60	2498	-279.8	-0.83	-8.16
268	SLU 20	-29	60	2498	-279.8	-0.83	-8.16
268	SLU 21	-29	60	2498	-279.8	-0.83	-8.16
268	SLU 22	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 23	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 24	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 25	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 26	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 27	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 28	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 29	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 30	-28	58	2240	-252.85	-0.7	-7.71
268	SLU 31	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 32	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 33	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 34	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 35	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 36	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 37	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 38	-32	66	2628	-292.13	-0.85	-8.94
268	SLU 39	-34	69	2794	-308.97	-0.92	-9.47
268	SLU 40	-34	69	2794	-308.97	-0.92	-9.47
268	SLU 41	-34	69	2794	-308.97	-0.92	-9.47
268	SLU 42	-34	69	2794	-308.97	-0.92	-9.47
268	SLU 43	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 44	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 45	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 46	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 47	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 48	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 49	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 50	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 51	-28	60	2426	-280.77	-0.76	-7.87
268	SLU 52	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 53	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 54	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 55	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 56	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 57	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 58	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 59	-33	68	2814	-320.06	-0.91	-9.1
268	SLU 60	-35	71	2980	-336.9	-0.98	-9.63
268	SLU 61	-35	71	2980	-336.9	-0.98	-9.63
268	SLU 62	-35	71	2980	-336.9	-0.98	-9.63
268	SLU 63	-35	71	2980	-336.9	-0.98	-9.63
268	SLU 64	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 65	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 66	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 67	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 68	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 69	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 70	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 71	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 72	-33	70	2722	-309.94	-0.85	-9.18
268	SLU 73	-37	77	3110	-349.23	-1	-10.41
268	SLU 74	-37	77	3110	-349.23	-1	-10.41
268	SLU 75	-37	77	3110	-349.23	-1	-10.41
268	SLU 76	-37	77	3110	-349.23	-1	-10.41
268	SLU 77	-37	77	3110	-349.23	-1	-10.41
268	SLU 78	-37	77	3110	-349.23	-1	-10.41
268	SLU 79	-37	77	3110	-349.23	-1	-10.41
268	SLU 80	-37	77	3110	-349.23	-1	-10.41
268	SLU 81	-39	81	3276	-366.07	-1.07	-10.94
268	SLU 82	-39	81	3276	-366.07	-1.07	-10.94
268	SLU 83	-39	81	3276	-366.07	-1.07	-10.94
268	SLU 84	-39	81	3276	-366.07	-1.07	-10.94
268	SLE RA 1	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 2	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 3	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 4	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 5	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 6	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 7	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 8	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 9	-24	51	2029	-232.01	-0.63	-6.77
268	SLE RA 10	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 11	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 12	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 13	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 14	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 15	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 16	-27	57	2287	-258.2	-0.74	-7.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLE RA 17	-27	57	2287	-258.2	-0.74	-7.59
268	SLE RA 18	-29	59	2398	-269.42	-0.78	-7.95
268	SLE RA 19	-29	59	2398	-269.42	-0.78	-7.95
268	SLE RA 20	-29	59	2398	-269.42	-0.78	-7.95
268	SLE RA 21	-29	59	2398	-269.42	-0.78	-7.95
268	SLE FR 1	-24	51	2029	-232.01	-0.63	-6.77
268	SLE FR 2	-24	51	2029	-232.01	-0.63	-6.77
268	SLE FR 3	-24	51	2029	-232.01	-0.63	-6.77
268	SLE FR 4	-26	54	2140	-243.23	-0.68	-7.13
268	SLE FR 5	-26	54	2140	-243.23	-0.68	-7.13
268	SLE FR 6	-26	55	2213	-250.72	-0.71	-7.36
268	SLE QP 1	-24	51	2029	-232.01	-0.63	-6.77
268	SLE QP 2	-26	54	2140	-243.23	-0.68	-7.13
268	SLD 1	169	161	2236	-248.13	0.25	41.25
268	SLD 2	133	139	2231	-248	0.24	32.25
268	SLD 3	178	67	2425	-263.38	0.31	43.21
268	SLD 4	141	45	2419	-263.24	0.3	34.2
268	SLD 5	33	235	1884	-221.63	-0.49	7.61
268	SLD 6	-4	213	1879	-221.5	-0.5	-1.47
268	SLD 7	62	-76	2513	-272.44	-0.28	14.13
268	SLD 8	25	-98	2508	-272.31	-0.29	5.05
268	SLD 9	-76	205	1771	-214.16	-1.06	-19.3
268	SLD 10	-113	183	1766	-214.02	-1.07	-28.38
268	SLD 11	-47	-106	2400	-264.97	-0.86	-12.79
268	SLD 12	-84	-128	2395	-264.83	-0.86	-21.86
268	SLD 13	-193	62	1860	-223.22	-1.65	-48.46
268	SLD 14	-229	40	1855	-223.09	-1.66	-57.46
268	SLD 15	-184	-31	2049	-238.47	-1.59	-46.5
268	SLD 16	-220	-53	2043	-238.33	-1.6	-55.5
268	SLV 1	416	299	2355	-254.08	1.42	102.56
268	SLV 2	333	249	2343	-253.77	1.4	82.09
268	SLV 3	437	83	2791	-289.46	1.56	107.15
268	SLV 4	353	33	2779	-289.16	1.54	86.68
268	SLV 5	106	473	1547	-192.92	-0.25	26.16
268	SLV 6	21	422	1534	-192.61	-0.28	5.33
268	SLV 7	174	-247	3001	-310.88	0.22	41.46
268	SLV 8	89	-298	2989	-310.58	0.2	20.63
268	SLV 9	-140	405	1290	-175.89	-1.55	-34.88
268	SLV 10	-225	354	1278	-175.58	-1.57	-55.71
268	SLV 11	-72	-314	2745	-293.85	-1.08	-19.59
268	SLV 12	-157	-365	2733	-293.54	-1.1	-40.41
268	SLV 13	-405	74	1500	-197.3	-2.9	-100.93
268	SLV 14	-488	24	1488	-197	-2.92	-121.4
268	SLV 15	-384	-142	1936	-232.69	-2.75	-96.34
268	SLV 16	-467	-192	1924	-232.39	-2.78	-116.81
268	CRTFP Ux+	0	0	0	0	0	0
268	CRTFP Ux-	0	0	0	0	0	0
268	CRTFP Uy+	0	0	0	0	0	0
268	CRTFP Uy-	0	0	0	0	0	0
269	SLU 1	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 2	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 3	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 4	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 5	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 6	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 7	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 8	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 9	-23	30	1971	-249.25	-1.13	-6.41
269	SLU 10	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 11	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 12	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 13	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 14	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 15	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 16	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 17	-28	35	2366	-294.71	-1.41	-7.66
269	SLU 18	-30	37	2535	-314.2	-1.53	-8.2
269	SLU 19	-30	37	2535	-314.2	-1.53	-8.2
269	SLU 20	-30	37	2535	-314.2	-1.53	-8.2
269	SLU 21	-30	37	2535	-314.2	-1.53	-8.2
269	SLU 22	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 23	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 24	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 25	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 26	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 27	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 28	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 29	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 30	-28	36	2271	-282.86	-1.31	-7.73
269	SLU 31	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 32	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 33	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 34	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 35	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 36	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 37	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 38	-33	41	2666	-328.32	-1.59	-8.98
269	SLU 39	-35	43	2835	-347.81	-1.71	-9.52
269	SLU 40	-35	43	2835	-347.81	-1.71	-9.52
269	SLU 41	-35	43	2835	-347.81	-1.71	-9.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
269	SLU 42	-35	43	2835	-347.81	-1.71	-9.52
269	SLU 43	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 44	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 45	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 46	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 47	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 48	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 49	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 50	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 51	-29	37	2460	-312.51	-1.4	-7.88
269	SLU 52	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 53	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 54	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 55	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 56	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 57	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 58	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 59	-33	42	2854	-357.97	-1.68	-9.13
269	SLU 60	-35	44	3023	-377.45	-1.8	-9.67
269	SLU 61	-35	44	3023	-377.45	-1.8	-9.67
269	SLU 62	-35	44	3023	-377.45	-1.8	-9.67
269	SLU 63	-35	44	3023	-377.45	-1.8	-9.67
269	SLU 64	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 65	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 66	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 67	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 68	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 69	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 70	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 71	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 72	-34	43	2759	-346.12	-1.59	-9.2
269	SLU 73	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 74	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 75	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 76	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 77	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 78	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 79	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 80	-38	48	3154	-391.58	-1.87	-10.45
269	SLU 81	-40	50	3323	-411.06	-1.99	-10.99
269	SLU 82	-40	50	3323	-411.06	-1.99	-10.99
269	SLU 83	-40	50	3323	-411.06	-1.99	-10.99
269	SLU 84	-40	50	3323	-411.06	-1.99	-10.99
269	SLE RA 1	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 2	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 3	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 4	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 5	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 6	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 7	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 8	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 9	-25	32	2057	-258.86	-1.18	-6.79
269	SLE RA 10	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 11	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 12	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 13	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 14	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 15	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 16	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 17	-28	35	2320	-289.16	-1.37	-7.62
269	SLE RA 18	-29	36	2432	-302.15	-1.45	-7.98
269	SLE RA 19	-29	36	2432	-302.15	-1.45	-7.98
269	SLE RA 20	-29	36	2432	-302.15	-1.45	-7.98
269	SLE RA 21	-29	36	2432	-302.15	-1.45	-7.98
269	SLE FR 1	-25	32	2057	-258.86	-1.18	-6.79
269	SLE FR 2	-25	32	2057	-258.86	-1.18	-6.79
269	SLE FR 3	-25	32	2057	-258.86	-1.18	-6.79
269	SLE FR 4	-26	33	2169	-271.85	-1.26	-7.15
269	SLE FR 5	-26	33	2169	-271.85	-1.26	-7.15
269	SLE FR 6	-27	34	2245	-280.5	-1.31	-7.38
269	SLE QP 1	-25	32	2057	-258.86	-1.18	-6.79
269	SLE QP 2	-26	33	2169	-271.85	-1.26	-7.15
269	SLD 1	169	117	2238	-272.48	-0.33	41.22
269	SLD 2	132	100	2233	-272.4	-0.34	32.21
269	SLD 3	177	42	2426	-289.76	-0.37	43.19
269	SLD 4	141	25	2421	-289.68	-0.39	34.18
269	SLD 5	32	178	1906	-245.85	-0.91	7.57
269	SLD 6	-5	161	1901	-245.77	-0.92	-1.52
269	SLD 7	61	-71	2534	-303.46	-1.06	14.14
269	SLD 8	24	-89	2529	-303.38	-1.07	5.05
269	SLD 9	-76	155	1810	-240.31	-1.45	-19.34
269	SLD 10	-113	138	1805	-240.23	-1.46	-28.43
269	SLD 11	-47	-94	2438	-297.92	-1.6	-12.77
269	SLD 12	-84	-112	2433	-297.84	-1.61	-21.86
269	SLD 13	-193	41	1918	-254.01	-2.13	-48.47
269	SLD 14	-230	24	1913	-253.93	-2.14	-57.48
269	SLD 15	-184	-34	2106	-271.29	-2.18	-46.5
269	SLD 16	-221	-51	2101	-271.21	-2.19	-55.52
269	SLV 1	415	226	2321	-273	0.85	102.52
269	SLV 2	332	187	2310	-272.83	0.82	82.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLV 3	436	53	2757	-313.09	0.75	107.14
269	SLV 4	352	14	2745	-312.92	0.72	86.65
269	SLV 5	105	368	1558	-211.45	-0.46	26.1
269	SLV 6	21	328	1546	-211.28	-0.49	5.25
269	SLV 7	173	-210	3011	-345.08	-0.8	41.5
269	SLV 8	88	-249	2999	-344.91	-0.83	20.65
269	SLV 9	-141	316	1340	-198.78	-1.69	-34.94
269	SLV 10	-225	276	1328	-198.61	-1.72	-55.79
269	SLV 11	-73	-262	2792	-332.41	-2.03	-19.54
269	SLV 12	-158	-301	2781	-332.24	-2.06	-40.39
269	SLV 13	-405	53	1593	-230.77	-3.24	-100.94
269	SLV 14	-488	14	1582	-230.6	-3.27	-121.43
269	SLV 15	-384	-121	2029	-270.86	-3.34	-96.32
269	SLV 16	-468	-160	2018	-270.69	-3.37	-116.81
269	CRTFP Ux+	0	0	0	0	0	0
269	CRTFP Ux-	0	0	0	0	0	0
269	CRTFP Uy+	0	0	0	0	0	0
269	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 2	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 3	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 4	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 5	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 6	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 7	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 8	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 9	-24	15	2012	-285.85	-1.54	-6.43
270	SLU 10	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 11	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 12	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 13	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 14	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 15	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 16	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 17	-29	17	2417	-340.01	-1.92	-7.71
270	SLU 18	-31	18	2590	-363.22	-2.08	-8.25
270	SLU 19	-31	18	2590	-363.22	-2.08	-8.25
270	SLU 20	-31	18	2590	-363.22	-2.08	-8.25
270	SLU 21	-31	18	2590	-363.22	-2.08	-8.25
270	SLU 22	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 23	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 24	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 25	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 26	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 27	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 28	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 29	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 30	-29	19	2319	-325.78	-1.79	-7.77
270	SLU 31	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 32	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 33	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 34	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 35	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 36	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 37	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 38	-34	21	2724	-379.95	-2.17	-9.04
270	SLU 39	-36	22	2897	-403.16	-2.33	-9.59
270	SLU 40	-36	22	2897	-403.16	-2.33	-9.59
270	SLU 41	-36	22	2897	-403.16	-2.33	-9.59
270	SLU 42	-36	22	2897	-403.16	-2.33	-9.59
270	SLU 43	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 44	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 45	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 46	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 47	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 48	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 49	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 50	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 51	-30	19	2511	-357.91	-1.91	-7.9
270	SLU 52	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 53	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 54	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 55	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 56	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 57	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 58	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 59	-34	21	2916	-412.08	-2.29	-9.18
270	SLU 60	-36	22	3089	-435.29	-2.45	-9.72
270	SLU 61	-36	22	3089	-435.29	-2.45	-9.72
270	SLU 62	-36	22	3089	-435.29	-2.45	-9.72
270	SLU 63	-36	22	3089	-435.29	-2.45	-9.72
270	SLU 64	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 65	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 66	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 67	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 68	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 69	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 70	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 71	-35	22	2818	-397.85	-2.17	-9.24
270	SLU 72	-35	22	2818	-397.85	-2.17	-9.24



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
270	SLU 73	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 74	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 75	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 76	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 77	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 78	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 79	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 80	-39	24	3222		-452.01	-2.54	-10.51
270	SLU 81	-41	25	3396		-475.22	-2.7	-11.06
270	SLU 82	-41	25	3396		-475.22	-2.7	-11.06
270	SLU 83	-41	25	3396		-475.22	-2.7	-11.06
270	SLU 84	-41	25	3396		-475.22	-2.7	-11.06
270	SLE RA 1	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 2	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 3	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 4	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 5	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 6	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 7	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 8	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 9	-25	16	2100		-297.26	-1.61	-6.81
270	SLE RA 10	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 11	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 12	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 13	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 14	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 15	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 16	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 17	-29	18	2370		-333.37	-1.86	-7.66
270	SLE RA 18	-30	18	2485		-348.84	-1.97	-8.03
270	SLE RA 19	-30	18	2485		-348.84	-1.97	-8.03
270	SLE RA 20	-30	18	2485		-348.84	-1.97	-8.03
270	SLE RA 21	-30	18	2485		-348.84	-1.97	-8.03
270	SLE FR 1	-25	16	2100		-297.26	-1.61	-6.81
270	SLE FR 2	-25	16	2100		-297.26	-1.61	-6.81
270	SLE FR 3	-25	16	2100		-297.26	-1.61	-6.81
270	SLE FR 4	-27	17	2216		-312.73	-1.72	-7.18
270	SLE FR 5	-27	17	2216		-312.73	-1.72	-7.18
270	SLE FR 6	-28	17	2293		-323.05	-1.79	-7.42
270	SLE QP 1	-25	16	2100		-297.26	-1.61	-6.81
270	SLE QP 2	-27	17	2216		-312.73	-1.72	-7.18
270	SLD 1	168	82	2256		-309.76	-0.79	41.16
270	SLD 2	131	69	2251		-309.71	-0.81	32.14
270	SLD 3	176	22	2446		-330.42	-0.92	43.15
270	SLD 4	140	9	2442		-330.37	-0.93	34.13
270	SLD 5	31	132	1940		-280.52	-1.25	7.49
270	SLD 6	-6	119	1935		-280.47	-1.27	-1.6
270	SLD 7	60	-68	2576		-349.4	-1.66	14.14
270	SLD 8	23	-81	2571		-349.35	-1.67	5.05
270	SLD 9	-77	115	1860		-276.12	-1.76	-19.4
270	SLD 10	-114	102	1855		-276.07	-1.78	-28.49
270	SLD 11	-48	-85	2496		-345	-2.17	-12.75
270	SLD 12	-85	-98	2491		-344.95	-2.19	-21.85
270	SLD 13	-193	25	1989		-295.1	-2.5	-48.49
270	SLD 14	-230	12	1985		-295.05	-2.52	-57.5
270	SLD 15	-185	-35	2180		-315.76	-2.63	-46.49
270	SLD 16	-221	-48	2175		-315.71	-2.64	-55.51
270	SLV 1	414	165	2303		-305.68	0.38	102.41
270	SLV 2	331	136	2293		-305.56	0.35	81.9
270	SLV 3	434	26	2745		-353.57	0.1	107.09
270	SLV 4	351	-3	2735		-353.45	0.06	86.58
270	SLV 5	105	283	1576		-238.03	-0.65	25.97
270	SLV 6	20	253	1566		-237.91	-0.69	5.1
270	SLV 7	172	-181	3048		-397.65	-1.59	41.55
270	SLV 8	87	-211	3037		-397.53	-1.62	20.68
270	SLV 9	-141	244	1394		-227.93	-1.81	-35.03
270	SLV 10	-226	215	1383		-227.81	-1.85	-55.9
270	SLV 11	-74	-220	2866		-387.55	-2.75	-19.45
270	SLV 12	-158	-249	2855		-387.44	-2.79	-40.32
270	SLV 13	-405	37	1696		-272.02	-3.5	-100.93
270	SLV 14	-488	7	1686		-271.9	-3.54	-121.44
270	SLV 15	-384	-103	2138		-319.9	-3.78	-96.26
270	SLV 16	-468	-132	2128		-319.79	-3.82	-116.76
270	CRTFP Ux+	0	0	0		0	0	0
270	CRTFP Ux-	0	0	0		0	0	0
270	CRTFP Uy+	0	0	0		0	0	0
270	CRTFP Uy-	0	0	0		0	0	0
271	SLU 1	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 2	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 3	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 4	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 5	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 6	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 7	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 8	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 9	-25	5	2063		-331.56	-1.73	-6.46
271	SLU 10	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 11	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 12	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 13	-30	5	2480		-396.51	-2.15	-7.77



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
271	SLU 14	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 15	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 16	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 17	-30	5	2480		-396.51	-2.15	-7.77
271	SLU 18	-32	5	2659		-424.34	-2.33	-8.33
271	SLU 19	-32	5	2659		-424.34	-2.33	-8.33
271	SLU 20	-32	5	2659		-424.34	-2.33	-8.33
271	SLU 21	-32	5	2659		-424.34	-2.33	-8.33
271	SLU 22	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 23	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 24	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 25	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 26	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 27	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 28	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 29	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 30	-30	6	2378		-379.37	-2.02	-7.81
271	SLU 31	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 32	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 33	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 34	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 35	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 36	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 37	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 38	-35	6	2795		-444.32	-2.44	-9.12
271	SLU 39	-37	6	2974		-472.15	-2.62	-9.68
271	SLU 40	-37	6	2974		-472.15	-2.62	-9.68
271	SLU 41	-37	6	2974		-472.15	-2.62	-9.68
271	SLU 42	-37	6	2974		-472.15	-2.62	-9.68
271	SLU 43	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 44	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 45	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 46	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 47	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 48	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 49	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 50	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 51	-30	5	2574		-414.64	-2.16	-7.93
271	SLU 52	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 53	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 54	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 55	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 56	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 57	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 58	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 59	-35	6	2991		-479.58	-2.58	-9.24
271	SLU 60	-38	6	3170		-507.42	-2.76	-9.8
271	SLU 61	-38	6	3170		-507.42	-2.76	-9.8
271	SLU 62	-38	6	3170		-507.42	-2.76	-9.8
271	SLU 63	-38	6	3170		-507.42	-2.76	-9.8
271	SLU 64	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 65	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 66	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 67	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 68	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 69	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 70	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 71	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 72	-36	7	2889		-462.45	-2.44	-9.29
271	SLU 73	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 74	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 75	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 76	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 77	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 78	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 79	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 80	-41	7	3306		-527.39	-2.86	-10.59
271	SLU 81	-43	7	3485		-555.23	-3.04	-11.15
271	SLU 82	-43	7	3485		-555.23	-3.04	-11.15
271	SLU 83	-43	7	3485		-555.23	-3.04	-11.15
271	SLU 84	-43	7	3485		-555.23	-3.04	-11.15
271	SLE RA 1	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 2	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 3	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 4	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 5	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 6	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 7	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 8	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 9	-26	5	2153		-345.22	-1.81	-6.84
271	SLE RA 10	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 11	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 12	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 13	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 14	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 15	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 16	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 17	-30	5	2431		-388.52	-2.1	-7.72
271	SLE RA 18	-31	5	2550		-407.07	-2.22	-8.09
271	SLE RA 19	-31	5	2550		-407.07	-2.22	-8.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
271	SLE RA 20	-31	5	2550	-407.07	-2.22	-8.09
271	SLE RA 21	-31	5	2550	-407.07	-2.22	-8.09
271	SLE FR 1	-26	5	2153	-345.22	-1.81	-6.84
271	SLE FR 2	-26	5	2153	-345.22	-1.81	-6.84
271	SLE FR 3	-26	5	2153	-345.22	-1.81	-6.84
271	SLE FR 4	-28	5	2272	-363.78	-1.93	-7.22
271	SLE FR 5	-28	5	2272	-363.78	-1.93	-7.22
271	SLE FR 6	-29	5	2352	-376.15	-2.01	-7.47
271	SLE QP 1	-26	5	2153	-345.22	-1.81	-6.84
271	SLE QP 2	-28	5	2272	-363.78	-1.93	-7.22
271	SLD 1	166	54	2285	-357.82	-1.03	41.06
271	SLD 2	130	45	2281	-357.74	-1.04	32.04
271	SLD 3	175	5	2480	-383.06	-1.2	43.08
271	SLD 4	139	-4	2476	-382.97	-1.22	34.06
271	SLD 5	30	97	1981	-323.75	-1.39	7.4
271	SLD 6	-6	88	1977	-323.66	-1.4	-1.7
271	SLD 7	59	-66	2633	-407.86	-1.98	14.13
271	SLD 8	22	-75	2628	-407.78	-2	5.03
271	SLD 9	-78	85	1916	-319.78	-1.87	-19.47
271	SLD 10	-114	76	1912	-319.69	-1.89	-28.56
271	SLD 11	-49	-78	2568	-403.89	-2.46	-12.74
271	SLD 12	-86	-87	2564	-403.8	-2.48	-21.83
271	SLD 13	-194	14	2068	-344.58	-2.65	-48.49
271	SLD 14	-230	5	2064	-344.5	-2.67	-57.51
271	SLD 15	-185	-35	2264	-369.81	-2.83	-46.48
271	SLD 16	-222	-44	2260	-369.73	-2.84	-55.49
271	SLV 1	412	117	2297	-349.92	0.13	102.24
271	SLV 2	329	96	2288	-349.72	0.09	81.73
271	SLV 3	433	4	2749	-408.34	-0.28	106.97
271	SLV 4	349	-17	2740	-408.15	-0.32	86.46
271	SLV 5	104	218	1597	-271.07	-0.68	25.81
271	SLV 6	19	197	1588	-270.88	-0.72	4.94
271	SLV 7	171	-160	3104	-465.83	-2.04	41.56
271	SLV 8	86	-181	3095	-465.63	-2.09	20.7
271	SLV 9	-141	191	1449	-261.92	-1.78	-35.13
271	SLV 10	-226	170	1440	-261.72	-1.82	-56
271	SLV 11	-74	-187	2956	-456.68	-3.15	-19.38
271	SLV 12	-159	-208	2947	-456.48	-3.19	-40.24
271	SLV 13	-405	27	1804	-319.4	-3.55	-100.89
271	SLV 14	-488	6	1795	-319.21	-3.59	-121.4
271	SLV 15	-385	-86	2256	-377.83	-3.96	-96.17
271	SLV 16	-468	-107	2247	-377.64	-4	-116.68
271	CRTFP Ux+	0	0	0	0	0	0
271	CRTFP Ux-	0	0	0	0	0	0
271	CRTFP Uy+	0	0	0	0	0	0
271	CRTFP Uy-	0	0	0	0	0	0
272	SLU 1	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 2	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 3	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 4	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 5	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 6	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 7	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 8	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 9	-25	-2	2115	-383.85	-1.57	-6.49
272	SLU 10	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 11	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 12	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 13	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 14	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 15	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 16	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 17	-31	-3	2544	-461.03	-1.94	-7.84
272	SLU 18	-33	-3	2728	-494.11	-2.1	-8.41
272	SLU 19	-33	-3	2728	-494.11	-2.1	-8.41
272	SLU 20	-33	-3	2728	-494.11	-2.1	-8.41
272	SLU 21	-33	-3	2728	-494.11	-2.1	-8.41
272	SLU 22	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 23	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 24	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 25	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 26	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 27	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 28	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 29	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 30	-31	-2	2438	-440.63	-1.82	-7.87
272	SLU 31	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 32	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 33	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 34	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 35	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 36	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 37	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 38	-36	-3	2868	-517.82	-2.19	-9.21
272	SLU 39	-38	-3	3052	-550.9	-2.35	-9.79
272	SLU 40	-38	-3	3052	-550.9	-2.35	-9.79
272	SLU 41	-38	-3	3052	-550.9	-2.35	-9.79
272	SLU 42	-38	-3	3052	-550.9	-2.35	-9.79
272	SLU 43	-31	-2	2638	-479.53	-1.95	-7.97
272	SLU 44	-31	-2	2638	-479.53	-1.95	-7.97



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
272	SLU 45	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 46	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 47	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 48	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 49	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 50	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 51	-31	-2	2638		-479.53	-1.95	-7.97	
272	SLU 52	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 53	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 54	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 55	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 56	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 57	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 58	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 59	-36	-3	3068		-556.71	-2.33	-9.31	
272	SLU 60	-39	-3	3252		-589.79	-2.49	-9.89	
272	SLU 61	-39	-3	3252		-589.79	-2.49	-9.89	
272	SLU 62	-39	-3	3252		-589.79	-2.49	-9.89	
272	SLU 63	-39	-3	3252		-589.79	-2.49	-9.89	
272	SLU 64	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 65	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 66	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 67	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 68	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 69	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 70	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 71	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 72	-37	-2	2962		-536.32	-2.2	-9.34	
272	SLU 73	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 74	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 75	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 76	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 77	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 78	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 79	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 80	-42	-3	3391		-613.5	-2.58	-10.69	
272	SLU 81	-44	-4	3575		-646.58	-2.74	-11.26	
272	SLU 82	-44	-4	3575		-646.58	-2.74	-11.26	
272	SLU 83	-44	-4	3575		-646.58	-2.74	-11.26	
272	SLU 84	-44	-4	3575		-646.58	-2.74	-11.26	
272	SLE RA 1	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 2	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 3	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 4	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 5	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 6	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 7	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 8	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 9	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE RA 10	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 11	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 12	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 13	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 14	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 15	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 16	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 17	-30	-2	2493		-451.53	-1.89	-7.78	
272	SLE RA 18	-32	-3	2616		-473.58	-2	-8.17	
272	SLE RA 19	-32	-3	2616		-473.58	-2	-8.17	
272	SLE RA 20	-32	-3	2616		-473.58	-2	-8.17	
272	SLE RA 21	-32	-3	2616		-473.58	-2	-8.17	
272	SLE FR 1	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE FR 2	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE FR 3	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE FR 4	-28	-2	2330		-422.12	-1.74	-7.27	
272	SLE FR 5	-28	-2	2330		-422.12	-1.74	-7.27	
272	SLE FR 6	-29	-2	2412		-436.83	-1.82	-7.53	
272	SLE QP 1	-27	-2	2207		-400.07	-1.64	-6.88	
272	SLE QP 2	-28	-2	2330		-422.12	-1.74	-7.27	
272	SLD 1	165	34	2316		-413.9	-0.88	40.93	
272	SLD 2	129	28	2312		-413.69	-0.9	31.91	
272	SLD 3	174	-7	2517		-444.62	-1.07	42.96	
272	SLD 4	137	-13	2513		-444.4	-1.09	33.95	
272	SLD 5	30	73	2022		-373.14	-1.19	7.29	
272	SLD 6	-7	67	2018		-372.93	-1.2	-1.8	
272	SLD 7	58	-64	2692		-475.54	-1.83	14.09	
272	SLD 8	21	-70	2689		-475.32	-1.85	5	
272	SLD 9	-78	65	1971		-368.93	-1.64	-19.53	
272	SLD 10	-115	60	1967		-368.71	-1.66	-28.62	
272	SLD 11	-50	-71	2641		-471.32	-2.28	-12.74	
272	SLD 12	-87	-77	2638		-471.1	-2.3	-21.83	
272	SLD 13	-194	9	2146		-399.84	-2.4	-48.49	
272	SLD 14	-231	3	2143		-399.63	-2.42	-57.5	
272	SLD 15	-186	-32	2347		-430.56	-2.59	-46.45	
272	SLD 16	-222	-38	2344		-430.35	-2.61	-55.46	
272	SLV 1	411	80	2295		-403.03	0.22	102.01	
272	SLV 2	328	67	2287		-402.54	0.19	81.51	
272	SLV 3	431	-15	2760		-474.11	-0.22	106.78	
272	SLV 4	348	-28	2752		-473.63	-0.26	86.28	
272	SLV 5	103	171	1616		-308.76	-0.47	25.63	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
272	SLV 6	18	158	1608	-308.26	-0.51	4.78
272	SLV 7	169	-145	3167	-545.71	-1.95	41.53
272	SLV 8	85	-158	3159	-545.21	-1.99	20.68
272	SLV 9	-142	154	1500	-299.03	-1.5	-35.22
272	SLV 10	-226	141	1492	-298.54	-1.54	-56.07
272	SLV 11	-75	-162	3051	-535.99	-2.98	-19.31
272	SLV 12	-160	-175	3043	-535.49	-3.02	-40.17
272	SLV 13	-405	24	1908	-370.62	-3.23	-100.82
272	SLV 14	-488	11	1900	-370.13	-3.27	-121.32
272	SLV 15	-385	-71	2373	-441.71	-3.67	-96.05
272	SLV 16	-468	-84	2365	-441.22	-3.71	-116.54
272	CRTFP Ux+	0	0	0	0	0	0
272	CRTFP Ux-	0	0	0	0	0	0
272	CRTFP Uy+	0	0	0	0	0	0
272	CRTFP Uy-	0	0	0	0	0	0
273	SLU 1	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 2	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 3	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 4	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 5	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 6	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 7	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 8	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 9	-27	-4	2232	-458.7	-17.13	-6.79
273	SLU 10	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 11	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 12	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 13	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 14	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 15	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 16	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 17	-33	-5	2687	-552.75	-20.64	-8.24
273	SLU 18	-35	-6	2882	-593.05	-22.15	-8.86
273	SLU 19	-35	-6	2882	-593.05	-22.15	-8.86
273	SLU 20	-35	-6	2882	-593.05	-22.15	-8.86
273	SLU 21	-35	-6	2882	-593.05	-22.15	-8.86
273	SLU 22	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 23	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 24	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 25	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 26	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 27	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 28	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 29	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 30	-33	-5	2574	-527.94	-19.74	-8.25
273	SLU 31	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 32	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 33	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 34	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 35	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 36	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 37	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 38	-39	-6	3029	-621.99	-23.25	-9.69
273	SLU 39	-41	-6	3224	-662.3	-24.76	-10.31
273	SLU 40	-41	-6	3224	-662.3	-24.76	-10.31
273	SLU 41	-41	-6	3224	-662.3	-24.76	-10.31
273	SLU 42	-41	-6	3224	-662.3	-24.76	-10.31
273	SLU 43	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 44	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 45	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 46	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 47	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 48	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 49	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 50	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 51	-33	-5	2785	-572.56	-21.37	-8.33
273	SLU 52	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 53	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 54	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 55	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 56	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 57	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 58	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 59	-39	-6	3240	-666.61	-24.89	-9.78
273	SLU 60	-41	-7	3435	-706.92	-26.39	-10.4
273	SLU 61	-41	-7	3435	-706.92	-26.39	-10.4
273	SLU 62	-41	-7	3435	-706.92	-26.39	-10.4
273	SLU 63	-41	-7	3435	-706.92	-26.39	-10.4
273	SLU 64	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 65	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 66	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 67	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 68	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 69	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 70	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 71	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 72	-39	-6	3126	-641.81	-23.98	-9.79
273	SLU 73	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 74	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 75	-45	-7	3581	-735.86	-27.5	-11.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
273	SLU 76	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 77	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 78	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 79	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 80	-45	-7	3581	-735.86	-27.5	-11.23
273	SLU 81	-47	-7	3776	-776.17	-29	-11.85
273	SLU 82	-47	-7	3776	-776.17	-29	-11.85
273	SLU 83	-47	-7	3776	-776.17	-29	-11.85
273	SLU 84	-47	-7	3776	-776.17	-29	-11.85
273	SLE RA 1	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 2	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 3	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 4	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 5	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 6	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 7	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 8	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 9	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE RA 10	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 11	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 12	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 13	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 14	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 15	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 16	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 17	-33	-5	2633	-541.18	-20.22	-8.17
273	SLE RA 18	-34	-5	2763	-568.05	-21.22	-8.59
273	SLE RA 19	-34	-5	2763	-568.05	-21.22	-8.59
273	SLE RA 20	-34	-5	2763	-568.05	-21.22	-8.59
273	SLE RA 21	-34	-5	2763	-568.05	-21.22	-8.59
273	SLE FR 1	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE FR 2	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE FR 3	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE FR 4	-30	-5	2460	-505.35	-18.88	-7.62
273	SLE FR 5	-30	-5	2460	-505.35	-18.88	-7.62
273	SLE FR 6	-31	-5	2547	-523.27	-19.55	-7.9
273	SLE QP 1	-29	-5	2330	-478.48	-17.87	-7.21
273	SLE QP 2	-30	-5	2460	-505.35	-18.88	-7.62
273	SLD 1	170	21	2420	-495.39	-17.67	42.2
273	SLD 2	132	18	2417	-494.89	-17.66	32.85
273	SLD 3	179	-16	2634	-533.68	-19.38	44.44
273	SLD 4	141	-19	2631	-533.17	-19.37	35.1
273	SLD 5	30	60	2124	-444.48	-15.93	7.23
273	SLD 6	-8	58	2121	-443.97	-15.92	-2.19
273	SLD 7	59	-64	2838	-572.1	-21.63	14.71
273	SLD 8	21	-66	2835	-571.59	-21.61	5.29
273	SLD 9	-82	57	2085	-439.12	-16.14	-20.53
273	SLD 10	-120	54	2082	-438.61	-16.13	-29.95
273	SLD 11	-52	-67	2799	-566.74	-21.84	-13.06
273	SLD 12	-91	-70	2795	-566.23	-21.83	-22.48
273	SLD 13	-202	9	2289	-477.53	-18.39	-50.34
273	SLD 14	-239	7	2286	-477.03	-18.38	-59.68
273	SLD 15	-193	-28	2503	-515.82	-20.1	-48.1
273	SLD 16	-231	-31	2500	-515.31	-20.08	-57.44
273	SLV 1	424	55	2365	-482.18	-16.1	105.33
273	SLV 2	338	48	2358	-481.03	-16.08	84.09
273	SLV 3	444	-31	2860	-570.75	-20.05	110.57
273	SLV 4	359	-38	2853	-569.6	-20.03	89.33
273	SLV 5	106	146	1683	-364.48	-12.06	25.95
273	SLV 6	18	139	1676	-363.31	-12.03	4.33
273	SLV 7	174	-141	3333	-659.72	-25.23	43.4
273	SLV 8	87	-148	3326	-658.55	-25.21	21.78
273	SLV 9	-147	138	1594	-352.16	-12.55	-37.03
273	SLV 10	-234	131	1586	-350.99	-12.52	-58.64
273	SLV 11	-79	-149	3244	-647.4	-25.72	-19.58
273	SLV 12	-166	-155	3236	-646.22	-25.7	-41.19
273	SLV 13	-419	28	2067	-441.11	-17.73	-104.57
273	SLV 14	-505	22	2059	-439.95	-17.7	-125.82
273	SLV 15	-399	-58	2562	-529.68	-21.68	-99.34
273	SLV 16	-485	-64	2554	-528.52	-21.65	-120.58
273	CRTFP Ux+	0	0	0	0	0	0
273	CRTFP Ux-	0	0	0	0	0	0
273	CRTFP Uy+	0	0	0	0	0	0
273	CRTFP Uy-	0	0	0	0	0	0
275	SLU 1	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 2	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 3	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 4	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 5	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 6	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 7	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 8	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 9	-67	-3	5350	-1065.92	-435.49	-13.92
275	SLU 10	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 11	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 12	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 13	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 14	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 15	-82	-3	6437	-1285.48	-523.39	-16.95
275	SLU 16	-82	-3	6437	-1285.48	-523.39	-16.95



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
Ind.	N.br.							
275	SLU 17	-82	-3	6437		-1285.48	-523.39	-16.95
275	SLU 18	-88	-3	6902		-1379.58	-561.05	-18.25
275	SLU 19	-88	-3	6902		-1379.58	-561.05	-18.25
275	SLU 20	-88	-3	6902		-1379.58	-561.05	-18.25
275	SLU 21	-88	-3	6902		-1379.58	-561.05	-18.25
275	SLU 22	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 23	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 24	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 25	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 26	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 27	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 28	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 29	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 30	-81	-3	6165		-1228.37	-501.15	-17.01
275	SLU 31	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 32	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 33	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 34	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 35	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 36	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 37	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 38	-96	-4	7251		-1447.93	-589.04	-20.05
275	SLU 39	-102	-4	7716		-1542.02	-626.71	-21.34
275	SLU 40	-102	-4	7716		-1542.02	-626.71	-21.34
275	SLU 41	-102	-4	7716		-1542.02	-626.71	-21.34
275	SLU 42	-102	-4	7716		-1542.02	-626.71	-21.34
275	SLU 43	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 44	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 45	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 46	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 47	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 48	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 49	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 50	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 51	-82	-3	6676		-1330	-543.63	-17.04
275	SLU 52	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 53	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 54	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 55	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 56	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 57	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 58	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 59	-97	-4	7762		-1549.56	-631.52	-20.07
275	SLU 60	-103	-4	8228		-1643.66	-669.19	-21.37
275	SLU 61	-103	-4	8228		-1643.66	-669.19	-21.37
275	SLU 62	-103	-4	8228		-1643.66	-669.19	-21.37
275	SLU 63	-103	-4	8228		-1643.66	-669.19	-21.37
275	SLU 64	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 65	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 66	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 67	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 68	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 69	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 70	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 71	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 72	-96	-4	7491		-1492.45	-609.29	-20.13
275	SLU 73	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 74	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 75	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 76	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 77	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 78	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 79	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 80	-111	-4	8577		-1712.01	-697.18	-23.16
275	SLU 81	-117	-4	9042		-1806.11	-734.85	-24.46
275	SLU 82	-117	-4	9042		-1806.11	-734.85	-24.46
275	SLU 83	-117	-4	9042		-1806.11	-734.85	-24.46
275	SLU 84	-117	-4	9042		-1806.11	-734.85	-24.46
275	SLE RA 1	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 2	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 3	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 4	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 5	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 6	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 7	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 8	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 9	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE RA 10	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 11	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 12	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 13	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 14	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 15	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 16	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 17	-81	-3	6307		-1258.71	-512.85	-16.83
275	SLE RA 18	-85	-3	6617		-1321.44	-537.96	-17.69
275	SLE RA 19	-85	-3	6617		-1321.44	-537.96	-17.69
275	SLE RA 20	-85	-3	6617		-1321.44	-537.96	-17.69
275	SLE RA 21	-85	-3	6617		-1321.44	-537.96	-17.69
275	SLE FR 1	-71	-3	5583		-1112.34	-454.25	-14.8



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
275	SLE FR 2	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE FR 3	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE FR 4	-75	-3	5893		-1175.07	-479.36	-15.67
275	SLE FR 5	-75	-3	5893		-1175.07	-479.36	-15.67
275	SLE FR 6	-78	-3	6100		-1216.89	-496.11	-16.25
275	SLE QP 1	-71	-3	5583		-1112.34	-454.25	-14.8
275	SLE QP 2	-75	-3	5893		-1175.07	-479.36	-15.67
275	SLD 1	405	26	5729		-1147.5	-462.04	93.53
275	SLD 2	314	28	5722		-1146.24	-461.4	74.67
275	SLD 3	426	-57	6253		-1241.54	-505.02	84.03
275	SLD 4	335	-54	6246		-1240.28	-504.39	65.17
275	SLD 5	69	129	5052		-1024.63	-409.2	38.19
275	SLD 6	-22	132	5045		-1023.36	-408.56	19.17
275	SLD 7	139	-145	6798		-1338.07	-552.48	6.5
275	SLD 8	47	-142	6791		-1336.8	-551.84	-12.52
275	SLD 9	-198	136	4995		-1013.34	-406.89	-18.83
275	SLD 10	-289	139	4988		-1012.07	-406.25	-37.85
275	SLD 11	-128	-138	6742		-1326.77	-550.17	-50.51
275	SLD 12	-220	-135	6735		-1325.5	-549.53	-69.53
275	SLD 13	-485	48	5541		-1109.86	-454.34	-96.51
275	SLD 14	-576	51	5534		-1108.6	-453.71	-115.37
275	SLD 15	-465	-35	6065		-1203.89	-497.33	-106.01
275	SLD 16	-555	-32	6058		-1202.63	-496.69	-124.87
275	SLV 1	1013	64	5512		-1111.16	-439.4	232.29
275	SLV 2	807	70	5496		-1108.29	-437.96	189.4
275	SLV 3	1062	-127	6724		-1328.64	-538.83	210.32
275	SLV 4	856	-120	6708		-1325.77	-537.39	167.43
275	SLV 5	252	303	3947		-827.07	-317.1	107.42
275	SLV 6	42	310	3931		-824.16	-315.63	63.78
275	SLV 7	413	-331	7986		-1552.01	-648.52	34.2
275	SLV 8	204	-324	7970		-1549.1	-647.05	-9.45
275	SLV 9	-354	318	3817		-801.04	-311.68	-21.9
275	SLV 10	-564	325	3800		-798.12	-310.21	-65.54
275	SLV 11	-193	-316	7856		-1525.98	-643.1	-95.12
275	SLV 12	-402	-309	7840		-1523.06	-641.63	-138.77
275	SLV 13	-1006	114	5079		-1024.36	-421.34	-198.77
275	SLV 14	-1212	121	5062		-1021.5	-419.9	-241.66
275	SLV 15	-957	-76	6290		-1241.84	-520.77	-220.74
275	SLV 16	-1163	-70	6274		-1238.98	-519.32	-263.63
275	CRTFP Ux+	0	0	0		0	0	0
275	CRTFP Ux-	0	0	0		0	0	0
275	CRTFP Uy+	0	0	0		-0.01	0	0
275	CRTFP Uy-	0	0	0		0.01	0	0
276	SLU 1	-42	5	3313		-539.92	389.21	-11.01
276	SLU 2	-42	5	3313		-539.92	389.21	-11.01
276	SLU 3	-42	5	3313		-539.92	389.21	-11.01
276	SLU 4	-42	5	3313		-539.92	389.21	-11.01
276	SLU 5	-42	5	3313		-539.92	389.21	-11.01
276	SLU 6	-42	5	3313		-539.92	389.21	-11.01
276	SLU 7	-42	5	3313		-539.92	389.21	-11.01
276	SLU 8	-42	5	3313		-539.92	389.21	-11.01
276	SLU 9	-42	5	3313		-539.92	389.21	-11.01
276	SLU 10	-52	6	3977		-647.51	467.86	-13.52
276	SLU 11	-52	6	3977		-647.51	467.86	-13.52
276	SLU 12	-52	6	3977		-647.51	467.86	-13.52
276	SLU 13	-52	6	3977		-647.51	467.86	-13.52
276	SLU 14	-52	6	3977		-647.51	467.86	-13.52
276	SLU 15	-52	6	3977		-647.51	467.86	-13.52
276	SLU 16	-52	6	3977		-647.51	467.86	-13.52
276	SLU 17	-52	6	3977		-647.51	467.86	-13.52
276	SLU 18	-56	7	4262		-693.62	501.57	-14.6
276	SLU 19	-56	7	4262		-693.62	501.57	-14.6
276	SLU 20	-56	7	4262		-693.62	501.57	-14.6
276	SLU 21	-56	7	4262		-693.62	501.57	-14.6
276	SLU 22	-52	6	3809		-618.65	448.05	-13.4
276	SLU 23	-52	6	3809		-618.65	448.05	-13.4
276	SLU 24	-52	6	3809		-618.65	448.05	-13.4
276	SLU 25	-52	6	3809		-618.65	448.05	-13.4
276	SLU 26	-52	6	3809		-618.65	448.05	-13.4
276	SLU 27	-52	6	3809		-618.65	448.05	-13.4
276	SLU 28	-52	6	3809		-618.65	448.05	-13.4
276	SLU 29	-52	6	3809		-618.65	448.05	-13.4
276	SLU 30	-52	6	3809		-618.65	448.05	-13.4
276	SLU 31	-61	7	4474		-726.25	526.7	-15.92
276	SLU 32	-61	7	4474		-726.25	526.7	-15.92
276	SLU 33	-61	7	4474		-726.25	526.7	-15.92
276	SLU 34	-61	7	4474		-726.25	526.7	-15.92
276	SLU 35	-61	7	4474		-726.25	526.7	-15.92
276	SLU 36	-61	7	4474		-726.25	526.7	-15.92
276	SLU 37	-61	7	4474		-726.25	526.7	-15.92
276	SLU 38	-61	7	4474		-726.25	526.7	-15.92
276	SLU 39	-65	7	4758		-772.36	560.41	-16.99
276	SLU 40	-65	7	4758		-772.36	560.41	-16.99
276	SLU 41	-65	7	4758		-772.36	560.41	-16.99
276	SLU 42	-65	7	4758		-772.36	560.41	-16.99
276	SLU 43	-52	7	4136		-674.9	485.8	-13.49
276	SLU 44	-52	7	4136		-674.9	485.8	-13.49
276	SLU 45	-52	7	4136		-674.9	485.8	-13.49
276	SLU 46	-52	7	4136		-674.9	485.8	-13.49
276	SLU 47	-52	7	4136		-674.9	485.8	-13.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
276	SLU 48	-52	7	4136	-674.9	485.8	-13.49
276	SLU 49	-52	7	4136	-674.9	485.8	-13.49
276	SLU 50	-52	7	4136	-674.9	485.8	-13.49
276	SLU 51	-52	7	4136	-674.9	485.8	-13.49
276	SLU 52	-61	8	4800	-782.49	564.45	-16.01
276	SLU 53	-61	8	4800	-782.49	564.45	-16.01
276	SLU 54	-61	8	4800	-782.49	564.45	-16.01
276	SLU 55	-61	8	4800	-782.49	564.45	-16.01
276	SLU 56	-61	8	4800	-782.49	564.45	-16.01
276	SLU 57	-61	8	4800	-782.49	564.45	-16.01
276	SLU 58	-61	8	4800	-782.49	564.45	-16.01
276	SLU 59	-61	8	4800	-782.49	564.45	-16.01
276	SLU 60	-65	8	5085	-828.6	598.16	-17.09
276	SLU 61	-65	8	5085	-828.6	598.16	-17.09
276	SLU 62	-65	8	5085	-828.6	598.16	-17.09
276	SLU 63	-65	8	5085	-828.6	598.16	-17.09
276	SLU 64	-61	7	4633	-753.63	544.64	-15.88
276	SLU 65	-61	7	4633	-753.63	544.64	-15.88
276	SLU 66	-61	7	4633	-753.63	544.64	-15.88
276	SLU 67	-61	7	4633	-753.63	544.64	-15.88
276	SLU 68	-61	7	4633	-753.63	544.64	-15.88
276	SLU 69	-61	7	4633	-753.63	544.64	-15.88
276	SLU 70	-61	7	4633	-753.63	544.64	-15.88
276	SLU 71	-61	7	4633	-753.63	544.64	-15.88
276	SLU 72	-61	7	4633	-753.63	544.64	-15.88
276	SLU 73	-71	8	5297	-861.23	623.29	-18.4
276	SLU 74	-71	8	5297	-861.23	623.29	-18.4
276	SLU 75	-71	8	5297	-861.23	623.29	-18.4
276	SLU 76	-71	8	5297	-861.23	623.29	-18.4
276	SLU 77	-71	8	5297	-861.23	623.29	-18.4
276	SLU 78	-71	8	5297	-861.23	623.29	-18.4
276	SLU 79	-71	8	5297	-861.23	623.29	-18.4
276	SLU 80	-71	8	5297	-861.23	623.29	-18.4
276	SLU 81	-75	9	5582	-907.34	657	-19.48
276	SLU 82	-75	9	5582	-907.34	657	-19.48
276	SLU 83	-75	9	5582	-907.34	657	-19.48
276	SLU 84	-75	9	5582	-907.34	657	-19.48
276	SLE RA 1	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 2	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 3	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 4	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 5	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 6	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 7	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 8	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 9	-45	5	3455	-562.41	406.02	-11.69
276	SLE RA 10	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 11	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 12	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 13	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 14	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 15	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 16	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 17	-51	6	3897	-634.14	458.46	-13.37
276	SLE RA 18	-54	6	4087	-664.89	480.93	-14.09
276	SLE RA 19	-54	6	4087	-664.89	480.93	-14.09
276	SLE RA 20	-54	6	4087	-664.89	480.93	-14.09
276	SLE RA 21	-54	6	4087	-664.89	480.93	-14.09
276	SLE FR 1	-45	5	3455	-562.41	406.02	-11.69
276	SLE FR 2	-45	5	3455	-562.41	406.02	-11.69
276	SLE FR 3	-45	5	3455	-562.41	406.02	-11.69
276	SLE FR 4	-48	6	3644	-593.15	428.49	-12.41
276	SLE FR 5	-48	6	3644	-593.15	428.49	-12.41
276	SLE FR 6	-49	6	3771	-613.65	443.47	-12.89
276	SLE QP 1	-45	5	3455	-562.41	406.02	-11.69
276	SLE QP 2	-48	6	3644	-593.15	428.49	-12.41
276	SLD 1	266	12	3512	-580.2	413.97	66.56
276	SLD 2	207	21	3507	-582.22	413.39	51.12
276	SLD 3	279	-48	3840	-624.06	452.12	72.59
276	SLD 4	220	-39	3835	-626.07	451.54	57.16
276	SLD 5	48	94	3110	-522.04	366.48	7.59
276	SLD 6	-12	103	3104	-524.07	365.89	-7.97
276	SLD 7	91	-104	4202	-668.23	493.65	27.72
276	SLD 8	31	-94	4196	-670.26	493.07	12.15
276	SLD 9	-127	106	3092	-516.05	363.92	-36.97
276	SLD 10	-186	115	3087	-518.08	363.33	-52.53
276	SLD 11	-83	-92	4184	-662.24	491.09	-16.85
276	SLD 12	-143	-83	4179	-664.27	490.51	-32.41
276	SLD 13	-315	50	3454	-560.24	405.44	-81.98
276	SLD 14	-374	59	3449	-562.25	404.86	-97.41
276	SLD 15	-302	-9	3782	-604.09	443.59	-75.94
276	SLD 16	-361	0	3776	-606.11	443.02	-91.38
276	SLV 1	663	20	3340	-563.21	394.99	166.56
276	SLV 2	529	41	3328	-567.79	393.68	131.46
276	SLV 3	693	-117	4098	-664.65	483.24	180.66
276	SLV 4	559	-97	4086	-669.23	481.93	145.55
276	SLV 5	167	211	2408	-428.67	285.07	32.5
276	SLV 6	31	232	2396	-433.33	283.74	-3.23
276	SLV 7	269	-247	4934	-766.82	579.23	79.49
276	SLV 8	132	-226	4922	-771.48	577.89	43.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
276	SLV 9	-228	237	2367	-414.83	279.09	-68.58
276	SLV 10	-364	258	2355	-419.49	277.76	-104.31
276	SLV 11	-126	-220	4893	-752.98	573.25	-21.59
276	SLV 12	-263	-200	4881	-757.64	571.91	-57.31
276	SLV 13	-654	108	3203	-517.08	375.06	-170.37
276	SLV 14	-788	128	3191	-521.65	373.74	-205.48
276	SLV 15	-624	-29	3961	-618.52	463.31	-156.28
276	SLV 16	-758	-9	3949	-623.1	461.99	-191.38
276	CRTFP Ux+	0	0	0	0	0	0
276	CRTFP Ux-	0	0	0	0	0	0
276	CRTFP Uy+	0	0	0	0	0	0
276	CRTFP Uy-	0	0	0	0	0	0
277	SLU 1	-27	4	2033	-256.05	2.73	-6.72
277	SLU 2	-27	4	2033	-256.05	2.73	-6.72
277	SLU 3	-27	4	2033	-256.05	2.73	-6.72
277	SLU 4	-27	4	2033	-256.05	2.73	-6.72
277	SLU 5	-27	4	2033	-256.05	2.73	-6.72
277	SLU 6	-27	4	2033	-256.05	2.73	-6.72
277	SLU 7	-27	4	2033	-256.05	2.73	-6.72
277	SLU 8	-27	4	2033	-256.05	2.73	-6.72
277	SLU 9	-27	4	2033	-256.05	2.73	-6.72
277	SLU 10	-33	4	2435	-304.02	3.45	-8.3
277	SLU 11	-33	4	2435	-304.02	3.45	-8.3
277	SLU 12	-33	4	2435	-304.02	3.45	-8.3
277	SLU 13	-33	4	2435	-304.02	3.45	-8.3
277	SLU 14	-33	4	2435	-304.02	3.45	-8.3
277	SLU 15	-33	4	2435	-304.02	3.45	-8.3
277	SLU 16	-33	4	2435	-304.02	3.45	-8.3
277	SLU 17	-33	4	2435	-304.02	3.45	-8.3
277	SLU 18	-36	5	2607	-324.58	3.76	-8.97
277	SLU 19	-36	5	2607	-324.58	3.76	-8.97
277	SLU 20	-36	5	2607	-324.58	3.76	-8.97
277	SLU 21	-36	5	2607	-324.58	3.76	-8.97
277	SLU 22	-33	4	2334	-290.89	3.27	-8.27
277	SLU 23	-33	4	2334	-290.89	3.27	-8.27
277	SLU 24	-33	4	2334	-290.89	3.27	-8.27
277	SLU 25	-33	4	2334	-290.89	3.27	-8.27
277	SLU 26	-33	4	2334	-290.89	3.27	-8.27
277	SLU 27	-33	4	2334	-290.89	3.27	-8.27
277	SLU 28	-33	4	2334	-290.89	3.27	-8.27
277	SLU 29	-33	4	2334	-290.89	3.27	-8.27
277	SLU 30	-33	4	2334	-290.89	3.27	-8.27
277	SLU 31	-39	4	2735	-338.86	3.99	-9.85
277	SLU 32	-39	4	2735	-338.86	3.99	-9.85
277	SLU 33	-39	4	2735	-338.86	3.99	-9.85
277	SLU 34	-39	4	2735	-338.86	3.99	-9.85
277	SLU 35	-39	4	2735	-338.86	3.99	-9.85
277	SLU 36	-39	4	2735	-338.86	3.99	-9.85
277	SLU 37	-39	4	2735	-338.86	3.99	-9.85
277	SLU 38	-39	4	2735	-338.86	3.99	-9.85
277	SLU 39	-42	4	2907	-359.42	4.3	-10.52
277	SLU 40	-42	4	2907	-359.42	4.3	-10.52
277	SLU 41	-42	4	2907	-359.42	4.3	-10.52
277	SLU 42	-42	4	2907	-359.42	4.3	-10.52
277	SLU 43	-33	5	2540	-320.92	3.37	-8.21
277	SLU 44	-33	5	2540	-320.92	3.37	-8.21
277	SLU 45	-33	5	2540	-320.92	3.37	-8.21
277	SLU 46	-33	5	2540	-320.92	3.37	-8.21
277	SLU 47	-33	5	2540	-320.92	3.37	-8.21
277	SLU 48	-33	5	2540	-320.92	3.37	-8.21
277	SLU 49	-33	5	2540	-320.92	3.37	-8.21
277	SLU 50	-33	5	2540	-320.92	3.37	-8.21
277	SLU 51	-33	5	2540	-320.92	3.37	-8.21
277	SLU 52	-39	5	2942	-368.89	4.08	-9.79
277	SLU 53	-39	5	2942	-368.89	4.08	-9.79
277	SLU 54	-39	5	2942	-368.89	4.08	-9.79
277	SLU 55	-39	5	2942	-368.89	4.08	-9.79
277	SLU 56	-39	5	2942	-368.89	4.08	-9.79
277	SLU 57	-39	5	2942	-368.89	4.08	-9.79
277	SLU 58	-39	5	2942	-368.89	4.08	-9.79
277	SLU 59	-39	5	2942	-368.89	4.08	-9.79
277	SLU 60	-42	6	3114	-389.45	4.39	-10.46
277	SLU 61	-42	6	3114	-389.45	4.39	-10.46
277	SLU 62	-42	6	3114	-389.45	4.39	-10.46
277	SLU 63	-42	6	3114	-389.45	4.39	-10.46
277	SLU 64	-39	5	2841	-355.76	3.91	-9.76
277	SLU 65	-39	5	2841	-355.76	3.91	-9.76
277	SLU 66	-39	5	2841	-355.76	3.91	-9.76
277	SLU 67	-39	5	2841	-355.76	3.91	-9.76
277	SLU 68	-39	5	2841	-355.76	3.91	-9.76
277	SLU 69	-39	5	2841	-355.76	3.91	-9.76
277	SLU 70	-39	5	2841	-355.76	3.91	-9.76
277	SLU 71	-39	5	2841	-355.76	3.91	-9.76
277	SLU 72	-39	5	2841	-355.76	3.91	-9.76
277	SLU 73	-45	5	3242	-403.73	4.62	-11.33
277	SLU 74	-45	5	3242	-403.73	4.62	-11.33
277	SLU 75	-45	5	3242	-403.73	4.62	-11.33
277	SLU 76	-45	5	3242	-403.73	4.62	-11.33
277	SLU 77	-45	5	3242	-403.73	4.62	-11.33
277	SLU 78	-45	5	3242	-403.73	4.62	-11.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
277	SLU 79	-45	5	3242	-403.73	4.62	-11.33
277	SLU 80	-45	5	3242	-403.73	4.62	-11.33
277	SLU 81	-48	6	3414	-424.29	4.93	-12.01
277	SLU 82	-48	6	3414	-424.29	4.93	-12.01
277	SLU 83	-48	6	3414	-424.29	4.93	-12.01
277	SLU 84	-48	6	3414	-424.29	4.93	-12.01
277	SLE RA 1	-29	4	2119	-266	2.89	-7.16
277	SLE RA 2	-29	4	2119	-266	2.89	-7.16
277	SLE RA 3	-29	4	2119	-266	2.89	-7.16
277	SLE RA 4	-29	4	2119	-266	2.89	-7.16
277	SLE RA 5	-29	4	2119	-266	2.89	-7.16
277	SLE RA 6	-29	4	2119	-266	2.89	-7.16
277	SLE RA 7	-29	4	2119	-266	2.89	-7.16
277	SLE RA 8	-29	4	2119	-266	2.89	-7.16
277	SLE RA 9	-29	4	2119	-266	2.89	-7.16
277	SLE RA 10	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 11	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 12	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 13	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 14	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 15	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 16	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 17	-33	4	2387	-297.98	3.36	-8.22
277	SLE RA 18	-35	4	2501	-311.69	3.57	-8.67
277	SLE RA 19	-35	4	2501	-311.69	3.57	-8.67
277	SLE RA 20	-35	4	2501	-311.69	3.57	-8.67
277	SLE RA 21	-35	4	2501	-311.69	3.57	-8.67
277	SLE FR 1	-29	4	2119	-266	2.89	-7.16
277	SLE FR 2	-29	4	2119	-266	2.89	-7.16
277	SLE FR 3	-29	4	2119	-266	2.89	-7.16
277	SLE FR 4	-30	4	2234	-279.71	3.09	-7.62
277	SLE FR 5	-30	4	2234	-279.71	3.09	-7.62
277	SLE FR 6	-32	4	2310	-288.85	3.23	-7.92
277	SLE QP 1	-29	4	2119	-266	2.89	-7.16
277	SLE QP 2	-30	4	2234	-279.71	3.09	-7.62
277	SLD 1	172	7	2097	-262.38	3.89	42.85
277	SLD 2	134	16	2094	-263.65	3.89	33.43
277	SLD 3	180	-40	2302	-282.04	4.06	44.97
277	SLD 4	142	-31	2299	-283.31	4.05	35.56
277	SLD 5	31	73	1883	-244.24	3.08	7.64
277	SLD 6	-7	82	1880	-245.52	3.08	-1.85
277	SLD 7	59	-84	2567	-309.77	3.63	14.71
277	SLD 8	20	-75	2563	-311.05	3.63	5.22
277	SLD 9	-81	83	1905	-248.36	2.56	-20.45
277	SLD 10	-119	92	1901	-249.64	2.55	-29.94
277	SLD 11	-54	-75	2588	-313.89	3.11	-13.38
277	SLD 12	-92	-66	2585	-315.17	3.1	-22.87
277	SLD 13	-203	39	2169	-276.11	2.13	-50.79
277	SLD 14	-241	47	2165	-277.38	2.12	-60.2
277	SLD 15	-195	-9	2374	-295.77	2.3	-48.67
277	SLD 16	-233	0	2370	-297.04	2.29	-58.08
277	SLV 1	428	13	1919	-239.65	4.91	106.8
277	SLV 2	342	33	1912	-242.54	4.9	85.4
277	SLV 3	448	-96	2393	-285.19	5.29	111.77
277	SLV 4	361	-76	2386	-288.07	5.28	90.37
277	SLV 5	109	165	1423	-197.59	3.06	26.85
277	SLV 6	21	185	1415	-200.53	3.05	5.07
277	SLV 7	173	-199	3004	-349.38	4.34	43.42
277	SLV 8	85	-179	2996	-352.32	4.32	21.64
277	SLV 9	-146	186	1472	-207.1	1.86	-36.87
277	SLV 10	-234	207	1464	-210.04	1.85	-58.65
277	SLV 11	-82	-178	3053	-358.89	3.13	-20.3
277	SLV 12	-170	-157	3045	-361.83	3.12	-42.08
277	SLV 13	-422	84	2082	-271.34	0.9	-105.6
277	SLV 14	-508	104	2074	-274.23	0.89	-127
277	SLV 15	-403	-25	2556	-316.88	1.29	-100.63
277	SLV 16	-489	-5	2548	-319.77	1.27	-122.03
277	CRTFP Ux+	0	0	0	0	0	0
277	CRTFP Ux-	0	0	0	0	0	0
277	CRTFP Uy+	0	0	0	0	0	0
277	CRTFP Uy-	0	0	0	0	0	0
278	SLU 1	-27	3	1961	-220.88	2.18	-6.71
278	SLU 2	-27	3	1961	-220.88	2.18	-6.71
278	SLU 3	-27	3	1961	-220.88	2.18	-6.71
278	SLU 4	-27	3	1961	-220.88	2.18	-6.71
278	SLU 5	-27	3	1961	-220.88	2.18	-6.71
278	SLU 6	-27	3	1961	-220.88	2.18	-6.71
278	SLU 7	-27	3	1961	-220.88	2.18	-6.71
278	SLU 8	-27	3	1961	-220.88	2.18	-6.71
278	SLU 9	-27	3	1961	-220.88	2.18	-6.71
278	SLU 10	-33	3	2343	-259.78	2.77	-8.31
278	SLU 11	-33	3	2343	-259.78	2.77	-8.31
278	SLU 12	-33	3	2343	-259.78	2.77	-8.31
278	SLU 13	-33	3	2343	-259.78	2.77	-8.31
278	SLU 14	-33	3	2343	-259.78	2.77	-8.31
278	SLU 15	-33	3	2343	-259.78	2.77	-8.31
278	SLU 16	-33	3	2343	-259.78	2.77	-8.31
278	SLU 17	-33	3	2343	-259.78	2.77	-8.31
278	SLU 18	-36	3	2507	-276.46	3.02	-8.99
278	SLU 19	-36	3	2507	-276.46	3.02	-8.99



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
278	SLU 20	-36	3	2507		-276.46	3.02	-8.99	
278	SLU 21	-36	3	2507		-276.46	3.02	-8.99	
278	SLU 22	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 23	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 24	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 25	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 26	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 27	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 28	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 29	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 30	-33	2	2247		-249.15	2.63	-8.27	
278	SLU 31	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 32	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 33	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 34	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 35	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 36	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 37	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 38	-39	2	2629		-288.05	3.22	-9.87	
278	SLU 39	-42	2	2793		-304.72	3.47	-10.56	
278	SLU 40	-42	2	2793		-304.72	3.47	-10.56	
278	SLU 41	-42	2	2793		-304.72	3.47	-10.56	
278	SLU 42	-42	2	2793		-304.72	3.47	-10.56	
278	SLU 43	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 44	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 45	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 46	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 47	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 48	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 49	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 50	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 51	-33	4	2451		-277.46	2.68	-8.18	
278	SLU 52	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 53	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 54	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 55	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 56	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 57	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 58	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 59	-39	4	2834		-316.36	3.27	-9.78	
278	SLU 60	-42	4	2997		-333.03	3.52	-10.47	
278	SLU 61	-42	4	2997		-333.03	3.52	-10.47	
278	SLU 62	-42	4	2997		-333.03	3.52	-10.47	
278	SLU 63	-42	4	2997		-333.03	3.52	-10.47	
278	SLU 64	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 65	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 66	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 67	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 68	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 69	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 70	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 71	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 72	-39	3	2737		-305.72	3.13	-9.75	
278	SLU 73	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 74	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 75	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 76	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 77	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 78	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 79	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 80	-45	3	3119		-344.62	3.72	-11.35	
278	SLU 81	-48	3	3283		-361.29	3.97	-12.03	
278	SLU 82	-48	3	3283		-361.29	3.97	-12.03	
278	SLU 83	-48	3	3283		-361.29	3.97	-12.03	
278	SLU 84	-48	3	3283		-361.29	3.97	-12.03	
278	SLE RA 1	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 2	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 3	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 4	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 5	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 6	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 7	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 8	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 9	-28	3	2043		-228.96	2.31	-7.16	
278	SLE RA 10	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 11	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 12	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 13	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 14	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 15	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 16	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 17	-33	3	2297		-254.89	2.7	-8.22	
278	SLE RA 18	-34	3	2407		-266.01	2.87	-8.68	
278	SLE RA 19	-34	3	2407		-266.01	2.87	-8.68	
278	SLE RA 20	-34	3	2407		-266.01	2.87	-8.68	
278	SLE RA 21	-34	3	2407		-266.01	2.87	-8.68	
278	SLE FR 1	-28	3	2043		-228.96	2.31	-7.16	
278	SLE FR 2	-28	3	2043		-228.96	2.31	-7.16	
278	SLE FR 3	-28	3	2043		-228.96	2.31	-7.16	
278	SLE FR 4	-30	3	2152		-240.07	2.47	-7.61	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
278	SLE FR 5	-30	3	2152	-240.07	2.47	-7.61
278	SLE FR 6	-31	3	2225	-247.48	2.59	-7.92
278	SLE QP 1	-28	3	2043	-228.96	2.31	-7.16
278	SLE QP 2	-30	3	2152	-240.07	2.47	-7.61
278	SLD 1	172	8	1991	-225.13	3.44	42.84
278	SLD 2	134	19	1988	-225.87	3.43	33.44
278	SLD 3	180	-50	2193	-242.09	3.53	44.96
278	SLD 4	142	-38	2190	-242.83	3.51	35.56
278	SLD 5	32	87	1799	-209.6	2.64	7.64
278	SLD 6	-7	99	1795	-210.35	2.63	-1.84
278	SLD 7	59	-104	2472	-266.14	2.92	14.7
278	SLD 8	20	-93	2469	-266.89	2.91	5.22
278	SLD 9	-81	98	1835	-213.26	2.04	-20.44
278	SLD 10	-119	109	1832	-214	2.03	-29.93
278	SLD 11	-54	-93	2508	-269.8	2.32	-13.38
278	SLD 12	-92	-82	2505	-270.54	2.31	-22.87
278	SLD 13	-203	43	2113	-237.31	1.44	-50.78
278	SLD 14	-241	55	2110	-238.05	1.42	-60.18
278	SLD 15	-195	-14	2315	-254.27	1.52	-48.66
278	SLD 16	-233	-3	2312	-255.01	1.51	-58.06
278	SLV 1	428	16	1783	-205.42	4.67	106.78
278	SLV 2	342	41	1776	-207.1	4.64	85.4
278	SLV 3	448	-117	2251	-244.78	4.87	111.74
278	SLV 4	361	-91	2244	-246.46	4.83	90.36
278	SLV 5	109	199	1335	-169.38	2.85	26.85
278	SLV 6	22	225	1328	-171.09	2.81	5.1
278	SLV 7	173	-244	2893	-300.57	3.5	43.39
278	SLV 8	85	-218	2886	-302.29	3.47	21.63
278	SLV 9	-146	223	1418	-177.86	1.48	-36.86
278	SLV 10	-233	249	1411	-179.57	1.45	-58.61
278	SLV 11	-82	-220	2976	-309.05	2.14	-20.32
278	SLV 12	-170	-193	2968	-310.77	2.1	-42.08
278	SLV 13	-422	97	2060	-233.69	0.12	-105.59
278	SLV 14	-508	122	2053	-235.37	0.08	-126.96
278	SLV 15	-403	-36	2527	-273.04	0.31	-100.63
278	SLV 16	-489	-10	2520	-274.73	0.28	-122
278	CRTFP Ux+	0	0	0	0	0	0
278	CRTFP Ux-	0	0	0	0	0	0
278	CRTFP Uy+	0	0	0	0	0	0
278	CRTFP Uy-	0	0	0	0	0	0
279	SLU 1	-27	1	1909	-198.27	1.38	-6.7
279	SLU 2	-27	1	1909	-198.27	1.38	-6.7
279	SLU 3	-27	1	1909	-198.27	1.38	-6.7
279	SLU 4	-27	1	1909	-198.27	1.38	-6.7
279	SLU 5	-27	1	1909	-198.27	1.38	-6.7
279	SLU 6	-27	1	1909	-198.27	1.38	-6.7
279	SLU 7	-27	1	1909	-198.27	1.38	-6.7
279	SLU 8	-27	1	1909	-198.27	1.38	-6.7
279	SLU 9	-27	1	1909	-198.27	1.38	-6.7
279	SLU 10	-33	1	2276	-231.02	1.79	-8.32
279	SLU 11	-33	1	2276	-231.02	1.79	-8.32
279	SLU 12	-33	1	2276	-231.02	1.79	-8.32
279	SLU 13	-33	1	2276	-231.02	1.79	-8.32
279	SLU 14	-33	1	2276	-231.02	1.79	-8.32
279	SLU 15	-33	1	2276	-231.02	1.79	-8.32
279	SLU 16	-33	1	2276	-231.02	1.79	-8.32
279	SLU 17	-33	1	2276	-231.02	1.79	-8.32
279	SLU 18	-36	0	2434	-245.06	1.96	-9.02
279	SLU 19	-36	0	2434	-245.06	1.96	-9.02
279	SLU 20	-36	0	2434	-245.06	1.96	-9.02
279	SLU 21	-36	0	2434	-245.06	1.96	-9.02
279	SLU 22	-33	0	2183	-222.08	1.7	-8.28
279	SLU 23	-33	0	2183	-222.08	1.7	-8.28
279	SLU 24	-33	0	2183	-222.08	1.7	-8.28
279	SLU 25	-33	0	2183	-222.08	1.7	-8.28
279	SLU 26	-33	0	2183	-222.08	1.7	-8.28
279	SLU 27	-33	0	2183	-222.08	1.7	-8.28
279	SLU 28	-33	0	2183	-222.08	1.7	-8.28
279	SLU 29	-33	0	2183	-222.08	1.7	-8.28
279	SLU 30	-33	0	2183	-222.08	1.7	-8.28
279	SLU 31	-39	0	2550	-254.83	2.1	-9.9
279	SLU 32	-39	0	2550	-254.83	2.1	-9.9
279	SLU 33	-39	0	2550	-254.83	2.1	-9.9
279	SLU 34	-39	0	2550	-254.83	2.1	-9.9
279	SLU 35	-39	0	2550	-254.83	2.1	-9.9
279	SLU 36	-39	0	2550	-254.83	2.1	-9.9
279	SLU 37	-39	0	2550	-254.83	2.1	-9.9
279	SLU 38	-39	0	2550	-254.83	2.1	-9.9
279	SLU 39	-42	0	2708	-268.87	2.28	-10.6
279	SLU 40	-42	0	2708	-268.87	2.28	-10.6
279	SLU 41	-42	0	2708	-268.87	2.28	-10.6
279	SLU 42	-42	0	2708	-268.87	2.28	-10.6
279	SLU 43	-32	2	2387	-249.59	1.68	-8.17
279	SLU 44	-32	2	2387	-249.59	1.68	-8.17
279	SLU 45	-32	2	2387	-249.59	1.68	-8.17
279	SLU 46	-32	2	2387	-249.59	1.68	-8.17
279	SLU 47	-32	2	2387	-249.59	1.68	-8.17
279	SLU 48	-32	2	2387	-249.59	1.68	-8.17
279	SLU 49	-32	2	2387	-249.59	1.68	-8.17
279	SLU 50	-32	2	2387	-249.59	1.68	-8.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
279	SLU 51	-32	2	2387	-249.59	1.68	-8.17
279	SLU 52	-39	1	2755	-282.34	2.09	-9.79
279	SLU 53	-39	1	2755	-282.34	2.09	-9.79
279	SLU 54	-39	1	2755	-282.34	2.09	-9.79
279	SLU 55	-39	1	2755	-282.34	2.09	-9.79
279	SLU 56	-39	1	2755	-282.34	2.09	-9.79
279	SLU 57	-39	1	2755	-282.34	2.09	-9.79
279	SLU 58	-39	1	2755	-282.34	2.09	-9.79
279	SLU 59	-39	1	2755	-282.34	2.09	-9.79
279	SLU 60	-42	1	2912	-296.38	2.27	-10.49
279	SLU 61	-42	1	2912	-296.38	2.27	-10.49
279	SLU 62	-42	1	2912	-296.38	2.27	-10.49
279	SLU 63	-42	1	2912	-296.38	2.27	-10.49
279	SLU 64	-39	1	2661	-273.4	2	-9.75
279	SLU 65	-39	1	2661	-273.4	2	-9.75
279	SLU 66	-39	1	2661	-273.4	2	-9.75
279	SLU 67	-39	1	2661	-273.4	2	-9.75
279	SLU 68	-39	1	2661	-273.4	2	-9.75
279	SLU 69	-39	1	2661	-273.4	2	-9.75
279	SLU 70	-39	1	2661	-273.4	2	-9.75
279	SLU 71	-39	1	2661	-273.4	2	-9.75
279	SLU 72	-39	1	2661	-273.4	2	-9.75
279	SLU 73	-45	0	3029	-306.15	2.41	-11.37
279	SLU 74	-45	0	3029	-306.15	2.41	-11.37
279	SLU 75	-45	0	3029	-306.15	2.41	-11.37
279	SLU 76	-45	0	3029	-306.15	2.41	-11.37
279	SLU 77	-45	0	3029	-306.15	2.41	-11.37
279	SLU 78	-45	0	3029	-306.15	2.41	-11.37
279	SLU 79	-45	0	3029	-306.15	2.41	-11.37
279	SLU 80	-45	0	3029	-306.15	2.41	-11.37
279	SLU 81	-48	0	3187	-320.19	2.58	-12.07
279	SLU 82	-48	0	3187	-320.19	2.58	-12.07
279	SLU 83	-48	0	3187	-320.19	2.58	-12.07
279	SLU 84	-48	0	3187	-320.19	2.58	-12.07
279	SLE RA 1	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 2	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 3	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 4	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 5	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 6	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 7	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 8	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 9	-28	1	1987	-205.08	1.47	-7.16
279	SLE RA 10	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 11	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 12	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 13	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 14	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 15	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 16	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 17	-33	0	2232	-226.91	1.74	-8.24
279	SLE RA 18	-34	0	2337	-236.27	1.86	-8.7
279	SLE RA 19	-34	0	2337	-236.27	1.86	-8.7
279	SLE RA 20	-34	0	2337	-236.27	1.86	-8.7
279	SLE RA 21	-34	0	2337	-236.27	1.86	-8.7
279	SLE FR 1	-28	1	1987	-205.08	1.47	-7.16
279	SLE FR 2	-28	1	1987	-205.08	1.47	-7.16
279	SLE FR 3	-28	1	1987	-205.08	1.47	-7.16
279	SLE FR 4	-30	1	2092	-214.43	1.59	-7.62
279	SLE FR 5	-30	1	2092	-214.43	1.59	-7.62
279	SLE FR 6	-31	1	2162	-220.67	1.66	-7.93
279	SLE QP 1	-28	1	1987	-205.08	1.47	-7.16
279	SLE QP 2	-30	1	2092	-214.43	1.59	-7.62
279	SLD 1	172	8	1901	-199.2	2.76	42.8
279	SLD 2	134	22	1899	-199.61	2.74	33.42
279	SLD 3	180	-62	2103	-214.86	2.68	44.9
279	SLD 4	142	-48	2101	-215.26	2.66	35.52
279	SLD 5	32	104	1729	-185.98	2.07	7.64
279	SLD 6	-7	118	1727	-186.38	2.04	-1.82
279	SLD 7	59	-129	2403	-238.16	1.8	14.65
279	SLD 8	20	-115	2400	-238.57	1.78	5.19
279	SLD 9	-81	116	1784	-190.3	1.39	-20.42
279	SLD 10	-119	130	1781	-190.71	1.37	-29.89
279	SLD 11	-54	-117	2457	-242.48	1.13	-13.42
279	SLD 12	-92	-102	2455	-242.89	1.11	-22.88
279	SLD 13	-203	49	2083	-213.61	0.51	-50.76
279	SLD 14	-240	63	2081	-214.01	0.49	-60.14
279	SLD 15	-195	-21	2285	-229.26	0.43	-48.65
279	SLD 16	-232	-7	2283	-229.67	0.41	-58.04
279	SLV 1	428	19	1655	-179.19	4.26	106.7
279	SLV 2	342	51	1649	-180.11	4.21	85.36
279	SLV 3	447	-143	2122	-215.57	4.07	111.62
279	SLV 4	361	-111	2116	-216.49	4.02	90.28
279	SLV 5	110	239	1254	-148.36	2.69	26.87
279	SLV 6	22	272	1248	-149.3	2.64	5.15
279	SLV 7	173	-299	2812	-269.61	2.07	43.28
279	SLV 8	85	-266	2806	-270.55	2.02	21.56
279	SLV 9	-145	267	1378	-158.32	1.15	-36.8
279	SLV 10	-233	300	1372	-159.25	1.1	-58.52
279	SLV 11	-82	-271	2936	-279.57	0.53	-20.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
279	SLV 12	-170	-238	2930	-280.5	0.48	-42.1
279	SLV 13	-421	112	2068	-212.38	-0.85	-105.52
279	SLV 14	-508	144	2062	-213.3	-0.9	-126.86
279	SLV 15	-402	-49	2535	-248.75	-1.04	-100.6
279	SLV 16	-489	-18	2529	-249.67	-1.09	-121.94
279	CRTFP Ux+	0	0	0	0	0	0
279	CRTFP Ux-	0	0	0	0	0	0
279	CRTFP Uy+	0	0	0	0	0	0
279	CRTFP Uy-	0	0	0	0	0	0
280	SLU 1	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 2	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 3	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 4	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 5	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 6	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 7	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 8	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 9	-27	-1	1882	-192.08	0.39	-6.71
280	SLU 10	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 11	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 12	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 13	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 14	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 15	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 16	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 17	-33	-2	2241	-222.43	0.58	-8.35
280	SLU 18	-36	-3	2395	-235.44	0.66	-9.05
280	SLU 19	-36	-3	2395	-235.44	0.66	-9.05
280	SLU 20	-36	-3	2395	-235.44	0.66	-9.05
280	SLU 21	-36	-3	2395	-235.44	0.66	-9.05
280	SLU 22	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 23	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 24	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 25	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 26	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 27	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 28	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 29	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 30	-33	-2	2150	-214.15	0.55	-8.3
280	SLU 31	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 32	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 33	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 34	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 35	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 36	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 37	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 38	-39	-3	2509	-244.5	0.74	-9.94
280	SLU 39	-42	-4	2662	-257.51	0.81	-10.64
280	SLU 40	-42	-4	2662	-257.51	0.81	-10.64
280	SLU 41	-42	-4	2662	-257.51	0.81	-10.64
280	SLU 42	-42	-4	2662	-257.51	0.81	-10.64
280	SLU 43	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 44	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 45	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 46	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 47	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 48	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 49	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 50	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 51	-32	-1	2355	-242.13	0.45	-8.18
280	SLU 52	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 53	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 54	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 55	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 56	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 57	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 58	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 59	-39	-2	2714	-272.48	0.64	-9.82
280	SLU 60	-42	-2	2868	-285.49	0.72	-10.52
280	SLU 61	-42	-2	2868	-285.49	0.72	-10.52
280	SLU 62	-42	-2	2868	-285.49	0.72	-10.52
280	SLU 63	-42	-2	2868	-285.49	0.72	-10.52
280	SLU 64	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 65	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 66	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 67	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 68	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 69	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 70	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 71	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 72	-39	-2	2623	-264.21	0.61	-9.77
280	SLU 73	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 74	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 75	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 76	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 77	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 78	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 79	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 80	-45	-3	2982	-294.56	0.8	-11.41
280	SLU 81	-48	-4	3135	-307.56	0.88	-12.11



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
280	SLU 82	-48	-4	3135		-307.56	0.88	-12.11	
280	SLU 83	-48	-4	3135		-307.56	0.88	-12.11	
280	SLU 84	-48	-4	3135		-307.56	0.88	-12.11	
280	SLE RA 1	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 2	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 3	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 4	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 5	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 6	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 7	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 8	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 9	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE RA 10	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 11	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 12	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 13	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 14	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 15	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 16	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 17	-33	-2	2198		-218.62	0.56	-8.26	
280	SLE RA 18	-35	-2	2301		-227.29	0.61	-8.73	
280	SLE RA 19	-35	-2	2301		-227.29	0.61	-8.73	
280	SLE RA 20	-35	-2	2301		-227.29	0.61	-8.73	
280	SLE RA 21	-35	-2	2301		-227.29	0.61	-8.73	
280	SLE FR 1	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE FR 2	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE FR 3	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE FR 4	-30	-2	2061		-207.06	0.49	-7.63	
280	SLE FR 5	-30	-2	2061		-207.06	0.49	-7.63	
280	SLE FR 6	-31	-2	2130		-212.84	0.53	-7.95	
280	SLE QP 1	-28	-1	1959		-198.38	0.44	-7.17	
280	SLE QP 2	-30	-2	2061		-207.06	0.49	-7.63	
280	SLD 1	172	8	1834		-187.86	1.87	42.73	
280	SLD 2	134	25	1832		-188.09	1.84	33.37	
280	SLD 3	180	-76	2040		-204.05	1.66	44.81	
280	SLD 4	142	-59	2038		-204.28	1.64	35.44	
280	SLD 5	32	122	1682		-176.66	1.23	7.64	
280	SLD 6	-6	139	1680		-176.89	1.2	-1.8	
280	SLD 7	58	-157	2368		-230.63	0.54	14.57	
280	SLD 8	20	-140	2366		-230.86	0.51	5.12	
280	SLD 9	-81	136	1757		-183.25	0.47	-20.39	
280	SLD 10	-119	154	1755		-183.48	0.44	-29.83	
280	SLD 11	-54	-143	2443		-237.22	-0.22	-13.47	
280	SLD 12	-92	-126	2441		-237.46	-0.25	-22.91	
280	SLD 13	-202	55	2085		-209.83	-0.66	-50.71	
280	SLD 14	-240	73	2083		-210.06	-0.68	-60.07	
280	SLD 15	-194	-28	2290		-226.02	-0.86	-48.63	
280	SLD 16	-232	-11	2289		-226.26	-0.89	-58	
280	SLV 1	428	22	1541		-162.91	3.63	106.56	
280	SLV 2	342	60	1536		-163.44	3.57	85.26	
280	SLV 3	447	-172	2017		-200.53	3.15	111.42	
280	SLV 4	361	-134	2013		-201.06	3.09	90.13	
280	SLV 5	110	285	1184		-136.56	2.18	26.88	
280	SLV 6	22	325	1180		-137.1	2.12	5.21	
280	SLV 7	172	-361	2772		-261.97	0.58	43.1	
280	SLV 8	85	-321	2768		-262.51	0.52	21.44	
280	SLV 9	-145	318	1355		-151.61	0.46	-36.7	
280	SLV 10	-233	357	1351		-152.14	0.4	-58.37	
280	SLV 11	-82	-328	2943		-277.01	-1.14	-20.48	
280	SLV 12	-170	-289	2938		-277.55	-1.2	-42.15	
280	SLV 13	-421	130	2110		-213.05	-2.11	-105.4	
280	SLV 14	-507	169	2106		-213.58	-2.17	-126.69	
280	SLV 15	-402	-64	2586		-250.68	-2.59	-100.53	
280	SLV 16	-489	-25	2582		-251.2	-2.65	-121.82	
280	CRTFP Ux+	0	0	0		0	0	0	
280	CRTFP Ux-	0	0	0		0	0	0	
280	CRTFP Uy+	0	0	0		0	0	0	
280	CRTFP Uy-	0	0	0		0	0	0	
281	SLU 1	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 2	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 3	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 4	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 5	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 6	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 7	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 8	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 9	-27	-3	1887		-205.72	-0.76	-6.73	
281	SLU 10	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 11	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 12	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 13	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 14	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 15	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 16	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 17	-33	-5	2245		-238.1	-0.83	-8.38	
281	SLU 18	-36	-5	2398		-251.99	-0.86	-9.08	
281	SLU 19	-36	-5	2398		-251.99	-0.86	-9.08	
281	SLU 20	-36	-5	2398		-251.99	-0.86	-9.08	
281	SLU 21	-36	-5	2398		-251.99	-0.86	-9.08	
281	SLU 22	-33	-5	2153		-229.29	-0.78	-8.33	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
281	SLU 23	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 24	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 25	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 26	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 27	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 28	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 29	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 30	-33	-5	2153	-229.29	-0.78	-8.33
281	SLU 31	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 32	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 33	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 34	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 35	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 36	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 37	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 38	-40	-6	2510	-261.68	-0.85	-9.98
281	SLU 39	-42	-7	2663	-275.56	-0.88	-10.69
281	SLU 40	-42	-7	2663	-275.56	-0.88	-10.69
281	SLU 41	-42	-7	2663	-275.56	-0.88	-10.69
281	SLU 42	-42	-7	2663	-275.56	-0.88	-10.69
281	SLU 43	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 44	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 45	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 46	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 47	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 48	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 49	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 50	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 51	-32	-3	2363	-259.35	-0.97	-8.19
281	SLU 52	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 53	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 54	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 55	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 56	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 57	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 58	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 59	-39	-5	2720	-291.74	-1.04	-9.84
281	SLU 60	-42	-6	2873	-305.62	-1.07	-10.55
281	SLU 61	-42	-6	2873	-305.62	-1.07	-10.55
281	SLU 62	-42	-6	2873	-305.62	-1.07	-10.55
281	SLU 63	-42	-6	2873	-305.62	-1.07	-10.55
281	SLU 64	-39	-5	2628	-282.93	-1	-9.8
281	SLU 65	-39	-5	2628	-282.93	-1	-9.8
281	SLU 66	-39	-5	2628	-282.93	-1	-9.8
281	SLU 67	-39	-5	2628	-282.93	-1	-9.8
281	SLU 68	-39	-5	2628	-282.93	-1	-9.8
281	SLU 69	-39	-5	2628	-282.93	-1	-9.8
281	SLU 70	-39	-5	2628	-282.93	-1	-9.8
281	SLU 71	-39	-5	2628	-282.93	-1	-9.8
281	SLU 72	-39	-5	2628	-282.93	-1	-9.8
281	SLU 73	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 74	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 75	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 76	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 77	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 78	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 79	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 80	-45	-7	2985	-315.31	-1.07	-11.45
281	SLU 81	-48	-7	3138	-329.19	-1.1	-12.15
281	SLU 82	-48	-7	3138	-329.19	-1.1	-12.15
281	SLU 83	-48	-7	3138	-329.19	-1.1	-12.15
281	SLU 84	-48	-7	3138	-329.19	-1.1	-12.15
281	SLE RA 1	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 2	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 3	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 4	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 5	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 6	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 7	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 8	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 9	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE RA 10	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 11	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 12	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 13	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 14	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 15	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 16	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 17	-33	-5	2201	-234.05	-0.81	-8.28
281	SLE RA 18	-35	-5	2303	-243.3	-0.83	-8.76
281	SLE RA 19	-35	-5	2303	-243.3	-0.83	-8.76
281	SLE RA 20	-35	-5	2303	-243.3	-0.83	-8.76
281	SLE RA 21	-35	-5	2303	-243.3	-0.83	-8.76
281	SLE FR 1	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE FR 2	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE FR 3	-28	-4	1963	-212.45	-0.76	-7.18
281	SLE FR 4	-30	-4	2065	-221.71	-0.78	-7.66
281	SLE FR 5	-30	-4	2065	-221.71	-0.78	-7.66
281	SLE FR 6	-32	-4	2133	-227.88	-0.8	-7.97
281	SLE QP 1	-28	-4	1963	-212.45	-0.76	-7.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
281	SLE QP 2	-30	-4	2065	-221.71	-0.78	-7.66
281	SLD 1	172	7	1795	-194.14	0.83	42.63
281	SLD 2	134	27	1793	-194.32	0.81	33.28
281	SLD 3	180	-92	2009	-213.14	0.47	44.67
281	SLD 4	142	-71	2007	-213.32	0.45	35.33
281	SLD 5	32	142	1660	-184.56	0.26	7.64
281	SLD 6	-7	162	1659	-184.74	0.23	-1.78
281	SLD 7	58	-187	2373	-247.89	-0.94	14.45
281	SLD 8	20	-167	2372	-248.07	-0.97	5.03
281	SLD 9	-81	159	1758	-195.34	-0.6	-20.34
281	SLD 10	-119	179	1757	-195.52	-0.62	-29.76
281	SLD 11	-54	-170	2472	-258.67	-1.8	-13.53
281	SLD 12	-92	-150	2471	-258.86	-1.83	-22.95
281	SLD 13	-202	63	2123	-230.09	-2.01	-50.64
281	SLD 14	-240	84	2122	-230.27	-2.04	-59.98
281	SLD 15	-194	-35	2337	-249.09	-2.37	-48.59
281	SLD 16	-232	-15	2336	-249.27	-2.4	-57.94
281	SLV 1	428	23	1446	-158.6	2.9	106.35
281	SLV 2	341	70	1444	-159.01	2.84	85.1
281	SLV 3	446	-206	1941	-202.69	2.06	111.14
281	SLV 4	360	-159	1939	-203.1	2	89.9
281	SLV 5	109	334	1129	-135.76	1.61	26.89
281	SLV 6	22	381	1127	-136.17	1.55	5.28
281	SLV 7	172	-428	2780	-282.72	-1.18	42.88
281	SLV 8	84	-380	2778	-283.14	-1.24	21.26
281	SLV 9	-145	372	1353	-160.27	-0.33	-36.57
281	SLV 10	-233	420	1350	-160.69	-0.39	-58.19
281	SLV 11	-82	-389	3004	-307.24	-3.12	-20.59
281	SLV 12	-170	-342	3001	-307.66	-3.18	-42.21
281	SLV 13	-421	151	2192	-240.32	-3.57	-105.21
281	SLV 14	-507	198	2189	-240.73	-3.63	-126.45
281	SLV 15	-402	-78	2687	-284.41	-4.41	-100.41
281	SLV 16	-488	-31	2685	-284.82	-4.47	-121.66
281	CRTFP Ux+	0	0	0	0	0	0
281	CRTFP Ux-	0	0	0	0	0	0
281	CRTFP Uy+	0	0	0	0	0	0
281	CRTFP Uy-	0	0	0	0	0	0
282	SLU 1	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 2	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 3	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 4	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 5	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 6	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 7	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 8	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 9	-27	-5	1928	-242.84	-2.07	-6.75
282	SLU 10	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 11	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 12	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 13	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 14	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 15	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 16	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 17	-33	-7	2292	-282.43	-2.42	-8.4
282	SLU 18	-36	-8	2448	-299.4	-2.58	-9.12
282	SLU 19	-36	-8	2448	-299.4	-2.58	-9.12
282	SLU 20	-36	-8	2448	-299.4	-2.58	-9.12
282	SLU 21	-36	-8	2448	-299.4	-2.58	-9.12
282	SLU 22	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 23	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 24	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 25	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 26	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 27	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 28	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 29	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 30	-33	-7	2198	-271.7	-2.3	-8.36
282	SLU 31	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 32	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 33	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 34	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 35	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 36	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 37	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 38	-40	-9	2561	-311.29	-2.66	-10.02
282	SLU 39	-43	-10	2717	-328.25	-2.81	-10.73
282	SLU 40	-43	-10	2717	-328.25	-2.81	-10.73
282	SLU 41	-43	-10	2717	-328.25	-2.81	-10.73
282	SLU 42	-43	-10	2717	-328.25	-2.81	-10.73
282	SLU 43	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 44	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 45	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 46	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 47	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 48	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 49	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 50	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 51	-33	-5	2415	-305.8	-2.6	-8.22
282	SLU 52	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 53	-39	-8	2778	-345.39	-2.96	-9.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
282	SLU 54	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 55	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 56	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 57	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 58	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 59	-39	-8	2778	-345.39	-2.96	-9.88
282	SLU 60	-42	-9	2934	-362.36	-3.12	-10.59
282	SLU 61	-42	-9	2934	-362.36	-3.12	-10.59
282	SLU 62	-42	-9	2934	-362.36	-3.12	-10.59
282	SLU 63	-42	-9	2934	-362.36	-3.12	-10.59
282	SLU 64	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 65	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 66	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 67	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 68	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 69	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 70	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 71	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 72	-39	-7	2684	-334.66	-2.84	-9.83
282	SLU 73	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 74	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 75	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 76	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 77	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 78	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 79	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 80	-46	-10	3047	-374.24	-3.2	-11.49
282	SLU 81	-48	-10	3203	-391.21	-3.35	-12.2
282	SLU 82	-48	-10	3203	-391.21	-3.35	-12.2
282	SLU 83	-48	-10	3203	-391.21	-3.35	-12.2
282	SLU 84	-48	-10	3203	-391.21	-3.35	-12.2
282	SLE RA 1	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 2	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 3	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 4	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 5	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 6	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 7	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 8	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 9	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE RA 10	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 11	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 12	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 13	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 14	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 15	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 16	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 17	-33	-7	2248	-277.48	-2.37	-8.31
282	SLE RA 18	-35	-7	2351	-288.79	-2.48	-8.79
282	SLE RA 19	-35	-7	2351	-288.79	-2.48	-8.79
282	SLE RA 20	-35	-7	2351	-288.79	-2.48	-8.79
282	SLE RA 21	-35	-7	2351	-288.79	-2.48	-8.79
282	SLE FR 1	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE FR 2	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE FR 3	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE FR 4	-31	-6	2109	-262.4	-2.24	-7.68
282	SLE FR 5	-31	-6	2109	-262.4	-2.24	-7.68
282	SLE FR 6	-32	-6	2178	-269.94	-2.3	-8
282	SLE QP 1	-29	-5	2005	-251.09	-2.13	-7.21
282	SLE QP 2	-31	-6	2109	-262.4	-2.24	-7.68
282	SLD 1	171	5	1787	-221.45	-0.34	42.49
282	SLD 2	133	30	1787	-221.66	-0.37	33.17
282	SLD 3	179	-108	2014	-246.03	-0.87	44.5
282	SLD 4	141	-84	2014	-246.25	-0.9	35.18
282	SLD 5	31	161	1669	-212.75	-0.85	7.62
282	SLD 6	-7	186	1668	-212.97	-0.88	-1.78
282	SLD 7	58	-217	2425	-294.7	-2.62	14.33
282	SLD 8	20	-193	2425	-294.91	-2.65	4.93
282	SLD 9	-81	181	1794	-229.88	-1.82	-20.29
282	SLD 10	-119	206	1793	-230.1	-1.85	-29.69
282	SLD 11	-54	-197	2550	-311.83	-3.59	-13.58
282	SLD 12	-92	-173	2550	-312.04	-3.62	-22.98
282	SLD 13	-202	72	2204	-278.55	-3.57	-50.54
282	SLD 14	-240	97	2204	-278.76	-3.6	-59.86
282	SLD 15	-194	-41	2431	-303.13	-4.1	-48.53
282	SLD 16	-232	-17	2431	-303.35	-4.13	-57.85
282	SLV 1	427	22	1374	-168.83	2.08	106.07
282	SLV 2	341	77	1373	-169.31	2.02	84.88
282	SLV 3	445	-241	1899	-225.8	0.85	110.8
282	SLV 4	359	-186	1898	-226.28	0.79	89.6
282	SLV 5	109	381	1092	-147.74	0.95	26.88
282	SLV 6	21	438	1092	-148.24	0.88	5.32
282	SLV 7	172	-495	2843	-337.65	-3.15	42.63
282	SLV 8	84	-439	2842	-338.15	-3.22	21.07
282	SLV 9	-145	427	1376	-186.65	-1.26	-36.43
282	SLV 10	-233	483	1376	-187.14	-1.32	-57.99
282	SLV 11	-82	-450	3127	-376.56	-5.35	-20.68
282	SLV 12	-170	-393	3126	-377.05	-5.42	-42.24
282	SLV 13	-421	174	2320	-298.51	-5.26	-104.96
282	SLV 14	-507	229	2320	-298.99	-5.33	-126.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
282	SLV 15	-402	-89	2845	-355.48	-6.49	-100.24
282	SLV 16	-488	-34	2845	-355.97	-6.55	-121.43
282	CRTFP Ux+	0	0	0	0	0	0
282	CRTFP Ux-	0	0	0	0	0	0
282	CRTFP Uy+	0	0	0	0	0	0
282	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 2	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 3	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 4	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 5	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 6	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 7	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 8	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 9	-27	-6	2010	-307.46	-3.48	-6.77
283	SLU 10	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 11	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 12	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 13	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 14	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 15	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 16	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 17	-34	-8	2388	-360.24	-4.15	-8.43
283	SLU 18	-36	-9	2550	-382.86	-4.44	-9.14
283	SLU 19	-36	-9	2550	-382.86	-4.44	-9.14
283	SLU 20	-36	-9	2550	-382.86	-4.44	-9.14
283	SLU 21	-36	-9	2550	-382.86	-4.44	-9.14
283	SLU 22	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 23	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 24	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 25	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 26	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 27	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 28	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 29	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 30	-33	-7	2289	-345.98	-3.94	-8.38
283	SLU 31	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 32	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 33	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 34	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 35	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 36	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 37	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 38	-40	-10	2667	-398.76	-4.61	-10.04
283	SLU 39	-43	-11	2829	-421.38	-4.9	-10.76
283	SLU 40	-43	-11	2829	-421.38	-4.9	-10.76
283	SLU 41	-43	-11	2829	-421.38	-4.9	-10.76
283	SLU 42	-43	-11	2829	-421.38	-4.9	-10.76
283	SLU 43	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 44	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 45	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 46	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 47	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 48	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 49	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 50	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 51	-33	-7	2517	-386.49	-4.37	-8.24
283	SLU 52	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 53	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 54	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 55	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 56	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 57	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 58	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 59	-40	-9	2895	-439.27	-5.04	-9.91
283	SLU 60	-42	-10	3057	-461.89	-5.33	-10.62
283	SLU 61	-42	-10	3057	-461.89	-5.33	-10.62
283	SLU 62	-42	-10	3057	-461.89	-5.33	-10.62
283	SLU 63	-42	-10	3057	-461.89	-5.33	-10.62
283	SLU 64	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 65	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 66	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 67	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 68	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 69	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 70	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 71	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 72	-39	-8	2796	-425.01	-4.83	-9.86
283	SLU 73	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 74	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 75	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 76	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 77	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 78	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 79	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 80	-46	-11	3174	-477.79	-5.5	-11.52
283	SLU 81	-49	-12	3337	-500.41	-5.79	-12.23
283	SLU 82	-49	-12	3337	-500.41	-5.79	-12.23
283	SLU 83	-49	-12	3337	-500.41	-5.79	-12.23
283	SLU 84	-49	-12	3337	-500.41	-5.79	-12.23



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
283	SLE RA 1	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 2	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 3	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 4	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 5	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 6	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 7	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 8	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 9	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE RA 10	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 11	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 12	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 13	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 14	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 15	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 16	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 17	-33	-8	2342		-353.65	-4.06	-8.34	
283	SLE RA 18	-35	-8	2450		-368.73	-4.25	-8.81	
283	SLE RA 19	-35	-8	2450		-368.73	-4.25	-8.81	
283	SLE RA 20	-35	-8	2450		-368.73	-4.25	-8.81	
283	SLE RA 21	-35	-8	2450		-368.73	-4.25	-8.81	
283	SLE FR 1	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE FR 2	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE FR 3	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE FR 4	-31	-7	2197		-333.55	-3.81	-7.7	
283	SLE FR 5	-31	-7	2197		-333.55	-3.81	-7.7	
283	SLE FR 6	-32	-7	2270		-343.6	-3.93	-8.02	
283	SLE QP 1	-29	-6	2089		-318.47	-3.61	-7.23	
283	SLE QP 2	-31	-7	2197		-333.55	-3.81	-7.7	
283	SLD 1	171	3	1816		-273.36	-1.6	42.35	
283	SLD 2	133	31	1817		-273.66	-1.63	33.04	
283	SLD 3	179	-124	2061		-306.86	-2.31	44.32	
283	SLD 4	141	-96	2061		-307.16	-2.34	35.02	
283	SLD 5	31	179	1711		-264.57	-2.06	7.61	
283	SLD 6	-7	207	1712		-264.88	-2.09	-1.77	
283	SLD 7	58	-245	2528		-376.24	-4.42	14.2	
283	SLD 8	19	-216	2528		-376.55	-4.45	4.82	
283	SLD 9	-81	203	1867		-290.54	-3.16	-20.22	
283	SLD 10	-119	231	1867		-290.85	-3.2	-29.6	
283	SLD 11	-54	-221	2683		-402.21	-5.52	-13.63	
283	SLD 12	-92	-192	2684		-402.52	-5.55	-23.01	
283	SLD 13	-202	82	2333		-359.93	-5.27	-50.42	
283	SLD 14	-240	111	2334		-360.23	-5.31	-59.72	
283	SLD 15	-194	-45	2578		-393.43	-5.98	-48.45	
283	SLD 16	-232	-16	2579		-393.74	-6.01	-57.75	
283	SLV 1	426	17	1326		-196.12	1.22	105.77	
283	SLV 2	340	82	1327		-196.81	1.15	84.62	
283	SLV 3	445	-277	1893		-273.69	-0.41	110.41	
283	SLV 4	359	-212	1894		-274.39	-0.48	89.26	
283	SLV 5	108	424	1076		-174.42	0.21	26.88	
283	SLV 6	21	489	1077		-175.12	0.14	5.36	
283	SLV 7	171	-557	2965		-432.99	-5.24	42.37	
283	SLV 8	84	-492	2967		-433.7	-5.31	20.84	
283	SLV 9	-145	478	1428		-233.39	-2.3	-36.25	
283	SLV 10	-233	544	1430		-234.1	-2.37	-57.77	
283	SLV 11	-82	-503	3318		-491.97	-7.75	-20.76	
283	SLV 12	-170	-437	3319		-492.68	-7.82	-42.29	
283	SLV 13	-420	199	2501		-392.71	-7.13	-104.66	
283	SLV 14	-506	263	2502		-393.4	-7.2	-125.82	
283	SLV 15	-401	-96	3068		-470.28	-8.76	-100.02	
283	SLV 16	-487	-31	3069		-470.97	-8.83	-121.17	
283	CRTFP Ux+	0	0	0		0	0	0	
283	CRTFP Ux-	0	0	0		0	0	0	
283	CRTFP Uy+	0	0	0		0	0	0	
283	CRTFP Uy-	0	0	0		0	0	0	
284	SLU 1	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 2	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 3	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 4	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 5	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 6	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 7	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 8	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 9	-24	-5	1838		-343.44	48.18	-5.75	
284	SLU 10	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 11	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 12	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 13	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 14	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 15	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 16	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 17	-29	-7	2185		-405.21	57.24	-7.13	
284	SLU 18	-32	-8	2334		-431.69	61.13	-7.72	
284	SLU 19	-32	-8	2334		-431.69	61.13	-7.72	
284	SLU 20	-32	-8	2334		-431.69	61.13	-7.72	
284	SLU 21	-32	-8	2334		-431.69	61.13	-7.72	
284	SLU 22	-29	-6	2094		-388.58	54.87	-7.11	
284	SLU 23	-29	-6	2094		-388.58	54.87	-7.11	
284	SLU 24	-29	-6	2094		-388.58	54.87	-7.11	
284	SLU 25	-29	-6	2094		-388.58	54.87	-7.11	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		x	y	z		x	y	z
284	SLU 26	-29	-6	2094		-388.58	54.87	-7.11
284	SLU 27	-29	-6	2094		-388.58	54.87	-7.11
284	SLU 28	-29	-6	2094		-388.58	54.87	-7.11
284	SLU 29	-29	-6	2094		-388.58	54.87	-7.11
284	SLU 30	-29	-6	2094		-388.58	54.87	-7.11
284	SLU 31	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 32	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 33	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 34	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 35	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 36	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 37	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 38	-35	-8	2441		-450.35	63.93	-8.49
284	SLU 39	-37	-9	2589		-476.83	67.82	-9.08
284	SLU 40	-37	-9	2589		-476.83	67.82	-9.08
284	SLU 41	-37	-9	2589		-476.83	67.82	-9.08
284	SLU 42	-37	-9	2589		-476.83	67.82	-9.08
284	SLU 43	-29	-6	2302		-431	60.35	-7.01
284	SLU 44	-29	-6	2302		-431	60.35	-7.01
284	SLU 45	-29	-6	2302		-431	60.35	-7.01
284	SLU 46	-29	-6	2302		-431	60.35	-7.01
284	SLU 47	-29	-6	2302		-431	60.35	-7.01
284	SLU 48	-29	-6	2302		-431	60.35	-7.01
284	SLU 49	-29	-6	2302		-431	60.35	-7.01
284	SLU 50	-29	-6	2302		-431	60.35	-7.01
284	SLU 51	-29	-6	2302		-431	60.35	-7.01
284	SLU 52	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 53	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 54	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 55	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 56	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 57	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 58	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 59	-35	-8	2649		-492.77	69.4	-8.39
284	SLU 60	-37	-9	2798		-519.24	73.29	-8.98
284	SLU 61	-37	-9	2798		-519.24	73.29	-8.98
284	SLU 62	-37	-9	2798		-519.24	73.29	-8.98
284	SLU 63	-37	-9	2798		-519.24	73.29	-8.98
284	SLU 64	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 65	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 66	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 67	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 68	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 69	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 70	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 71	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 72	-34	-7	2558		-476.14	67.04	-8.37
284	SLU 73	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 74	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 75	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 76	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 77	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 78	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 79	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 80	-40	-9	2905		-537.91	76.09	-9.75
284	SLU 81	-43	-10	3053		-564.38	79.98	-10.34
284	SLU 82	-43	-10	3053		-564.38	79.98	-10.34
284	SLU 83	-43	-10	3053		-564.38	79.98	-10.34
284	SLU 84	-43	-10	3053		-564.38	79.98	-10.34
284	SLE RA 1	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 2	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 3	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 4	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 5	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 6	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 7	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 8	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 9	-25	-5	1911		-356.34	50.1	-6.14
284	SLE RA 10	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 11	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 12	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 13	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 14	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 15	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 16	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 17	-29	-6	2143		-397.52	56.13	-7.06
284	SLE RA 18	-31	-7	2242		-415.17	58.72	-7.45
284	SLE RA 19	-31	-7	2242		-415.17	58.72	-7.45
284	SLE RA 20	-31	-7	2242		-415.17	58.72	-7.45
284	SLE RA 21	-31	-7	2242		-415.17	58.72	-7.45
284	SLE FR 1	-25	-5	1911		-356.34	50.1	-6.14
284	SLE FR 2	-25	-5	1911		-356.34	50.1	-6.14
284	SLE FR 3	-25	-5	1911		-356.34	50.1	-6.14
284	SLE FR 4	-27	-6	2010		-373.99	52.68	-6.53
284	SLE FR 5	-27	-6	2010		-373.99	52.68	-6.53
284	SLE FR 6	-28	-6	2077		-385.75	54.41	-6.79
284	SLE QP 1	-25	-5	1911		-356.34	50.1	-6.14
284	SLE QP 2	-27	-6	2010		-373.99	52.68	-6.53
284	SLD 1	147	-1	1624		-300.85	43.54	37.01
284	SLD 2	115	27	1626		-301.23	43.55	28.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
284	SLD 3	154	-120	1855	-340.15	49.41	40.85
284	SLD 4	121	-92	1856	-340.52	49.43	31.99
284	SLD 5	26	166	1544	-292.31	41.02	3.84
284	SLD 6	-7	194	1546	-292.7	41.03	-5.1
284	SLD 7	50	-230	2313	-423.3	60.61	16.66
284	SLD 8	17	-201	2314	-423.68	60.63	7.72
284	SLD 9	-70	190	1706	-324.3	44.74	-20.78
284	SLD 10	-103	218	1708	-324.68	44.75	-29.72
284	SLD 11	-47	-205	2475	-455.28	64.33	-7.96
284	SLD 12	-80	-177	2476	-455.66	64.35	-16.9
284	SLD 13	-175	80	2164	-407.45	55.94	-45.05
284	SLD 14	-208	108	2166	-407.83	55.95	-53.92
284	SLD 15	-168	-38	2395	-446.75	61.82	-41.21
284	SLD 16	-201	-10	2396	-447.13	61.83	-50.07
284	SLV 1	368	7	1129	-207.04	31.78	92.12
284	SLV 2	293	71	1132	-207.9	31.82	71.97
284	SLV 3	384	-267	1663	-297.99	45.39	101.1
284	SLV 4	310	-203	1666	-298.85	45.42	80.95
284	SLV 5	93	392	935	-185.65	25.77	16.67
284	SLV 6	18	457	938	-186.53	25.8	-3.84
284	SLV 7	148	-524	2715	-488.82	71.12	46.61
284	SLV 8	72	-459	2718	-489.7	71.15	26.1
284	SLV 9	-126	447	1303	-258.28	34.22	-39.17
284	SLV 10	-202	512	1306	-259.15	34.25	-59.68
284	SLV 11	-71	-468	3082	-561.45	79.56	-9.23
284	SLV 12	-147	-403	3085	-562.32	79.6	-29.74
284	SLV 13	-364	192	2355	-449.12	59.95	-94.01
284	SLV 14	-438	256	2358	-449.98	59.98	-114.17
284	SLV 15	-347	-83	2889	-540.07	73.55	-85.03
284	SLV 16	-421	-19	2892	-540.93	73.58	-105.19
284	CRTFP Ux+	0	0	0	0	0	0
284	CRTFP Ux-	0	0	0	0	0	0
284	CRTFP Uy+	0	0	0	0	0	0
284	CRTFP Uy-	0	0	0	0	0	0
286	SLU 1	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 2	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 3	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 4	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 5	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 6	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 7	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 8	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 9	-38	-7	3058	-532.23	708.86	-5.28
286	SLU 10	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 11	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 12	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 13	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 14	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 15	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 16	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 17	-48	-10	3638	-632.02	842.33	-6.17
286	SLU 18	-52	-11	3886	-674.79	899.53	-6.56
286	SLU 19	-52	-11	3886	-674.79	899.53	-6.56
286	SLU 20	-52	-11	3886	-674.79	899.53	-6.56
286	SLU 21	-52	-11	3886	-674.79	899.53	-6.56
286	SLU 22	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 23	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 24	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 25	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 26	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 27	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 28	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 29	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 30	-47	-9	3484	-605.42	807.32	-6.41
286	SLU 31	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 32	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 33	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 34	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 35	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 36	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 37	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 38	-57	-12	4064	-705.21	940.79	-7.3
286	SLU 39	-61	-13	4312	-747.97	997.99	-7.69
286	SLU 40	-61	-13	4312	-747.97	997.99	-7.69
286	SLU 41	-61	-13	4312	-747.97	997.99	-7.69
286	SLU 42	-61	-13	4312	-747.97	997.99	-7.69
286	SLU 43	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 44	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 45	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 46	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 47	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 48	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 49	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 50	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 51	-46	-8	3830	-666.81	887.76	-6.47
286	SLU 52	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 53	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 54	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 55	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 56	-56	-11	4409	-766.6	1021.23	-7.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
286	SLU 57	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 58	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 59	-56	-11	4409	-766.6	1021.23	-7.37
286	SLU 60	-60	-13	4658	-809.37	1078.43	-7.75
286	SLU 61	-60	-13	4658	-809.37	1078.43	-7.75
286	SLU 62	-60	-13	4658	-809.37	1078.43	-7.75
286	SLU 63	-60	-13	4658	-809.37	1078.43	-7.75
286	SLU 64	-56	-10	4256	-740	986.22	-7.6
286	SLU 65	-56	-10	4256	-740	986.22	-7.6
286	SLU 66	-56	-10	4256	-740	986.22	-7.6
286	SLU 67	-56	-10	4256	-740	986.22	-7.6
286	SLU 68	-56	-10	4256	-740	986.22	-7.6
286	SLU 69	-56	-10	4256	-740	986.22	-7.6
286	SLU 70	-56	-10	4256	-740	986.22	-7.6
286	SLU 71	-56	-10	4256	-740	986.22	-7.6
286	SLU 72	-56	-10	4256	-740	986.22	-7.6
286	SLU 73	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 74	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 75	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 76	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 77	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 78	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 79	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 80	-65	-13	4835	-839.79	1119.69	-8.5
286	SLU 81	-69	-15	5084	-882.55	1176.89	-8.88
286	SLU 82	-69	-15	5084	-882.55	1176.89	-8.88
286	SLU 83	-69	-15	5084	-882.55	1176.89	-8.88
286	SLU 84	-69	-15	5084	-882.55	1176.89	-8.88
286	SLE RA 1	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 2	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 3	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 4	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 5	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 6	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 7	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 8	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 9	-41	-7	3180	-553.14	736.99	-5.6
286	SLE RA 10	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 11	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 12	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 13	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 14	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 15	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 16	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 17	-47	-10	3566	-619.67	825.97	-6.2
286	SLE RA 18	-50	-10	3732	-648.18	864.11	-6.45
286	SLE RA 19	-50	-10	3732	-648.18	864.11	-6.45
286	SLE RA 20	-50	-10	3732	-648.18	864.11	-6.45
286	SLE RA 21	-50	-10	3732	-648.18	864.11	-6.45
286	SLE FR 1	-41	-7	3180	-553.14	736.99	-5.6
286	SLE FR 2	-41	-7	3180	-553.14	736.99	-5.6
286	SLE FR 3	-41	-7	3180	-553.14	736.99	-5.6
286	SLE FR 4	-43	-8	3346	-581.66	775.13	-5.86
286	SLE FR 5	-43	-8	3346	-581.66	775.13	-5.86
286	SLE FR 6	-45	-9	3456	-600.66	800.55	-6.03
286	SLE QP 1	-41	-7	3180	-553.14	736.99	-5.6
286	SLE QP 2	-43	-8	3346	-581.66	775.13	-5.86
286	SLD 1	235	-5	2673	-465	631.14	42.96
286	SLD 2	183	42	2675	-465.52	631.51	21.51
286	SLD 3	247	-199	3066	-530.08	720.95	91.91
286	SLD 4	194	-152	3068	-530.6	721.32	70.46
286	SLD 5	41	270	2547	-447.77	595.59	-57.86
286	SLD 6	-12	318	2550	-448.29	595.96	-79.5
286	SLD 7	80	-377	3857	-664.71	894.96	105.32
286	SLD 8	27	-329	3859	-665.22	895.33	83.69
286	SLD 9	-113	312	2832	-498.09	654.92	-95.4
286	SLD 10	-167	360	2835	-498.6	655.29	-117.03
286	SLD 11	-75	-335	4142	-715.02	954.29	67.78
286	SLD 12	-128	-287	4145	-715.54	954.67	46.15
286	SLD 13	-281	135	3623	-632.71	828.93	-82.17
286	SLD 14	-334	183	3626	-633.23	829.3	-103.62
286	SLD 15	-269	-59	4016	-697.8	918.74	-33.22
286	SLD 16	-322	-11	4019	-698.31	919.11	-54.67
286	SLV 1	589	3	1809	-315.35	446.23	103.68
286	SLV 2	468	111	1815	-316.51	447.07	54.9
286	SLV 3	616	-446	2718	-465.96	654.08	217.12
286	SLV 4	496	-338	2724	-467.12	654.91	168.34
286	SLV 5	148	638	1503	-272.92	360.92	-127.54
286	SLV 6	26	748	1509	-274.11	361.78	-177.18
286	SLV 7	239	-860	4534	-774.95	1053.74	250.58
286	SLV 8	116	-750	4541	-776.14	1054.6	200.95
286	SLV 9	-203	734	2151	-387.17	495.66	-212.66
286	SLV 10	-326	844	2157	-388.36	496.51	-262.29
286	SLV 11	-113	-765	5182	-889.2	1188.48	165.46
286	SLV 12	-235	-655	5188	-890.39	1189.33	115.83
286	SLV 13	-583	322	3967	-696.19	895.34	-180.05
286	SLV 14	-703	430	3973	-697.35	896.18	-228.83
286	SLV 15	-555	-128	4876	-846.8	1103.18	-66.61
286	SLV 16	-675	-20	4883	-847.96	1104.02	-115.39
286	CRTFP Ux+	0	0	0	-0.01	0.01	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
286	CRTFP Ux-	0	0	0	0.01	-0.01	0
286	CRTFP Uy+	0	0	0	-0.01	0.01	0
286	CRTFP Uy-	0	0	0	0.01	-0.01	0

1.3 Pressioni massime sul terreno

Nodo: Nodo che interagisce col terreno.

Ind.: indice del nodo.

Pressione minima: situazione in cui si verifica la pressione minima nel nodo.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione minima.

uz: spostamento massimo verticale del nodo. [m]

Valore: pressione minima sul terreno del nodo. [daN/m²]

Pressione massima: situazione in cui si verifica la pressione massima nel nodo.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione massima.

uz: spostamento minimo verticale del nodo. [m]

Valore: pressione massima sul terreno del nodo. [daN/m²]

Compressione estrema massima -8564.3 al nodo di indice 275, di coordinate x = 30.72, y = 9.5, z = -1.89, nel contesto SLU 81.

Spostamento estremo minimo -0.0028548 al nodo di indice 275, di coordinate x = 30.72, y = 9.5, z = -1.89, nel contesto SLU 81.

Spostamento estremo massimo -0.0005226 al nodo di indice 29, di coordinate x = 35.07, y = -0.17, z = -1.89, nel contesto SLV 7.

Nodo	Pressione minima			Pressione massima		
	Ind.	Cont.	uz	Valore	Cont.	uz
5	SLV 5		-0.0027383	-8215	SLV 12	-0.0007514
17	SLU 81		-0.0025312	-7593.6	SLV 12	-0.00098
29	SLV 10		-0.002519	-7556.9	SLV 7	-0.0005226
31	SLV 5		-0.0026315	-7894.6	SLV 12	-0.0007827
32	SLV 5		-0.0024124	-7237.3	SLV 12	-0.0007492
33	SLU 81		-0.0022346	-6703.9	SLV 12	-0.0007252
34	SLU 81		-0.0021073	-6322	SLV 12	-0.000713
35	SLU 81		-0.0020226	-6067.7	SLV 12	-0.0007135
36	SLU 81		-0.0019805	-5941.4	SLV 12	-0.0007266
37	SLU 81		-0.0019788	-5936.5	SLV 12	-0.0007515
38	SLU 81		-0.0020134	-6040.2	SLV 12	-0.0007867
39	SLU 81		-0.0020776	-6232.8	SLV 12	-0.0008299
40	SLU 81		-0.0021613	-6484	SLV 12	-0.0008773
41	SLU 81		-0.0022495	-6748.5	SLV 12	-0.0009232
42	SLU 81		-0.0023197	-6959	SLV 12	-0.0009585
43	SLU 81		-0.0023409	-7022.8	SLV 12	-0.0009682
44	SLU 81		-0.0023077	-6923	SLV 8	-0.0009465
45	SLU 81		-0.0022281	-6684.2	SLV 8	-0.0009011
46	SLU 81		-0.0021294	-6388.2	SLV 8	-0.0008446
47	SLU 81		-0.002032	-6096	SLV 8	-0.0007852
48	SLU 81		-0.0019499	-5849.6	SLV 8	-0.0007281
49	SLU 81		-0.0018924	-5677.3	SLV 8	-0.0006764
50	SLU 81		-0.001866	-5597.9	SLV 8	-0.0006324
51	SLV 10		-0.0018996	-5698.8	SLV 7	-0.0005968
52	SLV 10		-0.0019888	-5966.5	SLV 7	-0.0005707
53	SLV 10		-0.0021179	-6353.6	SLV 7	-0.0005543
54	SLV 10		-0.0022848	-6854.3	SLV 7	-0.0005477
55	SLV 10		-0.0024836	-7450.9	SLV 7	-0.0005495
57	SLV 5		-0.0024774	-7432.1	SLV 12	-0.0007654
58	SLU 81		-0.0023456	-7036.8	SLV 12	-0.0009769
59	SLV 10		-0.0022822	-6846.6	SLV 7	-0.0005505
62	SLU 81		-0.0023172	-6951.5	SLV 12	-0.0007928
63	SLU 81		-0.0022434	-6730.2	SLV 12	-0.0010048
64	SLV 10		-0.0020778	-6233.3	SLV 7	-0.0005861
67	SLU 81		-0.0022154	-6646.3	SLV 16	-0.000828
68	SLU 81		-0.0021993	-6597.8	SLV 12	-0.001053
69	SLV 10		-0.0019112	-5733.6	SLV 7	-0.0006309
72	SLU 81		-0.0021574	-6472.3	SLV 16	-0.0008359
73	SLU 81		-0.0021875	-6562.5	SLV 12	-0.0011104
74	SLU 81		-0.0018535	-5560.6	SLV 3	-0.0006645
77	SLU 81		-0.0021403	-6420.9	SLV 16	-0.0008577
78	SLU 81		-0.0021879	-6563.8	SLV 12	-0.0011682
79	SLU 81		-0.0018376	-5512.9	SLV 3	-0.0006866
82	SLU 81		-0.0021602	-6480.7	SLV 16	-0.0008921
83	SLU 81		-0.0021862	-6558.5	SLV 12	-0.0012193
84	SLU 81		-0.0018571	-5571.3	SLV 3	-0.0007192
87	SLU 81		-0.0022127	-6638	SLV 15	-0.0009365
88	SLU 81		-0.0021732	-6519.7	SLV 12	-0.0012585
89	SLU 81		-0.001908	-5724	SLV 3	-0.0007613
92	SLU 81		-0.0022914	-6874.2	SLV 15	-0.0009886
93	SLU 81		-0.0021459	-6437.6	SLU 1	-0.0012497
94	SLU 81		-0.0019842	-5952.6	SLV 3	-0.0008109
97	SLU 81		-0.0023876	-7162.7	SLV 15	-0.0010452
98	SLU 81		-0.0021071	-6321.3	SLU 1	-0.0012275
99	SLU 81		-0.0020764	-6229.3	SLV 3	-0.0008647
102	SLU 81		-0.0024874	-7462.2	SLV 13	-0.0010925
103	SLU 81		-0.002067	-6201.1	SLU 1	-0.0012053
104	SLU 81		-0.0021706	-6511.9	SLV 3	-0.0009177
107	SLU 81		-0.00257	-7709.9	SLV 13	-0.0011158
108	SLU 81		-0.0020412	-6123.5	SLU 1	-0.0011911
109	SLU 81		-0.0022463	-6738.8	SLV 3	-0.0009618
111	SLU 81		-0.0026886	-8065.9	SLV 13	-0.0011314



Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
112	SLU 81	-0.0025557	-7667.2	SLV 13	-0.0011211	-3363.2
113	SLU 81	-0.0024489	-7346.7	SLV 13	-0.0011206	-3361.8
114	SLU 81	-0.0023623	-7086.9	SLV 13	-0.0011276	-3382.8
115	SLU 81	-0.002291	-6873.1	SLV 13	-0.00114	-3419.9
116	SLU 81	-0.0022319	-6695.7	SLV 13	-0.0011566	-3469.7
117	SLU 81	-0.0021827	-6548.2	SLV 13	-0.0011765	-3529.6
118	SLU 81	-0.002142	-6426	SLV 13	-0.0011994	-3598.1
119	SLU 81	-0.0021085	-6325.6	SLV 13	-0.0012242	-3672.7
120	SLU 81	-0.0020815	-6244.4	SLU 1	-0.0012152	-3645.7
121	SLU 81	-0.0020602	-6180.5	SLU 1	-0.0012018	-3605.3
122	SLU 81	-0.0020447	-6134	SLU 1	-0.0011923	-3576.8
123	SLU 81	-0.0020359	-6107.6	SLU 1	-0.0011874	-3562.2
124	SLU 81	-0.0020347	-6104	SLU 1	-0.0011875	-3562.5
125	SLU 81	-0.0020923	-6276.8	SLU 1	-0.0012265	-3679.5
126	SLU 81	-0.0021288	-6386.4	SLU 1	-0.0012505	-3751.4
127	SLU 81	-0.0021585	-6475.6	SLU 1	-0.0012708	-3812.4
128	SLU 81	-0.0021787	-6536	SLV 3	-0.0012477	-3743.2
129	SLU 81	-0.0021908	-6572.3	SLV 3	-0.0012007	-3602.2
130	SLU 81	-0.0021987	-6596	SLV 3	-0.0011461	-3438.3
131	SLU 81	-0.0022083	-6625	SLV 3	-0.0010884	-3265.3
132	SLU 81	-0.0022285	-6685.5	SLV 3	-0.0010328	-3098.3
133	SLU 81	-0.0022721	-6816.4	SLV 3	-0.0009852	-2955.7
134	SLU 81	-0.0023554	-7066.3	SLV 3	-0.0009532	-2859.7
136	SLU 81	-0.0026065	-7819.5	SLV 13	-0.0011203	-3360.9
149	SLU 81	-0.0020432	-6129.5	SLU 1	-0.001192	-3576
160	SLU 81	-0.0022763	-6829	SLV 3	-0.0009856	-2956.7
162	SLU 81	-0.0027073	-8121.9	SLV 13	-0.0011267	-3380
163	SLU 81	-0.0025743	-7722.9	SLV 13	-0.0011164	-3349.2
164	SLU 81	-0.0024672	-7401.6	SLV 13	-0.0011162	-3348.5
165	SLU 81	-0.0023804	-7141.1	SLV 13	-0.0011234	-3370.1
166	SLU 81	-0.0023089	-6926.7	SLV 13	-0.001136	-3407.9
167	SLU 81	-0.0022496	-6748.7	SLV 13	-0.0011528	-3458.3
168	SLU 81	-0.0022002	-6600.7	SLV 13	-0.001173	-3518.9
169	SLU 81	-0.0021594	-6478.1	SLV 13	-0.001196	-3588
170	SLU 81	-0.0021258	-6377.3	SLV 13	-0.0012211	-3663.4
171	SLU 81	-0.0020986	-6295.8	SLU 1	-0.0012243	-3672.9
172	SLU 81	-0.0020772	-6231.7	SLU 1	-0.0012108	-3632.3
173	SLU 81	-0.0020617	-6185.1	SLU 1	-0.0012013	-3603.8
174	SLU 81	-0.0020529	-6158.6	SLU 1	-0.0011964	-3589.2
175	SLU 81	-0.0020517	-6155	SLU 1	-0.0011965	-3589.5
176	SLU 81	-0.0021048	-6314.4	SLU 1	-0.0012331	-3699.4
177	SLU 81	-0.0021411	-6423.3	SLU 1	-0.0012569	-3770.8
178	SLU 81	-0.0021706	-6511.9	SLU 1	-0.0012772	-3831.6
179	SLU 81	-0.0021906	-6571.8	SLV 1	-0.0012592	-3777.5
180	SLU 81	-0.0022025	-6607.6	SLV 1	-0.0012133	-3639.8
181	SLU 81	-0.0022103	-6630.8	SLV 1	-0.0011596	-3478.9
182	SLU 81	-0.0022198	-6659.4	SLV 1	-0.0011028	-3308.4
183	SLU 81	-0.0022399	-6719.6	SLV 1	-0.0010478	-3143.3
184	SLU 81	-0.0022834	-6850.1	SLV 1	-0.0010008	-3002.3
185	SLU 81	-0.0023667	-7100	SLV 1	-0.0009693	-2907.8
186	SLU 81	-0.0020678	-6203.4	SLU 1	-0.0012052	-3615.6
188	SLU 81	-0.0025982	-7794.5	SLV 13	-0.0011069	-3320.6
189	SLU 81	-0.0022608	-6782.3	SLV 1	-0.0009826	-2947.8
191	SLU 81	-0.0021231	-6369.2	SLU 1	-0.0012351	-3705.3
193	SLU 81	-0.0025424	-7627.3	SLV 13	-0.0010739	-3221.7
194	SLU 81	-0.0021951	-6585.2	SLV 1	-0.0009497	-2849
196	SLU 81	-0.0022002	-6600.5	SLU 1	-0.0012771	-3831.2
198	SLU 81	-0.0024699	-7409.6	SLV 13	-0.0010331	-3099.4
199	SLU 81	-0.0021116	-6334.8	SLV 1	-0.0009071	-2721.2
201	SLU 81	-0.0022841	-6852.4	SLU 1	-0.0013232	-3969.7
203	SLU 81	-0.0024012	-7203.5	SLV 13	-0.0009923	-2976.9
204	SLU 81	-0.0020342	-6102.7	SLV 1	-0.0008654	-2596.2
206	SLU 81	-0.002362	-7086	SLV 10	-0.001366	-4098
208	SLU 81	-0.0023482	-7044.6	SLV 13	-0.0009557	-2867.2
209	SLU 81	-0.001979	-5937	SLV 1	-0.000831	-2492.9
211	SLU 81	-0.002427	-7281	SLV 10	-0.0013587	-4076
213	SLU 81	-0.0023166	-6949.8	SLV 13	-0.0009255	-2776.4
214	SLU 81	-0.0019564	-5869.1	SLV 1	-0.0008077	-2423
216	SLU 81	-0.0024778	-7433.4	SLV 10	-0.0013377	-4013.2
218	SLU 81	-0.002308	-6923.9	SLV 9	-0.000893	-2678.9
219	SLU 81	-0.0019731	-5919.3	SLV 1	-0.0007979	-2393.6
221	SLU 81	-0.002517	-7550.9	SLV 10	-0.0013061	-3918.4
223	SLU 81	-0.002321	-6963	SLV 9	-0.0008324	-2497.1
224	SLU 81	-0.0020336	-6100.8	SLV 1	-0.000803	-2408.9
226	SLU 81	-0.0025505	-7651.4	SLV 10	-0.0012679	-3803.8
228	SLU 81	-0.0023522	-7056.6	SLV 9	-0.0007787	-2336.2
229	SLU 81	-0.0021402	-6420.7	SLV 5	-0.0007866	-2359.8
231	SLU 81	-0.0025873	-7761.8	SLV 10	-0.0012283	-3684.9
233	SLU 81	-0.002293	-6878.9	SLV 5	-0.0007749	-2324.8
235	SLU 81	-0.0026396	-7918.8	SLV 10	-0.0011932	-3579.6
237	SLV 8	-0.0024705	-7411.4	SLV 9	-0.0006976	-2092.8
239	SLV 12	-0.0025026	-7507.9	SLV 5	-0.0007761	-2328.2
241	SLU 81	-0.0027232	-8169.7	SLV 10	-0.0011697	-3509.1
242	SLU 81	-0.0025596	-7678.7	SLV 10	-0.0008435	-2530.5
243	SLU 81	-0.0024975	-7492.4	SLV 10	-0.0008785	-2635.5
244	SLU 81	-0.0024719	-7415.7	SLV 10	-0.0009039	-2711.8
245	SLU 81	-0.0024643	-7392.9	SLV 10	-0.000933	-2799.1
246	SLU 81	-0.002478	-7434	SLV 10	-0.0009666	-2899.9
247	SLU 81	-0.0025138	-7541.3	SLV 10	-0.0010049	-3014.7
248	SLU 81	-0.002569	-7706.9	SLV 10	-0.0010468	-3140.4



Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
249	SLU 81	-0.002637	-7910.9	SLV 10	-0.0010899	-3269.8
250	SLU 81	-0.0027061	-8118.3	SLV 10	-0.0011297	-3389
251	SLU 81	-0.0027581	-8274.4	SLV 10	-0.0011586	-3475.9
252	SLU 81	-0.0027592	-8277.5	SLV 10	-0.0011641	-3492.2
253	SLU 81	-0.0025716	-7714.9	SLV 6	-0.0010826	-3247.8
254	SLU 81	-0.0024625	-7387.5	SLV 6	-0.0010208	-3062.4
255	SLU 81	-0.0023675	-7102.4	SLV 6	-0.0009578	-2873.5
256	SLU 81	-0.0022975	-6892.6	SLV 6	-0.0009001	-2700.2
257	SLU 81	-0.0022604	-6781.2	SLV 6	-0.0008508	-2552.4
258	SLU 81	-0.0022622	-6786.5	SLV 6	-0.0008123	-2437
259	SLU 81	-0.0023087	-6926.1	SLV 6	-0.0007869	-2360.7
260	SLU 81	-0.0024049	-7214.8	SLV 5	-0.0007754	-2326.2
261	SLV 12	-0.0025828	-7748.3	SLV 5	-0.0007795	-2338.4
262	SLV 12	-0.002822	-8466.1	SLV 5	-0.0007995	-2398.5
275	SLU 81	-0.0028548	-8564.3	SLV 10	-0.001165	-3494.9
285	SLV 12	-0.0027861	-8358.4	SLV 5	-0.0007869	-2360.6

1.4 Cedimenti fondazioni superficiali

Nodo: nodo che interagisce col terreno.

Ind.: indice del nodo.

spostamento nodale massimo: situazione in cui si verifica lo spostamento massimo verticale nel nodo calcolato dal solutore ad elementi finiti. Lo spostamento massimo con segno è quello con valore massimo lungo l'asse Z, dove valori positivi rappresentano spostamenti verso l'alto.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.

uz: spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]

Press.: pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]

spostamento nodale minimo: situazione in cui si verifica lo spostamento minimo verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento minimo con segno è quello con valore minimo lungo l'asse Z, dove valori negativi rappresentano spostamenti verso il basso.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.

uz: spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]

Press.: pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]

Cedimento elastico: cedimento teorico elastico massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico elastico massimo.

v.: valore del cedimento teorico elastico massimo. [m]

Cedimento edometrico: cedimento teorico edometrico massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico edometrico massimo.

v.: valore del cedimento teorico edometrico massimo. [m]

Cedimento di consolidazione: cedimento teorico di consolidazione massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico di consolidazione massimo.

v.: valore del cedimento teorico di consolidazione massimo. [m]

Spostamento estremo minimo -0.0022493 al nodo di indice 262, di coordinate x = 35.42, y = 9.25, z = -1.89, nel contesto SLD 12.

Spostamento estremo massimo -0.000966 al nodo di indice 51, di coordinate x = 33.86, y = 0.18, z = -1.89, nel contesto SLD 7.

Cedimento elastico estremo massimo 0.0000156 al nodo di indice 250, di coordinate x = 29.84, y = 9.25, z = -1.89, nel contesto SLE rara 18.

spostamento nodale massimo				spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
5	SLD 12	-1.3E-03	-3942	SLD 5	-2.2E-03	-6527						
17	SLD 12	-0.00137	-4110.1	SLD 5	-2.0E-03	-5890.6						
29	SLD 7	-1.1E-03	-3264	SLD 10	-2.0E-03	-5860.6						
31	SLD 12	-1.3E-03	-3918.3	SLD 5	-2.1E-03	-6324.4	SLE RA 18	7.56E-06				
32	SLD 12	-1.2E-03	-3660.5	SLD 5	-1.9E-03	-5824.5						
33	SLD 12	-1.1E-03	-3447.5	SLD 5	-1.8E-03	-5395						
34	SLD 12	-1.1E-03	-3292.4	SLD 5	-1.7E-03	-5057.3						
35	SLD 12	-1.1E-03	-3200.1	SLD 5	-1.6E-03	-4820.5						
36	SLD 12	-1.1E-03	-3170.8	SLD 5	-1.6E-03	-4685.1						
37	SLD 12	-1.1E-03	-3200.8	SLD 5	-1.5E-03	-4645.9						
38	SLD 12	-1.1E-03	-3283.7	SLD 5	-1.6E-03	-4693.1						
39	SLD 12	-1.1E-03	-3409.2	SLD 5	-1.6E-03	-4811.6						
40	SLD 12	-1.2E-03	-3561.7	SLD 5	-1.7E-03	-4978.8						
41	SLD 12	-1.2E-03	-3717.2	SLD 5	-1.7E-03	-5160.6						
42	SLD 12	-1.3E-03	-3839.6	SLD 5	-1.8E-03	-5307.2						
43	SLD 12	-1.3E-03	-3875.9	SLD 5	-1.8E-03	-5353.6						
44	SLD 8	-1.3E-03	-3811.9	SLD 9	-1.8E-03	-5292.3						
45	SLD 8	-1.2E-03	-3667	SLD 9	-1.7E-03	-5135.2						
46	SLD 8	-1.2E-03	-3487.5	SLD 9	-1.6E-03	-4940.8						
47	SLD 8	-1.1E-03	-3305.6	SLD 9	-1.6E-03	-4754.5						
48	SLD 8	-1.0E-03	-3143.7	SLD 9	-1.5E-03	-4607.8						
49	SLD 8	-1.0E-03	-3015.9	SLD 9	-1.5E-03	-4522.7						
50	SLD 8	-9.8E-04	-2932.2	SLD 9	-1.5E-03	-4513.8						
51	SLD 7	-9.7E-04	-2898	SLD 10	-1.5E-03	-4591.3						
52	SLD 7	-9.7E-04	-2917.4	SLD 10	-1.6E-03	-4761.2						
53	SLD 7	-1.0E-03	-2991.6	SLD 10	-1.7E-03	-5025						
54	SLD 7	-1.0E-03	-3118.8	SLD 10	-1.8E-03	-5378.5						
55	SLD 7	-1.1E-03	-3291.4	SLD 10	-1.9E-03	-5807.9						
57	SLD 12	-1.3E-03	-3750.3	SLD 5	-2.0E-03	-5978.1						
58	SLD 12	-1.3E-03	-3891	SLD 5	-1.8E-03	-5352						
59	SLD 7	-1.0E-03	-3122.6	SLD 10	-1.8E-03	-5375.4						
62	SLD 12	-1.2E-03	-3622.6	SLD 5	-1.8E-03	-5529.9						
63	SLD 12	-1.3E-03	-3803.6	SLD 5	-1.7E-03	-5004.1						
64	SLD 7	-1.0E-03	-3025.1	SLD 10	-1.7E-03	-4966.3						
67	SLD 16	-1.2E-03	-3546.1	SLD 1	-1.7E-03	-5204.9						



Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
68	SLD 12	-1.3E-03	-3806.7	SLE RA 18	-1.6E-03	-4835.3						
69	SLD 7	-9.9E-04	-2979.9	SLD 10	-1.5E-03	-4646.5						
72	SLD 16	-1.2E-03	-3491	SLD 1	-1.7E-03	-5027.4						
73	SLD 12	-1.3E-03	-3858.9	SLE RA 18	-1.6E-03	-4804.9						
74	SLD 3	-9.8E-04	-2954.6	SLD 14	-1.5E-03	-4455.1						
77	SLD 16	-1.2E-03	-3498.2	SLD 1	-1.6E-03	-4945.3						
78	SLD 12	-1.3E-03	-3927	SLE RA 18	-1.6E-03	-4802						
79	SLD 3	-9.9E-04	-2963.3	SLD 14	-1.5E-03	-4375.4						
82	SLD 16	-1.2E-03	-3562.1	SLD 1	-1.6E-03	-4949.5						
83	SLD 12	-1.3E-03	-3986	SLE RA 18	-1.6E-03	-4795						
84	SLD 3	-1.0E-03	-3024.3	SLD 14	-1.5E-03	-4380.3						
87	SLD 15	-1.2E-03	-3674.3	SLD 2	-1.7E-03	-5030.7						
88	SLE RA 1	-1.3E-03	-3965.9	SLE RA 18	-1.6E-03	-4764.5						
89	SLD 3	-1.0E-03	-3131.9	SLD 14	-1.5E-03	-4460.2						
92	SLD 15	-1.3E-03	-3825.1	SLD 2	-1.7E-03	-5174.7						
93	SLE RA 1	-1.3E-03	-3914.7	SLE RA 18	-1.6E-03	-4703.2						
94	SLD 3	-1.1E-03	-3276.9	SLD 14	-1.5E-03	-4600.8						
97	SLD 15	-1.3E-03	-4000.7	SLD 2	-1.8E-03	-5361.2	SLE RA 18	4.44E-06				
98	SLE RA 1	-1.3E-03	-3846.7	SLE RA 18	-1.5E-03	-4617.6						
99	SLD 3	-1.1E-03	-3445.1	SLD 14	-1.6E-03	-4780.8						
102	SLD 13	-1.4E-03	-4168.7	SLD 4	-1.9E-03	-5570.2						
103	SLE RA 1	-1.3E-03	-3778.3	SLE RA 18	-1.5E-03	-4529.6						
104	SLD 3	-1.2E-03	-3614.7	SLD 14	-1.7E-03	-4968						
107	SLD 13	-1.4E-03	-4286.9	SLD 4	-1.9E-03	-5763.8						
108	SLE RA 1	-1.2E-03	-3734.6	SLE RA 18	-1.5E-03	-4472.6						
109	SLD 3	-1.3E-03	-3753	SLD 14	-1.7E-03	-5116.5						
111	SLD 13	-1.5E-03	-4437.2	SLD 4	-2.0E-03	-6076.6						
112	SLD 13	-1.4E-03	-4276.6	SLD 4	-1.9E-03	-5712.6						
113	SLD 13	-1.4E-03	-4157.2	SLD 4	-1.8E-03	-5407.6						
114	SLD 13	-1.4E-03	-4069.4	SLE RA 18	-1.7E-03	-5183.5						
115	SLD 13	-1.3E-03	-4005.4	SLE RA 18	-1.7E-03	-5025.4						
116	SLD 13	-1.3E-03	-3960.2	SLE RA 18	-1.6E-03	-4894						
117	SLD 13	-1.3E-03	-3930.4	SLE RA 18	-1.6E-03	-4784.7						
118	SLD 13	-1.3E-03	-3913.8	SLE RA 18	-1.6E-03	-4694						
119	SLE RA 1	-1.3E-03	-3867.5	SLE RA 18	-1.5E-03	-4619.7						
120	SLE RA 1	-1.3E-03	-3813.4	SLE RA 18	-1.5E-03	-4559.6						
121	SLE RA 1	-1.3E-03	-3771	SLE RA 18	-1.5E-03	-4512.6						
122	SLE RA 1	-1.2E-03	-3740.7	SLE RA 18	-1.5E-03	-4478.8						
123	SLE RA 1	-1.2E-03	-3724.5	SLE RA 18	-1.5E-03	-4460.1						
124	SLE RA 1	-1.2E-03	-3723.8	SLE RA 18	-1.5E-03	-4458.3						
125	SLE RA 1	-1.3E-03	-3841.9	SLE RA 18	-1.5E-03	-4588.6						
126	SLE RA 1	-1.3E-03	-3915.3	SLE RA 18	-1.6E-03	-4670.4						
127	SLE RA 1	-1.3E-03	-3977.3	SLE RA 18	-1.6E-03	-4737.5						
128	SLE RA 1	-1.3E-03	-4023.1	SLE RA 18	-1.6E-03	-4784						
129	SLD 3	-1.3E-03	-3983.4	SLE RA 18	-1.6E-03	-4813.2						
130	SLD 3	-1.3E-03	-3925.1	SLE RA 18	-1.6E-03	-4833.7						
131	SLD 3	-1.3E-03	-3865.2	SLE RA 18	-1.6E-03	-4858.3						
132	SLD 3	-1.3E-03	-3819.7	SLD 14	-1.7E-03	-4953.5						
133	SLD 3	-1.3E-03	-3810.5	SLD 14	-1.7E-03	-5154.1						
134	SLD 3	-1.3E-03	-3864.7	SLD 14	-1.8E-03	-5444.4						
136	SLD 13	-1.4E-03	-4331.3	SLD 4	-2.0E-03	-5856.2						
149	SLE RA 1	-1.2E-03	-3738.3	SLE RA 18	-1.5E-03	-4476.5						
160	SLD 3	-1.3E-03	-3815.9	SLD 14	-1.7E-03	-5166.9						
162	SLD 13	-1.5E-03	-4450.3	SLD 4	-2.0E-03	-6131.6						
163	SLD 13	-1.4E-03	-4289.7	SLD 4	-1.9E-03	-5767.2						
164	SLD 13	-1.4E-03	-4170.3	SLD 4	-1.8E-03	-5461.3						
165	SLD 13	-1.4E-03	-4082.6	SLE RA 18	-1.7E-03	-5222.4						
166	SLD 13	-1.3E-03	-4018.6	SLE RA 18	-1.7E-03	-5063.8						
167	SLD 13	-1.3E-03	-3973.5	SLE RA 18	-1.6E-03	-4932						
168	SLD 13	-1.3E-03	-3943.9	SLE RA 18	-1.6E-03	-4822.3						
169	SLD 13	-1.3E-03	-3927.4	SLE RA 18	-1.6E-03	-4731.3						
170	SLE RA 1	-1.3E-03	-3896.8	SLE RA 18	-1.6E-03	-4656.7						
171	SLE RA 1	-1.3E-03	-3842.6	SLE RA 18	-1.5E-03	-4596.4						
172	SLE RA 1	-1.3E-03	-3800.1	SLE RA 18	-1.5E-03	-4549.3						
173	SLE RA 1	-1.3E-03	-3769.8	SLE RA 18	-1.5E-03	-4515.4						
174	SLE RA 1	-1.3E-03	-3753.6	SLE RA 18	-1.5E-03	-4496.6						
175	SLE RA 1	-1.3E-03	-3752.8	SLE RA 18	-1.5E-03	-4494.8						
176	SLE RA 1	-1.3E-03	-3863.3	SLE RA 18	-1.5E-03	-4615.5						
177	SLE RA 1	-1.3E-03	-3936.3	SLE RA 18	-1.6E-03	-4696.8						
178	SLE RA 1	-1.3E-03	-3997.9	SLE RA 18	-1.6E-03	-4763.4						
179	SLE RA 1	-1.3E-03	-4043.4	SLE RA 18	-1.6E-03	-4809.5						
180	SLD 1	-1.3E-03	-4012	SLE RA 18	-1.6E-03	-4838.4						
181	SLD 1	-1.3E-03	-3954.8	SLE RA 18	-1.6E-03	-4858.6						
182	SLD 1	-1.3E-03	-3895.8	SLE RA 18	-1.6E-03	-4882.9						
183	SLD 1	-1.3E-03	-3851	SLD 16	-1.7E-03	-4963.8						
184	SLD 1	-1.3E-03	-3842.4	SLD 16	-1.7E-03	-5163.4						
185	SLD 1	-1.3E-03	-3897.2	SLD 16	-1.8E-03	-5453						
186	SLE RA 1	-1.3E-03	-3780.3	SLE RA 18	-0.00151	-4529.9						
188	SLD 13	-1.4E-03	-4304.2	SLD 4	-1.9E-03	-5848.8						
189	SLD 1	-1.3E-03	-3795.1	SLD 16	-1.7E-03	-5127						
191	SLE RA 1	-1.3E-03	-3874.4	SLE RA 18	-0.00155	-4650						
193	SLD 13	-1.4E-03	-4200.8	SLD 4	-1.9E-03	-5737.2						
194	SLD 1	-1.2E-03	-3681.4	SLD 16	-1.7E-03	-4989.2						
196	SLE RA 1	-1.3E-03	-4006.3	SLE RA 18	-1.6E-03	-4817.7						
198	SLD 13	-1.4E-03	-4069.3	SLD 4	-1.9E-03	-5589.7	SLE RA 18	5.29E-06				
199	SLD 1	-1.2E-03	-3536.3	SLD 16	-1.6E-03	-4815.7						
201	SLE RA 1	-1.4E-03	-4151.4	SLE RA 18	-1.7E-03	-5000.7						
203	SLD 13	-1.3E-03	-3942.1	SLD 4	-1.8E-03	-5453.3						
204	SLD 1	-1.1E-03	-3399.3	SLD 16	-1.6E-03	-4658.6						
206	SLE RA 1	-1.4E-03	-4288.3	SLE RA 18	-1.7E-03	-5170.7						



Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
208	SLD 13	-1.3E-03	-3837.4	SLD 4	-1.8E-03	-5354.7						
209	SLD 1	-1.1E-03	-3295.8	SLD 16	-1.5E-03	-4553.5						
211	SLE RA 1	-1.5E-03	-4406.2	SLE RA 18	-1.8E-03	-5313.2						
213	SLD 13	-1.3E-03	-3764.1	SLD 4	-1.8E-03	-5307.1						
214	SLD 1	-1.1E-03	-3242.3	SLD 16	-1.5E-03	-4524.2						
216	SLD 10	-1.5E-03	-4447.9	SLE RA 18	-1.8E-03	-5425.4						
218	SLD 9	-1.2E-03	-3720.9	SLD 8	-1.8E-03	-5317.6						
219	SLD 1	-1.1E-03	-3249	SLD 16	-1.5E-03	-4586.2						
221	SLD 10	-1.5E-03	-4454	SLE RA 18	-1.8E-03	-5513						
223	SLD 9	-1.2E-03	-3656.6	SLD 8	-1.8E-03	-5432.4						
224	SLD 1	-1.1E-03	-3322.7	SLD 16	-1.6E-03	-4749.7						
226	SLD 10	-1.5E-03	-4447.3	SLE RA 18	-1.9E-03	-5588.9	SLE RA 18	1.55E-06				
228	SLD 9	-1.2E-03	-3621.1	SLD 8	-1.9E-03	-5588.1						
229	SLD 5	-1.1E-03	-3426.2	SLD 12	-1.7E-03	-5061						
231	SLD 10	-1.5E-03	-4443.9	SLE RA 18	-1.9E-03	-5672.5	SLE RA 18	1.39E-05				
233	SLD 5	-1.2E-03	-3579.2	SLD 12	-1.8E-03	-5500.6						
235	SLD 10	-1.5E-03	-4464.7	SLD 7	-1.9E-03	-5814						
237	SLD 9	-1.2E-03	-3599.4	SLD 8	-2.0E-03	-5904.8						
239	SLD 5	-1.3E-03	-3795.1	SLD 12	-2.0E-03	-6041						
241	SLD 10	-1.5E-03	-4535.4	SLD 7	-2.0E-03	-6099.7						
242	SLD 10	-1.3E-03	-3935.5	SLD 7	-2.0E-03	-6089.1						
243	SLD 10	-1.3E-03	-3914	SLD 7	-2.0E-03	-5872.7						
244	SLD 10	-1.3E-03	-3919.5	SLD 7	-1.9E-03	-5769.1						
245	SLD 10	-1.3E-03	-3949.3	SLD 7	-1.9E-03	-5709.7						
246	SLD 10	-1.3E-03	-4007.9	SLD 7	-1.9E-03	-5702.8						
247	SLD 10	-1.4E-03	-4096.5	SLD 7	-1.9E-03	-5750.3						
248	SLD 10	-1.4E-03	-4210.8	SLD 7	-1.9E-03	-5846.2						
249	SLD 10	-1.4E-03	-4340.7	SLD 7	-2.0E-03	-5975.7	SLE RA 18	2.82E-06				
250	SLD 10	-1.5E-03	-4467.5	SLD 7	-2.0E-03	-6113.1	SLE RA 18	1.56E-05				
251	SLD 10	-1.5E-03	-4561.9	SLD 7	-2.1E-03	-6218						
252	SLD 10	-1.5E-03	-4570.9	SLD 7	-2.1E-03	-6214.8						
253	SLD 6	-1.4E-03	-4264.9	SLD 11	-1.9E-03	-5813.5	SLE RA 18	8.49E-06				
254	SLD 6	-1.4E-03	-4067.6	SLD 11	-1.9E-03	-5599.5	SLE RA 18	1.58E-06				
255	SLD 6	-1.3E-03	-3884.4	SLD 11	-1.8E-03	-5425.9						
256	SLD 6	-1.2E-03	-3735.4	SLD 11	-1.8E-03	-5314.9						
257	SLD 6	-1.2E-03	-3633.1	SLD 11	-1.8E-03	-5283.3						
258	SLD 6	-1.2E-03	-3587.5	SLD 11	-1.8E-03	-5345.3						
259	SLD 6	-1.2E-03	-3607.7	SLD 11	-1.8E-03	-5514.4						
260	SLD 5	-1.2E-03	-3700.6	SLD 12	-1.9E-03	-5803.1						
261	SLD 5	-1.3E-03	-3870.6	SLD 12	-2.1E-03	-6216						
262	SLD 5	-1.4E-03	-4116.7	SLD 12	-2.2E-03	-6747.9						
275	SLD 10	-1.6E-03	-4683	SLD 7	-2.2E-03	-6493.4						
285	SLD 5	-1.4E-03	-4059.4	SLD 12	-2.2E-03	-6659.5	SLE RA 18	1.16E-05				

1.5 Baricentri delle rigidezze

Quota: quota alla quale è stato valutato il baricentro delle rigidezze. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]

Posizione: posizione in pianta del baricentro delle rigidezze.

X: coordinata X. [m]

Y: coordinata Y. [m]

Baricentro masse: posizione in pianta del baricentro delle masse.

X: coordinata X. [m]

Y: coordinata Y. [m]

Distanza: distanza in pianta tra il baricentro delle rigidezze e il baricentro delle masse.

X: coordinata X. [m]

Y: coordinata Y. [m]

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Rialzato	30.847	4.377	30.647	4.627	0.2	-0.25
Primo	30.966	4.312	30.662	4.607	0.304	-0.295

1.6 Rigidezze di interpiano

Quota inferiore: quota inferiore dell'interpiano per il quale è stata valutata la rigidezza relativa. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]

Quota superiore: quota superiore dell'interpiano per il quale è stata valutata la rigidezza relativa. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]

KUx: rigidezza relativa alla traslazione in direzione globale X. [daN/m]

KUy: rigidezza relativa alla traslazione in direzione globale Y. [daN/m]

Quota inferiore		Quota superiore		KUx		KUy	
Fondazione		Rialzato		81373230		42792977	
Rialzato		Primo		41981972		40632145	

1.7 Risposta modale

Modo: identificativo del modo di vibrare.

Periodo: periodo. [s]

Massa X: massa partecipante in direzione globale X. Il valore è adimensionale.



Massa Y: massa partecipante in direzione globale Y. Il valore è adimensionale.
Massa Z: massa partecipante in direzione globale Z. Il valore è adimensionale.
Massa rot. X: massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.
Massa rot. Y: massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.
Massa rot. Z: massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.
Massa sX: massa partecipante in direzione Sisma X. Il valore è adimensionale.
Massa sY: massa partecipante in direzione Sisma Y. Il valore è adimensionale.

Totale masse partecipanti:

Traslazione X: 0.998183
Traslazione Y: 0.999082
Traslazione Z: 0
Rotazione X: 0.969392
Rotazione Y: 0.966941
Rotazione Z: 0.980915

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	0.828469427	0.002813993	0.001809204	0	0.001769397	0.002544918	0.003885087	0.002813993	0.001809204
2	0.748927562	0.028611649	0.000525996	0	0.000450496	0.02549747	0.000002984	0.028611649	0.000525996
3	0.683130039	0.000276439	0.014739053	0	0.013469584	0.000238889	0.015490499	0.000276439	0.014739053
4	0.604636014	0.05744418	0.000309814	0	0.000316206	0.053997786	0.002242061	0.05744418	0.000309814
5	0.528840023	0.001171552	0.00766212	0	0.011710795	0.001122569	0.004380472	0.001171552	0.00766212
6	0.472219395	0.00084352	0.011796242	0	0.012255474	0.000827915	0.018941542	0.00084352	0.011796242
7	0.462366711	0.002734093	0.023555313	0	0.023867553	0.002570656	0.021671549	0.002734093	0.023555313
8	0.445858035	0.009760683	0.00005294	0	0.000081976	0.009290317	0.000689755	0.009760683	0.00005294
9	0.423630295	0.000289445	0.006540879	0	0.007104791	0.000297317	0.005978492	0.000289445	0.006540879
10	0.409899575	0.015573578	0.054077333	0	0.052936989	0.015547691	0.04461037	0.015573578	0.054077333
11	0.396907774	0.000016953	0.003134235	0	0.002636154	0.000050594	0.005008208	0.000016953	0.003134235
12	0.380246238	0.024760574	0.010324295	0	0.009658651	0.025411855	0.014136997	0.024760574	0.010324295
13	0.363137585	0.000644063	0.00045243	0	0.000505853	0.000022347	0.000940755	0.000644063	0.00045243
14	0.343536685	0.000093576	0.000140772	0	0.000147313	0.000333591	0.000090361	0.000093576	0.000140772
15	0.331717095	0.000018845	0.000361957	0	0.000156397	0.00212718	0.000202296	0.000018845	0.000361957
16	0.321976001	0.000067677	0.000572647	0	0.000254021	0.001202297	0.000605612	0.000067677	0.000572647
17	0.304321929	0.007726697	0.002045822	0	0.002216573	0.007136948	0.001076957	0.007726697	0.002045822
18	0.290671816	0.00010025	0.006864936	0	0.001260963	0.000100223	0.005579065	0.00010025	0.006864936
19	0.280213686	0.001233867	0.001327438	0	0.001012702	0.001086486	0.000393193	0.001233867	0.001327438
20	0.269618321	0.002530952	0.001232399	0	0.001029824	0.002246512	0.001964403	0.002530952	0.001232399
21	0.239647321	0.000676649	0.000940773	0	0.001048439	0.000968861	0.000576931	0.000676649	0.000940773
22	0.226510243	0.001305857	0.000530345	0	0.000538287	0.001521586	0.000991323	0.001305857	0.000530345
23	0.197744579	0.007317833	0.00505286	0	0.004023791	0.005692756	0.002140798	0.007317833	0.00505286
24	0.191739371	0.003402102	0.009205909	0	0.006904881	0.001494664	0.010510505	0.003402102	0.009205909
25	0.167092158	0.042832266	0.036416343	0	0.030793107	0.04252073	0.026483525	0.042832266	0.036416343
26	0.164496145	0.01007063	0.192161637	0	0.158085198	0.009729365	0.194185629	0.01007063	0.192161637
27	0.153206322	0.000117434	0.536457815	0	0.45098936	0.000017878	0.498405034	0.000117434	0.536457815
28	0.139817524	0.58287383	0.00020171	0	0.000097898	0.510417182	0.022618735	0.58287383	0.00020171
29	0.123513002	0.117802748	0.001033402	0	0.000643087	0.106351525	0.000305073	0.117802748	0.001033402
30	0.116176142	0.000621945	0.018320636	0	0.017096298	0.000355237	0.026264088	0.000621945	0.018320636
31	0.084447199	0.017436017	0.000288862	0	0.000434132	0.00415515	0.00044557	0.017436017	0.000288862
32	0.080632994	0.000830594	0.010123649	0	0.000296458	0.000071565	0.011177924	0.000830594	0.010123649
33	0.041797899	0.024197117	0.024389282	0	0.081290803	0.053005233	0.01565319	0.024197117	0.024389282
34	0.039536725	0.031968568	0.016405754	0	0.074271953	0.078845416	0.023259958	0.031968568	0.016405754
35	0.003384142	0.000016586	0.000026719	0	0.000036153	0.00014052	0.000006475	0.000016586	0.000026719

1.8 Equilibrio globale forze

Contributo: Nome attribuito al sistema risultante.
Fx: Componente X di forza del sistema risultante. [daN]
Fy: Componente Y di forza del sistema risultante. [daN]
Fz: Componente Z di forza del sistema risultante. [daN]
Mx: Componente di momento attorno l'asse X del sistema risultante. [daN*m]
My: Componente di momento attorno l'asse Y del sistema risultante. [daN*m]
Mz: Componente di momento attorno l'asse Z del sistema risultante. [daN*m]

Bilancio in condizione di carico: Pesi strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-257102.028	-1171435.31	7902321.11	0
Reazioni	0	0	257102.028	1171435.31	-7902321.11	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-63559.656	-298947.01	1943719.96	0
Reazioni	0	0	63559.656	298947.01	-1943719.96	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Variabile A

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-58257.076	-270809.98	1784295.41	0
Reazioni	0	0	58257.076	270809.98	-1784295.41	0
P-Delta	0	0	0	0	0	0



Contributo	Fx	Fy	Fz	Mx	My	Mz
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	83980.345	0	0	0	297682.92	-392607.18
Reazioni	-83980.345	0	0	0	-297682.92	392607.18
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	86742.767	0	-307474.8	0	2662149.87
Reazioni	0	-86742.767	0	307474.8	0	-2662149.87
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-22458.42
Reazioni	0	0	0	0	0	22458.42
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	23197.16
Reazioni	0	0	0	0	0	-23197.16
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	37075.512	0	0	0	131420.59	-173327.61
Reazioni	-37075.512	0	0	0	-131420.59	173327.61
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	37662.632	0	-133501.74	0	1155872.41
Reazioni	0	-37662.632	0	133501.74	0	-1155872.41
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-9914.91
Reazioni	0	0	0	0	0	9914.91
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	10071.92
Reazioni	0	0	0	0	0	-10071.92
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1	0	0	0	4.56	-4.61
Reazioni	-1	0	0	0	-4.56	4.61
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1	0	-4.56	0	30.66
Reazioni	0	-1	0	4.56	0	-30.66
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0.01
Reazioni	0	0	0	0	0	-0.01
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.9 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.

N.b.: nome breve della condizione elementare.



F_x: componente della forza lungo l'asse X. [daN]
F_y: componente della forza lungo l'asse Y. [daN]
F_z: componente della forza lungo l'asse Z. [daN]
M_x: componente della coppia attorno all'asse X. [daN*m]
M_y: componente della coppia attorno all'asse Y. [daN*m]
M_z: componente della coppia attorno all'asse Z. [daN*m]
Max X: massima reazione lungo l'asse X.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Y: massima reazione lungo l'asse Y.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Z: massima reazione lungo l'asse Z.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Spettro N.b.	F _x	F _y	F _z	M _x	M _y	M _z	Max X		Max Y		Max Z	
							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	55510	2952.18	0	9083.6893	1.468E05	3.307E05	55517.6	178	62779.2	91	0	0
SLV Y	2952.18	62764.3	0	1.620E05	8163.8773	1.914E06	55517.6	178	62779.2	91	0	0
X SLD	24440.29	1267.36	0	3878.3325	6.461E04	1.453E05	24443.54	178	27130.22	91	0	0
Y SLD	1267.36	27123.78	0	7.000E04	3491.4308	8.271E05	24443.54	178	27130.22	91	0	0

1.10 Annotazioni solutore

Informazioni: informazioni fornite dal solutore al termine del calcolo del modello.

Informazioni

1.11 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	12885
Elemento min. diagonale	1494.74129984
Elemento max diagonale	28695170295144.2
Rapporto max/min	19197415832.615
Elementi non nulli	376730

TABULATI DI CALCOLO-VERIFICHE
CIVICO 35
STATO DI PROGETTO



Sommario

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1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Livello:

Descr: descrizione livello.

Quota: quota livello. [m]

Q: quota livello. [m]

Qinf: quota livello precedente. [m]

Comb: combinazione.

A1: a1 (Distribuzione masse).

A1n: a1 numeratore (distanza tra centro massa vs. centro rigidità [se presente] o centro dell'ingombro del piano). [m]

A1d: a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [m]

A1r: a1 rapporto (distanza centro massa/rigidità su ingombro del piano).

A2: a2 (Distribuzione rigidità).

A2n: a2 numeratore (rigidità max [x o y globale]).

A2d: a2 denominatore (rigidità min [x o y globale]).

A2r: a2 rapporto (rigidità max/min).

A3: a3 (Forma compatta).

A3n: a3 numeratore (area convessa). [m²]

A3d: a3 denominatore (area piano). [m²]

A3r: a3 rapporto (area convessa/area piano).

B: b (Rapporto lati).

Bn: b numeratore (lato max [x o y globale]). [m]

Bd: b denominatore (lato min [x o y globale]). [m]

Br: b rapporto (lato max/min).

C: c (Rapporto rigidità piano).

Cn: c numeratore (rigidità elementi verticali).

Cd: c denominatore (rigidità piano).

Cr: c rapporto (rigidità elementi verticali/rigidità piano).

E1: e1 (Variazione masse).

E1n: e1 numeratore (massa max). [daN]

E1d: e1 denominatore (massa min). [daN]

E1r: e1 rapporto (massa max/min).

E2: e2 (Riduzione rigidità).

E2n: e2 numeratore (rigidità relativa alla traslazione KUmax). [daN/m]

E2d: e2 denominatore (rigidità relativa alla traslazione KUmin). [daN/m]

E2r: e2 rapporto (variazione massima in decremento Kmax/Kmin).

E3: e3 (Incremento rigidità).

E3n: e3 numeratore (rigidità relativa alla traslazione KUmax). [daN/m]

E3d: e3 denominatore (rigidità relativa alla traslazione KUmin). [daN/m]

E3r: e3 rapporto (variazione massima in incremento Kmax/Kmin).

F: f (Rapporto Capacità/Domanda).

Fn: f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]

Fd: f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]

Fr: f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).

G1: g1 (Rastremazione di piano).

G1n: g1 numeratore (L1). [m]

G1d: g1 denominatore (L2). [m]

G1r: g1 rapporto (L1/L2).

G2: g2 (Rastremazione totale).

G2n: g2 numeratore (L0). [m]

G2d: g2 denominatore (Li). [m]

G2r: g2 rapporto (L0/Li).

Capacità/Domanda in X:

VrdX: taglio resistente complessivo in direzione X. [daN]

VedX: taglio agente complessivo in direzione X. [daN]

|Rd/Ed|: |Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).

Capacità/Domanda in Y:

VrdY: taglio resistente complessivo in direzione Y. [daN]

VedY: taglio agente complessivo in direzione Y. [daN]

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze

La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.

Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni



indicate nella manualistica.

In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione

Livelli di fondazione o di struttura scatolare non dissipativa: Fondazione(L1),

Livelli di elevazione considerati: Rialzato(L2), Primo(L3),

Regolarità in pianta - NO

L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1

Ok - Criterio A1 (Distribuzione masse) rispettato, con rapporto massimo 0,03 (limite=0,2) al livello Primo

No - Criterio A2 (Distribuzione rigidezze) NON rispettato, con rapporto massimo 813732.3/427929.8=1.9 (limite=1,2) al livello Rialzato

Ok - Criterio A3 (Forma compatta) rispettato, con rapporto massimo 1 (limite=1,05) al livello Rialzato

Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 1 (limite=4) al livello Rialzato

Ok - Criterio C (Rapporto rigidezze piano) rispettato, con rapporto massimo 0 (limite=0,1) al livello Rialzato

Regolarità in altezza - NO

L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1

Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)

Ok - Criterio E1 (Variazione masse) rispettato, con rapporto massimo 1,04 (limite=1,25) tra il livello Primo ed il precedente

No - Criterio E2 (Riduzione rigidezze) NON rispettato, con rapporto massimo 813732.3/419819.7=1.9 (limite=1,3) tra il livello Primo ed il precedente

Ok - Criterio E3 (Incremento rigidezze) rispettato, con rapporto massimo 1 (limite=1,1) tra il livello Primo ed il precedente

No - Criterio F (Rapporto Capacità/Domanda) NON rispettato, con rapporto massimo 90.9/14.4=6.3 (limite=1,3) tra il livello Primo ed il precedente

Ok - Criterio G1 (Rastremazione di piano) rispettato, con rapporto massimo 0,01 (limite=0,1) tra il livello Primo ed il precedente

Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0,01 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	0.51	0.25	10.12	0.02	813732	427930	1.9	101.4919	101.4919	1	10.12	10.08	1	0	+∞	0
Primo	4.56	0.3	10.08	0.03	419820	406321	1.03	100.704	100.704	1	10.08	10.05	1	0	+∞	0

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 6.45/6.45=0.01.

Livello			E1			E2			E3			F			G1			G2		
Descr	Q	Qjnf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.56	0.51	76334	73683	1.04	81373230	41981972	1.94	81373230	81373230	1	90.9	14.4	6.32	0.08	10.12	0.01	0.08	10.12	0.01

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed
Rialzato	0.51	SLV 1	479508	-51514	9.3	257246	-17893	14.4
Rialzato	0.51	SLV 2	481979	-51514	9.4	257432	-17893	14.4
Rialzato	0.51	SLV 3	485298	-51615	9.4	260319	18390	14.2
Rialzato	0.51	SLV 4	486782	-51615	9.4	260505	18390	14.2
Rialzato	0.51	SLV 5	485900	-15301	31.8	257400	-60396	4.3
Rialzato	0.51	SLV 6	487685	-15301	31.9	257588	-60396	4.3
Rialzato	0.51	SLV 7	489030	-15638	31.3	259593	60545	4.3
Rialzato	0.51	SLV 8	487326	-15638	31.2	259782	60545	4.3
Rialzato	0.51	SLV 9	492138	15638	31.5	258191	-60545	4.3
Rialzato	0.51	SLV 10	491973	15638	31.5	258379	-60545	4.3
Rialzato	0.51	SLV 11	482515	15301	31.5	260384	60396	4.3
Rialzato	0.51	SLV 12	479871	15301	31.4	260573	60396	4.3
Rialzato	0.51	SLV 13	490342	51615	9.5	259883	-18390	14.1
Rialzato	0.51	SLV 14	490180	51615	9.5	260068	-18390	14.1
Rialzato	0.51	SLV 15	481457	51514	9.3	260541	17893	14.6
Rialzato	0.51	SLV 16	476751	51514	9.3	260726	17893	14.6
Primo	4.56	SLV 1	335632	-18119	18.5	405391	-4458	90.9
Primo	4.56	SLV 2	330017	-18119	18.2	405399	-4458	90.9
Primo	4.56	SLV 3	338408	-18297	18.5	405441	7132	56.8
Primo	4.56	SLV 4	338353	-18297	18.5	405450	7132	56.8
Primo	4.56	SLV 5	307117	-5166	59.4	405567	-18916	21.4
Primo	4.56	SLV 6	307117	-5166	59.4	399149	-18916	21.1
Primo	4.56	SLV 7	319484	-5759	55.5	399276	19718	20.2
Primo	4.56	SLV 8	344285	-5759	59.8	405745	19718	20.6
Primo	4.56	SLV 9	313063	5759	54.4	399342	-19718	20.3
Primo	4.56	SLV 10	306251	5759	53.2	399351	-19718	20.3
Primo	4.56	SLV 11	311302	5166	60.3	399478	18916	21.1
Primo	4.56	SLV 12	302969	5166	58.6	405947	18916	21.5
Primo	4.56	SLV 13	296157	18297	16.2	405941	-7132	56.9
Primo	4.56	SLV 14	311302	18297	17	405948	-7132	56.9
Primo	4.56	SLV 15	311302	18119	17.2	405980	4458	91.1
Primo	4.56	SLV 16	311302	18119	17.2	405986	4458	91.1

1.2 Verifiche travate C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.



N*: indice progressivo della sezione.

Descrizione: descrizione della sezione.

Tipo: tipo di sezione.

Base: base della sezione. [m]

Altezza: altezza della sezione. [m]

Copriferro sup.: distanza del bordo della staffa dalla superficie superiore del getto. [m]

Copriferro inf.: distanza del bordo della staffa dalla superficie inferiore del getto. [m]

Copriferro lat.: distanza del bordo della staffa dalle superfici laterali del getto. [m]

x: distanza da asse appoggio sinistro. [m]

A sup.: area efficace di armatura longitudinale superiore. [m²]

C.b. sup.: distanza dal bordo del baricentro dell'armatura longitudinale superiore. [m]

A inf.: area efficace di armatura longitudinale inferiore. [m²]

C.b. inf.: distanza dal bordo del baricentro dell'armatura longitudinale inferiore. [m]

M+ela: momento flettente desunto dal solutore che tende le fibre inferiori. [daN*m]

Comb.: combinazione.

M+des: momento flettente di progetto che tende le fibre inferiori. [daN*m]

M+ult: momento ultimo per trazione delle fibre inferiori. [daN*m]

x/d: rapporto tra posizione asse neutro e altezza utile.

coeff: coefficiente di sicurezza.

M-ela: momento flettente desunto dal solutore che tende le fibre superiori. [daN*m]

M-des: momento flettente di progetto che tende le fibre superiori. [daN*m]

M-ult: momento ultimo per trazione delle fibre superiori. [daN*m]

Verifica: stato di verifica.

A st: area di staffe per unità di lunghezza. [m²]

A sl: area di armatura longitudinale tesa per valutazione resistenza taglio in assenza di armature a taglio. [m²]

A sag: area equivalente di barre piegate per unità di lunghezza. [m²]

Vela: taglio elastico. [daN]

Vdes: taglio di progetto. [daN]

Vrd: resistenza a taglio della sezione senza armature. [daN]

Vrcd: sforzo di taglio che produce il cedimento delle bielle. [daN]

Vrsd: resistenza a taglio per la presenza delle armature. [daN]

Vult: taglio ultimo. [daN]

cotgθ: cotg dell'angolo di inclinazione dei puntoni in calcestruzzo.

Rara: famiglia di combinazione di verifica.

Mela: momento elastico. [daN*m]

Mdes: momento di progetto. [daN*m]

σ c: tensione di compressione nel calcestruzzo. [daN/m²]

σ c lim.: tensione limite di compressione nel calcestruzzo. [daN/m²]

σ f.: tensione di trazione nell'acciaio. [daN/m²]

σ f lim.: tensione limite di trazione nell'acciaio. [daN/m²]

σ c limite: tensione di compressione limite nel calcestruzzo. [daN/m²]

σ f: tensione di trazione nell'acciaio. [daN/m²]

σ f limite: tensione di trazione limite nell'acciaio. [daN/m²]

Quasi permanente: famiglia di combinazione di verifica.

σ FRP: tensione di trazione nell'FRP. [daN/m²]

σ FRP lim.: tensione limite di trazione nell'FRP. [daN/m²]

T gravità: taglio dovuto ai carichi gravitazionali. [daN]

T sisma: taglio dovuto a sisma. [daN]

T ultimo: taglio ultimo. [daN]

Comb.: combinazione per indicatore minimo per taglio.

Pga: pga per taglio.

Tr: tempo di ritorno per taglio.

Ind. taglio: indicatore di rischio per taglio.

M gravità: momento dovuto ai carichi gravitazionali. [daN*m]

M sisma: momento dovuto a sisma. [daN*m]

M ultimo: momento ultimo. [daN*m]

Comb.: combinazione per indicatore minimo per momento.

Pga: pga per momento.

Tr: tempo di ritorno per momento.

Ind. momento: indicatore di rischio per momento.

Ver: stato di verifica.

d: altezza utile. [m]

Af: area di armatura inferiore per unità di lunghezza. [m]

M: momento flettente. [daN*m/m]

Comb: combinazione.

Mult: momento ultimo. [daN*m/m]

V: sforzo di taglio. [daN/m]

Vult: sforzo di taglio ultimo. [daN/m]

Af: area di armatura. [m²]

Aste: numero delle aste del tratto in verifica.

Size X: misura dell'impronta al suolo lungo la direzione X locale. [m]

Size Y: misura dell'impronta al suolo lungo la direzione Y locale. [m]

Type: indicazione del tipo di combinazione statica o sismica.

Cond: indicazione della condizione di carico (BT breve termine o LT lungo termine).



γ_R : coefficiente parziale sulla resistenza di progetto.

R_d : resistenza di progetto. [daN]

E_d : azione di progetto. [daN]

R_d/E_d : coefficiente di sicurezza alla capacità portante.

F_x : componente orizzontale del carico lungo x. [daN]

F_y : componente orizzontale del carico lungo y. [daN]

F_z : componente verticale del carico. [daN]

M_x : momento risultante agente attorno x. [daN*m]

M_y : momento risultante agente attorno y. [daN*m]

$Inc.x$: inclinazione del carico lungo x. [deg]

$Inc.y$: inclinazione del carico lungo y. [deg]

$Ecc.x$: eccentricità del carico lungo x. [m]

$Ecc.y$: eccentricità del carico lungo y. [m]

B' : larghezza efficace. [m]

L' : lunghezza efficace. [m]

q_d : sovraccarico di progetto. [daN/m²]

γ_s : peso specifico di progetto del suolo. [daN/m³]

ϕ_i : angolo di attrito di progetto. [deg]

$Coes$: coesione di progetto. [daN/m²]

A_{max} : accelerazione normalizzata max al suolo.

N :

N_q : fattore di capacità portante per il termine di sovraccarico.

N_c : fattore di capacità portante per il termine coesivo.

N_g : fattore di capacità portante per il termine attritivo.

S :

S_q : fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.

S_c : fattore correttivo di capacità portante per forma (shape), per il termine coesivo.

S_g : fattore correttivo di capacità portante per forma (shape), per il termine attritivo.

D :

D_q : fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.

D_c : fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.

D_g : fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.

I :

I_q : fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.

I_c : fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.

I_g : fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.

B :

B_q : fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.

B_c : fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.

B_g : fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.

G :

G_q : fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.

G_c : fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.

G_g : fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.

P :

P_q : fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.

P_c : fattore correttivo di capacità portante per punzonamento, per il termine coesivo.

P_g : fattore correttivo di capacità portante per punzonamento, per il termine attritivo.

E :

E_q : fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.

E_c : fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.

E_g : fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.

Tipo: tipologia di cedimento considerato (E = elastico, D = edometrico, Z = consolidazione primaria).

Assoluto: cedimento assoluto massimo.

$S_a adm$: cedimento assoluto ammissibile. [m]

S_a : cedimento assoluto massimo. [m]

Nodo: nodo dove avviene il cedimento assoluto massimo.

Differenziale: cedimento differenziale massimo.

$S_d adm$: cedimento differenziale ammissibile. [m]

S_d : cedimento differenziale massimo. [m]

Nodo I: nodo dove avviene il cedimento differenziale massimo.

Nodo j: nodo dove avviene il cedimento differenziale massimo.

Relativo: cedimento relativo massimo.

$S_r adm$: cedimento relativo ammissibile. [m]

S_r : cedimento relativo massimo. [m]

Nodo: nodo dove avviene il cedimento relativo massimo.

Rapp. inflessione: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).

$R_I adm$: rapporto di inflessione ammissibile.

R_I : rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).

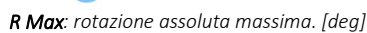
Rotazione rigida: rotazione rigida valutata tra primo ed ultimo punto.

$RR adm$: rotazione rigida ammissibile. [deg]

RR : rotazione rigida massima (tra primo ed ultimo punto). [deg]

Rotazione assoluta: rotazione assoluta dei singoli tratti.

R_{Adm} : rotazione assoluta ammissibile. [deg]



Nodo I: dal nodo.

Nodo J: al nodo.

Distorsione angolare positiva: distorsione angolare positiva (concavità verso l'alto).

D+ adm: distorsione angolare ammissibile. [deg]

D+: *distorsione angolare massima positiva (concavità verso l'alto).* [deg]

Nodo: nodo dove avviene la distorsione angolare massima positiva (concavità verso l'alto).

Distorsione angolare negativa: distorsione angolare negativa (concavità verso il basso).

D-adm: distorsione angolare ammissibile. [deg]

D-: distorsione angolare massima negativa (concavità verso il basso). [deg]

Nodo: nodo dove avviene la distorsione angolare massima negativa (concavità verso il basso).

Geometria

Diagram illustrating the geometry of a beam with three rectangular cutouts. The beam has a total width of 0.45 and a height of 0.45. The cutouts are located at positions 5, 8, and 12. The dimensions of the cutouts are 0.45 by 0.5. The dimensions of the beam segments are 4.305, 0.926, and 3.78. The dimensions of the beam segments between the cutouts are 3.99, 0.836, and 3.555.

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

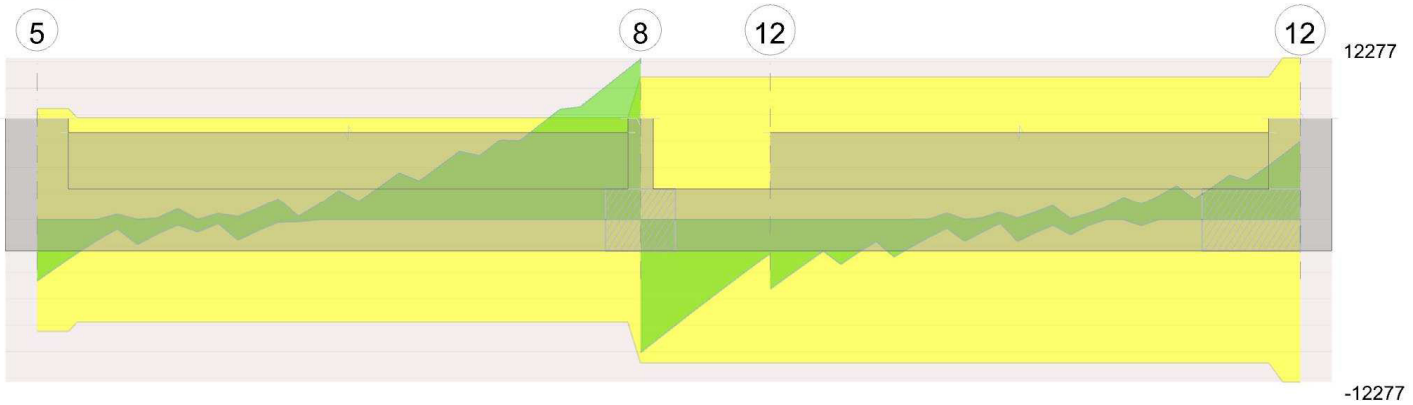
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 8 - 12, sezione R 50x45, asta 44

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	6023.83	SLU 81	5571	7755.45	0.113	1.39							Si
0.09	0.000509	0.052	0.000509	0.052	5151.7	SLU 81	5151.7	7755.45	0.113	1.51							Si
0.46	0.000509	0.052	0.000509	0.052	2253.19	SLU 81	3502.65	7755.45	0.113	2.21							Si
0.93	0.000509	0.052	0.000509	0.052	222.99	SLU 81	807.43	7755.45	0.113	9.61							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	5237.61	SLV 12	4831.14	7266.79	0.197	1.5							Si
0.09	0.000509	0.052	0.000509	0.052	4453.4	SLV 12	4453.4	7266.79	0.197	1.63							Si
0.46	0.000509	0.052	0.000509	0.052	1864.87	SLV 8	2966.99	7266.79	0.197	2.45							Si
0.93	0.000509	0.052	0.000509	0.052	594.82	SLV 1	821.41	7266.79	0.197	8.85	-321.93	SLV 16	-321.93	-7266.79	0.197	22.57	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000509	0	-10070	SLU 81	-10070	-7764	-63178	-10859	-10859	1	1.08	Si
0.09	0.0000077	0.000509	0	-9318	SLU 81	-9318	-7764	-63178	-10859	-10859	1	1.17	Si
0.46	0.0000077	0.000509	0	-6241	SLU 81	-6241	-7764	-63178	-10859	-10859	1	1.74	Si
0.93	0.0000077	0.000509	0	-2561	SLU 81	-2561	-7764	-63178	-10859	-10859	1	4.24	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000509	0	-9052	SLV 12	-9052	-7764	-63178	-10859	-10859	1	1.2	Si
0.09	0.0000077	0.000509	0	-8394	SLV 12	-8394	-7764	-63178	-10859	-10859	1	1.29	Si
0.46	0.0000077	0.000509	0	-5695	SLV 12	-5695	-7764	-63178	-10859	-10859	1	1.91	Si
0.93	0.0000077	0.000509	0	-2603	SLV 16	-2603	-7764	-63178	-10859	-10859	1	4.17	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_f	$\sigma_{f\ lim.}$	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_{FRP}	$\sigma_{FRP\ lim.}$	
0	4376.25	18	4046.83	214051	1494000	3210765	36000000	3812.8	2	3524.5	186423	1120500			Si
0.09	3741.85	18	3741.85	197919	1494000	2968789	36000000	3257.7	2	3257.7	172311	1120500			Si
0.46	1634.21	18	2542.55	134484	1494000	2017260	36000000	1416.27	2	2209.18	116851	1120500			Si
0.93	160.33	18	584.06	30893	1494000	463396	36000000	136.44	2	502.55	26582	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0.09	-5929	-2465	-10859	SLV 12	0.36	1618	1.653	3257.7	1195.71	7266.79	SLV 12	0.36	1618	1.653	Si
0.46	-3955	-1740	-10859	SLV 12	0.36	1618	1.653	2209.18	757.81	7266.79	SLV 8	0.36	1618	1.653	Si
0.93	-1593	-1010	-10859	SLV 16	0.36	1618	1.653	136.44	458.38	7266.79	SLV 1	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 5 - 8, sezione R 50x45, aste 54, 53, 52, 51, 50, 49, 48, 47, 46, 45

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	1053	SLV 7	0.087	2756	3662	SLV 7	15877	Si
0.23	0.41	0.0002	1032	SLV 7	0.087	2756	3588	SLV 7	15877	Si
2.15	0.41	0.0002	1001	SLU 81	0.018	2835	3481	SLU 81	15877	Si
4.21	0.41	0.0002	1130	SLU 81	0.018	2835	3931	SLU 81	15877	Si
4.3	0.41	0.0004	1127	SLU 81	0.033	6148	3919	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000178	743	SLE RA 18	21493	1494000	266512	36000000	643	SLE QP 2	18589	1120500	Si
0.23	0.41	0.00000178	734	SLE RA 18	21243	1494000	263418	36000000	635	SLE QP 2	18370	1120500	Si
2.15	0.41	0.00000178	724	SLE RA 18	20931	1494000	259547	36000000	625	SLE QP 2	18088	1120500	Si
4.21	0.41	0.00000178	818	SLE RA 18	23662	1494000	293410	36000000	708	SLE QP 2	20475	1120500	Si
4.3	0.41	0.00000387	815	SLE RA 18	22944	1494000	284507	36000000	706	SLE QP 2	19854	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola



Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	22	14	159	SLV 7	0.36	1618	1.653	6.43	4.1	27.56	SLV 7	0.36	1618	1.653	Si
0.23	22	14	159	SLV 7	0.36	1618	1.653	6.35	3.97	27.56	SLV 7	0.36	1618	1.653	Si
2.15	22	11	159	SLV 7	0.36	1618	1.653	6.25	3.17	27.56	SLV 7	0.36	1618	1.653	Si
4.21	25	11	159	SLV 7	0.36	1618	1.653	7.08	3.15	27.56	SLV 7	0.36	1618	1.653	Si
4.3	25	11	159	SLV 7	0.36	1618	1.653	7.06	3.14	59.13	SLV 7	0.36	1618	1.653	Si

Campata 2 tra i fili 8 - 12, sezione R 50x45, asta 44

Campata 3 tra i fili 12 - 12, sezione R 50x45, aste 43, 42, 41, 40, 39, 38, 37, 36, 35

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1034	SLU 81	0.033	6148	3595	SLU 81	15877	Si
1.89	0.41	0.0004	874	SLV 11	0.127	5913	3051	SLU 81	15877	Si
3.56	0.41	0.0004	1147	SLV 12	0.127	5913	3991	SLV 12	15877	Si
3.78	0.41	0.0004	1214	SLV 12	0.127	5913	4221	SLV 12	15877	Si

Verifiche delle tensioni di esercizio

Rara										Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite		
0	0.41	0.00000387	748	SLE RA 18	21049	1494000	261005	36000000	647	SLE QP 2	18208	1120500		Si
1.89	0.41	0.00000387	635	SLE RA 18	17872	1494000	221611	36000000	550	SLE QP 2	15478	1120500		Si
3.56	0.41	0.00000387	775	SLE RA 18	21813	1494000	270476	36000000	676	SLE QP 2	19017	1120500		Si
3.78	0.41	0.00000387	816	SLE RA 18	22959	1494000	284690	36000000	712	SLE QP 2	20037	1120500		Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	23	10	159	SLV 11	0.36	1618	1.653	6.47	2.96	59.13	SLV 11	0.36	1618	1.653	Si
1.89	19	11	159	SLV 11	0.36	1618	1.653	5.5	3.24	59.13	SLV 11	0.36	1618	1.653	Si
3.56	24	16	159	SLV 12	0.36	1618	1.653	6.76	4.71	59.13	SLV 12	0.36	1618	1.653	Si
3.78	25	17	159	SLV 12	0.36	1618	1.653	7.12	5.02	59.13	SLV 12	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLU 81	ST	BT	2.3	366157	84802	4.32	Si
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLV 7	SIS	BT	2.3	313651	74909	4.19	Si
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLD 7	SIS	BT	2.3	342050	64543	5.3	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-858	-84802	-7476.45	-3394.61	0	-1	-0.04	-0.09	0.92	9.38	1496	2060	0	14430	
0	6654	-74909	-10548.62	-8796.44	0	5	-0.12	-0.14	0.82	9.23	1496	2060	0	14430	0.07
0	2544	-64543	-7297.96	-4917.4	0	2	-0.08	-0.11	0.87	9.31	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.02	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

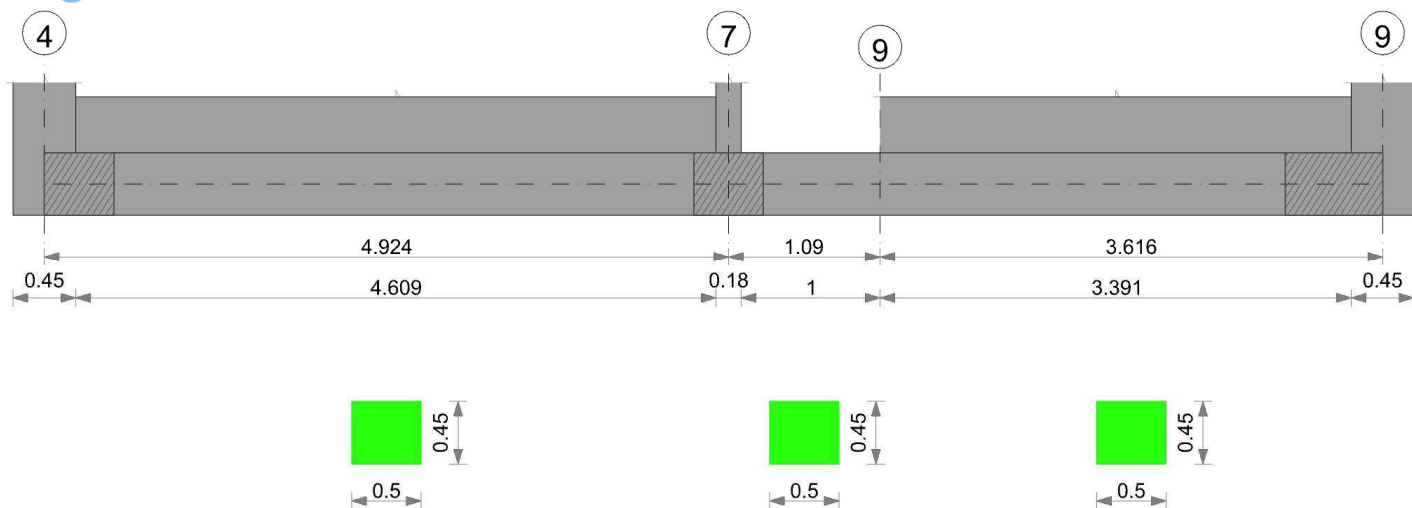
Tipo	Assoluto				Differenziale				Relativo				Rapp. Inflexione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	253	SLE RA 18	0.05	0	253	242	SLE RA 18	0.05	0	253	SLE RA 18	0.0033	0	SLE RA 18	Si
D	0.05	0	242	SLE RA 1	0.05	0	242	242	SLE RA 1	0.05	0	252	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	242	SLE RA 1	0.05	0	242	242	SLE RA 1	0.05	0	252	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Criterio geometrico: rotazione assoluta - ammissioni																	
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 1	0.19	0	252	253	SLE RA 18	0.19	0	253	SLE RA 18	0.1	0	252	SLE RA 18	Si
D	0.19	0	SLE RA 1	0.19	0	242	252	SLE RA 1	0.19	0	242	SLE RA 1	0.1	0	252	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	242	252	SLE RA 1	0.19	0	242	SLE RA 1	0.1	0	252	SLE RA 1	Si

CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copri ferro sup.	Copri ferro inf.	Copri ferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 7 - 9, sezione R 50x45, asta 68

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052							-561.61	SLU 81	-561.61	-7755.45	0.113	13.81	Si
0.09	0.000509	0.052	0.000509	0.052							-806.69	SLU 81	-1150.84	-7755.45	0.113	6.74	Si
0.36	0.000509	0.052	0.000509	0.052							-1254.99	SLU 81	-1308.68	-7755.45	0.113	5.93	Si
0.54	0.000509	0.052	0.000509	0.052							-1302.08	SLU 81	-1308.68	-7755.45	0.113	5.93	Si
1.09	0.000509	0.052	0.000509	0.052							-234.31	SLU 81	-786.34	-7755.45	0.113	9.86	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$



x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	389.26	SLV 13	233.14	7266.79	0.197	31.17	-1232.37	SLV 4	-1232.37	-7266.79	0.197	5.9	Si
0.04	0.000509	0.052	0.000509	0.052	265.14	SLV 13	210.1	7266.79	0.197	34.59	-1237.54	SLV 4	-1237.54	-7266.79	0.197	5.87	Si
0.09	0.000509	0.052	0.000509	0.052	91.73	SLV 13	91.73	7266.79	0.197	79.22	-1235.46	SLV 4	-1235.46	-7266.79	0.197	5.88	Si
0.54	0.000509	0.052	0.000509	0.052							-988.94	SLV 16	-1134.47	-7266.79	0.197	6.41	Si
1.09	0.000509	0.052	0.000509	0.052	788.71	SLV 3	788.71	7266.79	0.197	9.21	-1109.92	SLV 14	-1188.31	-7266.79	0.197	6.12	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0.000509	0	-3006		-3006	-7764	-63178	-12002	-12002	1	3.99	Si
0.09	0.0000086	0.000509	0	-2462	SLV 81	-2462	-7764	-63178	-12002	-12002	1	4.87	Si
0.54	0.0000086	0.000509	0	310	SLV 64	310	7764	63178	12002	12002	1	38.71	Si
1.09	0.0000086	0.000509	0	3639	SLV 81	3639	7764	63178	12002	12002	1	3.3	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0.000509	0	-3488	SLV 13	-3488	-7764	-63178	-12002	-12002	1	3.44	Si
0.09	0.0000086	0.000509	0	131	SLV 4	131	7764	63178	12002	12002	1	91.4	Si
0.09	0.0000086	0.000509	0	-3143	SLV 13	-3143	-7764	-63178	-12002	-12002	1	3.82	Si
0.54	0.0000086	0.000509	0	1846	SLV 4	1846	7764	63178	12002	12002	1	6.5	Si
0.54	0.0000086	0.000509	0	-1379	SLV 13	-1379	-7764	-63178	-12002	-12002	1	8.7	Si
1.09	0.0000086	0.000509	0	3909	SLV 4	3909	7764	63178	12002	12002	1	3.07	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-424.35	18	-424.35	22445	1494000	336682	36000000	-421.55	2	-421.55	22297	1120500			Si
0.09	-601.03	18	-848.44	44877	1494000	673153	36000000	-571.87	2	-780.38	41277	1120500			Si
0.54	-954.58	18	-959.85	50770	1494000	761546	36000000	-862.37	2	-869.21	45976	1120500			Si
1.09	-172.13	18	-575.33	30431	1494000	456465	36000000	-160.6	2	-518.46	27423	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0.09	-1506	-1637	-12002	SLV 13	0.36	1618	1.653	-571.87	-663.59	-7266.79	SLV 4	0.36	1618	1.653	Si
0.54	234	1612	12002	SLV 4	0.36	1618	1.653	-758.63	-375.83	-7266.79	SLV 14	0.36	1618	1.653	Si
1.09	2350	1559	12002	SLV 4	0.36	1618	1.653	-160.6	-949.32	-7266.79	SLV 14	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 4 - 7, sezione R 50x45, aste 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	1407	SLV 81	0.018	2806	4329	SLV 81	15877	Si
0.23	0.41	0.0002	1356	SLV 81	0.018	2806	4171	SLV 81	15877	Si
2.46	0.41	0.0002	1075	SLV 81	0.018	2806	3307	SLV 81	15877	Si
4.83	0.41	0.0002	991	SLV 81	0.018	2806	3050	SLV 81	15877	Si
4.92	0.41	0.0004	991	SLV 81	0.036	6786	3050	SLV 81	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara					Quasi permanente					Verifica
			M	Comb.	σ c	σ c limite	σ f	σ f limite	M	Comb.	σ c	σ c limite	
0	0.41	0.00000176	1018	SLE RA 18	29460	1494000	365304	36000000	880	SLE QP 2	25464	1120500	Si
0.23	0.41	0.00000176	980	SLE RA 18	28370	1494000	351791	36000000	846	SLE QP 2	24490	1120500	Si
2.46	0.41	0.00000176	773	SLE RA 18	22373	1494000	277430	36000000	659	SLE QP 2	19062	1120500	Si
4.83	0.41	0.00000176	712	SLE RA 18	20594	1494000	255360	36000000	602	SLE QP 2	17418	1120500	Si
4.92	0.41	0.00000428	712	SLE RA 18	19926	1494000	247088	36000000	602	SLE QP 2	16855	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	27	12	159	SLV 4	0.36	1618	1.653	8.8	4.04	27.28	SLV 4	0.36	1618	1.653	Si
0.23	26	12	159	SLV 4	0.36	1618	1.653	8.46	3.75	27.28	SLV 4	0.36	1618	1.653	Si
2.46	20	5	159	SLV 4	0.36	1618	1.653	6.59	1.48	27.28	SLV 4	0.36	1618	1.653	Si
4.83	19	0	51	SLV 16	0.36	1618	1.653	6.02	0.11	27.28	SLV 16	0.36	1618	1.653	Si
4.92	19	0	56	SLV 16	0.36	1618	1.653	6.02	0.12	65.18	SLV 16	0.36	1618	1.653	Si

Campata 2 tra i fili 7 - 9, sezione R 50x45, asta 68

Campata 3 tra i fili 9 - 9, sezione R 50x45, aste 69, 70, 71, 72, 73, 74, 75, 76, 77

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0004	1025	SLV 81	0.036	6786	3154	SLV 81	15877	Si
1.81	0.41	0.0004	1089	SLV 81	0.036	6786	3352	SLV 81	15877	Si
3.39	0.41	0.0004	1158	SLV 81	0.036	6786	3563	SLV 81	15877	Si
3.62	0.41	0.0004	1191	SLV 81	0.036	6786	3664	SLV 81	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara					Quasi permanente					Verifica
			M	Comb.	σ c	σ c limite	σ f	σ f limite	M	Comb.	σ c	σ c limite	
0	0.41	0.00000428	737	SLE RA 18	20640	1494000	255935	36000000	626	SLE QP 2	17527	1120500	Si
1.81	0.41	0.00000428	787	SLE RA 18	22020	1494000	273044	36000000	674	SLE QP 2	18874	1120500	Si
3.39	0.41	0.00000428	840	SLE RA 18	23503	1494000	291443	36000000	727	SLE QP 2	20359	1120500	Si
3.62	0.41	0.00000428	864	SLE RA 18	24192	1494000	299984	36000000	750	SLE QP 2	20993	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico



x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	19	1	122	SLV 16	0.36	1618	1.653	6.26	0.33	65.18	SLV 16	0.36	1618	1.653	Si
1.81	21	5	159	SLV 16	0.36	1618	1.653	6.74	1.6	65.18	SLV 16	0.36	1618	1.653	Si
3.39	22	10	159	SLV 16	0.36	1618	1.653	7.27	3.41	65.18	SLV 16	0.36	1618	1.653	Si
3.62	23	11	159	SLV 16	0.36	1618	1.653	7.5	3.73	65.18	SLV 16	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77	10.08	1.1	SLU 81	ST	BT	2.3	462930	81080	5.71	Si
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77	10.08	1.1	SLV 8	SIS	BT	2.3	384477	55546	6.92	Si
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77	10.08	1.1	SLD 8	SIS	BT	2.3	428302	54651	7.84	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	129	-81080	-149.16	-4968.16	0	0	-0.06	0	1.1	9.96	1496	2060	0	14430	
0	7770	-55546	-3790.53	-13906.71	0	8	-0.25	-0.07	0.96	9.58	1496	2060	0	14430	0.07
0	3408	-54651	-1692.44	-7715.26	0	4	-0.14	-0.03	1.04	9.8	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.02	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

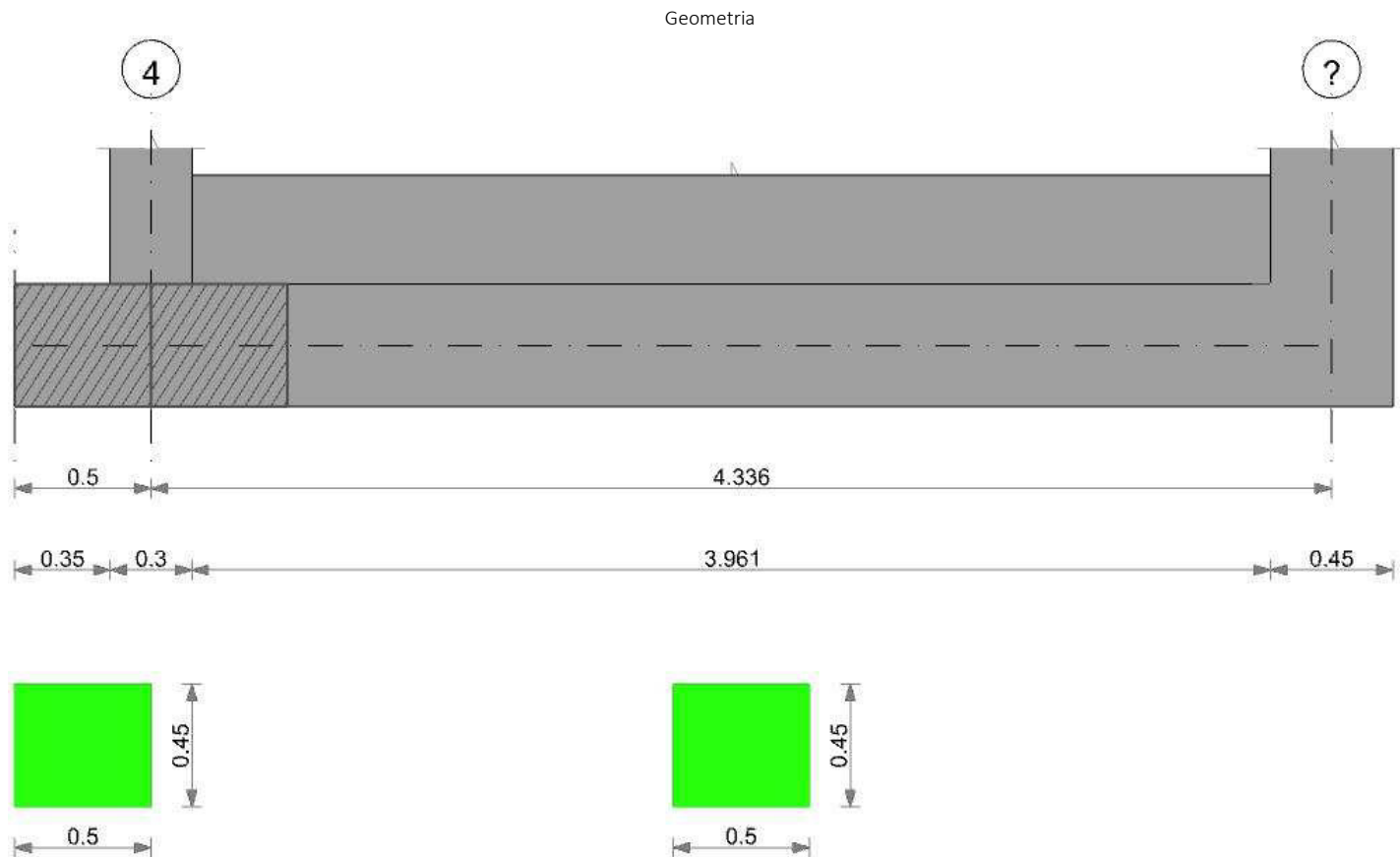
Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	162	SLE RA 1	0.05	0	162	162	SLE RA 1	0.05	0	175	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	162	SLE RA 1	0.05	0	162	162	SLE RA 1	0.05	0	175	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	162	SLE RA 1	0.05	0	162	162	SLE RA 1	0.05	0	175	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 1	0.19	0	162	175	SLE RA 1	0.19	0	162	SLE RA 1	0.1	0	175	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	162	175	SLE RA 1	0.19	0	162	SLE RA 1	0.1	0	175	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	162	175	SLE RA 1	0.19	0	162	SLE RA 1	0.1	0	175	SLE RA 1	Si

COROLO 3



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000



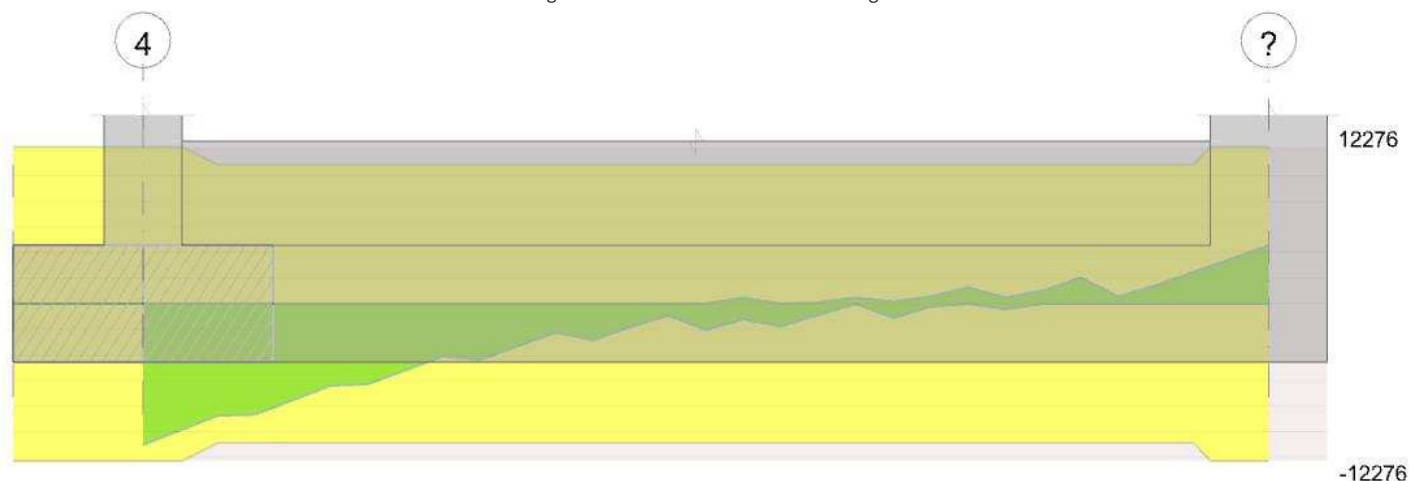
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 4 - ?, sezione R 50x45, aste 34, 33, 32, 31, 30, 29, 28, 27, 26, 25

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0000387	1051	SLU 81	0.033	6148	3655	SLU 81	15877	Si
0.15	0.41	0.0000387	1053	SLU 81	0.033	6148	3663	SLU 81	15877	Si
2.17	0.41	0.0000387	916	SLU 81	0.033	6148	3187	SLU 81	15877	Si
4.11	0.41	0.0000387	1009	SLV 8	0.127	5913	3510	SLV 8	15877	Si
4.34	0.41	0.0000387	1039	SLV 8	0.127	5913	3615	SLV 8	15877	Si

Verifiche delle tensioni di esercizio

Carregamento de tensão: 17.000000			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	σ_c limite	σ_f	σ_f limite	M	Comb	σ_c	σ_c limite	
0	0.41	0.00000387	760	SLE RA 18	21390	1494000	265232	36000000	656	SLE QP 2	18462	1120500	Si
0.15	0.41	0.00000387	762	SLE RA 18	21431	1494000	265749	36000000	657	SLE QP 2	18497	1120500	Si
2.17	0.41	0.00000387	662	SLE RA 18	18626	1494000	230965	36000000	570	SLE QP 2	16028	1120500	Si
4.11	0.41	0.00000387	686	SLE RA 18	19305	1494000	239385	36000000	591	SLE QP 2	16633	1120500	Si
4.34	0.41	0.00000387	696	SLE RA 18	19577	1494000	242749	36000000	600	SLE QP 2	16873	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	23	10	159	SLV 4	0.36	1618	1.653	6.56	2.86	59.13	SLV 4	0.36	1618	1.653	Si
0.15	23	10	159	SLV 4	0.36	1618	1.653	6.57	2.89	59.13	SLV 4	0.36	1618	1.653	Si
2.17	20	10	159	SLV 4	0.36	1618	1.653	5.7	2.87	59.13	SLV 4	0.36	1618	1.653	Si
4.11	21	15	159	SLV 8	0.36	1618	1.653	5.91	4.18	59.13	SLV 8	0.36	1618	1.653	Si
4.34	21	15	159	SLV 8	0.36	1618	1.653	6	4.4	59.13	SLV 8	0.36	1618	1.653	Si



Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γ_R	Rd	Ed	Rd/Ed	Verifica
34,33,32,31,30,29,28,27,26,25	4.56	1.1	SLU 81	ST	BT	2.3	171738	39458	4.35	Si
34,33,32,31,30,29,28,27,26,25	4.56	1.1	SLV 1	SIS	LT	2.3	121438	31584	3.84	Si
34,33,32,31,30,29,28,27,26,25	4.56	1.1	SLD 3	SIS	BT	2.3	162038	30064	5.39	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	656	-39458	-4081.78	-1476.02	0	1	-0.04	-0.1	0.89	4.49	1496	2060	0	14430	0
0	5294	-31584	-5429.54	-3781.59	0	10	-0.12	-0.17	0.76	4.32	1496	2060	37	0	0.07
0	2033	-30064	-3859.13	-573.75	0	4	-0.02	-0.13	0.84	4.52	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

Criterio gestionale di capacità portante																							
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.13	1.13	0.93	1.16	1.27	1	0.71	0.71	0.59	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

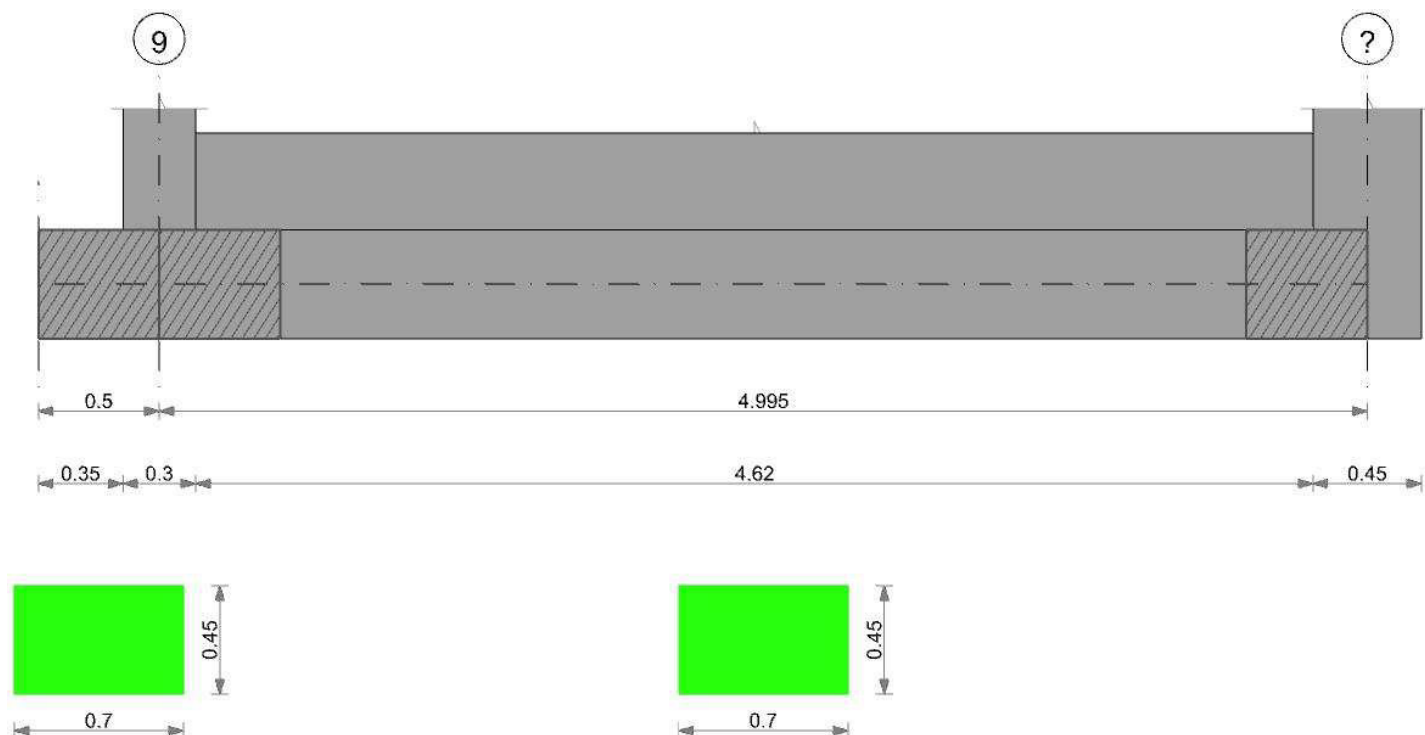
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	136	SLE RA 1	0.05	0	136	136	SLE RA 1	0.05	0	136	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	136	SLE RA 1	0.05	0	136	136	SLE RA 1	0.05	0	136	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	136	SLE RA 1	0.05	0	136	136	SLE RA 1	0.05	0	136	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 1	0.19	0	136	237	SLE RA 1	0.19	0	136	SLE RA 1	0.1	0	136	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	136	237	SLE RA 1	0.19	0	136	SLE RA 1	0.1	0	136	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	136	237	SLE RA 1	0.19	0	136	SLE RA 1	0.1	0	136	SLE RA 1	Si

CORDOLO 4

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

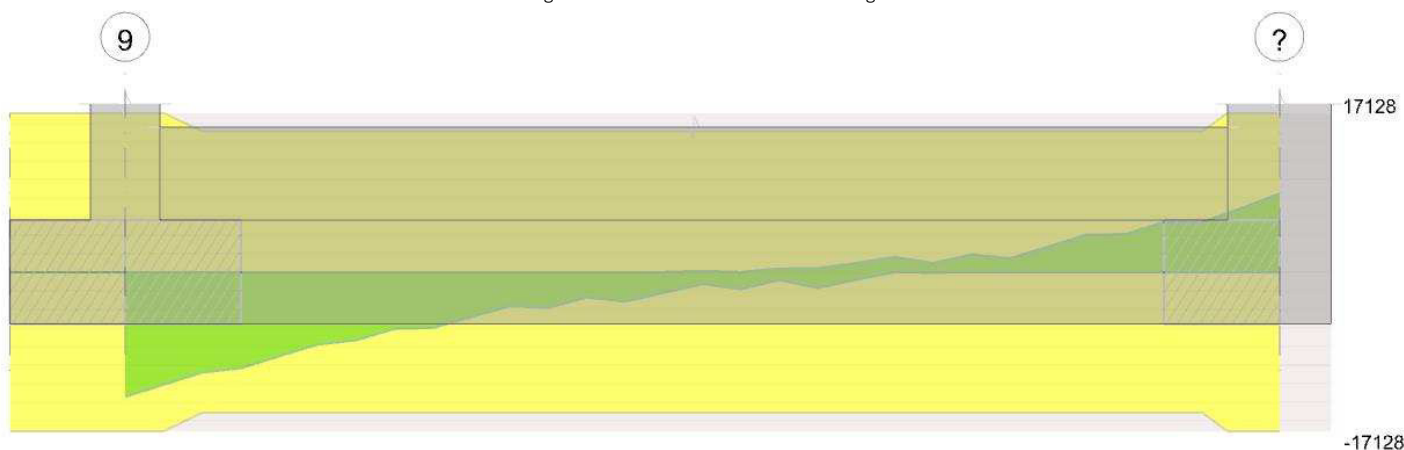
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 9 - ?, sezione R 70x45, aste 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1612	SLU 81	0.03	5724	4159	SLU 81	15877	Si
0.15	0.41	0.0004	1613	SLU 81	0.03	5724	4164	SLU 81	15877	Si
2.5	0.41	0.0004	1323	SLU 81	0.03	5724	3415	SLU 81	15877	Si
4.77	0.41	0.0004	2031	SLV 12	0.123	5510	5242	SLV 12	15877	Si
5	0.41	0.0004	2172	SLV 12	0.123	5510	5606	SLV 12	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	Rara				Quasi permanente				Verifica
					σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$	
0	0.41	0.0000036	1168	SLE RA 18	32991	1494000	409093	36000000	1011	SLE QP 2	28549	1120500	Si
0.15	0.41	0.0000036	1170	SLE RA 18	33027	1494000	409533	36000000	1012	SLE QP 2	28579	1120500	Si
2.5	0.41	0.0000036	958	SLE RA 18	27066	1494000	335619	36000000	828	SLE QP 2	23391	1120500	Si
4.77	0.41	0.0000036	1375	SLE RA 18	38833	1494000	481526	36000000	1198	SLE QP 2	33837	1120500	Si
5	0.41	0.0000036	1458	SLE RA 18	41177	1494000	510593	36000000	1272	SLE QP 2	35911	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	26	12	159	SLV 14	0.36	1618	1.653	10.11	4.61	55.1	SLV 14	0.36	1618	1.653	Si
0.15	26	12	159	SLV 16	0.36	1618	1.653	10.12	4.59	55.1	SLV 16	0.36	1618	1.653	Si
2.5	21	11	159	SLV 16	0.36	1618	1.653	8.28	4.39	55.1	SLV 16	0.36	1618	1.653	Si
4.77	31	22	159	SLV 12	0.36	1618	1.653	11.98	8.33	55.1	SLV 12	0.36	1618	1.653	Si
5	33	23	159	SLV 12	0.36	1618	1.653	12.72	9.01	55.1	SLV 12	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
13,14,15,16,17,18,19,20,21,22,23,24	5.22	1.3	SLU 81	ST	BT	2.3	239608	48736	4.92	Si
13,14,15,16,17,18,19,20,21,22,23,24	5.22	1.3	SLV 16	SIS	BT	2.3	205265	43596	4.71	Si
13,14,15,16,17,18,19,20,21,22,23,24	5.22	1.3	SLD 16	SIS	BT	2.3	223046	37584	5.93	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-210	-48736	4456.62	1948.75	0	0	0.04	0.09	1.12	5.14	1496	2060	0	14430	
0	-5038	-43596	6678.87	3475.62	0	-7	0.08	0.15	0.99	5.06	1496	2060	0	14430	0.07
0	-2292	-37584	4559.9	2238.89	0	-3	0.06	0.12	1.06	5.1	1496	2060	0	14430	0.03



Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

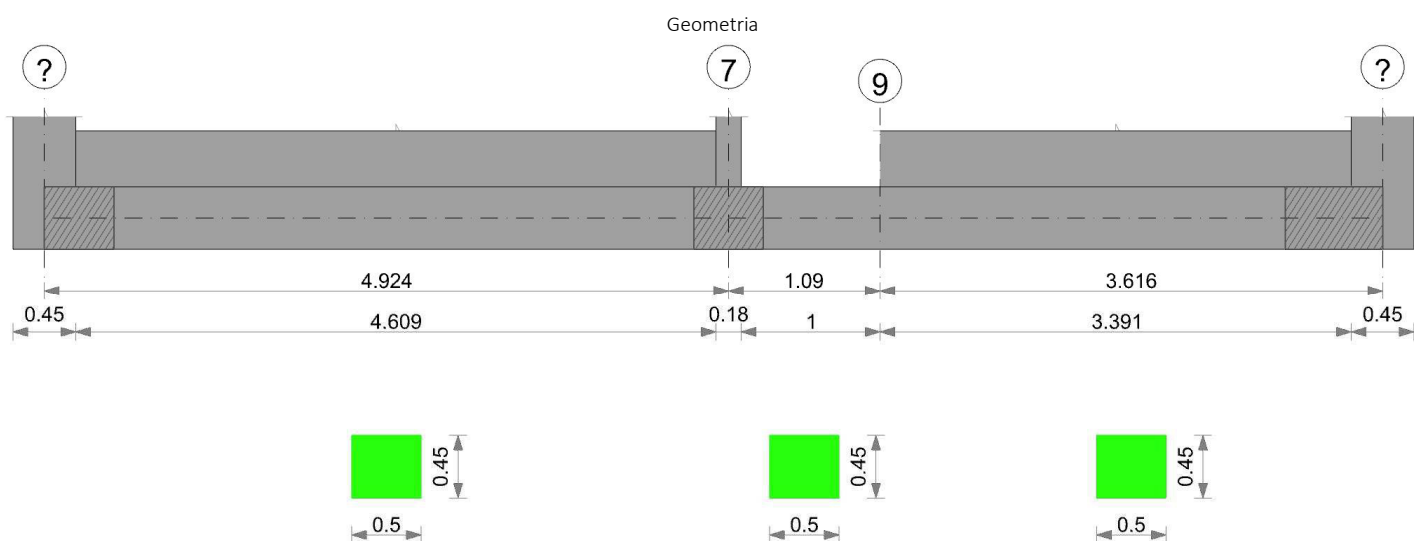
Verifiche geotecniche - Cedimenti assoluti e differenziali

Criterio gestionale: Assoluta assente differenziale																	
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	285	SLE RA 18	0.05	0	285	160	SLE RA 18	0.05	0	160	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	160	SLE RA 1	0.05	0	160	160	SLE RA 1	0.05	0	160	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	160	SLE RA 1	0.05	0	160	160	SLE RA 1	0.05	0	160	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Controllo geometrico - Rotazioni assolute - Differenziali																	
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 18	0.19	0	160	285	SLE RA 18	0.19	0	160	SLE RA 1	0.1	0	160	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	160	285	SLE RA 1	0.19	0	160	SLE RA 1	0.1	0	160	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	160	285	SLE RA 1	0.19	0	160	SLE RA 1	0.1	0	160	SLE RA 1	Si

CORDOLO 5



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 7 - 9, sezione R 50x45, asta 91

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052							-885.59	SLU 81	-885.59	-7755.45	0.113	8.76	Si
0.09	0.000509	0.052	0.000509	0.052							-1077.78	SLU 81	-1317.98	-7755.45	0.113	5.88	Si
0.25	0.000509	0.052	0.000509	0.052							-1306.4	SLU 81	-1372.88	-7755.45	0.113	5.65	Si
0.54	0.000509	0.052	0.000509	0.052							-1312.47	SLU 81	-1372.88	-7755.45	0.113	5.65	Si
1.09	0.000509	0.052	0.000509	0.052	56.75	SLU 39	56.75	7755.45	0.113	136.66	4.17	SLU 43	-594.57	-7755.45	0.113	13.04	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	222.17	SLV 15	77.86	7266.79	0.197	93.33	-1465.63	SLV 2	-1453.64	-7266.79	0.197	5	Si
0.09	0.000509	0.052	0.000509	0.052							-1426.8	SLV 2	-1426.8	-7266.79	0.197	5.09	Si
0.54	0.000509	0.052	0.000509	0.052							-985.56	SLV 16	-1124.47	-7266.79	0.197	6.46	Si
1.09	0.000509	0.052	0.000509	0.052	1039.98	SLV 1	1039.98	7266.79	0.197	6.99	-1004.45	SLV 16	-1126.64	-7266.79	0.197	6.45	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsl	Vult	cotgθ	coeff	Verifica
0	0.0000086	0.000509	0	-2416	SLU 81	-2416	-7764	-63178	-12002	-12002	1	4.97	Si
0.09	0.0000086	0.000509	0	-1877	SLU 81	-1877	-7764	-63178	-12002	-12002	1	6.39	Si
0.54	0.0000086	0.000509	0	853	SLU 81	853	7764	63178	12002	12002	1	14.07	Si
1.09	0.0000086	0.000509	0	4176	SLU 81	4176	7764	63178	12002	12002	1	2.87	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsl	Vult	cotgθ	coeff	Verifica
0	0.0000086	0.000509	0	261	SLV 2	261	7764	63178	12002	12002	1	46	Si
0	0.0000086	0.000509	0	-3229	SLV 15	-3229	-7764	-63178	-12002	-12002	1	3.72	Si
0.09	0.0000086	0.000509	0	596	SLV 2	596	7764	63178	12002	12002	1	20.13	Si
0.09	0.0000086	0.000509	0	-2884	SLV 15	-2884	-7764	-63178	-12002	-12002	1	4.16	Si
0.54	0.0000086	0.000509	0	2287	SLV 2	2287	7764	63178	12002	12002	1	5.25	Si
0.54	0.0000086	0.000509	0	-1126	SLV 15	-1126	-7764	-63178	-12002	-12002	1	10.66	Si
1.09	0.0000086	0.000509	0	4326	SLV 2	4326	7764	63178	12002	12002	1	2.77	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-656.96	18	-656.96	34749	1494000	521231	36000000	-621.73	2	-621.73	32885	1120500			Si
0.09	-795.66	18	-968.45	51225	1494000	768371	36000000	-739.37	2	-883.67	46741	1120500			Si
0.54	-962.04	18	-1007.16	53272	1494000	799086	36000000	-868.81	2	-912.97	48290	1120500			Si
1.09	35.1	18	35.1	1857	1494000	27851	36000000	17.76	2	17.76	940	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0.09	-1144	-1740	-12002	SLV 15	0.36	1618	1.653	-739.37	-687.44	-7266.79	SLV 2	0.36	1618	1.653	Si
0.54	580	1706	12002	SLV 2	0.36	1618	1.653	-703.45	-414.89	-7266.79	SLV 16	0.36	1618	1.653	Si
1.09	2682	1644	12002	SLV 2	0.36	1618	1.653	17.76	1022.21	7266.79	SLV 1	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - 7, sezione R 50x45, aste 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	1395	SLU 81	0.018	2806	4292	SLU 81	15877	Si
0.23	0.41	0.0002	1344	SLU 81	0.018	2806	4135	SLU 81	15877	Si
2.46	0.41	0.0002	1064	SLU 81	0.018	2806	3273	SLU 81	15877	Si
4.83	0.41	0.0002	980	SLU 81	0.018	2806	3017	SLU 81	15877	Si
4.92	0.41	0.0004	981	SLU 81	0.036	6786	3017	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb.	σ c	σ c limite	σ f	σ f limite	M	Comb.	σ c	σ c limite	Verifica
0	0.41	0.00000176	1010	SLE RA 18	29215	1494000	362267	36000000	873	SLE QP 2	25256	1120500	Si
0.23	0.41	0.00000176	972	SLE RA 18	28126	1494000	348759	36000000	839	SLE QP 2	24282	1120500	Si
2.46	0.41	0.00000176	765	SLE RA 18	22144	1494000	274587	36000000	652	SLE QP 2	18867	1120500	Si
4.83	0.41	0.00000176	704	SLE RA 18	20370	1494000	252592	36000000	595	SLE QP 2	17227	1120500	Si



				Rara				Quasi permanente				Verifica	
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	Verifica
4.92	0.41	0.00000428	704	SLE RA 18	19711	1494000	244411	36000000	596	SLE QP 2	16670	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	27	12	159	SLV 4	0.36	1618	1.653	8.73	3.93	27.28	SLV 4	0.36	1618	1.653	Si
0.23	26	11	159	SLV 4	0.36	1618	1.653	8.39	3.64	27.28	SLV 4	0.36	1618	1.653	Si
2.46	20	4	159	SLV 4	0.36	1618	1.653	6.52	1.39	27.28	SLV 4	0.36	1618	1.653	Si
4.83	18	0	40	SLV 16	0.36	1618	1.653	5.95	0.07	27.28	SLV 16	0.36	1618	1.653	Si
4.92	18	0	45	SLV 16	0.36	1618	1.653	5.96	0.09	65.18	SLV 16	0.36	1618	1.653	Si

Campata 2 tra i fili 7 - 9, sezione R 50x45, asta 91

Campata 3 tra i fili 9 - ?, sezione R 50x45, aste 92, 93, 94, 95, 96, 97, 98, 99, 100

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1017	SLU 81	0.036	6786	3129	SLU 81	15877	Si
1.81	0.41	0.0004	1082	SLU 81	0.036	6786	3329	SLU 81	15877	Si
3.39	0.41	0.0004	1151	SLU 81	0.036	6786	3541	SLU 81	15877	Si
3.62	0.41	0.0004	1184	SLU 81	0.036	6786	3642	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

				Rara				Quasi permanente				Verifica	
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	Verifica
0	0.41	0.00000428	732	SLE RA 18	20481	1494000	253963	36000000	621	SLE QP 2	17390	1120500	Si
1.81	0.41	0.00000428	781	SLE RA 18	21872	1494000	271207	36000000	670	SLE QP 2	18748	1120500	Si
3.39	0.41	0.00000428	835	SLE RA 18	23361	1494000	289676	36000000	723	SLE QP 2	20237	1120500	Si
3.62	0.41	0.00000428	859	SLE RA 18	24050	1494000	298219	36000000	746	SLE QP 2	20871	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	19	1	105	SLV 16	0.36	1618	1.653	6.21	0.28	65.18	SLV 16	0.36	1618	1.653	Si
1.81	21	5	159	SLV 14	0.36	1618	1.653	6.7	1.63	65.18	SLV 14	0.36	1618	1.653	Si
3.39	22	11	159	SLV 14	0.36	1618	1.653	7.23	3.47	65.18	SLV 14	0.36	1618	1.653	Si
3.62	23	12	159	SLV 14	0.36	1618	1.653	7.46	3.79	65.18	SLV 14	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100				10.08	1.1	SLU 81	ST	BT	2.3	463170	80601	5.75	Si
78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100				10.08	1.1	SLV 8	SiS	BT	2.3	381738	53914	7.08	Si
78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100				10.08	1.1	SLD 8	SiS	BT	2.3	427622	53779	7.95	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	129	-80601	-149.16	-4719.7	0	0	-0.06	0	1.1	9.96	1496	2060	0	14430	
0	7770	-53914	-3790.53	-14196.9	0	8	-0.26	-0.07	0.96	9.55	1496	2060	0	14430	0.07
0	3408	-53779	-1692.44	-7751.85	0	4	-0.14	-0.03	1.04	9.79	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N		S		D		I		B		G		P		E	
Nq	Nc	Sq	Sc	Dq	Dc	Iq	Ic	Bq	Bc	Gq	Gc	Pq	Pc	Eq	Eg
1	5	0	0.02	0	0.27	0	0	0	0	0	0	1	1	1	0
1	5	0	0.02	0	0.27	0	0.02	0	0	0	0	1	1	1	0
1	5	0	0.02	0	0.27	0	0.01	0	0	0	0	1	1	1	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

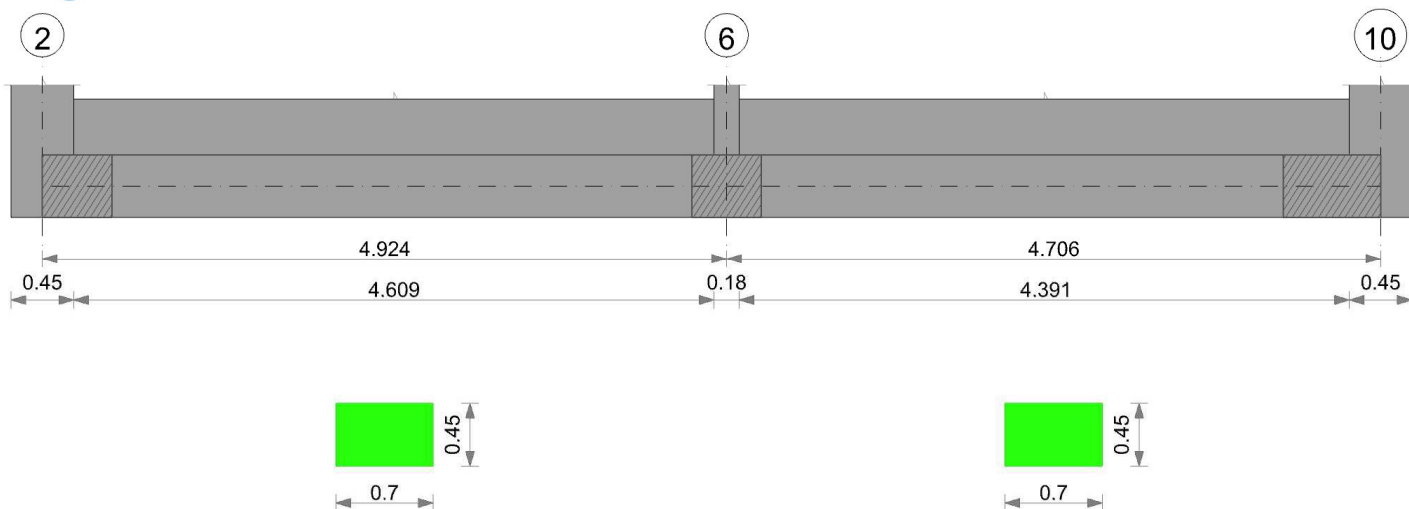
Tipo	Assoluto			Differenziale			Relativo			Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Sd adm	Sd	Nodo I	Sr adm	Sr	Nodo	Ri adm	Ri	Comb.	
E	0.05	0	111	0.05	0	111	0.05	0	124	0.0033	0	111	Si
D	0.05	0	111	0.05	0	111	0.05	0	124	0.0033	0	111	Si
Z	0.05	0	111	0.05	0	111	0.05	0	124	0.0033	0	111	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	D+ adm	D+	Nodo	D- adm	D-	Nodo	
E	0.19	0	111	0.19	0	111	0.19	0	111	0.1	0	124	Si
D	0.19	0	111	0.19	0	111	0.19	0	111	0.1	0	124	Si
Z	0.19	0	111	0.19	0	111	0.19	0	111	0.1	0	124	Si

CORDOLO 6

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

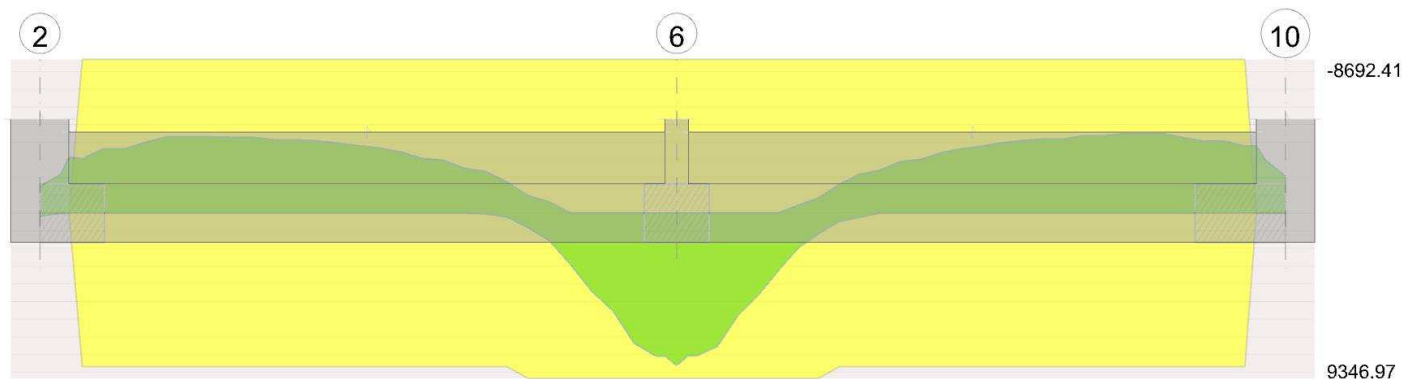
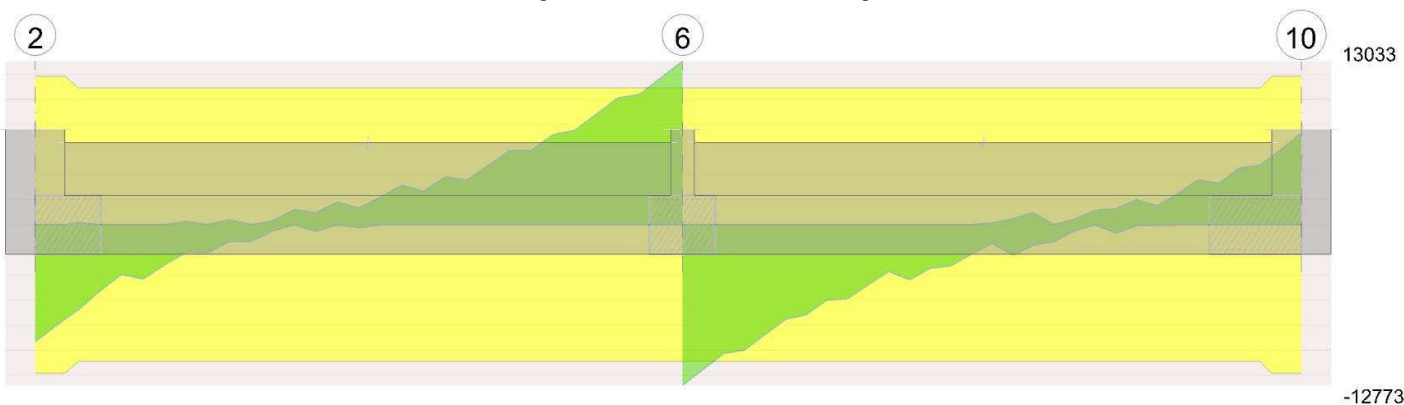


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 2 - 6, sezione R 70x45, aste 149, 148, 147, 146, 145, 144, 143, 142, 141, 140, 139, 138

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2033	SLV 5	0.085	2634	5246	SLV 5	15877	Si
0.23	0.41	0.0002	1922	SLV 5	0.085	2634	4961	SLV 5	15877	Si
2.46	0.41	0.0002	1342	SLV 5	0.085	2634	3467	SLU 81	15877	Si
4.83	0.41	0.0002	1671	SLU 81	0.017	2708	4312	SLU 81	15877	Si
4.92	0.41	0.0002	1670	SLU 81	0.017	2708	4309	SLU 81	15877	Si



Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.0000017	1379	SLE RA 18	39945	1494000	495315	36000000	1200	SLE QP 2	34755	1120500	Si
0.23	0.41	0.0000017	1307	SLE RA 18	37845	1494000	469283	36000000	1136	SLE QP 2	32901	1120500	Si
2.46	0.41	0.0000017	973	SLE RA 18	28177	1494000	349394	36000000	840	SLE QP 2	24336	1120500	Si
4.83	0.41	0.0000017	1212	SLE RA 18	35085	1494000	435053	36000000	1049	SLE QP 2	30366	1120500	Si
4.92	0.41	0.0000017	1211	SLE RA 18	35065	1494000	434801	36000000	1048	SLE QP 2	30349	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella soala

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	31	21	159	SLV 5	0.36	1618	1.653	12	8.33	26.34	SLV 5	0.36	1618	1.653	Si
0.23	29	20	159	SLV 5	0.36	1618	1.653	11.36	7.86	26.34	SLV 5	0.36	1618	1.653	Si
2.46	22	13	159	SLV 5	0.36	1618	1.653	8.4	5.01	26.34	SLV 5	0.36	1618	1.653	Si
4.83	27	13	159	SLV 5	0.36	1618	1.653	10.49	5.13	26.34	SLV 5	0.36	1618	1.653	Si
4.92	27	13	159	SLV 5	0.36	1618	1.653	10.48	5.14	26.34	SLV 5	0.36	1618	1.653	Si

Campata 2 tra i fili 6 - 10, sezione R 70x45, aste 137, 136, 135, 134, 133, 132, 131, 130, 129, 128, 127, 126

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1670	SLU 81	0.017	2708	4309	SLU 81	15877	Si
0.09	0.41	0.0002	1668	SLU 81	0.017	2708	4304	SLU 81	15877	Si
2.35	0.41	0.0002	1317	SLV 9	0.085	2634	3398	SLV 9	15877	Si
4.48	0.41	0.0002	1794	SLV 10	0.085	2634	4630	SLV 10	15877	Si
4.71	0.41	0.0002	1900	SLV 10	0.085	2634	4903	SLV 10	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.0000017	1211	SLE RA 18	35065	1494000	434801	36000000	1048	SLE QP 2	30349	1120500	Si
0.09	0.41	0.0000017	1209	SLE RA 18	35025	1494000	434305	36000000	1047	SLE QP 2	30315	1120500	Si
2.35	0.41	0.0000017	918	SLE RA 18	26580	1494000	329597	36000000	794	SLE QP 2	22997	1120500	Si
4.48	0.41	0.0000017	1116	SLE RA 18	32314	1494000	400689	36000000	975	SLE QP 2	28227	1120500	Si
4.71	0.41	0.0000017	1176	SLE RA 18	34052	1494000	422245	36000000	1028	SLE QP 2	29783	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	27	13	159	SLV 5	0.36	1618	1.653	10.48	5.14	26.34	SLV 5	0.36	1618	1.653	Si
0.09	27	13	159	SLV 5	0.36	1618	1.653	10.47	5.14	26.34	SLV 5	0.36	1618	1.653	Si
2.35	20	13	159	SLV 9	0.36	1618	1.653	7.94	5.23	26.34	SLV 9	0.36	1618	1.653	Si
4.48	25	21	159	SLV 10	0.36	1618	1.653	9.75	8.19	26.34	SLV 10	0.36	1618	1.653	Si
4.71	27	22	159	SLV 10	0.36	1618	1.653	10.28	8.71	26.34	SLV 10	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
149,148,147,146,145,144,143,142,141,140,139,138,137,136,135,134,133,132,131,130,129,128,127,126	10.08	1.3	SLU 81	ST	BT	2.3	454736	92053	4.94	Si
149,148,147,146,145,144,143,142,141,140,139,138,137,136,135,134,133,132,131,130,129,128,127,126	10.08	1.3	SLV 5	SIS	BT	2.3	392351	83408	4.7	Si
149,148,147,146,145,144,143,142,141,140,139,138,137,136,135,134,133,132,131,130,129,128,127,126	10.08	1.3	SLD 5	SIS	BT	2.3	425314	71375	5.96	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	142	-92053	8425.48	-7672.57	0	0	-0.08	0.09	1.12	9.91	1496	2060	0	14430	
0	-8664	-83408	12658.97	-12632.29	0	-6	-0.15	0.15	1	9.78	1496	2060	0	14430	0.07
0	-3686	-71375	8587.77	-8158.2	0	-3	-0.11	0.12	1.06	9.85	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.02	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.02	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

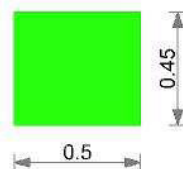
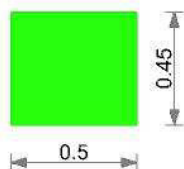
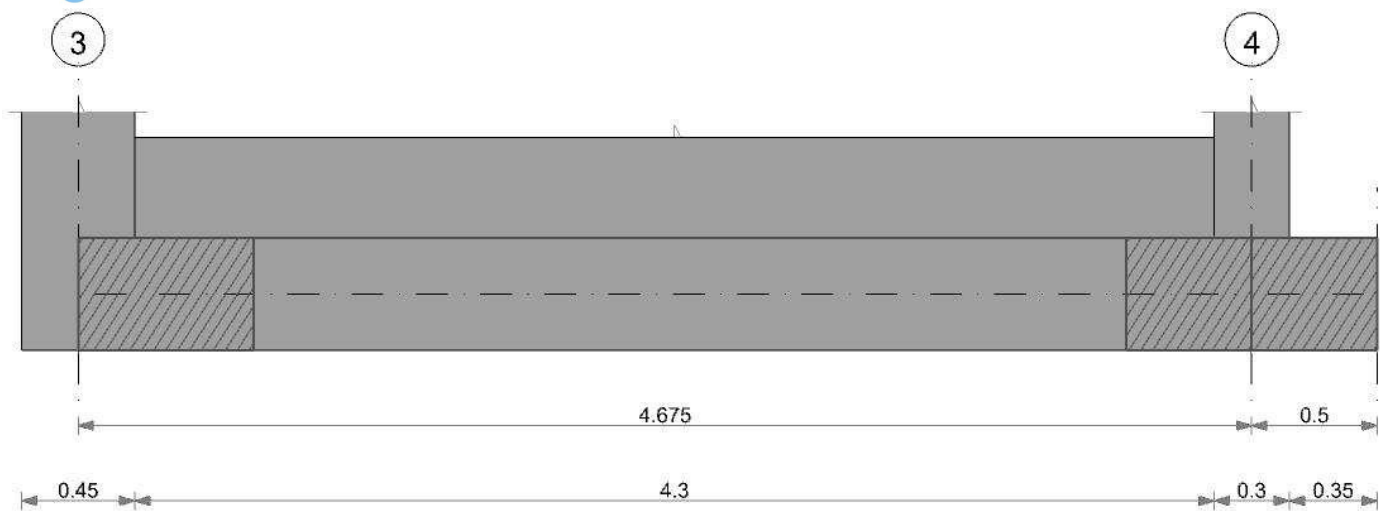
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	31	SLE RA 18	0.05	0	31	43	SLE RA 18	0.05	0	43	SLE RA 18	0.0033	0	SLE RA 18	Si
D	0.05	0	31	SLE RA 1	0.05	0	31	31	SLE RA 1	0.05	0	43	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	31	SLE RA 1	0.05	0	31	31	SLE RA 1	0.05	0	43	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 18	0.19	0	31	43	SLE RA 18	0.19	0	31	SLE RA 1	0.1	0	43	SLE RA 18	Si
D	0.19	0	SLE RA 1	0.19	0	31	43	SLE RA 1	0.19	0	31	SLE RA 1	0.1	0	43	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	31	43	SLE RA 1	0.19	0	31	SLE RA 1	0.1	0	43	SLE RA 1	Si

CORDOLO 7

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

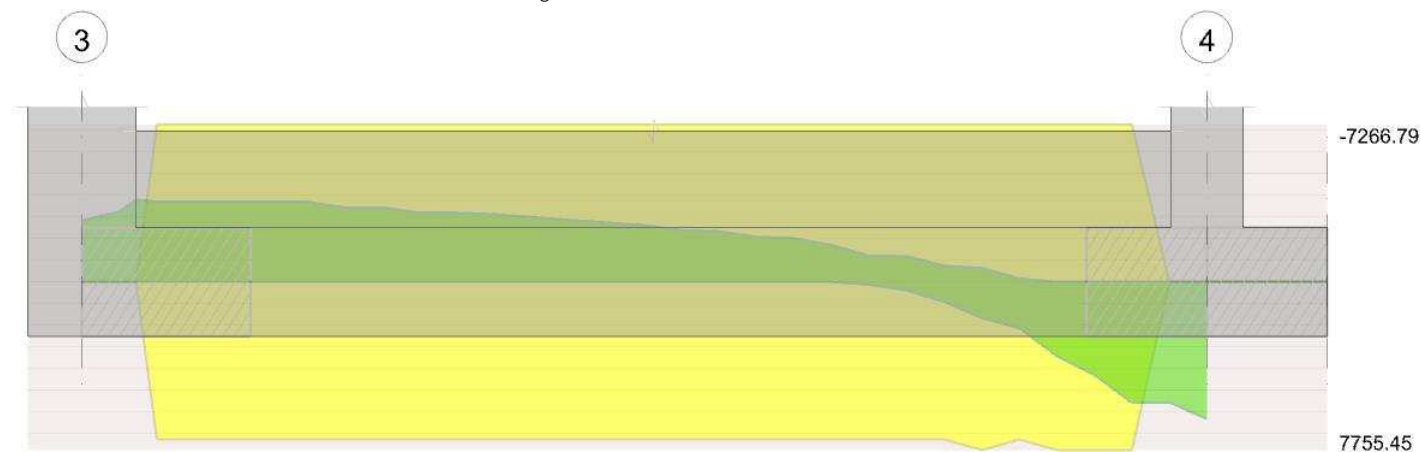


Diagramma verifica stato limite ultimo taglio



3

4

11119

-8455

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 4, sezione R 50x45, aste 161, 160, 159, 158, 157, 156, 155, 154, 153, 152, 151, 150

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1172	SLV 5	0.086	2708	4077	SLV 5	15877	Si
0.23	0.41	0.0002	1095	SLV 5	0.086	2708	3809	SLV 5	15877	Si
2.34	0.41	0.0002	830	SLU 81	0.017	2785	2885	SLU 81	15877	Si
4.53	0.41	0.0002	1047	SLU 81	0.017	2785	3643	SLU 81	15877	Si
4.68	0.41	0.0002	1051	SLU 81	0.017	2785	3655	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Caratteristiche delle tensioni d'esercizio			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000174	780	SLE RA 18	22574	1494000	279914	36000000	679	SLE QP 2	19661	1120500	Si
0.23	0.41	0.00000174	739	SLE RA 18	21375	1494000	265054	36000000	643	SLE QP 2	18594	1120500	Si
2.34	0.41	0.00000174	600	SLE RA 18	17366	1494000	215338	36000000	518	SLE QP 2	14978	1120500	Si
4.53	0.41	0.00000174	758	SLE RA 18	21925	1494000	271872	36000000	654	SLE QP 2	18925	1120500	Si
4.68	0.41	0.00000174	760	SLE RA 18	21998	1494000	272772	36000000	656	SLE QP 2	18987	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	24	17	159	SLV 5	0.36	1618	1.653	6.79	4.93	27.08	SLV 5	0.36	1618	1.653	Si
0.23	22	16	159	SLV 5	0.36	1618	1.653	6.43	4.53	27.08	SLV 5	0.36	1618	1.653	Si
2.34	18	9	159	SLV 1	0.36	1618	1.653	5.18	2.61	27.08	SLV 1	0.36	1618	1.653	Si
4.53	23	10	159	SLV 4	0.36	1618	1.653	6.54	2.84	27.08	SLV 4	0.36	1618	1.653	Si
4.68	23	10	159	SLV 4	0.36	1618	1.653	6.56	2.86	27.08	SLV 4	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
161,160,159,158,157,156,155,154,153,152,151,150	4.9	1.1	SLU 81	ST	BT	2.3	197165	41277	4.78	Si
161,160,159,158,157,156,155,154,153,152,151,150	4.9	1.1	SLV 2	SIS	BT	2.3	171900	36620	4.69	Si
161,160,159,158,157,156,155,154,153,152,151,150	4.9	1.1	SLD 2	SIS	BT	2.3	186702	31597	5.91	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	28	-41277	-3175.69	1023.31	0	0	0.02	-0.08	0.95	4.85	1496	2060	0	14430	0.07
0	3322	-36620	-4538.87	-2198.08	0	5	-0.06	-0.12	0.85	4.78	1496	2060	0	14430	0.07
0	1466	-31597	-3143.74	-633.83	0	3	-0.02	-0.1	0.9	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N						S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg			
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0			
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0			
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0			

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	5	SLE RA 1	0.05	0	5	5	SLE RA 1	0.05	0	5	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	5	SLE RA 1	0.05	0	5	5	SLE RA 1	0.05	0	5	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	5	SLE RA 1	0.05	0	5	5	SLE RA 1	0.05	0	5	SLE RA 1	0.0033	0	SLE RA 1	Si

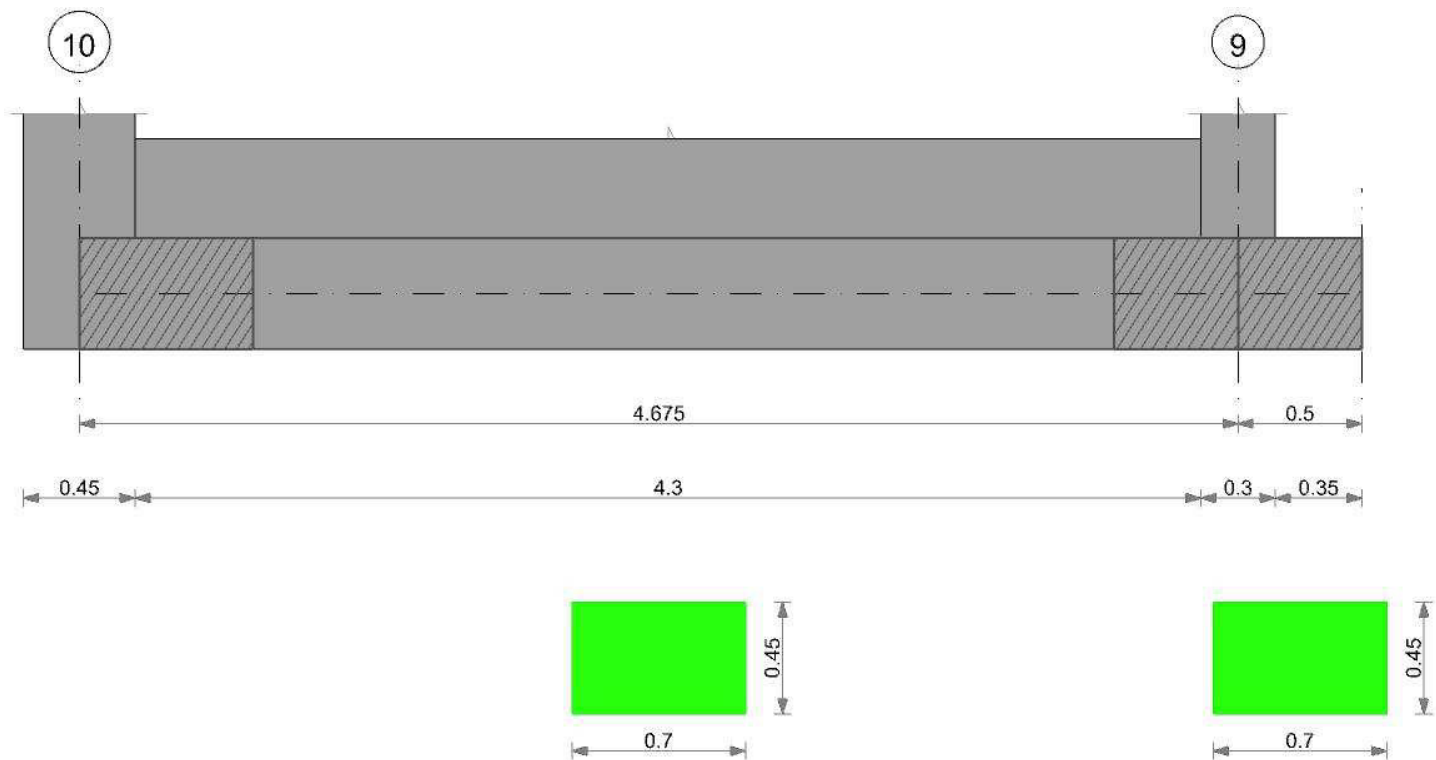
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	
E	0.19	0	SLE RA 1	0.19	0	5	136	SLE RA 1	0.19	0	5	SLE RA 1	0.1	0	5	Si
D	0.19	0	SLE RA 1	0.19	0	5	136	SLE RA 1	0.19	0	5	SLE RA 1	0.1	0	5	Si
Z	0.19	0	SLE RA 1	0.19	0	5	136	SLE RA 1	0.19	0	5	SLE RA 1	0.1	0	5	Si



CORDOLO 8

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

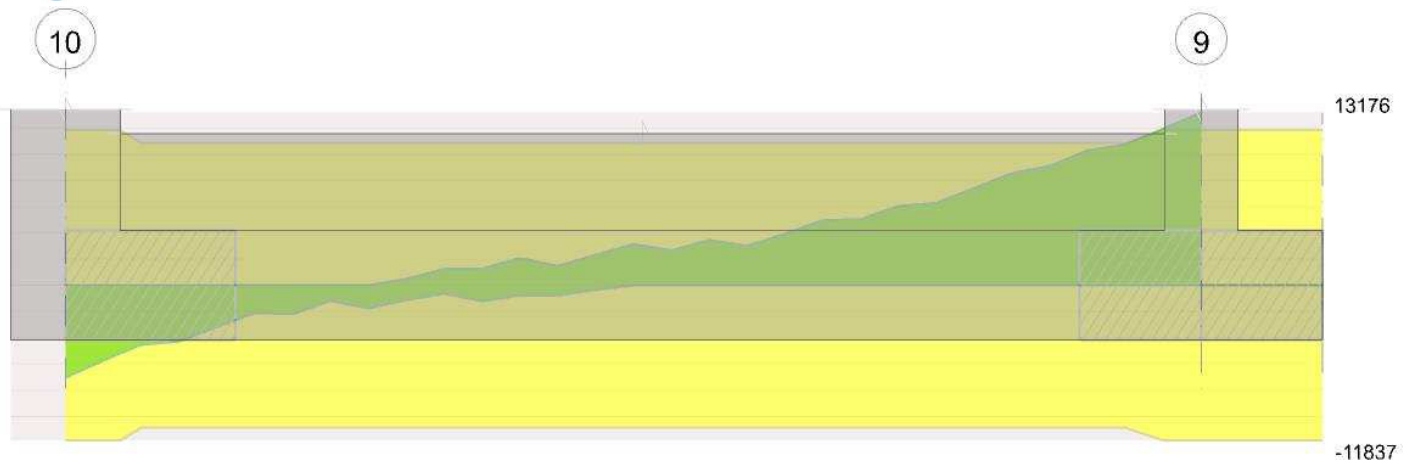
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 10 - 9, sezione R 70x45, aste 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1932	SLV 10	0.086	2708	4985	SLV 10	15877	Si
0.23	0.41	0.0002	1805	SLV 10	0.086	2708	4659	SLV 10	15877	Si
2.34	0.41	0.0002	1238	SLV 14	0.086	2708	3194	SLV 14	15877	Si
4.53	0.41	0.0002	1607	SLU 81	0.017	2785	4148	SLU 81	15877	Si
4.68	0.41	0.0002	1612	SLU 81	0.017	2785	4159	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Rara										Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$		
0	0.41	0.00000174	1180	SLE RA 18	34157	1494000	423543	36000000	1032	SLE QP 2	29874	1120500		Si
0.23	0.41	0.00000174	1117	SLE RA 18	32338	1494000	400992	36000000	976	SLE QP 2	28249	1120500		Si
2.34	0.41	0.00000174	895	SLE RA 18	25894	1494000	321085	36000000	774	SLE QP 2	22399	1120500		Si
4.53	0.41	0.00000174	1165	SLE RA 18	33721	1494000	418142	36000000	1008	SLE QP 2	29181	1120500		Si
4.68	0.41	0.00000174	1168	SLE RA 18	33810	1494000	419245	36000000	1011	SLE QP 2	29257	1120500		Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	27	23	159	SLV 10	0.36	1618	1.653	10.32	8.99	27.08	SLV 10	0.36	1618	1.653	Si
0.23	25	21	159	SLV 10	0.36	1618	1.653	9.76	8.29	27.08	SLV 10	0.36	1618	1.653	Si
2.34	20	12	159	SLV 14	0.36	1618	1.653	7.74	4.64	27.08	SLV 14	0.36	1618	1.653	Si
4.53	26	12	159	SLV 14	0.36	1618	1.653	10.08	4.64	27.08	SLV 14	0.36	1618	1.653	Si
4.68	26	12	159	SLV 14	0.36	1618	1.653	10.11	4.61	27.08	SLV 14	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
1,2,3,4,5,6,7,8,9,10,11,12				4.9	1.3	SLU 81	ST	BT	2.3	231098	43035	5.37	Si
1,2,3,4,5,6,7,8,9,10,11,12				4.9	1.3	SLV 13	SIS	BT	2.3	199351	39611	5.03	Si
1,2,3,4,5,6,7,8,9,10,11,12				4.9	1.3	SLD 13	SIS	BT	2.3	218174	33766	6.46	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	178	-43035	3393.93	1428.14	0	0	0.03	0.08	1.14	4.83	1496	2060	0	14430	
0	-4165	-39611	5601.96	-2488.39	0	-6	-0.06	0.14	1.02	4.77	1496	2060	0	14430	0.07
0	-1763	-33766	3705.84	-630.67	0	-3	-0.02	0.11	1.08	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. Inflexione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	29	SLE RA 1	0.05	0	29	29	SLE RA 1	0.05	0	29	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	29	SLE RA 1	0.05	0	29	29	SLE RA 1	0.05	0	29	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	29	SLE RA 1	0.05	0	29	29	SLE RA 1	0.05	0	29	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Verifica geotecnica - Rotazioni assolute e differenziali																	
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 1	0.19	0	29	160	SLE RA 1	0.19	0	29	SLE RA 1	0.1	0	29	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	29	160	SLE RA 1	0.19	0	29	SLE RA 1	0.1	0	29	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	29	160	SLE RA 1	0.19	0	29	SLE RA 1	0.1	0	29	SLE RA 1	Si



1.3 Verifica sismica globale

Le unità di misura elencate nel capitolo sono in [m] ove non espressamente specificato.

Desc.: descrizione.

Stato limite: (muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

Molt.: moltiplicatore minimo della azione sismica che produce lo stato limite.

Comb.: combinazione.

PGA: accelerazione al suolo.

iPGA (ZE): indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).

TR: tempo di ritorno.

(TR/TRrif)^.41: indicatore di rischio sismico in termini di periodo di ritorno.

fa: fattore di accelerazione.

Stato limite: (muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

Coeff.s.: coefficiente minimo prodotto dallo stato limite.

Verifica: stato di verifica.

Stato limite: (C.A.) tipologia di verifica analizzata.

Trave: titolo della trave.

Pressoflessione: dati della verifica a pressoflessione.

Coeff.s.: coefficiente di sicurezza a flessione.

ITR: indicatore di rischio sismico in termini di tempo di ritorno.

campata: campata di riferimento.

dist.: ascissa relativa all'inizio della campata. [m]

Taglio: dati della verifica a taglio.

Coeff.s.: coefficiente di sicurezza a taglio.

Maschio: maschio.

Stato limite: (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.

Trave: trave di collegamento in muratura.

Stato limite: (trave muratura) V=Taglio; F=Flessione.

S. L.: stato limite di riferimento.

TR,C: periodo di ritorno di capacità.

PGA,C: accelerazione di aggancio di capacità.

TR,Rif: periodo di ritorno di riferimento.

PGA,Rif: accelerazione di aggancio di riferimento.

Tipo rottura: tipo di rottura che fornisce il valore minimo degli elementi considerati.

PAM: perdita media annua attesa.

Classe PAM: classe di rischio PAM.

IS-V: indice di sicurezza.

Classe IS-V: classe di rischio IS-V.

λ,SLR: frequenza media annua di superamento in Stato Limite di Ricostruzione.

λ,SLC: frequenza media annua di superamento in Stato Limite di Collasso.

λ,SLV: frequenza media annua di superamento in Stato Limite di salvaguardia della Vita.

λ,SLD: frequenza media annua di superamento in Stato Limite di Danno.

λ,SLO: frequenza media annua di superamento in Stato Limite di Operatività.

λ,SLID: frequenza media annua di superamento in Stato Limite di Inizio Danno.

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO (ag/g_SLO*S*ST) PGA,SLOrif = 0.081

Accelerazione di aggancio SLD (ag/g_SLD*S*ST) PGA,SLDrif = 0.101

Accelerazione di aggancio SLV (ag/g_SLV*S*ST) PGA,SLVrif = 0.244

Tr,SLOrif = 30 anni

Tr,SLDrif = 50 anni

Tr,SLVrif = 475 anni

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	fa
Maschio 18	PF	0.351	SLV 13	0.079	0.3232	30	0.3222	0.3232
Maschio 13	V	1.579	SLV 7	0.3624	1.4833	1618	1.6529	1.4831
Maschio 19	PFFP	0.404	SLV 8	0.0938	0.3839	44	0.377	0.381
Maschio 24	R	1.538	SLV 7	0.3624	1.4833	1618	1.6529	1.4831
Trave di accoppiamento 8	PF	0.3	SLV 3	0.0671	0.2747	20	0.2729	0.273
Trave di accoppiamento 1	V	0.478	SLV 5	0.111	0.4542	67	0.448	0.453

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	23.332	SLU 64	Si
Maschio 1	V SLU	201.221	SLU 64	Si
Maschio 1	PF	4.557	SLV 9	Si
Maschio 1	V	4.56	SLV 12	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PFFP	15.834	SLV 13	Si
Maschio 1	R	5.961	SLV 4	Si
Maschio 3	PF SLU	1.984	SLU 64	Si
Maschio 3	V SLU	6.952	SLU 81	Si
Maschio 3	PF	0.234	SLV 16	No
Maschio 3	V	1.86	SLV 5	Si
Maschio 3	PFFP	0	SLV 16	No
Maschio 3	R	7.758	SLV 5	Si
Maschio 4	PF SLU	18.042	SLU 39	Si
Maschio 4	V SLU	15.306	SLU 81	Si
Maschio 4	PF	5.47	SLV 13	Si
Maschio 4	V	5.299	SLV 8	Si
Maschio 4	PFFP	8.806	SLV 12	Si
Maschio 4	R	6.221	SLV 5	Si
Maschio 5	PF SLU	82.483	SLU 39	Si
Maschio 5	V SLU	55.752	SLU 81	Si
Maschio 5	PF	4.408	SLV 4	Si
Maschio 5	V	4.488	SLV 4	Si
Maschio 5	PFFP	7.728	SLV 12	Si
Maschio 5	R	6.623	SLV 6	Si
Maschio 6	PF SLU	12.608	SLU 39	Si
Maschio 6	V SLU	17.155	SLU 81	Si
Maschio 6	PF	4.32	SLV 4	Si
Maschio 6	V	7.52	SLV 15	Si
Maschio 6	PFFP	9.55	SLV 7	Si
Maschio 6	R	6.764	SLV 14	Si
Maschio 7	PF SLU	13.612	SLU 60	Si
Maschio 7	V SLU	5.232	SLU 81	Si
Maschio 7	PF	4.228	SLV 3	Si
Maschio 7	V	3.556	SLV 16	Si
Maschio 7	PFFP	26.391	SLV 13	Si
Maschio 7	R	5.666	SLV 1	Si
Maschio 8	PF SLU	11.777	SLU 81	Si
Maschio 8	V SLU	4.445	SLU 81	Si
Maschio 8	PF	3.905	SLV 3	Si
Maschio 8	V	4.512	SLV 4	Si
Maschio 8	PFFP	33.19	SLV 3	Si
Maschio 8	R	3.166	SLV 14	Si
Maschio 10	PF SLU	2.76	SLU 81	Si
Maschio 10	V SLU	18.928	SLU 81	Si
Maschio 10	PF	1.591	SLV 16	Si
Maschio 10	V	8.027	SLV 16	Si
Maschio 10	PFFP	14.719	SLV 10	Si
Maschio 10	R	4.852	SLV 3	Si
Maschio 11	PF SLU	3.467	SLU 43	Si
Maschio 11	V SLU	74.563	SLU 43	Si
Maschio 11	PF	1.598	SLV 1	Si
Maschio 11	V	12.321	SLV 3	Si
Maschio 11	PFFP	10.185	SLV 5	Si
Maschio 11	R	6.514	SLV 16	Si
Maschio 12	PF SLU	12.242	SLU 81	Si
Maschio 12	V SLU	7.808	SLU 81	Si
Maschio 12	PF	3.569	SLV 7	Si
Maschio 12	V	3.314	SLV 11	Si
Maschio 12	PFFP	7.645	SLV 4	Si
Maschio 12	R	6.39	SLV 15	Si
Maschio 13	PF SLU	63.592	SLU 43	Si
Maschio 13	V SLU	387.05	SLU 43	Si
Maschio 13	PF	2.956	SLV 6	Si
Maschio 13	V	2.385	SLV 7	Si
Maschio 13	PFFP	12.667	SLV 1	Si
Maschio 13	R	5.992	SLV 16	Si
Maschio 14	PF SLU	20.916	SLU 43	Si
Maschio 14	V SLU	10.757	SLU 81	Si
Maschio 14	PF	4	SLV 6	Si
Maschio 14	V	3.335	SLV 10	Si
Maschio 14	PFFP	9.862	SLV 1	Si
Maschio 14	R	5.813	SLV 16	Si
Maschio 15	PF SLU	74.831	SLU 39	Si
Maschio 15	V SLU	173.316	SLU 81	Si
Maschio 15	PF	4.57	SLV 5	Si
Maschio 15	V	9.537	SLV 9	Si
Maschio 15	PFFP	2.293	SLV 9	Si
Maschio 15	R	2.282	SLV 16	Si
Maschio 18	PF SLU	4.438	SLU 43	Si
Maschio 18	V SLU	48.427	SLU 39	Si
Maschio 18	PF	0	SLV 13	No
Maschio 18	V	6.83	SLV 4	Si
Maschio 18	PFFP	0	SLV 7	No
Maschio 18	R	4.259	SLV 4	Si
Maschio 19	PF SLU	1.379	SLU 43	Si
Maschio 19	V SLU	12.495	SLU 43	Si
Maschio 19	PF	0	SLV 1	No
Maschio 19	V	5.07	SLV 13	Si
Maschio 19	PFFP	0	SLV 12	No
Maschio 19	R	3.904	SLV 13	Si
Maschio 20	PF SLU	8.089	SLU 43	Si
Maschio 20	V SLU	104.393	SLU 81	Si
Maschio 20	PF	0	SLV 11	No
Maschio 20	V	5.661	SLV 15	Si
Maschio 20	PFFP	0	SLV 3	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 20	R	4.163	SLV 2	Si
Maschio 21	PF SLU	11.594	SLU 64	Si
Maschio 21	V SLU	27.575	SLU 43	Si
Maschio 21	PF	0	SLV 1	No
Maschio 21	V	5.33	SLV 15	Si
Maschio 21	PFFP	0	SLV 1	No
Maschio 21	R	4.012	SLV 15	Si
Maschio 22	PF SLU	5.946	SLU 81	Si
Maschio 22	V SLU	8.3	SLU 43	Si
Maschio 22	PF	3.565	SLV 7	Si
Maschio 22	V	5.539	SLV 12	Si
Maschio 22	PFFP	1.974	SLV 12	Si
Maschio 22	R	1.586	SLV 5	Si
Maschio 23	PF SLU	5.253	SLU 81	Si
Maschio 23	V SLU	52.226	SLU 81	Si
Maschio 23	PF	2.881	SLV 5	Si
Maschio 23	V	21.724	SLV 5	Si
Maschio 23	PFFP	5.091	SLV 12	Si
Maschio 23	R	1.814	SLV 13	Si
Maschio 24	PF SLU	5.238	SLU 81	Si
Maschio 24	V SLU	8.046	SLU 43	Si
Maschio 24	PF	3.391	SLV 10	Si
Maschio 24	V	5.387	SLV 5	Si
Maschio 24	PFFP	2.143	SLV 10	Si
Maschio 24	R	1.584	SLV 8	Si
Maschio 25	PF SLU	37.822	SLU 64	Si
Maschio 25	V SLU	51.986	SLU 64	Si
Maschio 25	PF	1.346	SLV 16	Si
Maschio 25	V	6.919	SLV 14	Si
Maschio 25	PFFP	0.728	SLV 14	No
Maschio 25	R	4.378	SLV 2	Si
Maschio 26	PF SLU	14.824	SLU 39	Si
Maschio 26	V SLU	15.726	SLU 43	Si
Maschio 26	PF	4.551	SLV 1	Si
Maschio 26	V	7.472	SLV 2	Si
Maschio 26	PFFP	2.026	SLV 2	Si
Maschio 26	R	5.28	SLV 13	Si
Maschio 27	PF SLU	4.709	SLU 81	Si
Maschio 27	V SLU	12.805	SLU 64	Si
Maschio 27	PF	1.047	SLV 7	Si
Maschio 27	V	6.199	SLV 11	Si
Maschio 27	PFFP	1.389	SLV 3	Si
Maschio 27	R	2.533	SLV 2	Si
Maschio 28	PF SLU	29.193	SLU 43	Si
Maschio 28	V SLU	88.956	SLU 81	Si
Maschio 28	PF	2.971	SLV 7	Si
Maschio 28	V	8.048	SLV 7	Si
Maschio 28	PFFP	1.826	SLV 1	Si
Maschio 28	R	2.297	SLV 14	Si
Maschio 29	PF SLU	6.579	SLU 81	Si
Maschio 29	V SLU	16.984	SLU 43	Si
Maschio 29	PF	1.821	SLV 10	Si
Maschio 29	V	6.584	SLV 10	Si
Maschio 29	PFFP	1.526	SLV 1	Si
Maschio 29	R	2.498	SLV 3	Si

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	PF	2.56	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.698	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	3.1	SLV 13	0.362	1.483	1618	1.653	Si
	R	3.747	SLV 4	0.362	1.483	1618	1.653	Si
3	PF	0.476	SLV 12	0.11	0.451	66	0.445	No
	V	2.026	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.949	SLV 16	0.231	0.944	408	0.94	No
	R	3.674	SLV 5	0.362	1.483	1618	1.653	Si
4	PF	1.746	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.817	SLV 12	0.362	1.483	1618	1.653	Si
	R	3.698	SLV 5	0.362	1.483	1618	1.653	Si
5	PF	1.733	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.91	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.622	SLV 12	0.362	1.483	1618	1.653	Si
	R	3.635	SLV 6	0.362	1.483	1618	1.653	Si
6	PF	2.146	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.01	SLV 7	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
7	PF	3.253	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.718	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
8	PF	3.161	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.529	SLV 14	0.362	1.483	1618	1.653	Si
10	PF	1.283	SLV 16	0.31	1.27	970	1.34	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.266	SLV 10	0.362	1.483	1618	1.653	Si
	R	3.042	SLV 3	0.362	1.483	1618	1.653	Si
11	PF	1.331	SLV 1	0.322	1.316	1091	1.406	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
12	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.996	SLV 5	0.362	1.483	1618	1.653	Si
	R	3.7	SLV 16	0.362	1.483	1618	1.653	Si
	PF	1.945	SLV 4	0.362	1.483	1618	1.653	Si
	V	3.094	SLV 7	0.362	1.483	1618	1.653	Si
13	PFFP	1.716	SLV 4	0.362	1.483	1618	1.653	Si
	R	3.739	SLV 15	0.362	1.483	1618	1.653	Si
	PF	2.215	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.579	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.435	SLV 1	0.362	1.483	1618	1.653	Si
14	R	3.836	SLV 16	0.362	1.483	1618	1.653	Si
	PF	2.209	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.123	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.952	SLV 1	0.362	1.483	1618	1.653	Si
	R	3.559	SLV 16	0.362	1.483	1618	1.653	Si
15	PF	3.195	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.622	SLV 9	0.362	1.483	1618	1.653	Si
	R	2.156	SLV 16	0.362	1.483	1618	1.653	Si
	PF	0.351	SLV 13	0.079	0.323	30	0.322	No
19	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.592	SLV 16	0.138	0.565	113	0.555	No
	R	3.525	SLV 4	0.362	1.483	1618	1.653	Si
	PF	0.365	SLV 4	0.082	0.337	33	0.335	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
20	PFFP	0.404	SLV 8	0.094	0.384	44	0.377	No
	R	2.828	SLV 13	0.362	1.483	1618	1.653	Si
	PF	0.581	SLV 15	0.135	0.553	108	0.545	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.521	SLV 11	0.121	0.495	83	0.489	No
21	R	3.591	SLV 2	0.362	1.483	1618	1.653	Si
	PF	0.623	SLV 2	0.146	0.596	128	0.584	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.658	SLV 2	0.154	0.631	147	0.618	No
	R	3.155	SLV 15	0.362	1.483	1618	1.653	Si
22	PF	1.738	SLV 12	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.212	SLV 12	0.293	1.2	820	1.251	Si
	R	1.542	SLV 5	0.362	1.483	1618	1.653	Si
	PF	1.733	SLV 16	0.362	1.483	1618	1.653	Si
23	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.218	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.8	SLV 13	0.362	1.483	1618	1.653	Si
	PF	2.426	SLV 9	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
24	PFFP	1.306	SLV 10	0.315	1.291	1024	1.37	Si
	R	1.538	SLV 7	0.362	1.483	1618	1.653	Si
	PF	1.232	SLV 14	0.298	1.22	861	1.276	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.761	SLV 14	0.181	0.741	214	0.721	No
26	R	3.984	SLV 2	0.362	1.483	1618	1.653	Si
	PF	3.544	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.393	SLV 2	0.336	1.376	1264	1.494	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
27	PF	1.026	SLV 7	0.25	1.025	510	1.03	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.29	SLV 3	0.312	1.276	986	1.349	Si
	R	2.399	SLV 2	0.362	1.483	1618	1.653	Si
	PF	2.342	SLV 6	0.362	1.483	1618	1.653	Si
28	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.544	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.194	SLV 14	0.362	1.483	1618	1.653	Si
	PF	1.403	SLV 10	0.338	1.385	1290	1.506	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
29	PFFP	1.37	SLV 1	0.331	1.354	1197	1.461	Si
	R	2.4	SLV 3	0.362	1.483	1618	1.653	Si

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	F	2.32	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.478	SLV 5	0.111	0.454	67	0.448	No
2	F	1.008	SLV 5	0.246	1.007	485	1.009	Si
	V	1.108	SLV 5	0.269	1.102	635	1.126	Si
3	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.396	SLV 4	0.362	1.483	1618	1.653	Si
4	F	2.293	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.405	SLV 13	0.362	1.483	1618	1.653	Si
5	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.591	SLV 4	0.362	1.483	1618	1.653	Si
6	F	2.379	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.055	SLV 2	0.362	1.483	1618	1.653	Si
8	F	0.3	SLV 3	0.067	0.275	20	0.273	No
	V	1.031	SLV 7	0.252	1.029	518	1.036	Si
9	F	3.584	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.935	SLV 7	0.227	0.928	389	0.921	No
10	F	1.287	SLV 11	0.311	1.273	977	1.344	Si
	V	1.412	SLV 11	0.34	1.393	1317	1.519	Si
11	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.072	SLV 6	0.261	1.068	578	1.084	Si
12	F	1.023	SLV 10	0.25	1.022	506	1.026	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (€)	TR	(TR/TRrif)^.41	Verifica
13	V	1.394	SLV 10	0.336	1.376	1264	1.494	Si
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.904	SLV 15	0.362	1.483	1618	1.653	Si
14	F	3.696	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.42	SLV 13	0.362	1.483	1618	1.653	Si
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
15	V	2.607	SLV 13	0.362	1.483	1618	1.653	Si
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.607	SLV 13	0.362	1.483	1618	1.653	Si
16	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.87	SLV 13	0.209	0.857	316	0.846	No
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
18	V	2.246	SLV 4	0.362	1.483	1618	1.653	Si
	F	3.443	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.778	SLV 15	0.362	1.483	1618	1.653	Si
19	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.792	SLV 15	0.362	1.483	1618	1.653	Si
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
21	V	0.827	SLV 12	0.198	0.81	272	0.796	No
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.862	SLV 9	0.207	0.848	306	0.835	No
22	F	3.827	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.566	SLV 7	0.362	1.483	1618	1.653	Si
	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
23	V	2.807	SLV 11	0.362	1.483	1618	1.653	Si
	F	2.988	SLV 10	0.362	1.483	1618	1.653	Si
	V	2.573	SLV 10	0.362	1.483	1618	1.653	Si
25	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.73	SLV 10	0.362	1.483	1618	1.653	Si

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	20	0.067	475	0.244	flessione trave connessione in muratura

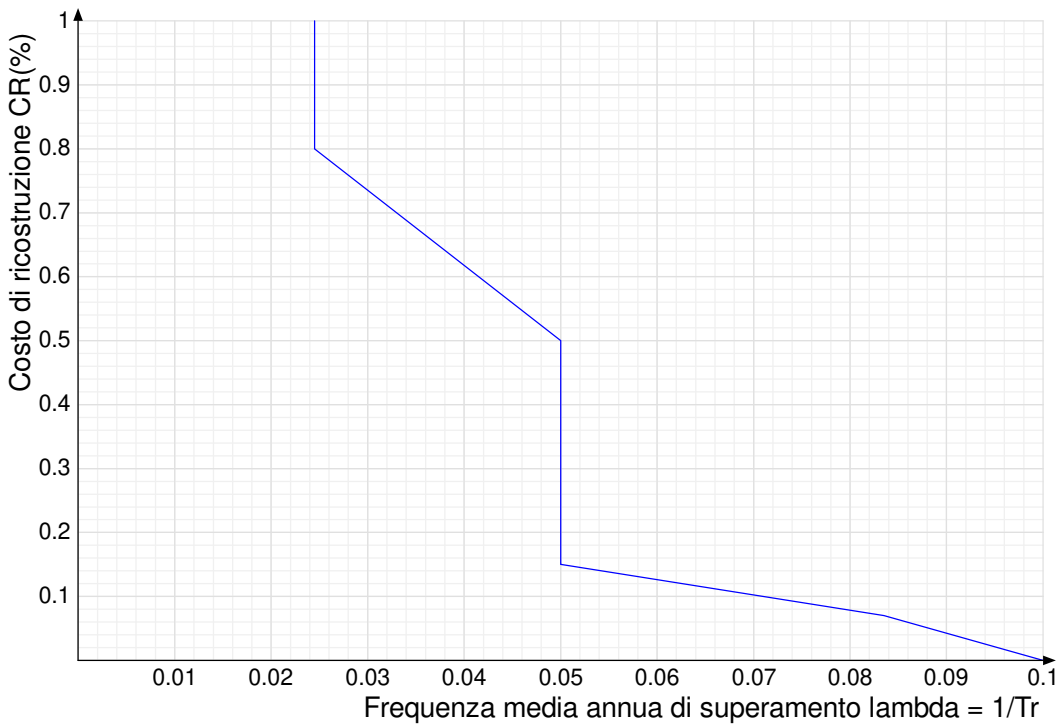
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
20	475	4.534	F	27.467	E	flessione trave connessione in muratura

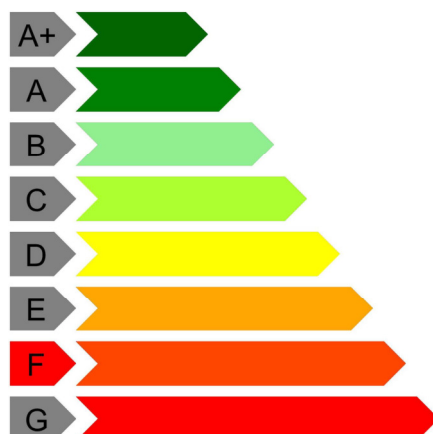
Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ,SLR	λ,SLC	λ,SLV	λ,SLD	λ,SLO	λ,SLID
0.0245	0.0245	0.05	0.05	0.0835	0.1

Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



Classe PAM



Classe IS-V



1.4 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [m, daN, s] ove non espressamente specificato.

X_{ini.}: coordinate del punto iniziale del maschio. [m]

Y_{ini.}: coordinate del punto iniziale del maschio. [m]

X_{fin.}: coordinate del punto finale del maschio. [m]

Y_{fin.}: coordinate del punto finale del maschio. [m]

Quota i.: livello o falda inferiore.

Quota s.: livello o falda superiore.

l: lunghezza del maschio. [m]

Sp.: spessore. [m]

h_{netta}: altezza netta (a filo solai). [m]

h_{ini.}: altezza nel modello al punto iniziale. [m]

h_{fin.}: altezza nel modello al punto finale. [m]

a: distanza tra irrigidimenti laterali. [m]

a.s.,sx: lunghezza di appoggio del solaio di sinistra. [m]

a.s.,dx: lunghezza di appoggio del solaio di destra. [m]

f_b: resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]

f_k: resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]

f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]

f_{medio}: resistenza media a compressione della muratura utilizzata. [daN/m²]

τ₀: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]

f_{v0}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]

μ: coefficiente di attrito [C8.7.1.17].

φ: coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

f_{v,lim}: valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]

E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]

G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]

FC: fattore di confidenza della muratura.

Materiale: descrizione del materiale.

Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.

t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.

E: modulo di elasticità longitudinale. [daN/m²]



eu: dilatazione a rottura.

Tipo fibra: natura della fibra.

materiale: materiale fibra del rinforzo.

lato applicazione: lato di applicazione del rinforzo.

esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.

ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.

ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.

ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.

ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.

strati: numero strati del rinforzo.

verifica taglio: tipo di verifica a taglio.

elim,conv / ϵ ,CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.

α : coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.

α : coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.

elim,conv: deformazione limite convenzionale del rinforzo FRM.

ϵ_{fd} : deformazione di progetto del rinforzo FRM ovvero CRM.

γ_{Fd} : fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.

connettori: presenza di connettori per la prevenzione del distacco del rinforzo.

tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.

CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.

CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.

intonaco: materiale intonaco FRM ovvero CRM.

spessore intonaco: spessore intonaco. [m]

tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.

Comb.: combinazione.

Quota: quota della sezione di verifica. [m]

M: momento flettente nel piano. [daN*m]

N: sforzo normale. [daN]

em: deformazione della muratura.

em₁: deformazione elastica della muratura.

em_u: deformazione ultima della muratura.

df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]

M_{0d}: momento resistente della sezione non rinforzata. [daN*m]

M_{1d}: momento resistente della sezione rinforzata. [daN*m]

M_{Rd}: momento resistente della sezione. [daN*m]

c.s.: coefficiente di sicurezza.

incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.

Verifica: stato di verifica.

N_{mur}: aliquota di sforzo normale recepito dalla sola muratura. [daN]

V: taglio nel piano. [daN]

df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]

l': lunghezza della parte compressa della parete. [m]

σ_N : tensione media nella zona compressa. [daN/m²]

f_{vd}: resistenza a taglio di calcolo. [daN/m²]

V_t: resistenza a taglio della muratura non rinforzata. [daN]

V_{t,f}: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]

V_{t,c}: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]

V_{t,c int.}: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]

V_{t,R}: resistenza a taglio della sezione rinforzata. [daN]

res. > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.

fd: resistenza a compressione di calcolo. [daN/m²]

S_a: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.

σ_0 : tensione media di compressione. [daN/m²]

M: momento flettente fuori piano. [daN*m]

M_c: momento di collasso per azioni perpendicolari al piano. [daN*m]

Coeff.s.: coefficiente di sicurezza.

N_{top}: sforzo normale in sommità. [daN]

N_{base}: sforzo normale al piede. [daN]

V_{orto}: taglio fuori piano. [daN]

α_0 : moltiplicatore secondo [C8.7.1.1].

M*: massa partecipante al cinematisimo. [daN/(m/s²)]

e*: frazione di massa partecipante della muratura [C8.7.1.5].

α_0^* : accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]

α_{Lim} : accelerazione limite [C7.2.11]. [m/s²]

Stato limite: pF_SLV=Presso flessione per azioni non sismiche; V_SLV=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.

S_a: accelerazione massima adimensionalizzata rispetto a quella di gravità.

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.).



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
25.794	-0.169	25.794	8.566	L1	L2	8.735	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 68	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 68	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 72	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 72	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 65	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 65	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 64	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 64	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 69	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 69	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 67	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 67	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 66	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 66	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 70	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 70	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 71	-1.89	-9994.1	-46312	-0.0000197	0.0004492	0.0035	8.735	182765.63	233184.11	233184.11	23.33	No	Si
SLU 71	0.51	-1210.97	-39980	-0.0000151	0.0004492	0.0035	8.735	160077.39	209278.91	209278.91	172.82	No	Si
SLU 49	-1.89	-9122.49	-41039	-0.0000175	0.0004492	0.0035	8.735	163924.26	213278.58	213278.58	23.38	No	Si
SLU 49	0.51	-1377.07	-34057	-0.0000129	0.0004492	0.0035	8.735	138194.93	186180.08	186180.08	135.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	-1.89	-42267.85	-39877	-0.0000254	0.0006738	0.0035	8.735		211282.13	211282.13	5		Si
SLV 6	0.51	-25703.53	-28723	-0.000017	0.0006738	0.0035	8.735		166411.49	166411.49	6.47		Si
SLV 8	-1.89	24178.04	-40670	-0.0000211	0.0006738	0.0035	8.735		176954.82	176954.82	7.32		Si
SLV 8	0.51	17710.81	-40087	-0.0000192	0.0006738	0.0035	8.735		174619.08	174619.08	9.86		Si
SLV 10	-1.89	-38342.71	-32722	-0.0000217	0.0006738	0.0035	8.735		182576.12	182576.12	4.76		Si
SLV 10	0.51	-16224.18	-25471	-0.0000134	0.0006738	0.0035	8.735		153126.05	153126.05	9.44		Si
SLV 15	-1.89	7943.99	-24640	-0.000011	0.0006738	0.0035	8.735		111762.98	111762.98	14.07		Si
SLV 15	0.51	20447.8	-27958	-0.0000154	0.0006738	0.0035	8.735		125471.82	125471.82	6.14		Si
SLV 11	-1.89	26607.81	-33263	-0.0000189	0.0006738	0.0035	8.735		147087.35	147087.35	5.53		Si
SLV 11	0.51	24560.86	-35719	-0.0000193	0.0006738	0.0035	8.735		157088.97	157088.97	6.4		Si
SLV 9	-1.89	-39838.07	-32470	-0.000022	0.0006738	0.0035	8.735		181555.41	181555.41	4.56		Si
SLV 9	0.51	-18853.48	-24355	-0.0000137	0.0006738	0.0035	8.735		148563.77	148563.77	7.88		Si
SLV 7	-1.89	22682.68	-40417	-0.0000206	0.0006738	0.0035	8.735		175942.33	175942.33	7.76		Si
SLV 7	0.51	15081.5	-38972	-0.0000181	0.0006738	0.0035	8.735		170146.09	170146.09	11.28		Si
SLV 5	-1.89	-43763.21	-39624	-0.0000257	0.0006738	0.0035	8.735		210274.96	210274.96	4.8		Si
SLV 5	0.51	-28332.84	-27607	-0.0000173	0.0006738	0.0035	8.735		161862.73	161862.73	5.71		Si
SLV 16	-1.89	9413.52	-24889	-0.0000115	0.0006738	0.0035	8.735		112788.57	112788.57	11.98		Si
SLV 16	0.51	23031.68	-29054	-0.0000165	0.0006738	0.0035	8.735		129953.52	129953.52	5.64		Si
SLV 12	-1.89	28103.17	-33515	-0.0000194	0.0006738	0.0035	8.735		148115.4	148115.4	5.27		Si
SLV 12	0.51	27190.16	-36835	-0.0000204	0.0006738	0.0035	8.735		161580.4	161580.4	5.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 72	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 66	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 66	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 71	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 71	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 67	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 67	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 69	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 65	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 65	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 64	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 64	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 70	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 70	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si
SLU 76	-1.89	-11162.44	-53675	-42940	533	8.735	8.735	-10924	9790	38482	74765	141261	44549	113246	No	212.39	Si
SLU 76	0.51	177.42	-49672	-39738	194	8.735	8.735	-10109	9681	38055	74765	141261	44549	112819	No	581.08	Si
SLU 68	-1.89	-9994.1	-46312	-37050	559	8.735	8.735	-9426	9590	37696	74765	141261	44549	112461	No	201.22	Si
SLU 68	0.51	-1210.97	-39980	-31984	275	8.735	8.735	-8137	9418	37021	74765	141261	44549	111786	No	407.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-1.89	9413.52	-24889	-19911	9843	8.735	8.735	-5065	13513	53117	74765	211892	44549	127881		12.99	Si
SLV 16	0.51	23031.68	-29054	-23243	8922	8.735	8.735	-5913	13683	53783	74765	211892	44549	128548		14.41	Si
SLV 11	-1.89	26607.81	-33263	-26610	25628	8.735	8.735	-6770	13854	54456	74765	211892	44549	129221		5.04	Si
SLV 11	0.51	24560.86	-35719	-28576	24318	8.735	8.735	-7270	13954	54849	74765	211892	44549	129614		5.33	Si
SLV 12	-1.89	28103.17	-33515	-26812	28344	8.735	8.735	-6821	13864	54497	74765	211892	44549	129262		4.56	Si
SLV 12	0.51	27190.16	-36835	-29468	26998	8.735	8.735	-7497	13999	55028	74765	211892	44549	129793		4.81	Si
SLV 4	-1.89	-3670.26	-48737	-38989	9564	8.735	8.735	-9919	14484	56932	74765	211892	44549	131697		13.77	Si
SLV 4	0.51	-8566.17	-39894	-31915	9404	8.735	8.735	-8119	14124	55517	74765	211892	44549	130282		13.85	Si
SLV 10	-1.89	-38342.71	-32722	-26178	-24727	8.735	8.735	-6660	13832	54370	74765	211892	44549	129135		5.22	Si
SLV 10	0.51	-16224.18	-25471	-20377	-24099	8.735	8.735	-5184	13537	53210	74765	211892	44549	127975		5.31	Si
SLV 8	-1.89	24178.04	-40670	-32536	28260	8.735	8.735	-8277	14155	55642	74765	211892	44549	130406		4.61	Si
SLV 8	0.51	17710.81	-40087	-32070	27142	8.735	8.735	-8159	14132	55548	74765	211892	44549	130313		4.8	Si
SLV 9	-1.89	-39838.07	-32470	-25976	-27443	8.735	8.735	-6608	13822	54330	74765	211892	44549	129094		4.7	Si
SLV 9	0.51	-18853.48	-24355	-19484	-26779	8.735	8.735	-4957	13491	53031	74765	211892	44549	127796		4.77	Si
SLV 5	-1.89	-43763.21	-39624	-31699	-27527	8.735	8.735	-8064	14113	55474	74765	211892	44549	130239		4.73	Si
SLV 5	0.51	-28332.84	-27607	-22086	-26634	8.735	8.735	-5619	13624	53552	74765	211892	44549	128316		4.82	Si
SLV 7	-1.89	22682.68	-40417	-32334	25544	8.735	8.735	-8226	14145	55601	74765	211892	44549	130366		5.1	Si
SLV 7	0.51	15081.5	-38972	-31177	24462	8.735	8.735	-7932	14086	55370	74765	211892	44549	130135		5.32	Si
SLV 6	-1.89	-42267.85	-39877	-31901	-24811	8.735	8.735	-8116	14123	55515	74765	211892	44549	130279		5.25	Si
SLV 6	0.51	-25703.53	-28723	-22978	-23954	8.735	8.735	-5846	13669	53730	74765	211892	44549	128495		5.36	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.02 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-26175	0.24	431.77	5675.3	7997.91	6836.61	15.83	Si
SLV 14	-26718	0.24	431.77	5788.66	8126.32	6957.49	16.11	Si
SLV 15	-27810	0.24	431.77	6015.62	8384.12	7199.87	16.68	Si
SLV 16	-28353	0.24	431.77	6128.41	8512.57	7320.49	16.95	Si
SLV 9	-30869	0.24	431.77	6647.94	9106.88	7877.41	18.24	Si
SLV 10	-31422	0.24	431.77	6761.66	9237.3	7999.48	18.53	Si
SLV 11	-36319	0.24	431.77	7759.84	10390.72	9075.28	21.02	Si
SLV 5	-36532	0.24	431.77	7802.91	10440.58	9121.74	21.13	Si
SLV 12	-36872	0.24	431.77	7871.68	10520.27	9195.97	21.3	Si
SLV 6	-37085	0.24	431.77	7914.67	10570.13	9242.4	21.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	α0*	aLim	Verifica
SLV 4	-39894	-48737	-2364	1.075	5406.5	0.933	16.75964	2.8116	Si
SLV 3	-38798	-48489	-2370	1.098	5295.8	0.931	17.13334	2.8116	Si
SLV 8	-40087	-40670	-778	1.104	5426	0.933	17.20429	2.72922	Si
SLV 2	-36485	-48499	-2366	1.15	5062.5	0.929	17.98948	2.8116	Si
SLV 7	-38972	-40417	-783	1.128	5313.4	0.932	17.59416	2.72922	Si
SLV 1	-35388	-48251	-2372	1.176	4952	0.928	18.42513	2.8116	Si
SLV 12	-36835	-33515	581	1.181	5097.8	0.929	18.47001	2.72922	Si
SLV 11	-35719	-33263	575	1.209	4985.3	0.928	18.92695	2.72922	Si
SLV 16	-29054	-24889	2165	1.364	4315.1	0.92	21.56018	2.8116	Si
SLV 15	-27958	-24640	2159	1.403	4205.2	0.918	22.20416	2.8116	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.332	SLU 64	Si
V_SLU	201.221	SLU 64	Si
PF_SLV	4.557	SLV 9	Si
V_SLV	4.56	SLV 12	Si
PFFP_SLV	15.834	SLV 13	Si
R_SLV	5.961	SLV 4	Si

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
26.284	9.108	26.639	9.502	L1	L2	0.53	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 69	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 66	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 66	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 67	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 67	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 71	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 71	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 72	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 72	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 68	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 68	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 64	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 64	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 43	-0.5	-282.36	-2035	-0.0000372	0.0003743	0.0035	0.5305	494.46	568.19	568.19	2.01	No	Si
SLU 43	-0.1	99.46	-1811	-0.0000189	0.0003743	0.0035	0.5305	444.58	467.56	467.56	4.7	No	Si
SLU 70	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 70	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si
SLU 65	-0.5	-331.82	-2430	-0.0000441	0.0003743	0.0035	0.5305	580	658.4	658.4	1.98	No	Si
SLU 65	-0.1	109.92	-2206	-0.0000223	0.0003743	0.0035	0.5305	532.04	557.69	557.69	5.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	-0.5	332.22	-757	-0.0115715	0.0005615	0.0035	0.4244		213.22	213.22	0.64		No
SLV 15	-0.1	-629.66	-584	-0.0060484	0.0005615	0.0035	0.4244		218.05	218.05	0.35		No
SLV 12	-0.5	482.29	-963	-0.0198768	0.0005615	0.0035	0.4244		265.79	265.79	0.55		No
SLV 12	-0.1	-920.3	-791	-0.0098119	0.0005615	0.0035	0.4244		270.71	270.71	0.29		No
SLV 10	-0.5	-596.05	-2087	-0.0008401	0.0005615	0.0035	0.4244		590.46	590.46	0.99		No
SLV 10	-0.1	605.43	-1915	-0.011021	0.0005615	0.0035	0.4244		501.54	501.54	0.83		No
SLV 1	-0.5	-957.09	-3229	-0.0025083	0.0005615	0.0035	0.4244		858.35	858.35	0.9		No
SLV 1	-0.1	926.64	-3058	-0.0147878	0.0005615	0.0035	0.4244		771.38	771.38	0.83		No
SLV 6	-0.5	-885.79	-2727	-0.0030158	0.0005615	0.0035	0.4244		742.69	742.69	0.84		No
SLV 6	-0.1	935	-2555	-0.0249173	0.0005615	0.0035	0.4244		654.85	654.85	0.7		No
SLV 16	-0.5	441.94	-610	-0.0243203	0.0005615	0.0035	0.4244		175.45	175.45	0.4		No
SLV 16	-0.1	-769.57	-438	-0.0089557	0.0005615	0.0035	0.4244		180.44	180.44	0.23		No
SLV 5	-0.5	-997.44	-2876	-0.0045839	0.0005615	0.0035	0.4244		777.3	777.3	0.78		No
SLV 5	-0.1	1077.37	-2705	-0.033419	0.0005615	0.0035	0.4244		689.88	689.88	0.64		No
SLV 11	-0.5	370.64	-1112	-0.0075377	0.0005615	0.0035	0.4244		303.46	303.46	0.82		No
SLV 11	-0.1	-777.94	-940	-0.0071375	0.0005615	0.0035	0.4244		308.6	308.6	0.4		No
SLV 8	-0.5	192.55	-1603	-0.000025	0.0005615	0.0035	0.5305		425.51	425.51	2.21		Si
SLV 8	-0.1	-590.73	-1432	-0.0024076	0.0005615	0.0035	0.4244		431.85	431.85	0.73		No
SLV 9	-0.5	-707.7	-2236	-0.0017613	0.0005615	0.0035	0.4244		626.35	626.35	0.89		No
SLV 9	-0.1	747.8	-2064	-0.0194815	0.0005615	0.0035	0.4244		537.56	537.56	0.72		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 76	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si
SLU 80	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 80	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si
SLU 81	-0.5	-397.8	-3118	-2771	-1223	0.5305	0.4129	-15079	8955	1664	26168	7148	1353	8501	No	6.95	Si
SLU 81	-0.1	91.3	-2894	-2573	-1223	0.5305	0.5305	-10777	8381	2001	26168	7148	1353	8501	No	6.95	Si
SLU 79	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 79	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si
SLU 83	-0.5	-397.8	-3118	-2771	-1223	0.5305	0.4129	-15079	8955	1664	26168	7148	1353	8501	No	6.95	Si
SLU 83	-0.1	91.3	-2894	-2573	-1223	0.5305	0.5305	-10777	8381	2001	26168	7148	1353	8501	No	6.95	Si
SLU 84	-0.5	-397.8	-3118	-2771	-1223	0.5305	0.4129	-15079	8955	1664	26168	7148	1353	8501	No	6.95	Si
SLU 84	-0.1	91.3	-2894	-2573	-1223	0.5305	0.5305	-10777	8381	2001	26168	7148	1353	8501	No	6.95	Si
SLU 77	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 77	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si
SLU 82	-0.5	-397.8	-3118	-2771	-1223	0.5305	0.4129	-15079	8955	1664	26168	7148	1353	8501	No	6.95	Si
SLU 82	-0.1	91.3	-2894	-2573	-1223	0.5305	0.5305	-10777	8381	2001	26168	7148	1353	8501	No	6.95	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 75	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si
SLU 78	-0.5	-378	-2911	-2588	-1187	0.5305	0.4062	-14303	8852	1618	26168	7148	1353	8501	No	7.16	Si
SLU 78	-0.1	96.89	-2688	-2389	-1187	0.5305	0.5305	-10008	8279	1976	26168	7148	1353	8501	No	7.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-0.5	370.64	-1112	-989	2877	0.4244	0	0	0	0	26168	8578	1082	9660		3.36	Si
SLV 11	-0.1	-777.94	-940	-836	2878	0.4244	0	0	0	0	26168	8578	1082	9660		3.36	Si
SLV 12	-0.5	482.29	-963	-856	3513	0.4244	0	0	0	0	26168	8578	1082	9660		2.75	Si
SLV 12	-0.1	-920.3	-791	-703	3513	0.4244	0	0	0	0	26168	8578	1082	9660		2.75	Si
SLV 3	-0.5	-633.58	-2892	-2571	-2762	0.4244	0.1385	0	0	0	26168	8578	1082	9660		3.5	Si
SLV 3	-0.1	468.92	-2721	-2418	-2762	0.5305	0.2787	-10131	12443	1560	26168	10722	1353	12075		4.37	Si
SLV 10	-0.5	-596.05	-2087	-1855	-3006	0.4244	0	0	0	0	26168	8578	1082	9660		3.21	Si
SLV 10	-0.1	605.43	-1915	-1702	-3006	0.4244	0	0	0	0	26168	8578	1082	9660		3.21	Si
SLV 16	-0.5	441.94	-610	-543	3037	0.4244	0	0	0	0	26168	8578	1082	9660		3.18	Si
SLV 16	-0.1	-769.57	-438	-389	3037	0.4244	0	0	0	0	26168	8578	1082	9660		3.18	Si
SLV 2	-0.5	-847.36	-3082	-2740	-4093	0.4244	0	0	0	0	26168	8578	1082	9660		2.36	Si
SLV 2	-0.1	786.73	-2911	-2588	-4094	0.4244	0	0	0	0	26168	8578	1082	9660		2.36	Si
SLV 6	-0.5	-885.79	-2727	-2424	-4558	0.4244	0	0	0	0	26168	8578	1082	9660		2.12	Si
SLV 6	-0.1	935	-2555	-2272	-4558	0.4244	0	0	0	0	26168	8578	1082	9660		2.12	Si
SLV 5	-0.5	-997.44	-2876	-2557	-5193	0.4244	0	0	0	0	26168	8578	1082	9660		1.86	Si
SLV 5	-0.1	1077.37	-2705	-2404	-5193	0.4244	0	0	0	0	26168	8578	1082	9660		1.86	Si
SLV 9	-0.5	-707.7	-2236	-1987	-3641	0.4244	0	0	0	0	26168	8578	1082	9660		2.65	Si
SLV 9	-0.1	747.8	-2064	-1835	-3641	0.4244	0	0	0	0	26168	8578	1082	9660		2.65	Si
SLV 1	-0.5	-957.09	-3229	-2870	-4717	0.4244	0	0	0	0	26168	8578	1082	9660		2.05	Si
SLV 1	-0.1	926.64	-3058	-2718	-4718	0.4244	0	0	0	0	26168	8578	1082	9660		2.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.24	0	-32	26.22	0	0	No, e>t/2
SLV 15	179667	0.24	938	-224	26.22	50.08	1.91	Si
SLV 12	179667	0.24	1718	-410	26.22	91.24	3.48	Si
SLV 14	179667	0.24	1938	-463	26.22	102.79	3.92	Si
SLV 11	179667	0.24	2538	-606	26.22	134.06	5.11	Si
SLV 13	179667	0.24	2744	-655	26.22	144.74	5.52	Si
SLV 8	179667	0.24	4890	-1167	26.22	254.21	9.69	Si
SLV 7	179667	0.24	5710	-1363	26.22	295.2	11.26	Si
SLV 10	179667	0.24	7738	-1847	26.22	394.57	15.05	Si
SLV 9	179667	0.24	8558	-2043	26.22	433.92	16.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	σ0	M*	e*	a0*	aLim	Verifica
SLV 5	-1844	-1553	82	1.342	270	0.921	21.17441	2.72922	Si
SLV 1	-1796	-3038	36	1.388	265.2	0.92	21.91991	2.8116	Si
SLV 6	-1735	-1568	81	1.403	259.1	0.919	22.19514	2.72922	Si
SLV 2	-1690	-3053	34	1.451	254.6	0.918	22.9819	2.8116	Si
SLV 9	-1471	-1034	77	1.579	232.7	0.912	25.15436	2.72922	Si
SLV 3	-1384	-3792	-9	1.683	224.1	0.91	26.87687	2.8116	Si
SLV 10	-1363	-1049	75	1.666	221.9	0.909	26.61979	2.72922	Si
SLV 4	-1278	-3807	-11	1.776	213.5	0.907	28.45986	2.8116	Si
SLV 13	-555	-1308	18	2.905	143.8	0.889	47.49666	2.8116	Si
SLV 7	-470	-4066	-68	3.098	136	0.889	50.6334	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.984	SLU 64	Si
V_SLU	6.952	SLU 81	Si
PF_SLV	0.234	SLV 16	No
V_SLV	1.86	SLV 5	Si
PFFP_SLV	0	SLV 16	No
R_SLV	7.758	SLV 5	Si

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
27.92	-0.169	25.794	-0.169	L1	L2	2.125	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	-0.5	-449.31	-12312	-0.000022	0.0003743	0.0035	2.1255	11429.64	13068.86	13068.86	29.09	No	Si
SLU 42	-0.1	-714.84	-12115	-0.0000229	0.0003743	0.0035	2.1255	11273.11	12897.24	12897.24	18.04	No	Si
SLU 39	-0.5	-449.31	-12312	-0.000022	0.0003743	0.0035	2.1255	11429.64	13068.86	13068.86	29.09	No	Si
SLU 39	-0.1	-714.84	-12115	-0.0000229	0.0003743	0.0035	2.1255	11273.11	12897.24	12897.24	18.04	No	Si
SLU 37	-0.5	-426.59	-11430	-0.0000204	0.0003743	0.0035	2.1255	10721.54	12303.02	12303.02	28.84	No	Si
SLU 37	-0.1	-658.72	-11202	-0.0000211	0.0003743	0.0035	2.1255	10535.09	12105.76	12105.76	18.38	No	Si
SLU 82	-0.5	-516.52	-14144	-0.0000254	0.0003743	0.0035	2.1255	12847.91	14614.48	14614.48	28.29	No	Si
SLU 82	-0.1	-789.96	-13816	-0.0000261	0.0003743	0.0035	2.1255	12599.85	14344.89	14344.89	18.16	No	Si
SLU 81	-0.5	-516.52	-14144	-0.0000254	0.0003743	0.0035	2.1255	12847.91	14614.48	14614.48	28.29	No	Si
SLU 81	-0.1	-789.96	-13816	-0.0000261	0.0003743	0.0035	2.1255	12599.85	14344.89	14344.89	18.16	No	Si
SLU 41	-0.5	-449.31	-12312	-0.000022	0.0003743	0.0035	2.1255	11429.64	13068.86	13068.86	29.09	No	Si
SLU 41	-0.1	-714.84	-12115	-0.0000229	0.0003743	0.0035	2.1255	11273.11	12897.24	12897.24	18.04	No	Si
SLU 83	-0.5	-516.52	-14144	-0.0000254	0.0003743	0.0035	2.1255	12847.91	14614.48	14614.48	28.29	No	Si
SLU 83	-0.1	-789.96	-13816	-0.0000261	0.0003743	0.0035	2.1255	12599.85	14344.89	14344.89	18.16	No	Si
SLU 84	-0.5	-516.52	-14144	-0.0000254	0.0003743	0.0035	2.1255	12847.91	14614.48	14614.48	28.29	No	Si
SLU 84	-0.1	-789.96	-13816	-0.0000261	0.0003743	0.0035	2.1255	12599.85	14344.89	14344.89	18.16	No	Si
SLU 40	-0.5	-449.31	-12312	-0.000022	0.0003743	0.0035	2.1255	11429.64	13068.86	13068.86	29.09	No	Si
SLU 40	-0.1	-714.84	-12115	-0.0000229	0.0003743	0.0035	2.1255	11273.11	12897.24	12897.24	18.04	No	Si
SLU 38	-0.5	-426.59	-11430	-0.0000204	0.0003743	0.0035	2.1255	10721.54	12303.02	12303.02	28.84	No	Si
SLU 38	-0.1	-658.72	-11202	-0.0000211	0.0003743	0.0035	2.1255	10535.09	12105.76	12105.76	18.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-0.5	-1599.32	-13074	-0.0000283	0.0005615	0.0035	2.1255		14135.83	14135.83	8.84		Si
SLV 9	-0.1	-781.49	-11554	-0.000022	0.0005615	0.0035	2.1255		12728.69	12728.69	16.29		Si
SLV 13	-0.5	-1923.1	-9206	-0.0000234	0.0005615	0.0035	2.1255		10519.64	10519.64	5.47		Si
SLV 13	-0.1	-720.86	-8060	-0.0000161	0.0005615	0.0035	2.1255		9413.25	9413.25	13.06		Si
SLV 10	-0.5	-1371.16	-12735	-0.0000267	0.0005615	0.0035	2.1255		13821.51	13821.51	10.08		Si
SLV 10	-0.1	-766.54	-11331	-0.0000216	0.0005615	0.0035	2.1255		12523.38	12523.38	16.34		Si
SLV 7	-0.5	693.41	-5011	-0.000011	0.0005615	0.0035	2.1255		5411.24	5411.24	7.8		Si
SLV 7	-0.1	-178.89	-5762	-0.0000099	0.0005615	0.0035	2.1255		7182.23	7182.23	40.15		Si
SLV 3	-0.5	1021.14	-8874	-0.0000188	0.0005615	0.0035	2.1255		9205	9205	9.01		Si
SLV 3	-0.1	-239.26	-9253	-0.0000158	0.0005615	0.0035	2.1255		10565.53	10565.53	44.16		Si
SLV 14	-0.5	-1698.88	-8872	-0.0000218	0.0005615	0.0035	2.1255		10197.06	10197.06	6		Si
SLV 14	-0.1	-706.17	-7841	-0.0000157	0.0005615	0.0035	2.1255		9202.73	9202.73	13.03		Si
SLV 4	-0.5	1245.36	-8540	-0.0000192	0.0005615	0.0035	2.1255		8882.52	8882.52	7.13		Si
SLV 4	-0.1	-224.56	-9034	-0.0000154	0.0005615	0.0035	2.1255		10353.61	10353.61	46.11		Si
SLV 15	-0.5	-1458.44	-6580	-0.000017	0.0005615	0.0035	2.1255		7988.07	7988.07	5.48		Si
SLV 15	-0.1	-569.84	-6032	-0.0000121	0.0005615	0.0035	2.1255		7449.1	7449.1	13.07		Si
SLV 16	-0.5	-1234.22	-6247	-0.0000155	0.0005615	0.0035	2.1255		7660.41	7660.41	6.21		Si
SLV 16	-0.1	-555.14	-5813	-0.0000117	0.0005615	0.0035	2.1255		7232.51	7232.51	13.03		Si
SLV 8	-0.5	921.58	-4672	-0.0000115	0.0005615	0.0035	2.1255		5071.36	5071.36	5.5		Si
SLV 8	-0.1	-163.94	-5540	-0.0000095	0.0005615	0.0035	2.1255		6960.38	6960.38	42.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 76	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 75	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 75	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 80	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 80	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 83	-0.5	-516.52	-14144	-12572	2225	2.1255	2.1255	-13145	8697	8318	26168	28641	5420	34060	No	15.31	Si
SLU 83	-0.1	-789.96	-13816	-12281	2210	2.1255	2.1255	-12840	8657	8280	26168	28641	5420	34060	No	15.41	Si
SLU 81	-0.5	-516.52	-14144	-12572	2225	2.1255	2.1255	-13145	8697	8318	26168	28641	5420	34060	No	15.31	Si
SLU 81	-0.1	-789.96	-13816	-12281	2210	2.1255	2.1255	-12840	8657	8280	26168	28641	5420	34060	No	15.41	Si
SLU 77	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 77	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 78	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 78	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 84	-0.5	-516.52	-14144	-12572	2225	2.1255	2.1255	-13145	8697	8318	26168	28641	5420	34060	No	15.31	Si
SLU 84	-0.1	-789.96	-13816	-12281	2210	2.1255	2.1255	-12840	8657	8280	26168	28641	5420	34060	No	15.41	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-0.5	-493.8	-13263	-11789	2057	2.1255	2.1255	-12326	8588	8214	26168	28641	5420	34060	No	16.56	Si
SLU 79	-0.1	-733.83	-12903	-11470	2042	2.1255	2.1255	-11992	8543	8171	26168	28641	5420	34060	No	16.68	Si
SLU 82	-0.5	-516.52	-14144	-12572	2225	2.1255	2.1255	-13145	8697	8318	26168	28641	5420	34060	No	15.31	Si
SLU 82	-0.1	-789.96	-13816	-12281	2210	2.1255	2.1255	-12840	8657	8280	26168	28641	5420	34060	No	15.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-0.5	556.48	-11499	-10221	3542	2.1255	2.1255	-10687	12554	12007	26168	42961	5420	38175		10.78	Si
SLV 1	-0.1	-390.29	-11280	-10027	3534	2.1255	2.1255	-10484	12513	11968	26168	42961	5420	38136		10.79	Si
SLV 13	-0.5	-1923.1	-9206	-8183	-4181	2.1255	2.1255	-8555	12128	11600	26168	42961	5420	37767		9.03	Si
SLV 13	-0.1	-720.86	-8060	-7164	-4189	2.1255	2.1255	-7490	11915	11396	26168	42961	5420	37564		8.97	Si
SLV 11	-0.5	-50.46	-4323	-3843	3815	2.1255	2.1255	-4018	11220	10732	26168	42961	5420	36899		9.67	Si
SLV 11	-0.1	-278.06	-4796	-4263	3800	2.1255	2.1255	-4457	11308	10816	26168	42961	5420	36983		9.73	Si
SLV 8	-0.5	921.58	-4672	-4153	6975	2.1255	2.1255	-4342	11285	10794	26168	42961	5420	36961		5.3	Si
SLV 8	-0.1	-163.94	-5540	-4924	6958	2.1255	2.1255	-5148	11446	10948	26168	42961	5420	37116		5.33	Si
SLV 3	-0.5	1021.14	-8874	-7888	5989	2.1255	2.1255	-8247	12066	11541	26168	42961	5420	37708		6.3	Si
SLV 3	-0.1	-239.26	-9253	-8225	5976	2.1255	2.1255	-8599	12137	11608	26168	42961	5420	37776		6.32	Si
SLV 12	-0.5	177.71	-3984	-3541	4658	2.1255	2.1255	-3702	11157	10671	26168	42961	5420	36839		7.91	Si
SLV 12	-0.1	-263.11	-4573	-4065	4642	2.1255	2.1255	-4250	11267	10776	26168	42961	5420	36944		7.96	Si
SLV 4	-0.5	1245.36	-8540	-7591	6816	2.1255	2.1255	-7937	12004	11481	26168	42961	5420	37649		5.52	Si
SLV 4	-0.1	-224.56	-9034	-8030	6804	2.1255	2.1255	-8396	12096	11569	26168	42961	5420	37737		5.55	Si
SLV 9	-0.5	-1599.32	-13074	-11621	-4340	2.1255	2.1255	-12151	12847	12287	26168	42961	5420	38455		8.86	Si
SLV 9	-0.1	-781.49	-11554	-10270	-4343	2.1255	2.1255	-10738	12564	12017	26168	42961	5420	38185		8.79	Si
SLV 7	-0.5	693.41	-5011	-4454	6133	2.1255	2.1255	-4657	11348	10854	26168	42961	5420	37022		6.04	Si
SLV 7	-0.1	-178.89	-5762	-5122	6116	2.1255	2.1255	-5355	11488	10988	26168	42961	5420	37155		6.07	Si
SLV 2	-0.5	780.7	-11166	-9925	4370	2.1255	2.1255	-10377	12492	11948	26168	42961	5420	38116		8.72	Si
SLV 2	-0.1	-375.59	-11062	-9832	4361	2.1255	2.1255	-10280	12473	11930	26168	42961	5420	38097		8.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	4352	-4162	103.32	909.79	8.81	Si
SLV 11	179667	0.24	4521	-4324	103.32	944.08	9.14	Si
SLV 16	179667	0.24	5442	-5205	103.32	1129.42	10.93	Si
SLV 8	179667	0.24	5556	-5314	103.32	1152.09	11.15	Si
SLV 15	179667	0.24	5608	-5364	103.32	1162.62	11.25	Si
SLV 7	179667	0.24	5725	-5476	103.32	1185.82	11.48	Si
SLV 14	179667	0.24	7580	-7250	103.32	1550.21	15	Si
SLV 13	179667	0.24	7746	-7409	103.32	1582.4	15.32	Si
SLV 4	179667	0.24	9456	-9044	103.32	1908.89	18.48	Si
SLV 3	179667	0.24	9622	-9203	103.32	1940.2	18.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	σ0	M*	e*	a0*	aLim	Verifica
SLV 5	-10008	-14055	-93	1.091	1346	0.934	16.97748	2.72922	Si
SLV 6	-9713	-13950	-94	1.116	1316.1	0.933	17.38862	2.72922	Si
SLV 9	-9394	-12597	-153	1.139	1283.9	0.931	17.77769	2.72922	Si
SLV 10	-9099	-12491	-153	1.167	1254.1	0.93	18.2342	2.72922	Si
SLV 1	-8800	-12801	52	1.205	1224	0.929	18.86781	2.8116	Si
SLV 2	-8510	-12697	52	1.236	1194.8	0.927	19.37478	2.8116	Si
SLV 3	-7153	-10268	118	1.397	1058.3	0.92	22.06901	2.8116	Si
SLV 4	-6862	-10165	117	1.439	1029.2	0.918	22.78053	2.8116	Si
SLV 13	-6752	-7939	-146	1.453	1018.2	0.918	23.0105	2.8116	Si
SLV 14	-6462	-7836	-147	1.499	989.1	0.916	23.78758	2.8116	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.042	SLU 39	Si
V_SLU	15.306	SLU 81	Si
PF_SLV	5.47	SLV 13	Si
V_SLV	5.299	SLV 8	Si
PFFP_SLV	8.806	SLV 12	Si
R_SLV	6.221	SLV 5	Si

Maschio 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
32.569	-0.169	28.92	-0.169	L1	L2	3.649	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	-0.5	442.14	-22289	-0.0000217	0.0003743	0.0035	3.6493	35247.82	36468.9	36468.9	82.48	No	Si
SLU 39	-0.1	195.28	-21144	-0.0000202	0.0003743	0.0035	3.6493	33701.74	34941.4	34941.4	178.93	No	Si
SLU 42	-0.5	442.14	-22289	-0.0000217	0.0003743	0.0035	3.6493	35247.82	36468.9	36468.9	82.48	No	Si
SLU 42	-0.1	195.28	-21144	-0.0000202	0.0003743	0.0035	3.6493	33701.74	34941.4	34941.4	178.93	No	Si
SLU 33	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 33	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si
SLU 36	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 36	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si
SLU 35	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 35	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si
SLU 38	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 38	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si
SLU 41	-0.5	442.14	-22289	-0.0000217	0.0003743	0.0035	3.6493	35247.82	36468.9	36468.9	82.48	No	Si
SLU 41	-0.1	195.28	-21144	-0.0000202	0.0003743	0.0035	3.6493	33701.74	34941.4	34941.4	178.93	No	Si
SLU 40	-0.5	442.14	-22289	-0.0000217	0.0003743	0.0035	3.6493	35247.82	36468.9	36468.9	82.48	No	Si
SLU 40	-0.1	195.28	-21144	-0.0000202	0.0003743	0.0035	3.6493	33701.74	34941.4	34941.4	178.93	No	Si
SLU 34	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 34	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si
SLU 37	-0.5	377.52	-20444	-0.0000198	0.0003743	0.0035	3.6493	32741.67	34011.55	34011.55	90.09	No	Si
SLU 37	-0.1	150.36	-19297	-0.0000184	0.0003743	0.0035	3.6493	31145.89	32495.59	32495.59	216.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	-0.5	5321	-13045	-0.0000202	0.0005615	0.0035	3.6493		23455.85	23455.85	4.41		Si
SLV 4	-0.1	1180.26	-11899	-0.0000128	0.0005615	0.0035	3.6493		21525.65	21525.65	18.24		Si
SLV 7	-0.5	1411.93	-7284	-0.0000088	0.0005615	0.0035	3.6493		13626.58	13626.58	9.65		Si
SLV 7	-0.1	-286.3	-6128	-0.0000061	0.0005615	0.0035	3.6493		14632.53	14632.53	51.11		Si
SLV 3	-0.5	4775.76	-13059	-0.0000194	0.0005615	0.0035	3.6493		23479.58	23479.58	4.92		Si
SLV 3	-0.1	1223.48	-11913	-0.0000129	0.0005615	0.0035	3.6493		21550.26	21550.26	17.61		Si
SLV 8	-0.5	1966.74	-7270	-0.0000097	0.0005615	0.0035	3.6493		13601.37	13601.37	6.92		Si
SLV 8	-0.1	-330.28	-6113	-0.0000061	0.0005615	0.0035	3.6493		14606.77	14606.77	44.23		Si
SLV 1	-0.5	4748.9	-17878	-0.0000239	0.0005615	0.0035	3.6493		31418.68	31418.68	6.62		Si
SLV 1	-0.1	1672.23	-16741	-0.0000181	0.0005615	0.0035	3.6493		29569.87	29569.87	17.68		Si
SLV 2	-0.5	5294.13	-17864	-0.0000248	0.0005615	0.0035	3.6493		31395.52	31395.52	5.93		Si
SLV 2	-0.1	1629.01	-16726	-0.000018	0.0005615	0.0035	3.6493		29545.93	29545.93	18.14		Si
SLV 13	-0.5	-4937.91	-17443	-0.0000238	0.0005615	0.0035	3.6493		33671.66	33671.66	6.82		Si
SLV 13	-0.1	-1146.65	-16302	-0.0000169	0.0005615	0.0035	3.6493		31777.14	31777.14	27.71		Si
SLV 15	-0.5	-4911.05	-12624	-0.0000192	0.0005615	0.0035	3.6493		25685.85	25685.85	5.23		Si
SLV 15	-0.1	-1595.4	-11475	-0.000013	0.0005615	0.0035	3.6493		23787.5	23787.5	14.91		Si
SLV 16	-0.5	-4365.82	-12610	-0.0000183	0.0005615	0.0035	3.6493		25662.36	25662.36	5.88		Si
SLV 16	-0.1	-1638.63	-11460	-0.0000131	0.0005615	0.0035	3.6493		23763.01	23763.01	14.5		Si
SLV 14	-0.5	-4392.68	-17429	-0.000023	0.0005615	0.0035	3.6493		33648.13	33648.13	7.66		Si
SLV 14	-0.1	-1189.87	-16288	-0.000017	0.0005615	0.0035	3.6493		31752.89	31752.89	26.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 78	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 74	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 74	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 81	-0.5	439.7	-25218	-22416	724	3.6493	3.6493	-13650	8764	14393	26168	49174	9306	40561	No	56	Si
SLU 81	-0.1	156.13	-23735	-21098	724	3.6493	3.6493	-12847	8657	14217	26168	49174	9306	40385	No	55.75	Si
SLU 73	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 73	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 84	-0.5	439.7	-25218	-22416	724	3.6493	3.6493	-13650	8764	14393	26168	49174	9306	40561	No	56	Si
SLU 84	-0.1	156.13	-23735	-21098	724	3.6493	3.6493	-12847	8657	14217	26168	49174	9306	40385	No	55.75	Si
SLU 76	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 76	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 79	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 79	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 82	-0.5	439.7	-25218	-22416	724	3.6493	3.6493	-13650	8764	14393	26168	49174	9306	40561	No	56	Si
SLU 82	-0.1	156.13	-23735	-21098	724	3.6493	3.6493	-12847	8657	14217	26168	49174	9306	40385	No	55.75	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-0.5	375.09	-23373	-20776	675	3.6493	3.6493	-12652	8631	14174	26168	49174	9306	40342	No	59.77	Si
SLU 75	-0.1	111.2	-21887	-19455	675	3.6493	3.6493	-11847	8524	13998	26168	49174	9306	40166	No	59.51	Si
SLU 83	-0.5	439.7	-25218	-22416	724	3.6493	3.6493	-13650	8764	14393	26168	49174	9306	40561	No	56	Si
SLU 83	-0.1	156.13	-23735	-21098	724	3.6493	3.6493	-12847	8657	14217	26168	49174	9306	40385	No	55.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-0.5	-4911.05	-12624	-11221	-8040	3.6493	3.6493	-6833	11783	19350	26168	73761	9306	45518		5.66	Si
SLV 15	-0.1	-1595.4	-11475	-10200	-8070	3.6493	3.6493	-6211	11659	19146	26168	73761	9306	45314		5.62	Si
SLV 16	-0.5	-4365.82	-12610	-11209	-6569	3.6493	3.6493	-6825	11782	19348	26168	73761	9306	45515		6.93	Si
SLV 16	-0.1	-1638.63	-11460	-10187	-6598	3.6493	3.6493	-6203	11657	19144	26168	73761	9306	45311		6.87	Si
SLV 14	-0.5	-4392.68	-17429	-15493	-7779	3.6493	3.6493	-9434	12303	20205	26168	73761	9306	46372		5.96	Si
SLV 14	-0.1	-1189.87	-16288	-14478	-7745	3.6493	3.6493	-8816	12180	20002	26168	73761	9306	46169		5.96	Si
SLV 3	-0.5	4775.76	-13059	-11608	8675	3.6493	3.6493	-7069	11830	19428	26168	73761	9306	45595		5.26	Si
SLV 3	-0.1	1223.48	-11913	-10589	8641	3.6493	3.6493	-6448	11706	19224	26168	73761	9306	45392		5.25	Si
SLV 2	-0.5	5294.13	-17864	-15879	8936	3.6493	3.6493	-9670	12351	20282	26168	73761	9306	46450		5.2	Si
SLV 2	-0.1	1629.01	-16726	-14868	8966	3.6493	3.6493	-9054	12227	20080	26168	73761	9306	46247		5.16	Si
SLV 13	-0.5	-4937.91	-17443	-15505	-9250	3.6493	3.6493	-9442	12305	20207	26168	73761	9306	46375		5.01	Si
SLV 13	-0.1	-1146.65	-16302	-14491	-9216	3.6493	3.6493	-8824	12182	20004	26168	73761	9306	46172		5.01	Si
SLV 8	-0.5	1966.74	-7270	-6462	5721	3.6493	3.6493	-3935	11204	18398	26168	73761	9306	44566		7.79	Si
SLV 8	-0.1	-330.28	-6113	-5434	5615	3.6493	3.6493	-3309	11078	18193	26168	73761	9306	44361		7.9	Si
SLV 4	-0.5	5321	-13045	-11595	10147	3.6493	3.6493	-7061	11829	19425	26168	73761	9306	45593		4.49	Si
SLV 4	-0.1	1180.26	-11899	-10577	10113	3.6493	3.6493	-6441	11705	19221	26168	73761	9306	45389		4.49	Si
SLV 9	-0.5	-1583.66	-23218	-20639	-4825	3.6493	3.6493	-12568	12930	21234	26168	73761	9306	47401		9.82	Si
SLV 9	-0.1	363.88	-22088	-19634	-4719	3.6493	3.6493	-11956	12808	21033	26168	73761	9306	47201		10	Si
SLV 1	-0.5	4748.9	-17878	-15892	7465	3.6493	3.6493	-9677	12352	20284	26168	73761	9306	46452		6.22	Si
SLV 1	-0.1	1672.23	-16741	-14881	7495	3.6493	3.6493	-9061	12229	20082	26168	73761	9306	46250		6.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	3805	-6249	177.39	1370.92	7.73	Si
SLV 11	179667	0.24	3814	-6263	177.39	1374.02	7.75	Si
SLV 8	179667	0.24	3862	-6342	177.39	1390.92	7.84	Si
SLV 7	179667	0.24	3871	-6357	177.39	1394.02	7.86	Si
SLV 16	179667	0.24	7112	-11680	177.39	2505.57	14.12	Si
SLV 15	179667	0.24	7121	-11694	177.39	2508.48	14.14	Si
SLV 4	179667	0.24	7302	-11992	177.39	2569.14	14.48	Si
SLV 3	179667	0.24	7311	-12006	177.39	2572.04	14.5	Si
SLV 14	179667	0.24	10004	-16429	177.39	3454.28	19.47	Si
SLV 13	179667	0.24	10013	-16443	177.39	3457.07	19.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	σ0	M*	e*	a0*	aLim	Verifica
SLV 6	-15878	-23805	169	1.157	2179.1	0.931	18.07618	2.72922	Si
SLV 5	-15870	-23836	170	1.158	2178.2	0.931	18.08353	2.72922	Si
SLV 10	-15620	-23935	134	1.174	2153	0.93	18.34215	2.72922	Si
SLV 9	-15611	-23966	134	1.174	2152.2	0.93	18.34972	2.72922	Si
SLV 2	-11901	-18423	70	1.438	1779	0.919	22.74151	2.8116	Si
SLV 1	-11893	-18453	71	1.438	1778.1	0.919	22.75321	2.8116	Si
SLV 14	-11040	-18855	-47	1.519	1692.8	0.916	24.10044	2.8116	Si
SLV 13	-11032	-18885	-47	1.519	1691.9	0.916	24.11414	2.8116	Si
SLV 4	-8234	-13939	-50	1.858	1413.7	0.905	29.83939	2.8116	Si
SLV 3	-8226	-13969	-49	1.859	1412.9	0.905	29.8605	2.8116	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	82.483	SLU 39	Si
V_SLU	55.752	SLU 81	Si
PF_SLV	4.408	SLV 4	Si
V_SLV	4.488	SLV 4	Si
PFFP_SLV	7.728	SLV 12	Si
R_SLV	6.623	SLV 6	Si

Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
35.424	-0.169	33.569	-0.169	L1	L2	1.855	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 38	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 41	-0.5	517.35	-10757	-0.0000231	0.0003743	0.0035	1.8552	8715.4	9053.7	9053.7	17.5	No	Si
SLU 41	-0.1	710.95	-10623	-0.000024	0.0003743	0.0035	1.8552	8622.52	8963.61	8963.61	12.61	No	Si
SLU 35	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 35	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 42	-0.5	517.35	-10757	-0.0000231	0.0003743	0.0035	1.8552	8715.4	9053.7	9053.7	17.5	No	Si
SLU 42	-0.1	710.95	-10623	-0.000024	0.0003743	0.0035	1.8552	8622.52	8963.61	8963.61	12.61	No	Si
SLU 40	-0.5	517.35	-10757	-0.0000231	0.0003743	0.0035	1.8552	8715.4	9053.7	9053.7	17.5	No	Si
SLU 40	-0.1	710.95	-10623	-0.000024	0.0003743	0.0035	1.8552	8622.52	8963.61	8963.61	12.61	No	Si
SLU 33	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 33	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 34	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 34	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 36	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 36	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 37	-0.5	469.25	-9982	-0.0000213	0.0003743	0.0035	1.8552	8172.25	8533.98	8533.98	18.19	No	Si
SLU 37	-0.1	633.41	-9815	-0.000022	0.0003743	0.0035	1.8552	8052.93	8422.04	8422.04	13.3	No	Si
SLU 39	-0.5	517.35	-10757	-0.0000231	0.0003743	0.0035	1.8552	8715.4	9053.7	9053.7	17.5	No	Si
SLU 39	-0.1	710.95	-10623	-0.000024	0.0003743	0.0035	1.8552	8622.52	8963.61	8963.61	12.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	-0.5	1378.89	-7362	-0.0000216	0.0005615	0.0035	1.8552		6694.45	6694.45	4.85		Si
SLV 2	-0.1	496.28	-6443	-0.0000147	0.0005615	0.0035	1.8552		5913.16	5913.16	11.91		Si
SLV 6	-0.5	987.73	-10541	-0.0000253	0.0005615	0.0035	1.8552		9319.83	9319.83	9.44		Si
SLV 6	-0.1	683.29	-9325	-0.0000211	0.0005615	0.0035	1.8552		8327.57	8327.57	12.19		Si
SLV 8	-0.5	343.14	-4401	-0.00001	0.0005615	0.0035	1.8552		4150.04	4150.04	12.09		Si
SLV 8	-0.1	98.48	-4744	-0.0000092	0.0005615	0.0035	1.8552		4449.35	4449.35	45.18		Si
SLV 1	-0.5	1218.4	-7103	-0.0000202	0.0005615	0.0035	1.8552		6475.21	6475.21	5.31		Si
SLV 1	-0.1	519.19	-6299	-0.0000145	0.0005615	0.0035	1.8552		5790.46	5790.46	11.15		Si
SLV 15	-0.5	-741.19	-8196	-0.0000194	0.0005615	0.0035	1.8552		8051.01	8051.01	10.86		Si
SLV 15	-0.1	293.83	-8573	-0.0000174	0.0005615	0.0035	1.8552		7708.63	7708.63	26.24		Si
SLV 9	-0.5	294.56	-11158	-0.0000223	0.0005615	0.0035	1.8552		9816.33	9816.33	33.33		Si
SLV 9	-0.1	691.63	-10272	-0.000023	0.0005615	0.0035	1.8552		9103.16	9103.16	13.16		Si
SLV 3	-0.5	1025.02	-5261	-0.0000156	0.0005615	0.0035	1.8552		4896.84	4896.84	4.78		Si
SLV 3	-0.1	343.75	-4925	-0.000011	0.0005615	0.0035	1.8552		4606.2	4606.2	13.4		Si
SLV 10	-0.5	457.87	-11422	-0.0000237	0.0005615	0.0035	1.8552		10029.07	10029.07	21.9		Si
SLV 10	-0.1	668.31	-10419	-0.0000231	0.0005615	0.0035	1.8552		9221.26	9221.26	13.8		Si
SLV 5	-0.5	824.42	-10277	-0.0000238	0.0005615	0.0035	1.8552		9106.9	9106.9	11.05		Si
SLV 5	-0.1	706.6	-9178	-0.000021	0.0005615	0.0035	1.8552		8206.98	8206.98	11.61		Si
SLV 4	-0.5	1185.51	-5520	-0.000017	0.0005615	0.0035	1.8552		5121.81	5121.81	4.32		Si
SLV 4	-0.1	320.84	-5069	-0.0000111	0.0005615	0.0035	1.8552		4730.93	4730.93	14.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	α_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-0.5	561.26	-12388	-11012	-1733	1.8552	1.8552	-13190	8703	7266	26168	24999	4731	29730	No	17.16	Si
SLU 82	-0.1	748.48	-12138	-10790	-1721	1.8552	1.8552	-12924	8668	7236	26168	24999	4731	29730	No	17.27	Si
SLU 81	-0.5	561.26	-12388	-11012	-1733	1.8552	1.8552	-13190	8703	7266	26168	24999	4731	29730	No	17.16	Si
SLU 81	-0.1	748.48	-12138	-10790	-1721	1.8552	1.8552	-12924	8668	7236	26168	24999	4731	29730	No	17.27	Si
SLU 84	-0.5	561.26	-12388	-11012	-1733	1.8552	1.8552	-13190	8703	7266	26168	24999	4731	29730	No	17.16	Si
SLU 84	-0.1	748.48	-12138	-10790	-1721	1.8552	1.8552	-12924	8668	7236	26168	24999	4731	29730	No	17.27	Si
SLU 41	-0.5	517.35	-10757	-9562	-1602	1.8552	1.8552	-11453	8471	7073	26168	24999	4731	29730	No	18.56	Si
SLU 41	-0.1	710.95	-10623	-9443	-1592	1.8552	1.8552	-11310	8453	7057	26168	24999	4731	29730	No	18.68	Si
SLU 39	-0.5	517.35	-10757	-9562	-1602	1.8552	1.8552	-11453	8471	7073	26168	24999	4731	29730	No	18.56	Si
SLU 39	-0.1	710.95	-10623	-9443	-1592	1.8552	1.8552	-11310	8453	7057	26168	24999	4731	29730	No	18.68	Si
SLU 78	-0.5	513.15	-11614	-10323	-1581	1.8552	1.8552	-12365	8593	7174	26168	24999	4731	29730	No	18.81	Si
SLU 78	-0.1	670.94	-11330	-10071	-1570	1.8552	1.8552	-12063	8553	7140	26168	24999	4731	29730	No	18.94	Si
SLU 42	-0.5	517.35	-10757	-9562	-1602	1.8552	1.8552	-11453	8471	7073	26168	24999	4731	29730	No	18.56	Si
SLU 42	-0.1	710.95	-10623	-9443	-1592	1.8552	1.8552	-11310	8453	7057	26168	24999	4731	29730	No	18.68	Si
SLU 40	-0.5	517.35	-10757	-9562	-1602	1.8552	1.8552	-11453	8471	7073	26168	24999	4731	29730	No	18.56	Si
SLU 40	-0.1	710.95	-10623	-9443	-1592	1.8552	1.8552	-11310	8453	7057	26168	24999	4731	29730	No	18.68	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-0.5	513.15	-11614	-10323	-1581	1.8552	1.8552	-12365	8593	7174	26168	24999	4731	29730	No	18.81	Si
SLU 77	-0.1	670.94	-11330	-10071	-1570	1.8552	1.8552	-12063	8553	7140	26168	24999	4731	29730	No	18.94	Si
SLU 83	-0.5	561.26	-12388	-11012	-1733	1.8552	1.8552	-13190	8703	7266	26168	24999	4731	29730	No	17.16	Si
SLU 83	-0.1	748.48	-12138	-10790	-1721	1.8552	1.8552	-12924	8668	7236	26168	24999	4731	29730	No	17.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-0.5	-580.7	-8456	-7516	-4104	1.8552	1.8552	-9003	12217	10200	26168	37499	4731	36367		8.86	Si
SLV 16	-0.1	270.91	-8717	-7749	-4108	1.8552	1.8552	-9281	12273	10246	26168	37499	4731	36414		8.86	Si
SLV 7	-0.5	179.82	-4137	-3677	-2530	1.8552	1.8552	-4404	11298	9432	26168	37499	4731	35600		14.07	Si
SLV 7	-0.1	121.8	-4597	-4087	-2505	1.8552	1.8552	-4895	11396	9514	26168	37499	4731	35681		14.24	Si
SLV 6	-0.5	987.73	-10541	-9370	2303	1.8552	1.8552	-11223	12661	10570	26168	37499	4731	36738		15.96	Si
SLV 6	-0.1	683.29	-9325	-8288	2302	1.8552	1.8552	-9928	12402	10354	26168	37499	4731	36522		15.87	Si
SLV 1	-0.5	1218.4	-7103	-6314	2150	1.8552	1.8552	-7562	11929	9959	26168	37499	4731	36127		16.8	Si
SLV 1	-0.1	519.19	-6299	-5599	2170	1.8552	1.8552	-6707	11758	9816	26168	37499	4731	35984		16.59	Si
SLV 14	-0.5	-387.32	-10298	-9154	-2876	1.8552	1.8552	-10964	12610	10527	26168	37499	4731	36695		12.76	Si
SLV 14	-0.1	446.36	-10091	-8970	-2887	1.8552	1.8552	-10744	12566	10490	26168	37499	4731	36658		12.7	Si
SLV 11	-0.5	-350.04	-5017	-4460	-4256	1.8552	1.8552	-5342	11485	9588	26168	37499	4731	35756		8.4	Si
SLV 11	-0.1	106.82	-5692	-5059	-4240	1.8552	1.8552	-6060	11629	9708	26168	37499	4731	35876		8.46	Si
SLV 2	-0.5	1378.89	-7362	-6544	2877	1.8552	1.8552	-7839	11984	10005	26168	37499	4731	36173		12.58	Si
SLV 2	-0.1	496.28	-6443	-5727	2896	1.8552	1.8552	-6860	11789	9842	26168	37499	4731	36010		12.44	Si
SLV 15	-0.5	-741.19	-8196	-7285	-4830	1.8552	1.8552	-8726	12162	10154	26168	37499	4731	36321		7.52	Si
SLV 15	-0.1	293.83	-8573	-7621	-4834	1.8552	1.8552	-9128	12242	10221	26168	37499	4731	36388		7.53	Si
SLV 12	-0.5	-186.73	-5281	-4695	-3517	1.8552	1.8552	-5623	11541	9635	26168	37499	4731	35803		10.18	Si
SLV 12	-0.1	83.5	-5838	-5190	-3501	1.8552	1.8552	-6216	11660	9734	26168	37499	4731	35902		10.25	Si
SLV 13	-0.5	-547.81	-10038	-8923	-3602	1.8552	1.8552	-10688	12554	10481	26168	37499	4731	36649		10.18	Si
SLV 13	-0.1	469.27	-9947	-8842	-3614	1.8552	1.8552	-10591	12535	10465	26168	37499	4731	36633		10.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	4731	-3950	90.18	861.22	9.55	Si
SLV 8	179667	0.24	4844	-4044	90.18	881.02	9.77	Si
SLV 3	179667	0.24	5219	-4357	90.18	946.9	10.5	Si
SLV 4	179667	0.24	5330	-4450	90.18	966.22	10.71	Si
SLV 11	179667	0.24	6102	-5095	90.18	1100.5	12.2	Si
SLV 12	179667	0.24	6215	-5189	90.18	1119.91	12.42	Si
SLV 1	179667	0.24	7008	-5850	90.18	1255.95	13.93	Si
SLV 2	179667	0.24	7118	-5943	90.18	1274.78	14.14	Si
SLV 15	179667	0.24	9789	-8173	90.18	1721.01	19.08	Si
SLV 16	179667	0.24	9900	-8265	90.18	1739.09	19.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	σ0	M*	e*	a0*	aLim	Verifica
SLV 14	-7523	-11597	143	1.214	1052.5	0.928	19.01703	2.8116	Si
SLV 10	-7818	-12650	-36	1.191	1082.1	0.929	18.62235	2.72922	Si
SLV 13	-7317	-11538	143	1.239	1031.7	0.927	19.43811	2.8116	Si
SLV 9	-7608	-12590	-37	1.215	1061	0.928	19.02636	2.72922	Si
SLV 6	-7160	-11145	-143	1.259	1015.9	0.926	19.77231	2.72922	Si
SLV 5	-6950	-11085	-144	1.287	994.8	0.924	20.23617	2.72922	Si
SLV 16	-6615	-9190	191	1.329	961	0.922	20.94224	2.8116	Si
SLV 15	-6409	-9131	190	1.36	940.4	0.921	21.46145	2.8116	Si
SLV 2	-5331	-6581	-212	1.548	832.4	0.914	24.62936	2.8116	Si
SLV 1	-5125	-6522	-213	1.592	811.9	0.912	25.35829	2.8116	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.608	SLU 39	Si
V_SLU	17.155	SLU 81	Si
PF_SLV	4.32	SLV 4	Si
V_SLV	7.52	SLV 15	Si
PFFP_SLV	9.55	SLV 7	Si
R_SLV	6.764	SLV 14	Si

Maschio 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
25.794	4.507	30.808	4.507	L1	L2	5.014	0.3	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti



fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 56	-1.89	-9830.77	-59610	-0.0000697	0.0004492	0.0035	5.0139	100970.17	135441.75	135441.75	13.78	No	Si
SLU 56	0.28	4201.89	-25031	-0.0000281	0.0004492	0.0035	5.0139	54204.3	59893.09	59893.09	14.25	No	Si
SLU 59	-1.89	-9830.77	-59610	-0.0000697	0.0004492	0.0035	5.0139	100970.17	135441.75	135441.75	13.78	No	Si
SLU 59	0.28	4201.89	-25031	-0.0000281	0.0004492	0.0035	5.0139	54204.3	59893.09	59893.09	14.25	No	Si
SLU 81	-1.89	-11197.74	-71405	-0.0000842	0.0004492	0.0035	5.0139	109460.38	153389.02	153389.02	13.7	No	Si
SLU 81	0.28	5243.33	-32688	-0.0000368	0.0004492	0.0035	5.0139	67371.85	75225.89	75225.89	14.35	No	Si
SLU 84	-1.89	-11197.74	-71405	-0.0000842	0.0004492	0.0035	5.0139	109460.38	153389.02	153389.02	13.7	No	Si
SLU 84	0.28	5243.33	-32688	-0.0000368	0.0004492	0.0035	5.0139	67371.85	75225.89	75225.89	14.35	No	Si
SLU 63	-1.89	-10440.49	-63808	-0.000075	0.0004492	0.0035	5.0139	104427	142112.11	142112.11	13.61	No	Si
SLU 63	0.28	4629.9	-27566	-0.0000311	0.0004492	0.0035	5.0139	58741.72	65222.26	65222.26	14.09	No	Si
SLU 62	-1.89	-10440.49	-63808	-0.000075	0.0004492	0.0035	5.0139	104427	142112.11	142112.11	13.61	No	Si
SLU 62	0.28	4629.9	-27566	-0.0000311	0.0004492	0.0035	5.0139	58741.72	65222.26	65222.26	14.09	No	Si
SLU 61	-1.89	-10440.49	-63808	-0.000075	0.0004492	0.0035	5.0139	104427	142112.11	142112.11	13.61	No	Si
SLU 61	0.28	4629.9	-27566	-0.0000311	0.0004492	0.0035	5.0139	58741.72	65222.26	65222.26	14.09	No	Si
SLU 60	-1.89	-10440.49	-63808	-0.000075	0.0004492	0.0035	5.0139	104427	142112.11	142112.11	13.61	No	Si
SLU 60	0.28	4629.9	-27566	-0.0000311	0.0004492	0.0035	5.0139	58741.72	65222.26	65222.26	14.09	No	Si
SLU 82	-1.89	-11197.74	-71405	-0.0000842	0.0004492	0.0035	5.0139	109460.38	153389.02	153389.02	13.7	No	Si
SLU 82	0.28	5243.33	-32688	-0.0000368	0.0004492	0.0035	5.0139	67371.85	75225.89	75225.89	14.35	No	Si
SLU 83	-1.89	-11197.74	-71405	-0.0000842	0.0004492	0.0035	5.0139	109460.38	153389.02	153389.02	13.7	No	Si
SLU 83	0.28	5243.33	-32688	-0.0000368	0.0004492	0.0035	5.0139	67371.85	75225.89	75225.89	14.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	-1.89	-28214.97	-49926	-0.00008	0.0006738	0.0035	5.0139		123945.07	123945.07	4.39		Si
SLV 1	0.28	6559.48	-21168	-0.0000269	0.0006738	0.0035	5.0139		52510.33	52510.33	8.01		Si
SLV 7	-1.89	-16271.6	-48142	-0.0000642	0.0006738	0.0035	5.0139		120548.91	120548.91	7.41		Si
SLV 7	0.28	3480.38	-19762	-0.0000221	0.0006738	0.0035	5.0139		49340.1	49340.1	14.18		Si
SLV 2	-1.89	-28164.38	-50084	-0.0000801	0.0006738	0.0035	5.0139		124245.28	124245.28	4.41		Si
SLV 2	0.28	6502.2	-21169	-0.0000268	0.0006738	0.0035	5.0139		52512.99	52512.99	8.08		Si
SLV 3	-1.89	-29693.36	-50761	-0.0000826	0.0006738	0.0035	5.0139		125533.54	125533.54	4.23		Si
SLV 3	0.28	6191.51	-21149	-0.0000264	0.0006738	0.0035	5.0139		52468.77	52468.77	8.47		Si
SLV 16	-1.89	13634.33	-40658	-0.0000537	0.0006738	0.0035	5.0139		94051.89	94051.89	6.9		Si
SLV 16	0.28	-386.7	-17248	-0.0000163	0.0006738	0.0035	5.0139		55518.95	55518.95	143.57		Si
SLV 4	-1.89	-29642.76	-50918	-0.0000827	0.0006738	0.0035	5.0139		125833.75	125833.75	4.25		Si
SLV 4	0.28	6134.22	-21150	-0.0000264	0.0006738	0.0035	5.0139		52471.43	52471.43	8.55		Si
SLV 8	-1.89	-16220.11	-48302	-0.0000643	0.0006738	0.0035	5.0139		120854.4	120854.4	7.45		Si
SLV 8	0.28	3422.1	-19763	-0.000022	0.0006738	0.0035	5.0139		49342.81	49342.81	14.42		Si
SLV 15	-1.89	13583.74	-40500	-0.0000535	0.0006738	0.0035	5.0139		93763.86	93763.86	6.9		Si
SLV 15	0.28	-329.42	-17247	-0.0000162	0.0006738	0.0035	5.0139		55516.24	55516.24	168.53		Si
SLV 13	-1.89	15062.12	-39665	-0.0000544	0.0006738	0.0035	5.0139		92239.87	92239.87	6.12		Si
SLV 13	0.28	38.56	-17265	-0.0000159	0.0006738	0.0035	5.0139		43652.12	43652.12	1132.19		Si
SLV 14	-1.89	15112.71	-39823	-0.0000546	0.0006738	0.0035	5.0139		92527.9	92527.9	6.12		Si
SLV 14	0.28	-18.73	-17266	-0.0000159	0.0006738	0.0035	5.0139		55561.16	55561.16	2966.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 79	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si
SLU 83	-1.89	-11197.74	-71405	-51931	12190	5.0139	5.0139	-34525	10833	16295	74765	54056	25571	79627	No	6.53	Si
SLU 83	0.28	5243.33	-32688	-23773	15220	5.0139	5.0139	-15805	10441	15704	74765	54056	25571	79627	No	5.23	Si
SLU 82	-1.89	-11197.74	-71405	-51931	12190	5.0139	5.0139	-34525	10833	16295	74765	54056	25571	79627	No	6.53	Si
SLU 82	0.28	5243.33	-32688	-23773	15220	5.0139	5.0139	-15805	10441	15704	74765	54056	25571	79627	No	5.23	Si
SLU 76	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 76	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si
SLU 80	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 80	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si
SLU 81	-1.89	-11197.74	-71405	-51931	12190	5.0139	5.0139	-34525	10833	16295	74765	54056	25571	79627	No	6.53	Si
SLU 81	0.28	5243.33	-32688	-23773	15220	5.0139	5.0139	-15805	10441	15704	74765	54056	25571	79627	No	5.23	Si
SLU 77	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 77	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si
SLU 84	-1.89	-11197.74	-71405	-51931	12190	5.0139	5.0139	-34525	10833	16295	74765	54056	25571	79627	No	6.53	Si
SLU 84	0.28	5243.33	-32688	-23773	15220	5.0139	5.0139	-15805	10441	15704	74765	54056	25571	79627	No	5.23	Si



Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 75	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si
SLU 78	-1.89	-10588.03	-67207	-48878	11935	5.0139	5.0139	-32495	10833	16295	74765	54056	25571	79627	No	6.67	Si
SLU 78	0.28	4815.32	-30152	-21929	14768	5.0139	5.0139	-14579	10277	15459	74765	54056	25571	79627	No	5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.89	15062.12	-39665	-28848	25437	5.0139	5.0139	-19179	16250	24443	74765	81084	25571	99207		3.9	Si
SLV 13	0.28	38.56	-17265	-12557	25749	5.0139	5.0139	-8348	14170	21313	74765	81084	25571	96078		3.73	Si
SLV 11	-1.89	-3288.47	-45063	-32773	15159	5.0139	5.0139	-21789	16250	24443	74765	81084	25571	99207		6.54	Si
SLV 11	0.28	1524.11	-18591	-13521	16862	5.0139	5.0139	-8989	14298	21506	74765	81084	25571	96271		5.71	Si
SLV 1	-1.89	-28214.97	-49926	-36310	-8917	5.0139	5.0139	-24140	16250	24443	74765	81084	25571	99207		11.13	Si
SLV 1	0.28	6559.48	-21168	-15395	-5606	5.0139	5.0139	-10235	14547	21881	74765	81084	25571	96646		17.24	Si
SLV 12	-1.89	-3236.98	-45224	-32890	15475	5.0139	5.0139	-21866	16250	24443	74765	81084	25571	99207		6.41	Si
SLV 12	0.28	1465.82	-18592	-13522	17174	5.0139	5.0139	-8990	14298	21506	74765	81084	25571	96271		5.61	Si
SLV 9	-1.89	1639.47	-42282	-30750	12469	5.0139	5.0139	-20443	16250	24443	74765	81084	25571	99207		7.96	Si
SLV 9	0.28	2750.68	-18653	-13566	13647	5.0139	5.0139	-9019	14304	21515	74765	81084	25571	96280		7.06	Si
SLV 16	-1.89	13634.33	-40658	-29569	26555	5.0139	5.0139	-19658	16250	24443	74765	81084	25571	99207		3.74	Si
SLV 16	0.28	-386.7	-17248	-12544	27020	5.0139	5.0139	-8340	14168	21311	74765	81084	25571	96076		3.56	Si
SLV 14	-1.89	15112.71	-39823	-28962	25748	5.0139	5.0139	-19255	16250	24443	74765	81084	25571	99207		3.85	Si
SLV 14	0.28	-18.73	-17266	-12557	26056	5.0139	5.0139	-8348	14170	21314	74765	81084	25571	96078		3.69	Si
SLV 10	-1.89	1690.95	-42442	-30867	12785	5.0139	5.0139	-20521	16250	24443	74765	81084	25571	99207		7.76	Si
SLV 10	0.28	2692.39	-18654	-13566	13959	5.0139	5.0139	-9019	14304	21515	74765	81084	25571	96280		6.9	Si
SLV 15	-1.89	13583.74	-40500	-29455	26244	5.0139	5.0139	-19582	16250	24443	74765	81084	25571	99207		3.78	Si
SLV 15	0.28	-329.42	-17247	-12543	26713	5.0139	5.0139	-8339	14168	21311	74765	81084	25571	96075		3.6	Si
SLV 2	-1.89	-28164.38	-50084	-36425	-8606	5.0139	5.0139	-24216	16250	24443	74765	81084	25571	99207		11.53	Si
SLV 2	0.28	6502.2	-21169	-15395	-5299	5.0139	5.0139	-10235	14547	21881	74765	81084	25571	96646		18.24	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRDM D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.03 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-26807	0.24	164.34	3630.01	5044.4	4337.2	26.39	Si
SLV 15	-26824	0.24	164.34	3632.05	5047.09	4339.57	26.41	Si
SLV 14	-26859	0.24	164.34	3636.3	5052.69	4344.49	26.44	Si
SLV 16	-26876	0.24	164.34	3638.34	5055.38	4346.86	26.45	Si
SLV 9	-29960	0.24	164.34	4005.56	5546.44	4776	29.06	Si
SLV 10	-30013	0.24	164.34	4011.78	5554.88	4783.33	29.11	Si
SLV 11	-30016	0.24	164.34	4012.17	5555.41	4783.79	29.11	Si
SLV 12	-30069	0.24	164.34	4018.39	5563.85	4791.12	29.15	Si
SLV 5	-32679	0.24	164.34	4320.83	5976.95	5148.89	31.33	Si
SLV 6	-32732	0.24	164.34	4326.9	5985.33	5156.11	31.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.05 Ta = 0.0321

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 1	-20930	-49926	-28	1.235	2642.2	0.945	18.98518	3.35048	Si
SLV 2	-20928	-50084	-28	1.235	2642	0.945	18.98677	3.35048	Si
SLV 3	-20908	-50761	-7	1.236	2640	0.945	19.01539	3.35048	Si
SLV 4	-20906	-50918	-7	1.237	2639.8	0.945	19.01698	3.35048	Si
SLV 5	-19348	-45360	-34	1.316	2481.9	0.942	20.30727	3.19726	Si
SLV 6	-19346	-45520	-34	1.316	2481.7	0.942	20.30912	3.19726	Si
SLV 7	-19276	-48142	35	1.32	2474.6	0.942	20.37152	3.19726	Si
SLV 8	-19274	-48302	36	1.32	2474.4	0.942	20.37314	3.19726	Si
SLV 9	-17971	-42282	-19	1.398	2342.4	0.939	21.64056	3.19726	Si
SLV 10	-17969	-42442	-19	1.398	2342.2	0.939	21.64266	3.19726	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.612	SLU 60	Si
V_SLU	5.232	SLU 81	Si
PF_SLV	4.228	SLV 3	Si
V_SLV	3.556	SLV 16	Si
PFFP_SLV	26.391	SLV 13	Si
R_SLV	5.666	SLV 1	Si

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
31.808	4.507	35.424	4.507	L1	L2	3.616	0.3	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	f $\nu 0$	μ	ϕ	f ν lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRDM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.89	-4425.01	-65033	-0.0001016	0.0004492	0.0035	3.6161	59895.28	92147.82	92147.82	20.82	No	Si
SLU 84	0.28	-5730.84	-40546	-0.0000676	0.0004492	0.0035	3.6161	50885.5	67493.9	67493.9	11.78	No	Si
SLU 81	-1.89	-4425.01	-65033	-0.0001016	0.0004492	0.0035	3.6161	59895.28	92147.82	92147.82	20.82	No	Si
SLU 81	0.28	-5730.84	-40546	-0.0000676	0.0004492	0.0035	3.6161	50885.5	67493.9	67493.9	11.78	No	Si
SLU 78	-1.89	-4207.13	-61279	-0.0000951	0.0004492	0.0035	3.6161	59575.7	89072.41	89072.41	21.17	No	Si
SLU 78	0.28	-5225.73	-37626	-0.0000622	0.0004492	0.0035	3.6161	48719.34	63905.52	63905.52	12.23	No	Si
SLU 41	-1.89	-3785.97	-56057	-0.000086	0.0004492	0.0035	3.6161	58491.64	84206.2	84206.2	22.24	No	Si
SLU 41	0.28	-5195.61	-35924	-0.0000597	0.0004492	0.0035	3.6161	47349.36	61803.39	61803.39	11.9	No	Si
SLU 77	-1.89	-4207.13	-61279	-0.0000951	0.0004492	0.0035	3.6161	59575.7	89072.41	89072.41	21.17	No	Si
SLU 77	0.28	-5225.73	-37626	-0.0000622	0.0004492	0.0035	3.6161	48719.34	63905.52	63905.52	12.23	No	Si
SLU 42	-1.89	-3785.97	-56057	-0.000086	0.0004492	0.0035	3.6161	58491.64	84206.2	84206.2	22.24	No	Si
SLU 42	0.28	-5195.61	-35924	-0.0000597	0.0004492	0.0035	3.6161	47349.36	61803.39	61803.39	11.9	No	Si
SLU 39	-1.89	-3785.97	-56057	-0.000086	0.0004492	0.0035	3.6161	58491.64	84206.2	84206.2	22.24	No	Si
SLU 39	0.28	-5195.61	-35924	-0.0000597	0.0004492	0.0035	3.6161	47349.36	61803.39	61803.39	11.9	No	Si
SLU 82	-1.89	-4425.01	-65033	-0.0001016	0.0004492	0.0035	3.6161	59895.28	92147.82	92147.82	20.82	No	Si
SLU 82	0.28	-5730.84	-40546	-0.0000676	0.0004492	0.0035	3.6161	50885.5	67493.9	67493.9	11.78	No	Si
SLU 40	-1.89	-3785.97	-56057	-0.000086	0.0004492	0.0035	3.6161	58491.64	84206.2	84206.2	22.24	No	Si
SLU 40	0.28	-5195.61	-35924	-0.0000597	0.0004492	0.0035	3.6161	47349.36	61803.39	61803.39	11.9	No	Si
SLU 83	-1.89	-4425.01	-65033	-0.0001016	0.0004492	0.0035	3.6161	59895.28	92147.82	92147.82	20.82	No	Si
SLU 83	0.28	-5730.84	-40546	-0.0000676	0.0004492	0.0035	3.6161	50885.5	67493.9	67493.9	11.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.89	-16348.98	-35661	-0.0000833	0.0006738	0.0035	3.6161		63843.77	63843.77	3.91		Si
SLV 3	0.28	-1963.12	-18965	-0.0000286	0.0006738	0.0035	3.6161		39182.99	39182.99	19.96		Si
SLV 4	-1.89	-16335.33	-35706	-0.0000834	0.0006738	0.0035	3.6161		63906.81	63906.81	3.91		Si
SLV 4	0.28	-1934.4	-18971	-0.0000285	0.0006738	0.0035	3.6161		39193.16	39193.16	20.26		Si
SLV 15	-1.89	9889.59	-47336	-0.0000851	0.0006738	0.0035	3.6161		72674.05	72674.05	7.35		Si
SLV 15	0.28	-4244.44	-29843	-0.0000481	0.0006738	0.0035	3.6161		55572.87	55572.87	13.09		Si
SLV 1	-1.89	-15693.42	-35630	-0.0000818	0.0006738	0.0035	3.6161		63801.11	63801.11	4.07		Si
SLV 1	0.28	-2329.7	-19236	-0.0000297	0.0006738	0.0035	3.6161		39617.62	39617.62	17.01		Si
SLV 2	-1.89	-15679.78	-35675	-0.0000818	0.0006738	0.0035	3.6161		63864.15	63864.15	4.07		Si
SLV 2	0.28	-2300.98	-19242	-0.0000297	0.0006738	0.0035	3.6161		39627.8	39627.8	17.22		Si
SLV 14	-1.89	10558.79	-47351	-0.0000867	0.0006738	0.0035	3.6161		72693.62	72693.62	6.88		Si
SLV 14	0.28	-4582.31	-30120	-0.0000492	0.0006738	0.0035	3.6161		55975.67	55975.67	12.22		Si
SLV 7	-1.89	-7930.41	-39783	-0.00007	0.0006738	0.0035	3.6161		69518.28	69518.28	8.77		Si
SLV 7	0.28	-2334.16	-22456	-0.000034	0.0006738	0.0035	3.6161		44549.52	44549.52	19.09		Si
SLV 13	-1.89	10545.14	-47305	-0.0000866	0.0006738	0.0035	3.6161		72633.09	72633.09	6.89		Si
SLV 13	0.28	-4611.02	-30114	-0.0000492	0.0006738	0.0035	3.6161		55966.46	55966.46	12.14		Si
SLV 8	-1.89	-7916.52	-39829	-0.00007	0.0006738	0.0035	3.6161		69582.42	69582.42	8.79		Si
SLV 8	0.28	-2304.94	-22462	-0.0000339	0.0006738	0.0035	3.6161		44559.38	44559.38	19.33		Si
SLV 16	-1.89	9903.24	-47382	-0.0000852	0.0006738	0.0035	3.6161		72734.58	72734.58	7.34		Si
SLV 16	0.28	-4215.73	-29849	-0.000048	0.0006738	0.0035	3.6161		55582.08	55582.08	13.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	N _{mur}	V	df	I'	σ _N	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c} int.	V _{t,R}	res. > 50%	c.s.	Verifica
SLU 76	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 76	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 80	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 80	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 82	-1.89	-4425.01	-65033	-47297	-11966	3.6161	3.6161	-43598	10833	11752	74765	38986	18442	57429	No	4.8	Si
SLU 82	0.28	-5730.84	-40546	-29488	-12920	3.6161	3.6161	-27182	10833	11752	74765	38986	18442	57429	No	4.44	Si
SLU 77	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 77	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 75	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 75	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 78	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 78	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 79	-1.89	-4207.13	-61279	-44567	-11696	3.6161	3.6161	-41081	10833	11752	74765	38986	18442	57429	No	4.91	Si
SLU 79	0.28	-5225.73	-37626	-27364	-12558	3.6161	3.6161	-25224	10833	11752	74765	38986	18442	57429	No	4.57	Si
SLU 83	-1.89	-4425.01	-65033	-47297	-11966	3.6161	3.6161	-43598	10833	11752	74765	38986	18442	57429	No	4.8	Si
SLU 83	0.28	-5730.84	-40546	-29488	-12920	3.6161	3.6161	-27182	10833	11752	74765	38986	18442	57429	No	4.44	Si
SLU 84	-1.89	-4425.01	-65033	-47297	-11966	3.6161	3.6161	-43598	10833	11752	74765	38986	18442	57429	No	4.8	Si
SLU 84	0.28	-5730.84	-40546	-29488	-12920	3.6161	3.6161	-27182	10833	11752	74765	38986	18442	57429	No	4.44	Si
SLU 81	-1.89	-4425.01	-65033	-47297	-11966	3.6161	3.6161	-43598	10833	11752	74765	38986	18442	57429	No	4.8	Si
SLU 81	0.28	-5730.84	-40546	-29488	-12920	3.6161	3.6161	-27182	10833	11752	74765	38986	18442	57429	No	4.44	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-1.89	-7916.52	-39829	-28967	-12521	3.6161	3.6161	-26701	16250	17629	74765	58480	18442	76922		6.14	Si
SLV 8	0.28	-2304.94	-22462	-16336	-12422	3.6161	3.6161	-15059	15512	16828	74765	58480	18442	76922		6.19	Si
SLV 7	-1.89	-7930.41	-39783	-28933	-12476	3.6161	3.6161	-26670	16250	17629	74765	58480	18442	76922		6.17	Si
SLV 7	0.28	-2334.16	-22456	-16332	-12377	3.6161	3.6161	-15054	15511	16827	74765	58480	18442	76922		6.21	Si
SLV 5	-1.89	-5745.24	-39679	-28858	-9479	3.6161	3.6161	-26601	16250	17629	74765	58480	18442	76922		8.12	Si
SLV 5	0.28	-3556.09	-23359	-16989	-9779	3.6161	3.6161	-15660	15632	16958	74765	58480	18442	76922		7.87	Si
SLV 3	-1.89	-16348.98	-35661	-25935	-17004	3.6161	3.6161	-23907	16250	17629	74765	58480	18442	76922		4.52	Si
SLV 3	0.28	-1963.12	-18965	-13792	-16055	3.6161	3.6161	-12714	15043	16319	74765	58480	18442	76922		4.79	Si
SLV 2	-1.89	-15679.78	-35675	-25946	-16149	3.6161	3.6161	-23917	16250	17629	74765	58480	18442	76922		4.76	Si
SLV 2	0.28	-2300.98	-19242	-13994	-15320	3.6161	3.6161	-12900	15080	16359	74765	58480	18442	76922		5.02	Si
SLV 4	-1.89	-16335.33	-35706	-25968	-17048	3.6161	3.6161	-23937	16250	17629	74765	58480	18442	76922		4.51	Si
SLV 4	0.28	-1934.4	-18971	-13797	-16099	3.6161	3.6161	-12718	15044	16320	74765	58480	18442	76922		4.78	Si
SLV 1	-1.89	-15693.42	-35630	-25912	-16105	3.6161	3.6161	-23886	16250	17629	74765	58480	18442	76922		4.78	Si
SLV 1	0.28	-2329.7	-19236	-13990	-15276	3.6161	3.6161	-12896	15079	16358	74765	58480	18442	76922		5.04	Si
SLV 12	-1.89	-44.95	-43332	-31514	-7741	3.6161	3.6161	-29050	16250	17629	74765	58480	18442	76922		9.94	Si
SLV 12	0.28	-2989.34	-25726	-18710	-8491	3.6161	3.6161	-17247	15949	17302	74765	58480	18442	76922		9.06	Si
SLV 11	-1.89	-58.84	-43285	-31480	-7696	3.6161	3.6161	-29018	16250	17629	74765	58480	18442	76922		10	Si
SLV 11	0.28	-3018.56	-25719	-18705	-8446	3.6161	3.6161	-17242	15948	17301	74765	58480	18442	76922		9.11	Si
SLV 6	-1.89	-5731.35	-39726	-28892	-9524	3.6161	3.6161	-26632	16250	17629	74765	58480	18442	76922		8.08	Si
SLV 6	0.28	-3526.87	-23366	-16993	-9824	3.6161	3.6161	-15664	15633	16959	74765	58480	18442	76922		7.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.03 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-25188	0.24	118.53	3299.62	4568.11	3933.87	33.19	Si
SLV 4	-25207	0.24	118.53	3301.76	4571.11	3936.43	33.21	Si
SLV 1	-25402	0.24	118.53	3323.45	4601.7	3962.57	33.43	Si
SLV 2	-25421	0.24	118.53	3325.58	4604.7	3965.14	33.45	Si
SLV 7	-29030	0.24	118.53	3718.77	5171.44	4445.11	37.5	Si
SLV 8	-29050	0.24	118.53	3720.83	5174.48	4447.66	37.52	Si
SLV 5	-29741	0.24	118.53	3793.82	5282.32	4538.07	38.29	Si
SLV 6	-29760	0.24	118.53	3795.85	5285.33	4540.59	38.31	Si
SLV 11	-32537	0.24	118.53	4081.87	5717.02	4899.44	41.34	Si
SLV 12	-32556	0.24	118.53	4083.82	5720.04	4901.93	41.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.69 Wa = 0.05 Ta = 0.0321

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 14	-29393	-47351	41	0.706	3359.1	0.967	10.60899	3.35048	Si
SLV 13	-29387	-47305	41	0.706	3358.5	0.967	10.61091	3.35048	Si
SLV 16	-29122	-47382	-53	0.711	3331.5	0.967	10.68926	3.35048	Si
SLV 15	-29116	-47336	-53	0.711	3330.9	0.967	10.69137	3.35048	Si
SLV 10	-25886	-43229	155	0.782	3002.2	0.963	11.79356	3.19726	Si
SLV 9	-25879	-43182	155	0.782	3001.5	0.963	11.79605	3.19726	Si
SLV 12	-24982	-43332	-158	0.805	2910.2	0.962	12.16394	3.19726	Si
SLV 11	-24975	-43285	-158	0.806	2909.6	0.962	12.16677	3.19726	Si
SLV 6	-22608	-39726	159	0.876	2668.8	0.959	13.27369	3.19726	Si
SLV 5	-22602	-39679	159	0.876	2668.1	0.959	13.27692	3.19726	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.777	SLU 81	Si
V_SLU	4.445	SLU 81	Si
PF_SLV	3.905	SLV 3	Si
V_SLV	4.512	SLV 4	Si
PFFP_SLV	33.19	SLV 3	Si
R_SLV	3.166	SLV 14	Si

Maschio 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
26.639	9.502	30.644	9.502	L1	L2	4.005	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.89	22339.9	-33664	-0.0000559	0.0004492	0.0035	4.0046	57100.26	61661.16	61661.16	2.76	No	Si
SLU 83	0.31	7324.34	-26714	-0.0000308	0.0004492	0.0035	4.0046	47000.95	50683.06	50683.06	6.92	No	Si
SLU 75	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 75	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 76	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 76	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 78	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 78	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 79	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 79	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 82	-1.89	22339.9	-33664	-0.0000559	0.0004492	0.0035	4.0046	57100.26	61661.16	61661.16	2.76	No	Si
SLU 82	0.31	7324.34	-26714	-0.0000308	0.0004492	0.0035	4.0046	47000.95	50683.06	50683.06	6.92	No	Si
SLU 77	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 77	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 84	-1.89	22339.9	-33664	-0.0000559	0.0004492	0.0035	4.0046	57100.26	61661.16	61661.16	2.76	No	Si
SLU 84	0.31	7324.34	-26714	-0.0000308	0.0004492	0.0035	4.0046	47000.95	50683.06	50683.06	6.92	No	Si
SLU 80	-1.89	21103.52	-31815	-0.0000526	0.0004492	0.0035	4.0046	54499.41	58958.86	58958.86	2.79	No	Si
SLU 80	0.31	6693.89	-24798	-0.0000284	0.0004492	0.0035	4.0046	44061.6	47433.06	47433.06	7.09	No	Si
SLU 81	-1.89	22339.9	-33664	-0.0000559	0.0004492	0.0035	4.0046	57100.26	61661.16	61661.16	2.76	No	Si
SLU 81	0.31	7324.34	-26714	-0.0000308	0.0004492	0.0035	4.0046	47000.95	50683.06	50683.06	6.92	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.89	22654.57	-28219	-0.0000513	0.0006738	0.0035	4.0046		54487.2	54487.2	2.41		Si
SLV 11	0.31	15433.98	-15528	-0.0000332	0.0006738	0.0035	4.0046		31532.58	31532.58	2.04		Si
SLV 10	-1.89	7881.54	-12920	-0.0000198	0.0006738	0.0035	4.0046		26661.51	26661.51	3.38		Si
SLV 10	0.31	-5102.34	-12012	-0.0000157	0.0006738	0.0035	4.0046		32375.94	32375.94	6.35		Si
SLV 16	-1.89	19963.98	-20217	-0.0000432	0.0006738	0.0035	4.0046		40167.16	40167.16	2.01		Si
SLV 16	0.31	10761.19	-7901	-0.0000265	0.0006738	0.0035	4.0046		17116.18	17116.18	1.59		Si
SLV 12	-1.89	23237.84	-28061	-0.0000521	0.0006738	0.0035	4.0046		54209.62	54209.62	2.33		Si
SLV 12	0.31	16109.76	-14256	-0.0000353	0.0006738	0.0035	4.0046		29156.64	29156.64	1.81		Si
SLV 13	-1.89	14783.9	-15831	-0.0000319	0.0006738	0.0035	4.0046		32097.14	32097.14	2.17		Si
SLV 13	0.31	3733.45	-8478	-0.0000112	0.0006738	0.0035	4.0046		18226.06	18226.06	4.88		Si
SLV 14	-1.89	15357.09	-15675	-0.0000331	0.0006738	0.0035	4.0046		31806.97	31806.97	2.07		Si
SLV 14	0.31	4397.56	-7228	-0.000011	0.0006738	0.0035	4.0046		15821.13	15821.13	3.6		Si
SLV 15	-1.89	19390.79	-20373	-0.000042	0.0006738	0.0035	4.0046		40448.63	40448.63	2.09		Si
SLV 15	0.31	10097.08	-9152	-0.0000218	0.0006738	0.0035	4.0046		19521.1	19521.1	1.93		Si
SLV 9	-1.89	7298.27	-13078	-0.0000192	0.0006738	0.0035	4.0046		26956.78	26956.78	3.69		Si
SLV 9	0.31	-5778.12	-13284	-0.0000176	0.0006738	0.0035	4.0046		34754.67	34754.67	6.01		Si
SLV 7	-1.89	20849.53	-30401	-0.0000503	0.0006738	0.0035	4.0046		58316.87	58316.87	2.8		Si
SLV 7	0.31	13649.84	-20311	-0.0000329	0.0006738	0.0035	4.0046		40337.59	40337.59	2.96		Si
SLV 8	-1.89	21432.79	-30243	-0.000051	0.0006738	0.0035	4.0046		58040.47	58040.47	2.71		Si
SLV 8	0.31	14325.62	-19039	-0.0000328	0.0006738	0.0035	4.0046		38012.07	38012.07	2.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.89	22339.9	-33664	-26931	2207	4.0046	4.0046	-14944	10326	18608	74765	64762	20424	85186	No	38.59	Si
SLU 82	0.31	7324.34	-26714	-21372	4501	4.0046	4.0046	-11859	9915	17867	74765	64762	20424	85186	No	18.93	Si
SLU 78	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 78	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 76	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 76	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 83	-1.89	22339.9	-33664	-26931	2207	4.0046	4.0046	-14944	10326	18608	74765	64762	20424	85186	No	38.59	Si
SLU 83	0.31	7324.34	-26714	-21372	4501	4.0046	4.0046	-11859	9915	17867	74765	64762	20424	85186	No	18.93	Si
SLU 77	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 77	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 80	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 80	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 75	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 75	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 79	-1.89	21103.52	-31815	-25452	2213	4.0046	4.0046	-14124	10216	18411	74765	64762	20424	85186	No	38.49	Si
SLU 79	0.31	6693.89	-24798	-19838	4377	4.0046	4.0046	-11009	9801	17662	74765	64762	20424	85186	No	19.46	Si
SLU 81	-1.89	22339.9	-33664	-26931	2207	4.0046	4.0046	-14944	10326	18608	74765	64762	20424	85186	No	38.59	Si
SLU 81	0.31	7324.34	-26714	-21372	4501	4.0046	4.0046	-11859	9915	17867	74765	64762	20424	85186	No	18.93	Si
SLU 84	-1.89	22339.9	-33664	-26931	2207	4.0046	4.0046	-14944	10326	18608	74765	64762	20424	85186	No	38.59	Si
SLU 84	0.31	7324.34	-26714	-21372	4501	4.0046	4.0046	-11859	9915	17867	74765	64762	20424	85186	No	18.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-1.89	19963.98	-20217	-16174	9769	4.0046	3.0445	-8975	14295	19585	74765	97144	20424	94350		9.66	Si
SLV 16	0.31	10761.19	-7901	-6321	10736	4.0046	1.9212	-3508	13202	11413	74765	97144	20424	86178		8.03	Si
SLV 2	-1.89	9340.27	-22948	-18359	-5095	4.0046	4.0046	-10187	14537	26198	74765	97144	20424	100963		19.82	Si
SLV 2	0.31	-1549.57	-23172	-18538	-3284	4.0046	4.0046	-10287	14557	26234	74765	97144	20424	100998		30.75	Si
SLV 1	-1.89	8767.08	-23104	-18483	-6374	4.0046	4.0046	-10256	14551	26223	74765	97144	20424	100987		15.84	Si
SLV 1	0.31	-2213.68	-24422	-19538	-4410	4.0046	4.0046	-10842	14668	26434	74765	97144	20424	101198		22.95	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.89	14783.9	-15831	-12664	6601	4.0046	3.2053	-7028	13906	20057	74765	97144	20424	94822		14.36	Si
SLV 13	0.31	3733.45	-8478	-6783	7337	4.0046	4.0046	-3764	13253	23883	74765	97144	20424	98647		13.45	Si
SLV 14	-1.89	15357.09	-15675	-12540	7881	4.0046	3.0678	-6959	13892	19178	74765	97144	20424	93943		11.92	Si
SLV 14	0.31	4397.56	-7228	-5783	8462	4.0046	4.0046	-3209	13142	23683	74765	97144	20424	98447		11.63	Si
SLV 8	-1.89	21432.79	-30243	-24194	3548	4.0046	3.8809	-13426	15185	26519	74765	97144	20424	101284		28.55	Si
SLV 8	0.31	14325.62	-19039	-15231	5763	4.0046	3.7497	-8452	14190	23944	74765	97144	20424	98709		17.13	Si
SLV 11	-1.89	22654.57	-28219	-22575	6138	4.0046	3.5985	-12527	15005	24299	74765	97144	20424	99063		16.14	Si
SLV 11	0.31	15433.98	-15528	-12423	8142	4.0046	3.0252	-6893	13879	18893	74765	97144	20424	93658		11.5	Si
SLV 12	-1.89	23237.84	-28061	-22449	7441	4.0046	3.5226	-12457	14991	23764	74765	97144	20424	98528		13.24	Si
SLV 12	0.31	16109.76	-14256	-11405	9287	4.0046	2.6169	-6329	13766	16211	74765	97144	20424	90975		9.8	Si
SLV 7	-1.89	20849.53	-30401	-24321	2246	4.0046	3.9495	-13496	15199	27013	74765	97144	20424	101778		45.32	Si
SLV 7	0.31	13649.84	-20311	-16249	4618	4.0046	3.9909	-9017	14303	25687	74765	97144	20424	100452		21.75	Si
SLV 15	-1.89	19390.79	-20373	-16298	8489	4.0046	3.1515	-9044	14309	20293	74765	97144	20424	95057		11.2	Si
SLV 15	0.31	10097.08	-9152	-7321	9610	4.0046	2.697	-4063	13313	16157	74765	97144	20424	90922		9.46	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRDM D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.02 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-11028	0.24	197.95	2398.47	3428.76	2913.62	14.72	Si
SLV 14	-11542	0.24	197.95	2506.28	3550.43	3028.35	15.3	Si
SLV 9	-11597	0.24	197.95	2517.79	3563.44	3040.62	15.36	Si
SLV 13	-12102	0.24	197.95	2623.15	3682.8	3152.97	15.93	Si
SLV 6	-14381	0.24	197.95	3094.76	4222.01	3658.39	18.48	Si
SLV 5	-14950	0.24	197.95	3211.48	4356.49	3783.99	19.12	Si
SLV 16	-15332	0.24	197.95	3289.47	4446.65	3868.06	19.54	Si
SLV 15	-15891	0.24	197.95	3403.45	4578.85	3991.15	20.16	Si
SLV 2	-22718	0.24	197.95	4759.87	6179.38	5469.63	27.63	Si
SLV 1	-23277	0.24	197.95	4868.22	6310.44	5589.33	28.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-24736	-27646	-161	0.887	3131.1	0.945	13.642	2.8116	Si
SLV 1	-23956	-23104	70	0.912	3052.1	0.943	14.05255	2.8116	Si
SLV 4	-23485	-27490	-167	0.923	3004.4	0.943	14.22607	2.8116	Si
SLV 2	-22706	-22948	64	0.951	2925.4	0.941	14.68069	2.8116	Si
SLV 7	-19921	-30401	-426	1.036	2643.5	0.936	16.08266	2.72922	Si
SLV 8	-18648	-30243	-432	1.089	2514.9	0.933	16.95281	2.72922	Si
SLV 5	-17322	-15260	344	1.155	2380.9	0.93	18.0444	2.72922	Si
SLV 6	-16050	-15102	339	1.223	2252.7	0.927	19.17101	2.72922	Si
SLV 11	-15004	-28219	-422	1.281	2147.5	0.924	20.14107	2.72922	Si
SLV 12	-13732	-28061	-428	1.366	2019.6	0.921	21.56815	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.76	SLU 81	Si
V_SLU	18.928	SLU 81	Si
PF_SLV	1.591	SLV 16	Si
V_SLV	8.027	SLV 16	Si
PFFP_SLV	14.719	SLV 10	Si
R_SLV	4.852	SLV 3	Si

Maschio 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
31.644	9.502	35.424	9.502	L1	L2	3.78	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRDM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 48	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 44	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 44	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 1	-1.89	3407.9	-15647	-0.000018	0.0004492	0.0035	3.7804	27348.89	29343.91	29343.91	8.61	No	Si
SLU 1	0.31	4909.91	-9130	-0.0000144	0.0004492	0.0035	3.7804	16499.55	18045.49	18045.49	3.68	No	Si
SLU 46	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 46	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 51	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 51	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 45	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 45	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 47	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 47	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 43	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 43	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 50	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 50	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si
SLU 49	-1.89	4226.36	-19483	-0.0000225	0.0004492	0.0035	3.7804	33375.4	35785.07	35785.07	8.47	No	Si
SLU 49	0.31	6166.35	-11025	-0.0000177	0.0004492	0.0035	3.7804	19733.59	21381.66	21381.66	3.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	-1.89	8401.93	-18315	-0.000027	0.0006738	0.0035	3.7804		34396.59	34396.59	4.09		Si
SLV 14	0.31	4107.58	-14693	-0.000018	0.0006738	0.0035	3.7804		28089.11	28089.11	6.84		Si
SLV 6	-1.89	1300.08	-8904	-0.0000093	0.0006738	0.0035	3.7804		17798.98	17798.98	13.69		Si
SLV 6	0.31	5734.09	-6371	-0.0000137	0.0006738	0.0035	3.7804		13209.24	13209.24	2.3		Si
SLV 13	-1.89	8047.91	-18388	-0.0000266	0.0006738	0.0035	3.7804		34522.81	34522.81	4.29		Si
SLV 13	0.31	4463.81	-14357	-0.0000182	0.0006738	0.0035	3.7804		27498.44	27498.44	6.16		Si
SLV 3	-1.89	-753.63	-16319	-0.0000149	0.0006738	0.0035	3.7804		37598.57	37598.57	49.89		Si
SLV 3	0.31	6527.87	-6899	-0.0000156	0.0006738	0.0035	3.7804		14165.48	14165.48	2.17		Si
SLV 9	-1.89	3808.85	-10931	-0.0000144	0.0006738	0.0035	3.7804		21427.47	21427.47	5.63		Si
SLV 9	0.31	5429.8	-8841	-0.0000148	0.0006738	0.0035	3.7804		17684.88	17684.88	3.26		Si
SLV 2	-1.89	-1161.43	-11806	-0.0000115	0.0006738	0.0035	3.7804		29708.58	29708.58	25.58		Si
SLV 2	0.31	6330.18	-5321	-0.0000162	0.0006738	0.0035	3.7804		11297.02	11297.02	1.78		Si
SLV 1	-1.89	-1515.44	-11879	-0.0000121	0.0006738	0.0035	3.7804		29837.92	29837.92	19.69		Si
SLV 1	0.31	6686.4	-4985	-0.0000194	0.0006738	0.0035	3.7804		10681.57	10681.57	1.6		Si
SLV 5	-1.89	939.84	-8978	-0.0000088	0.0006738	0.0035	3.7804		17933.59	17933.59	19.08		Si
SLV 5	0.31	6096.58	-6029	-0.0000146	0.0006738	0.0035	3.7804		12589.2	12589.2	2.06		Si
SLV 4	-1.89	-399.62	-16246	-0.0000143	0.0006738	0.0035	3.7804		37472.37	37472.37	93.77		Si
SLV 4	0.31	6171.64	-7235	-0.0000149	0.0006738	0.0035	3.7804		14774.81	14774.81	2.39		Si
SLV 10	-1.89	4169.08	-10856	-0.0000148	0.0006738	0.0035	3.7804		21294.92	21294.92	5.11		Si
SLV 10	0.31	5067.31	-9183	-0.0000146	0.0006738	0.0035	3.7804		18304.92	18304.92	3.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 50	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 48	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 48	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 51	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 51	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 45	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 45	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 49	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 49	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 47	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 47	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 64	-1.89	4821.11	-21984	-17587	-909	3.7804	3.7804	-10338	9712	16521	74765	61136	19280	80416	No	88.47	Si
SLU 64	0.31	6797.91	-13487	-10790	-241	3.7804	3.7804	-6343	9179	15615	74765	61136	19280	80416	No	334.24	Si
SLU 43	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 43	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 46	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 46	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si
SLU 44	-1.89	4226.36	-19483	-15587	-1078	3.7804	3.7804	-9162	9555	16255	74765	61136	19280	80416	No	74.56	Si
SLU 44	0.31	6166.35	-11025	-8820	-426	3.7804	3.7804	-5185	9025	15352	74765	61136	19280	80416	No	188.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-1.89	3479.21	-23778	-19023	-5716	3.7804	3.7804	-11182	14736	25069	74765	91704	19280	99834		17.47	Si
SLV 7	0.31	5568.13	-12409	-9927	-4712	3.7804	3.7804	-5836	13667	23250	74765	91704	19280	98015		20.8	Si
SLV 1	-1.89	-1515.44	-11879	-9503	-6355	3.7804	3.7804	-5586	13617	23165	74765	91704	19280	97930		15.41	Si
SLV 1	0.31	6686.4	-4985	-3988	-4445	3.7804	1.6463	-2344	12969	9608	74765	91704	19280	84372		18.98	Si
SLV 4	-1.89	-399.62	-16246	-12997	-7067	3.7804	3.7804	-7640	14028	23864	74765	91704	19280	98629		13.96	Si
SLV 4	0.31	6171.64	-7235	-5788	-5299	3.7804	3.1114	-3402	13180	18454	74765	91704	19280	93219		17.59	Si
SLV 8	-1.89	3839.45	-23704	-18963	-4761	3.7804	3.7804	-11147	14729	25057	74765	91704	19280	99822		20.97	Si
SLV 8	0.31	5205.65	-12751	-10201	-3913	3.7804	3.7804	-5996	13699	23305	74765	91704	19280	98070		25.06	Si
SLV 13	-1.89	8047.91	-18388	-14711	5714	3.7804	3.7804	-8647	14229	24207	74765	91704	19280	98972		17.32	Si
SLV 13	0.31	4463.81	-14357	-11486	4957	3.7804	3.7804	-6752	13850	23562	74765	91704	19280	98326		19.84	Si
SLV 16	-1.89	9163.74	-22756	-18205	5001	3.7804	3.7804	-10701	14640	24905	74765	91704	19280	99670		19.93	Si
SLV 16	0.31	3949.05	-16607	-13286	4104	3.7804	3.7804	-7810	14062	23922	74765	91704	19280	98687		24.05	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.89	4169.08	-10856	-8685	4362	3.7804	3.7804	-5105	13521	23002	74765	91704	19280	97766		22.41	Si
SLV 10	0.31	5067.31	-9183	-7346	4370	3.7804	3.7804	-4318	13364	22734	74765	91704	19280	97499		22.31	Si
SLV 3	-1.89	-753.63	-16319	-13055	-8006	3.7804	3.7804	-7674	14035	23876	74765	91704	19280	98640		12.32	Si
SLV 3	0.31	6527.87	-6899	-5519	-6084	3.7804	2.8318	-3244	13149	16756	74765	91704	19280	91520		15.04	Si
SLV 2	-1.89	-1161.43	-11806	-9445	-5417	3.7804	3.7804	-5552	13610	23154	74765	91704	19280	97918		18.08	Si
SLV 2	0.31	6330.18	-5321	-4257	-3660	3.7804	2.1014	-2502	13000	12294	74765	91704	19280	87058		23.78	Si
SLV 14	-1.89	8401.93	-18315	-14652	6652	3.7804	3.7804	-8613	14223	24195	74765	91704	19280	98960		14.88	Si
SLV 14	0.31	4107.58	-14693	-11755	5742	3.7804	3.7804	-6910	13882	23615	74765	91704	19280	98380		17.13	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.02 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-6649	0.24	186.86	1464.01	2342.37	1903.19	10.18	Si
SLV 1	-6716	0.24	186.86	1478.56	2358.55	1918.56	10.27	Si
SLV 6	-6891	0.24	186.86	1516.2	2400.45	1958.33	10.48	Si
SLV 2	-6954	0.24	186.86	1529.83	2415.62	1972.73	10.56	Si
SLV 9	-9575	0.24	186.86	2088.31	3041.55	2564.93	13.73	Si
SLV 3	-9699	0.24	186.86	2114.41	3070.89	2592.65	13.87	Si
SLV 10	-9818	0.24	186.86	2139.47	3099.06	2619.27	14.02	Si
SLV 4	-9937	0.24	186.86	2164.65	3127.39	2646.02	14.16	Si
SLV 13	-16472	0.24	186.86	3510.5	4671.11	4090.81	21.89	Si
SLV 7	-16592	0.24	186.86	3534.53	4699.13	4116.83	22.03	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-16156	-22756	-200	1.172	2227.9	0.93	18.31562	2.8116	Si
SLV 15	-15820	-22829	-200	1.19	2194	0.929	18.62389	2.8116	Si
SLV 12	-15083	-25657	-586	1.213	2119.7	0.927	19.01618	2.72922	Si
SLV 11	-14741	-25731	-585	1.234	2085.3	0.926	19.36225	2.72922	Si
SLV 14	-14265	-18315	126	1.29	2037.3	0.925	20.2689	2.8116	Si
SLV 13	-13928	-18388	126	1.312	2003.5	0.924	20.64939	2.8116	Si
SLV 8	-12270	-23704	-589	1.41	1837	0.919	22.31185	2.72922	Si
SLV 7	-11928	-23778	-589	1.439	1802.7	0.917	22.79725	2.72922	Si
SLV 10	-8778	-10856	502	1.786	1489.1	0.906	28.66046	2.72922	Si
SLV 9	-8436	-10931	502	1.834	1455.3	0.904	29.47166	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.467	SLU 43	Si
V_SLU	74.563	SLU 43	Si
PF_SLV	1.598	SLV 1	Si
V_SLV	12.321	SLV 3	Si
PFFP_SLV	10.185	SLV 5	Si
R_SLV	6.514	SLV 16	Si

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	1.847	35.424	-0.169	L1	L2	2.016	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmed10	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε _{fd}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 75	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 84	-0.5	-1043.25	-13036	-0.0000277	0.0003743	0.0035	2.0156	11283.74	12771.53	12771.53	12.24	No	Si
SLU 84	-0.1	55.36	-11627	-0.0000201	0.0003743	0.0035	2.0156	10242.75	10670.15	10670.15	192.76	No	Si
SLU 81	-0.5	-1043.25	-13036	-0.0000277	0.0003743	0.0035	2.0156	11283.74	12771.53	12771.53	12.24	No	Si
SLU 81	-0.1	55.36	-11627	-0.0000201	0.0003743	0.0035	2.0156	10242.75	10670.15	10670.15	192.76	No	Si
SLU 78	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si
SLU 78	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 76	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si
SLU 76	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 79	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si
SLU 79	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 77	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si
SLU 77	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 82	-0.5	-1043.25	-13036	-0.0000277	0.0003743	0.0035	2.0156	11283.74	12771.53	12771.53	12.24	No	Si
SLU 82	-0.1	55.36	-11627	-0.0000201	0.0003743	0.0035	2.0156	10242.75	10670.15	10670.15	192.76	No	Si
SLU 80	-0.5	-988.68	-12271	-0.0000261	0.0003743	0.0035	2.0156	10723.37	12165.91	12165.91	12.31	No	Si
SLU 80	-0.1	77.89	-10895	-0.0000189	0.0003743	0.0035	2.0156	9684.95	10141.65	10141.65	130.2	No	Si
SLU 83	-0.5	-1043.25	-13036	-0.0000277	0.0003743	0.0035	2.0156	11283.74	12771.53	12771.53	12.24	No	Si
SLU 83	-0.1	55.36	-11627	-0.0000201	0.0003743	0.0035	2.0156	10242.75	10670.15	10670.15	192.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	-0.5	892.15	-7411	-0.0000169	0.0005615	0.0035	2.0156		7349.42	7349.42	8.24		Si
SLV 6	-0.1	-705.41	-7315	-0.0000158	0.0005615	0.0035	2.0156		8089.68	8089.68	11.47		Si
SLV 4	-0.5	-988.75	-4644	-0.0000127	0.0005615	0.0035	2.0156		5605.02	5605.02	5.67		Si
SLV 4	-0.1	320.55	-3719	-0.0000078	0.0005615	0.0035	2.0156		3873.27	3873.27	12.08		Si
SLV 12	-0.5	-2078.15	-8948	-0.0000255	0.0005615	0.0035	2.0156		9584.8	9584.8	4.61		Si
SLV 12	-0.1	848.38	-7159	-0.0000162	0.0005615	0.0035	2.0156		7116.59	7116.59	8.39		Si
SLV 15	-0.5	-1254.25	-11831	-0.0000264	0.0005615	0.0035	2.0156		12143.54	12143.54	9.68		Si
SLV 15	-0.1	329.11	-10290	-0.0000019	0.0005615	0.0035	2.0156		9962.94	9962.94	30.27		Si
SLV 7	-0.5	-2224.29	-7151	-0.0000231	0.0005615	0.0035	2.0156		7939.28	7939.28	3.57		Si
SLV 7	-0.1	894.97	-5395	-0.0000135	0.0005615	0.0035	2.0156		5468.32	5468.32	6.11		Si
SLV 8	-0.5	-2049.91	-6873	-0.0000218	0.0005615	0.0035	2.0156		7685.96	7685.96	3.75		Si
SLV 8	-0.1	857.01	-5235	-0.000013	0.0005615	0.0035	2.0156		5318.41	5318.41	6.21		Si
SLV 5	-0.5	717.77	-7689	-0.0000165	0.0005615	0.0035	2.0156		7605.19	7605.19	10.6		Si
SLV 5	-0.1	-667.45	-7475	-0.0000159	0.0005615	0.0035	2.0156		8235.89	8235.89	12.34		Si
SLV 11	-0.5	-2252.53	-9225	-0.0000269	0.0005615	0.0035	2.0156		9833.97	9833.97	4.37		Si
SLV 11	-0.1	886.35	-7319	-0.0000167	0.0005615	0.0035	2.0156		7263.89	7263.89	8.2		Si
SLV 10	-0.5	863.91	-9486	-0.0000203	0.0005615	0.0035	2.0156		9241.94	9241.94	10.7		Si
SLV 10	-0.1	-714.04	-9239	-0.0000191	0.0005615	0.0035	2.0156		9846.66	9846.66	13.79		Si
SLV 3	-0.5	-1160.12	-4916	-0.0000014	0.0005615	0.0035	2.0156		5863.63	5863.63	5.05		Si
SLV 3	-0.1	357.86	-3876	-0.0000082	0.0005615	0.0035	2.0156		4023.07	4023.07	11.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-0.5	-1043.25	-13036	-11588	-4125	2.0156	2.0156	-12776	8648	7844	26168	27161	5140	32301	No	7.83	Si
SLU 82	-0.1	55.36	-11627	-10335	-4137	2.0156	2.0156	-11394	8464	7677	26168	27161	5140	32301	No	7.81	Si
SLU 77	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 77	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 75	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 75	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 84	-0.5	-1043.25	-13036	-11588	-4125	2.0156	2.0156	-12776	8648	7844	26168	27161	5140	32301	No	7.83	Si
SLU 84	-0.1	55.36	-11627	-10335	-4137	2.0156	2.0156	-11394	8464	7677	26168	27161	5140	32301	No	7.81	Si
SLU 80	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 80	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 76	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 76	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 79	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 79	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 81	-0.5	-1043.25	-13036	-11588	-4125	2.0156	2.0156	-12776	8648	7844	26168	27161	5140	32301	No	7.83	Si
SLU 81	-0.1	55.36	-11627	-10335	-4137	2.0156	2.0156	-11394	8464	7677	26168	27161	5140	32301	No	7.81	Si
SLU 78	-0.5	-988.68	-12271	-10907	-3960	2.0156	2.0156	-12025	8548	7753	26168	27161	5140	32301	No	8.16	Si
SLU 78	-0.1	77.89	-10895	-9685	-3971	2.0156	2.0156	-10677	8368	7590	26168	27161	5140	32301	No	8.13	Si
SLU 83	-0.5	-1043.25	-13036	-11588	-4125	2.0156	2.0156	-12776	8648	7844	26168	27161	5140	32301	No	7.83	Si
SLU 83	-0.1	55.36	-11627	-10335	-4137	2.0156	2.0156	-11394	8464	7677	26168	27161	5140	32301	No	7.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-0.5	-2049.91	-6873	-6109	-9513	2.0156	2.0156	-6736	11764	10670	26168	40741	5140	36838		3.87	Si
SLV 8	-0.1	857.01	-5235	-4653	-9513	2.0156	2.0156	-5130	11443	10379	26168	40741	5140	36547		3.84	Si
SLV 15	-0.5	-1254.25	-11831	-10517	-6791	2.0156	2.0156	-11594	12736	11552	26168	40741	5140	37719		5.55	Si
SLV 15	-0.1	329.11	-10290	-9147	-6794	2.0156	2.0156	-10084	12434	11278	26168	40741	5140	37445		5.51	Si
SLV 16	-0.5	-1082.88	-11559	-10274	-5978	2.0156	2.0156	-11327	12682	11503	26168	40741	5140	37671		6.3	Si
SLV 16	-0.1	291.8	-10133	-9007	-5982	2.0156	2.0156	-9930	12403	11250	26168	40741	5140	37417		6.26	Si
SLV 12	-0.5	-2078.15	-8948	-7953	-10316	2.0156	2.0156	-8768	12170	11039	26168	40741	5140	37207		3.61	Si
SLV 12	-0.1	848.38	-7159	-6363	-10314	2.0156	2.0156	-7016	11820	10721	26168	40741	5140	36889		3.58	Si
SLV 7	-0.5	-2224.29	-7151	-6356	-10340	2.0156	2.0156	-7007	11818	10720	26168	40741	5140	36887		3.57	Si
SLV 7	-0.1	894.97	-5395	-4795	-10340	2.0156	2.0156	-5287	11474	10407	26168	40741	5140	36575		3.54	Si
SLV 10	-0.5	863.91	-9486	-8432	4772	2.0156	2.0156	-9296	12276	11135	26168	40741	5140	37302		7.82	Si
SLV 10	-0.1	-714.04	-9239	-8213	4756	2.0156	2.0156	-9054	12228	11091	26168	40741	5140	37259		7.83	Si
SLV 11	-0.5	-2252.53	-9225	-8200	-11143	2.0156	2.0156	-9040	12225	11088	26168	40741	5140	37256		3.34	Si
SLV 11	-0.1	886.35	-7319	-6505	-11141	2.0156	2.0156	-7172	11851	10749	26168	40741	5140	36917		3.31	Si
SLV 5	-0.5	717.77	-7689	-6835	4747	2.0156	2.0156	-7535	11924	10815	26168	40741	5140	36983		7.79	Si
SLV 5	-0.1	-667.45	-7475	-6644	4731	2.0156	2.0156	-7325	11882	10777	26168	40741	5140	36945		7.81	Si
SLV 3	-0.5	-1160.12	-4916	-4370	-4116	2.0156	2.0156	-4818	11380	10322	26168	40741	5140	36490		8.86	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	-0.1	357.86	-3876	-3446	-4123	2.0156	2.0156	-3799	11176	10138	26168	40741	5140	36305		8.81	Si
SLV 6	-0.5	892.15	-7411	-6588	5574	2.0156	2.0156	-7263	11869	10766	26168	40741	5140	36934		6.63	Si
SLV 6	-0.1	-705.41	-7315	-6502	5557	2.0156	2.0156	-7169	11850	10749	26168	40741	5140	36916		6.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.24	3763	-3413	97.98	749.1	7.65	Si
SLV 3	179667	0.24	3880	-3519	97.98	771.73	7.88	Si
SLV 2	179667	0.24	4825	-4377	97.98	953.62	9.73	Si
SLV 1	179667	0.24	4942	-4482	97.98	975.92	9.96	Si
SLV 8	179667	0.24	4979	-4517	97.98	983.09	10.03	Si
SLV 7	179667	0.24	5098	-4624	97.98	1005.74	10.26	Si
SLV 12	179667	0.24	7085	-6426	97.98	1378.79	14.07	Si
SLV 11	179667	0.24	7203	-6534	97.98	1400.76	14.3	Si
SLV 6	179667	0.24	8519	-7727	97.98	1641.6	16.75	Si
SLV 5	179667	0.24	8638	-7835	97.98	1663.13	16.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-8848	-11140	-81	1.151	1211.5	0.931	17.96745	2.8116	Si
SLV 13	-8701	-13023	-35	1.17	1196.7	0.93	18.27489	2.8116	Si
SLV 16	-8603	-11092	-82	1.175	1186.8	0.93	18.37147	2.8116	Si
SLV 14	-8457	-12976	-36	1.195	1172	0.929	18.69231	2.8116	Si
SLV 11	-7118	-6387	-99	1.35	1037.2	0.922	21.28655	2.72922	Si
SLV 12	-6869	-6339	-100	1.386	1012.2	0.921	21.87842	2.72922	Si
SLV 9	-6629	-12666	53	1.427	988.1	0.919	22.57031	2.72922	Si
SLV 10	-6380	-12618	52	1.467	963.2	0.918	23.23975	2.72922	Si
SLV 7	-5486	-4197	-69	1.63	873.9	0.912	25.98311	2.72922	Si
SLV 8	-5237	-4149	-70	1.683	849.2	0.91	26.88045	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.242	SLU 81	Si
V_SLU	7.808	SLU 81	Si
PF_SLV	3.569	SLV 7	Si
V_SLV	3.314	SLV 11	Si
PFFP_SLV	7.645	SLV 4	Si
R_SLV	6.39	SLV 15	Si

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	6.497	35.424	2.847	L1	L2	3.65	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 49	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 48	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 48	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 45	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 45	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 43	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 43	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 51	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 51	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 50	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 50	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 44	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 44	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 46	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 46	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 47	-0.5	131.87	-17556	-0.0000167	0.0003743	0.0035	3.65	28676.59	30115.83	30115.83	228.37	No	Si
SLU 47	-0.1	493.26	-18432	-0.0000181	0.0003743	0.0035	3.65	29931.08	31367.35	31367.35	63.59	No	Si
SLU 1	-0.5	93.28	-14204	-0.0000134	0.0003743	0.0035	3.65	23720.66	24877.69	24877.69	266.69	No	Si
SLU 1	-0.1	382.06	-14909	-0.0000145	0.0003743	0.0035	3.65	24783	25995.84	25995.84	68.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-0.5	-8315.35	-18251	-0.0000298	0.0005615	0.0035	3.65		34960	34960	4.2		Si
SLV 11	-0.1	-688.44	-19085	-0.0000188	0.0005615	0.0035	3.65		36279.5	36279.5	52.7		Si
SLV 9	-0.5	8210.32	-17687	-0.0000291	0.0005615	0.0035	3.65		31114.47	31114.47	3.79		Si
SLV 9	-0.1	1424.8	-18272	-0.0000192	0.0005615	0.0035	3.65		32062.72	32062.72	22.5		Si
SLV 3	-0.5	-3331.51	-10059	-0.0000144	0.0005615	0.0035	3.65		21399.17	21399.17	6.42		Si
SLV 3	-0.1	181.93	-11205	-0.0000106	0.0005615	0.0035	3.65		20355.29	20355.29	111.89		Si
SLV 4	-0.5	-2701.82	-10071	-0.0000134	0.0005615	0.0035	3.65		21421.1	21421.1	7.93		Si
SLV 4	-0.1	181.11	-11225	-0.0000107	0.0005615	0.0035	3.65		20390.55	20390.55	112.58		Si
SLV 10	-0.5	8851.08	-17700	-0.0000301	0.0005615	0.0035	3.65		31135.81	31135.81	3.52		Si
SLV 10	-0.1	1423.97	-18293	-0.0000192	0.0005615	0.0035	3.65		32096.93	32096.93	22.54		Si
SLV 8	-0.5	-8046.44	-14574	-0.0000259	0.0005615	0.0035	3.65		28911.14	28911.14	3.59		Si
SLV 8	-0.1	-628.93	-15601	-0.0000154	0.0005615	0.0035	3.65		30614.99	30614.99	48.68		Si
SLV 5	-0.5	7838.47	-13997	-0.0000225	0.0005615	0.0035	3.65		25046.19	25046.19	3.2		Si
SLV 5	-0.1	1485.14	-14766	-0.000016	0.0005615	0.0035	3.65		26323.17	26323.17	17.72		Si
SLV 12	-0.5	-7674.59	-18264	-0.0000288	0.0005615	0.0035	3.65		34980.76	34980.76	4.56		Si
SLV 12	-0.1	-689.27	-19107	-0.0000188	0.0005615	0.0035	3.65		36313	36313	52.68		Si
SLV 7	-0.5	-8687.2	-14561	-0.0000268	0.0005615	0.0035	3.65		28889.35	28889.35	3.33		Si
SLV 7	-0.1	-628.1	-15579	-0.0000154	0.0005615	0.0035	3.65		30579.82	30579.82	48.69		Si
SLV 6	-0.5	8479.22	-14010	-0.000026	0.0005615	0.0035	3.65		25068.05	25068.05	2.96		Si
SLV 6	-0.1	1484.31	-14787	-0.000016	0.0005615	0.0035	3.65		26358.27	26358.27	17.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 43	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 1	-0.5	93.28	-14204	-12626	67	3.65	3.65	-7687	7969	13090	26168	49184	9308	39257	No	589.76	Si
SLU 1	-0.1	382.06	-14909	-13252	67	3.65	3.65	-8068	8020	13173	26168	49184	9308	39341	No	591.46	Si
SLU 45	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 45	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 50	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 50	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 46	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 46	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 48	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 48	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 49	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 49	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 44	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 44	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 47	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 47	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si
SLU 51	-0.5	131.87	-17556	-15606	102	3.65	3.65	-9501	8211	13487	26168	49184	9308	39655	No	387.05	Si
SLU 51	-0.1	493.26	-18432	-16384	102	3.65	3.65	-9975	8274	13591	26168	49184	9308	39758	No	388.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-0.5	-8687.2	-14561	-12943	-19235	3.65	3.65	-7880	11993	19698	26168	73776	9308	45866		2.38	Si
SLV 7	-0.1	-628.1	-15579	-13848	-19080	3.65	3.65	-8431	12103	19879	26168	73776	9308	46047		2.41	Si
SLV 12	-0.5	-7674.59	-18264	-16235	-16555	3.65	3.65	-9884	12393	20356	26168	73776	9308	46524		2.81	Si
SLV 12	-0.1	-689.27	-19107	-16984	-16666	3.65	3.65	-10340	12485	20506	26168	73776	9308	46674		2.8	Si
SLV 10	-0.5	8851.08	-17700	-15733	19319	3.65	3.65	-9579	12332	20256	26168	73776	9308	46424		2.4	Si
SLV 10	-0.1	1423.97	-18293	-16261	19165	3.65	3.65	-9900	12397	20361	26168	73776	9308	46529		2.43	Si
SLV 8	-0.5	-8046.44	-14574	-12955	-17628	3.65	3.65	-7887	11994	19700	26168	73776	9308	45868		2.6	Si
SLV 8	-0.1	-628.93	-15601	-13867	-17473	3.65	3.65	-8443	12105	19883	26168	73776	9308	46050		2.64	Si
SLV 5	-0.5	7838.47	-13997	-12442	16640	3.65	3.65	-7575	11932	19598	26168	73776	9308	45765		2.75	Si
SLV 5	-0.1	1485.14	-14766	-13125	16751	3.65	3.65	-7991	12015	19734	26168	73776	9308	45902		2.74	Si
SLV 14	-0.5	3495.39	-22202	-19735	8000	3.65	3.65	-12016	12820	21056	26168	73776	9308	47224		5.9	Si
SLV 14	-0.1	613.94	-22668	-20149	7552	3.65	3.65	-12267	12870	21139	26168	73776	9308	47307		6.26	Si
SLV 3	-0.5	-3331.51	-10059	-8941	-7916	3.65	3.65	-5443	11505	18898	26168	73776	9308	45065		5.69	Si
SLV 3	-0.1	181.93	-11205	-9960	-7467	3.65	3.65	-6064	11629	19101	26168	73776	9308	45269		6.06	Si
SLV 11	-0.5	-8315.35	-18251	-16223	-18162	3.65	3.65	-9877	12392	20354	26168	73776	9308	46522		2.56	Si
SLV 11	-0.1	-688.44	-19085	-16965	-18273	3.65	3.65	-10329	12482	20502	26168	73776	9308	46670		2.55	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-0.5	8210.32	-17687	-15722	17712	3.65	3.65	-9572	12331	20254	26168	73776	9308	46421		2.62	Si
SLV 9	-0.1	1424.8	-18272	-16242	17558	3.65	3.65	-9888	12394	20358	26168	73776	9308	46525		2.65	Si
SLV 6	-0.5	8479.22	-14010	-12453	18247	3.65	3.65	-7582	11933	19600	26168	73776	9308	45768		2.51	Si
SLV 6	-0.1	1484.31	-14787	-13144	18358	3.65	3.65	-8002	12017	19738	26168	73776	9308	45906		2.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.24	6345	-10422	177.42	2247.49	12.67	Si
SLV 2	179667	0.24	6353	-10434	177.42	2250.08	12.68	Si
SLV 3	179667	0.24	6468	-10624	177.42	2289.22	12.9	Si
SLV 4	179667	0.24	6476	-10637	177.42	2291.81	12.92	Si
SLV 5	179667	0.24	8674	-14248	177.42	3023.64	17.04	Si
SLV 6	179667	0.24	8682	-14260	177.42	3026.19	17.06	Si
SLV 7	179667	0.24	9085	-14923	177.42	3157.83	17.8	Si
SLV 8	179667	0.24	9093	-14935	177.42	3160.36	17.81	Si
SLV 9	179667	0.24	10794	-17730	177.42	3707.19	20.89	Si
SLV 10	179667	0.24	10802	-17742	177.42	3709.65	20.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-17483	-19316	-24	1.083	2341.3	0.934	16.8475	2.8116	Si
SLV 15	-17468	-19298	-24	1.084	2339.8	0.934	16.8592	2.8116	Si
SLV 14	-17195	-19199	-43	1.096	2312.2	0.934	17.05915	2.8116	Si
SLV 13	-17180	-19181	-43	1.097	2310.7	0.934	17.07117	2.8116	Si
SLV 12	-14777	-15712	-14	1.23	2068.2	0.928	19.27064	2.72922	Si
SLV 11	-14762	-15694	-14	1.231	2066.6	0.928	19.28646	2.72922	Si
SLV 10	-13816	-15322	-79	1.289	1971.4	0.925	20.25774	2.72922	Si
SLV 9	-13801	-15304	-78	1.29	1969.9	0.925	20.27536	2.72922	Si
SLV 8	-12168	-12507	-26	1.418	1805.9	0.92	22.40605	2.72922	Si
SLV 7	-12153	-12489	-25	1.419	1804.4	0.92	22.42774	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	63.592	SLV 43	Si
V_SLV	387.05	SLV 43	Si
PF_SLV	2.956	SLV 6	Si
V_SLV	2.385	SLV 7	Si
PFFP_SLV	12.667	SLV 1	Si
R_SLV	5.992	SLV 16	Si

Maschio 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	9.502	35.424	7.497	L1	L2	2.005	0.45	2.4	2.4	2.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 47	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 52	-0.5	526.95	-12339	-0.000024	0.0003743	0.0035	2.0053	10710.32	11116.46	11116.46	21.1	No	Si
SLU 52	-0.1	-286.24	-11259	-0.0000208	0.0003743	0.0035	2.0053	9905.53	11275.37	11275.37	39.39	No	Si
SLU 46	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 46	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 48	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 48	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 51	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 51	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 44	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 44	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 43	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 43	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 49	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 49	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 45	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 45	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si
SLU 50	-0.5	460.28	-10298	-0.00002	0.0003743	0.0035	2.0053	9167.77	9627.29	9627.29	20.92	No	Si
SLU 50	-0.1	-296.87	-9264	-0.0000173	0.0003743	0.0035	2.0053	8351.73	9618.55	9618.55	32.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-0.5	-719.11	-5603	-0.000013	0.0005615	0.0035	2.0053		6478.62	6478.62	9.01		Si
SLV 3	-0.1	37.26	-5601	-0.000096	0.0005615	0.0035	2.0053		5629.7	5629.7	151.11		Si
SLV 13	-0.5	1304.84	-12636	-0.0000282	0.0005615	0.0035	2.0053		11954.8	11954.8	9.16		Si
SLV 13	-0.1	-475.81	-11073	-0.0000212	0.0005615	0.0035	2.0053		11413.77	11413.77	23.99		Si
SLV 5	-0.5	1642.35	-7168	-0.0000204	0.0005615	0.0035	2.0053		7084.9	7084.9	4.31		Si
SLV 5	-0.1	-892.21	-5674	-0.000014	0.0005615	0.0035	2.0053		6545.01	6545.01	7.34		Si
SLV 6	-0.5	1844.45	-7488	-0.000022	0.0005615	0.0035	2.0053		7378.44	7378.44	4		Si
SLV 6	-0.1	-919.74	-5870	-0.0000145	0.0005615	0.0035	2.0053		6726.38	6726.38	7.31		Si
SLV 8	-0.5	-1191.91	-9128	-0.0000215	0.0005615	0.0035	2.0053		9695.76	9695.76	8.13		Si
SLV 8	-0.1	456.64	-9246	-0.000018	0.0005615	0.0035	2.0053		8974.3	8974.3	19.65		Si
SLV 9	-0.5	1976.26	-9425	-0.000026	0.0005615	0.0035	2.0053		9136.07	9136.07	4.62		Si
SLV 9	-0.1	-922.25	-7620	-0.0000175	0.0005615	0.0035	2.0053		8325.7	8325.7	9.03		Si
SLV 7	-0.5	-1394.01	-8808	-0.000022	0.0005615	0.0035	2.0053		9409.71	9409.71	6.75		Si
SLV 7	-0.1	484.17	-9051	-0.0000178	0.0005615	0.0035	2.0053		8798.52	8798.52	18.17		Si
SLV 14	-0.5	1503.46	-12950	-0.0000298	0.0005615	0.0035	2.0053		12226.2	12226.2	8.13		Si
SLV 14	-0.1	-502.87	-11265	-0.0000217	0.0005615	0.0035	2.0053		11581.84	11581.84	23.03		Si
SLV 10	-0.5	2178.36	-9745	-0.0000276	0.0005615	0.0035	2.0053		9424.2	9424.2	4.33		Si
SLV 10	-0.1	-949.78	-7815	-0.000018	0.0005615	0.0035	2.0053		8503.68	8503.68	8.95		Si
SLV 11	-0.5	-1060.1	-11066	-0.0000242	0.0005615	0.0035	2.0053		11406.88	11406.88	10.76		Si
SLV 11	-0.1	454.13	-10996	-0.000021	0.0005615	0.0035	2.0053		10529.15	10529.15	23.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	-0.5	590.22	-14619	-12995	2971	2.0053	2.0053	-14401	8865	7999	26168	27021	5114	32135	No	10.81	Si
SLU 83	-0.1	-295.3	-13455	-11960	2987	2.0053	2.0053	-13254	8712	7861	26168	27021	5114	32135	No	10.76	Si
SLU 82	-0.5	590.22	-14619	-12995	2971	2.0053	2.0053	-14401	8865	7999	26168	27021	5114	32135	No	10.81	Si
SLU 82	-0.1	-295.3	-13455	-11960	2987	2.0053	2.0053	-13254	8712	7861	26168	27021	5114	32135	No	10.76	Si
SLU 76	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 76	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si
SLU 75	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 75	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si
SLU 84	-0.5	590.22	-14619	-12995	2971	2.0053	2.0053	-14401	8865	7999	26168	27021	5114	32135	No	10.81	Si
SLU 84	-0.1	-295.3	-13455	-11960	2987	2.0053	2.0053	-13254	8712	7861	26168	27021	5114	32135	No	10.76	Si
SLU 73	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 73	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si
SLU 74	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 74	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si
SLU 78	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 78	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si
SLU 81	-0.5	590.22	-14619	-12995	2971	2.0053	2.0053	-14401	8865	7999	26168	27021	5114	32135	No	10.81	Si
SLU 81	-0.1	-295.3	-13455	-11960	2987	2.0053	2.0053	-13254	8712	7861	26168	27021	5114	32135	No	10.76	Si
SLU 79	-0.5	561.65	-13744	-12217	2863	2.0053	2.0053	-13539	8750	7896	26168	27021	5114	32135	No	11.23	Si
SLU 79	-0.1	-299.86	-12600	-11200	2878	2.0053	2.0053	-12412	8599	7760	26168	27021	5114	32135	No	11.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-0.5	1976.26	-9425	-8378	10160	2.0053	2.0053	-9284	12274	11075	26168	40532	5114	37243		3.67	Si
SLV 9	-0.1	-922.25	-7620	-6773	10194	2.0053	2.0053	-7506	11918	10755	26168	40532	5114	36922		3.62	Si
SLV 5	-0.5	1642.35	-7168	-6371	8375	2.0053	2.0053	-7061	11829	10674	26168	40532	5114	36842		4.4	Si
SLV 5	-0.1	-892.21	-5674	-5044	8394	2.0053	2.0053	-5590	11535	10409	26168	40532	5114	36576		4.36	Si
SLV 14	-0.5	1503.46	-12950	-11512	7740	2.0053	2.0053	-12757	12968	11702	26168	40532	5114	37870		4.89	Si
SLV 14	-0.1	-502.87	-11265	-10014	7778	2.0053	2.0053	-11097	12636	11403	26168	40532	5114	37570		4.83	Si
SLV 8	-0.5	-1191.91	-9128	-8114	-6116	2.0053	2.0053	-8992	12215	11023	26168	40532	5114	37190		6.08	Si
SLV 8	-0.1	456.64	-9246	-8218	-6129	2.0053	2.0053	-9107	12238	11044	26168	40532	5114	37211		6.07	Si
SLV 13	-0.5	1304.84	-12636	-11232	6869	2.0053	2.0053	-12447	12906	11646	26168	40532	5114	37814		5.51	Si
SLV 13	-0.1	-475.81	-11073	-9843	6908	2.0053	2.0053	-10908	12598	11368	26168	40532	5114	37536		5.43	Si
SLV 11	-0.5	-1060.1	-11066	-9836	-5217	2.0053	2.0053	-10900	12597	11367	26168	40532	5114	37535		7.19	Si
SLV 11	-0.1	454.13	-10996	-9774	-5216	2.0053	2.0053	-10832	12583	11355	26168	40532	5114	37522		7.19	Si
SLV 7	-0.5	-1394.01	-8808	-7829	-7002	2.0053	2.0053	-8676	12152	10966	26168	40532	5114	37133		5.3	Si
SLV 7	-0.1	484.17	-9051	-8045	-7016	2.0053	2.0053	-8915	12200	11009	26168	40532	5114	37177		5.3	Si
SLV 6	-0.5	1844.45	-7488	-6656	9261	2.0053	2.0053	-7376	11892	10731	26168	40532	5114	36899		3.98	Si
SLV 6	-0.1	-919.74	-5870	-5217	9281	2.0053	2.0053	-5782	11573	10443	26168	40532	5114	36611		3.94	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-0.5	-857.99	-11386	-10121	-4331	2.0053	2.0053	-11215	12660	11424	26168	40532	5114	37592		8.68	Si
SLV 12	-0.1	426.59	-11191	-9948	-4330	2.0053	2.0053	-11024	12621	11389	26168	40532	5114	37557		8.67	Si
SLV 10	-0.5	2178.36	-9745	-8663	11046	2.0053	2.0053	-9600	12337	11132	26168	40532	5114	37300		3.38	Si
SLV 10	-0.1	-949.78	-7815	-6947	11080	2.0053	2.0053	-7698	11956	10789	26168	40532	5114	36957		3.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.69 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.24	4892	-4414	97.48	961.35	9.86	Si
SLV 2	179667	0.24	5043	-4551	97.48	990.14	10.16	Si
SLV 5	179667	0.24	5634	-5084	97.48	1101.67	11.3	Si
SLV 6	179667	0.24	5788	-5223	97.48	1130.67	11.6	Si
SLV 3	179667	0.24	6280	-5667	97.48	1222.73	12.54	Si
SLV 4	179667	0.24	6432	-5804	97.48	1250.96	12.83	Si
SLV 9	179667	0.24	7660	-6912	97.48	1477.29	15.16	Si
SLV 10	179667	0.24	7815	-7052	97.48	1505.45	15.44	Si
SLV 7	179667	0.24	10264	-9262	97.48	1943.86	19.94	Si
SLV 8	179667	0.24	10418	-9401	97.48	1970.95	20.22	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.69 Wa = 0.08 Ta = 0.0214

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-9986	-12516	2	1.053	1324.8	0.936	16.34368	2.8116	Si
SLV 14	-9685	-10779	-68	1.072	1294.3	0.935	16.66274	2.8116	Si
SLV 15	-9719	-12443	1	1.075	1297.8	0.935	16.70448	2.8116	Si
SLV 13	-9418	-10706	-69	1.095	1267.4	0.934	17.04011	2.8116	Si
SLV 12	-8289	-12377	100	1.202	1153.4	0.928	18.81485	2.72922	Si
SLV 11	-8017	-12303	100	1.232	1126.1	0.927	19.31699	2.72922	Si
SLV 10	-7284	-6589	-134	1.319	1052.3	0.923	20.76513	2.72922	Si
SLV 9	-7013	-6515	-134	1.356	1025	0.922	21.38534	2.72922	Si
SLV 8	-6531	-10522	115	1.43	976.7	0.919	22.6227	2.72922	Si
SLV 7	-6259	-10448	114	1.474	949.5	0.917	23.36671	2.72922	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	20.916	SLV 43	Si
V_SLV	10.757	SLV 81	Si
PF_SLV	4	SLV 6	Si
V_SLV	3.335	SLV 10	Si
PFFP_SLV	9.862	SLV 1	Si
R_SLV	5.813	SLV 16	Si

Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
25.794	-0.169	25.794	8.566	L2	L3	8.735	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 20	0.51	2183.32	-43023	-0.0000238	0.0004492	0.0035	8.735	162654.71	179555.94	179555.94	82.24	No	Si
SLU 20	4.56	1250.66	-21078	-0.0000116	0.0004492	0.0035	8.735	85996.91	95094.8	95094.8	76.04	No	Si
SLU 81	0.51	2331.26	-55529	-0.0000308	0.0004492	0.0035	8.735	200464.11	223047.78	223047.78	95.68	No	Si
SLU 81	4.56	1551.76	-26397	-0.0000146	0.0004492	0.0035	8.735	105783.2	116194.13	116194.13	74.88	No	Si
SLU 82	0.51	2331.26	-55529	-0.0000308	0.0004492	0.0035	8.735	200464.11	223047.78	223047.78	95.68	No	Si
SLU 82	4.56	1551.76	-26397	-0.0000146	0.0004492	0.0035	8.735	105783.2	116194.13	116194.13	74.88	No	Si
SLU 18	0.51	2183.32	-43023	-0.0000238	0.0004492	0.0035	8.735	162654.71	179555.94	179555.94	82.24	No	Si
SLU 18	4.56	1250.66	-21078	-0.0000116	0.0004492	0.0035	8.735	85996.91	95094.8	95094.8	76.04	No	Si
SLU 83	0.51	2331.26	-55529	-0.0000308	0.0004492	0.0035	8.735	200464.11	223047.78	223047.78	95.68	No	Si
SLU 83	4.56	1551.76	-26397	-0.0000146	0.0004492	0.0035	8.735	105783.2	116194.13	116194.13	74.88	No	Si
SLU 84	0.51	2331.26	-55529	-0.0000308	0.0004492	0.0035	8.735	200464.11	223047.78	223047.78	95.68	No	Si
SLU 84	4.56	1551.76	-26397	-0.0000146	0.0004492	0.0035	8.735	105783.2	116194.13	116194.13	74.88	No	Si
SLU 42	0.51	2508.48	-48857	-0.0000272	0.0004492	0.0035	8.735	180824.73	200887.68	200887.68	80.08	No	Si
SLU 42	4.56	1526.95	-25909	-0.0000143	0.0004492	0.0035	8.735	104000.2	114263.73	114263.73	74.83	No	Si
SLU 41	0.51	2508.48	-48857	-0.0000272	0.0004492	0.0035	8.735	180824.73	200887.68	200887.68	80.08	No	Si
SLU 41	4.56	1526.95	-25909	-0.0000143	0.0004492	0.0035	8.735	104000.2	114263.73	114263.73	74.83	No	Si
SLU 40	0.51	2508.48	-48857	-0.0000272	0.0004492	0.0035	8.735	180824.73	200887.68	200887.68	80.08	No	Si
SLU 40	4.56	1526.95	-25909	-0.0000143	0.0004492	0.0035	8.735	104000.2	114263.73	114263.73	74.83	No	Si
SLU 39	0.51	2508.48	-48857	-0.0000272	0.0004492	0.0035	8.735	180824.73	200887.68	200887.68	80.08	No	Si
SLU 39	4.56	1526.95	-25909	-0.0000143	0.0004492	0.0035	8.735	104000.2	114263.73	114263.73	74.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0.51	32310.95	-37639	-0.0000319	0.0006738	0.0035	8.735		162343.19	162343.19	5.02		Si
SLV 11	4.56	1407.94	-11773	-0.0000067	0.0006738	0.0035	8.735		57613.58	57613.58	40.92		Si
SLV 8	0.51	25221.51	-40930	-0.000031	0.0006738	0.0035	8.735		175125.06	175125.06	6.94		Si
SLV 8	4.56	232.43	-11737	-0.0000062	0.0006738	0.0035	8.735		57460.88	57460.88	247.21		Si
SLV 5	0.51	-35421.72	-27988	-0.0000278	0.0006738	0.0035	8.735		161883.52	161883.52	4.57		Si
SLV 5	4.56	159.97	-10808	-0.0000057	0.0006738	0.0035	8.735		53571.21	53571.21	334.89		Si
SLV 16	0.51	28935.78	-32199	-0.0000277	0.0006738	0.0035	8.735		140911.1	140911.1	4.87		Si
SLV 16	4.56	2071.14	-11608	-0.0000068	0.0006738	0.0035	8.735		56920.62	56920.62	27.48		Si
SLV 1	0.51	-28227.23	-34596	-0.0000287	0.0006738	0.0035	8.735		187723.89	187723.89	6.65		Si
SLV 1	4.56	-775.5	-11020	-0.0000061	0.0006738	0.0035	8.735		92995.19	92995.19	119.92		Si
SLV 6	0.51	-31602.4	-29156	-0.000027	0.0006738	0.0035	8.735		166540.72	166540.72	5.27		Si
SLV 6	4.56	-112.3	-10855	-0.0000057	0.0006738	0.0035	8.735		92312.47	92312.47	822.02		Si
SLV 10	0.51	-20693.65	-27033	-0.0000218	0.0006738	0.0035	8.735		158079.75	158079.75	7.64		Si
SLV 10	4.56	790.94	-10938	-0.0000006	0.0006738	0.0035	8.735		54114.87	54114.87	68.42		Si
SLV 12	0.51	36130.26	-38807	-0.0000339	0.0006738	0.0035	8.735		166881	166881	4.62		Si
SLV 12	4.56	1135.67	-11820	-0.0000066	0.0006738	0.0035	8.735		57809.06	57809.06	50.9		Si
SLV 15	0.51	25182.44	-31051	-0.0000257	0.0006738	0.0035	8.735		136354.81	136354.81	5.41		Si
SLV 15	4.56	2338.7	-11562	-0.0000069	0.0006738	0.0035	8.735		56728.52	56728.52	24.26		Si
SLV 9	0.51	-24512.97	-25864	-0.0000226	0.0006738	0.0035	8.735		153422.56	153422.56	6.26		Si
SLV 9	4.56	1063.2	-10891	-0.0000061	0.0006738	0.0035	8.735		53919.39	53919.39	50.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.51	2331.26	-55529	-40385	-800	8.735	8.735	-15411	10388	27222	129139	94174	44549	138723	No	173.32	Si
SLU 83	4.56	1551.76	-26397	-19198	-784	8.735	8.735	-7326	9310	24397	129139	94174	44549	138723	No	177.05	Si
SLU 75	0.51	1610.53	-51295	-37305	-672	8.735	8.735	-14236	10231	26812	129139	94174	44549	138723	No	206.42	Si
SLU 75	4.56	1296.09	-22218	-16158	-655	8.735	8.735	-6166	9155	23992	129139	94174	44549	138723	No	211.88	Si
SLU 81	0.51	2331.26	-55529	-40385	-800	8.735	8.735	-15411	10388	27222	129139	94174	44549	138723	No	173.32	Si
SLU 81	4.56	1551.76	-26397	-19198	-784	8.735	8.735	-7326	9310	24397	129139	94174	44549	138723	No	177.05	Si
SLU 42	0.51	2508.48	-48857	-35533	-785	8.735	8.735	-13559	10141	26575	129139	94174	44549	138723	No	176.65	Si
SLU 42	4.56	1526.95	-25909	-18843	-771	8.735	8.735	-7191	9292	24350	129139	94174	44549	138723	No	179.82	Si
SLU 77	0.51	1610.53	-51295	-37305	-672	8.735	8.735	-14236	10231	26812	129139	94174	44549	138723	No	206.42	Si
SLU 77	4.56	1296.09	-22218	-16158	-655	8.735	8.735	-6166	9155	23992	129139	94174	44549	138723	No	211.88	Si
SLU 82	0.51	2331.26	-55529	-40385	-800	8.735	8.735	-15411	10388	27222	129139	94174	44549	138723	No	173.32	Si
SLU 82	4.56	1551.76	-26397	-19198	-784	8.735	8.735	-7326	9310	24397	129139	94174	44549	138723	No	177.05	Si
SLU 41	0.51	2508.48	-48857	-35533	-785	8.735	8.735	-13559	10141	26575	129139	94174	44549	138723	No	176.65	Si
SLU 41	4.56	1526.95	-25909	-18843	-771	8.735	8.735	-7191	9292	24350	129139	94174	44549	138723	No	179.82	Si
SLU 39	0.51	2508.48	-48857	-35533	-785	8.735	8.735	-13559	10141	26575	129139	94174	44549	138723	No	176.65	Si
SLU 39	4.56	1526.95	-25909	-18843	-771	8.735	8.735	-7191	9292	24350	129139	94174	44549	138723	No	179.82	Si
SLU 84	0.51	2331.26	-55529	-40385	-800	8.735	8.735	-15411	10388	27222	129139	94174	44549	138723	No	173.32	Si
SLU 84	4.56	1551.76	-26397	-19198	-784	8.735	8.735	-7326	9310	24397	129139	94174	44549	138723	No	177.05	Si
SLU 40	0.51	2508.48	-48857	-35533	-785	8.735	8.735	-13559	10141	26575	129139	94174	44549	138723	No	176.65	Si
SLU 40	4.56	1526.95	-25909	-18843	-771	8.735	8.735	-7191	9292	24350	129139	94174	44549	138723	No	179.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.51	36130.26	-38807	-28224	16675	8.735	8.735	-10770	14654	38401	129139	141261	44549	167540		10.05	Si
SLV 12	4.56	1135.67	-11820	-8596	9074	8.735	8.735	-3280	13156	34475	129139	141261	44549	163615		18.03	Si
SLV 6	0.51	-31602.4	-29156	-21204	-14853	8.735	8.735	-8092	14118	36997	129139	141261	44549	166136		11.19	Si
SLV 6	4.56	-112.3	-10855	-7895	-7241	8.735	8.735	-3013	13103	34335	129139	141261	44549	163474		22.58	Si
SLV 5	0.51	-35421.72	-27988	-20355	-17356	8.735	8.735	-7767	14053	36827	129139	141261	44549	165966		9.56	Si
SLV 5	4.56	159.97	-10808	-7861	-9729	8.735	8.735	-3000	13100	34328	129139	141261	44549	163468		16.8	Si
SLV 10	0.51	-20693.65	-27033	-19660	-14867	8.735	8.735	-7503	14001	36688	129139	141261	44549	165828		11.15	Si
SLV 10	4.56	790.94	-10938	-7955	-7587	8.735	8.735	-3036	13107	34347	129139	141261	44549	163486		21.55	Si
SLV 13	0.51	8135.27	-27519	-20014	-6326	8.735	8.735	-7637	14027	36759	129139	141261	44549	165898		26.22	Si
SLV 13	4.56	2235.28	-11297	-8216	-4626	8.735	8.735	-3135	13127	34399	129139	141261	44549	163539		35.35	Si
SLV 7	0.51	21402.2	-39762	-28918	14186	8.735	8.735	-11035	14707	38540	129139	141261	44549	167679		11.82	Si
SLV 7	4.56	504.7	-11690	-8502	6933	8.735	8.735	-3244	13149	34457	129139	141261	44549	163596		23.6	Si
SLV 9	0.51	-24512.97	-25864	-18811	-17371	8.735	8.735	-7178	13936	36518	129139	141261	44549	165658		9.54	Si
SLV 9	4.56	1063.2	-10891	-7921	-10075	8.735	8.735	-3023	13105	34340	129139	141261	44549	163480		16.23	Si
SLV 1	0.51	-28227.23	-34596	-25160	-6278	8.735	8.735	-9601	14420	37788	129139	141261	44549	166928		26.59	Si
SLV 1	4.56	-775.5	-11020	-8015	-3471	8.735	8.735	-3059	13112	34359	129139	141261	44549	163498		47.1	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.51	32310.95	-37639	-27374	14171	8.735	8.735	-10446	14589	38231	129139	141261	44549	167370		11.81	Si
SLV 11	4.56	1407.94	-11773	-8562	6586	8.735	8.735	-3267	13153	34469	129139	141261	44549	163608		24.84	Si
SLV 8	0.51	25221.51	-40930	-29768	16689	8.735	8.735	-11359	14772	38710	129139	141261	44549	167849		10.06	Si
SLV 8	4.56	232.43	-11737	-8536	9420	8.735	8.735	-3257	13151	34463	129139	141261	44549	163603		17.37	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.09 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-18951	0.45	1532.64	2730.43	4296.87	3513.65	2.29	Si
SLV 5	-19033	0.45	1532.64	2741.76	4310.36	3526.06	2.3	Si
SLV 10	-19444	0.45	1532.64	2798.48	4377.93	3588.21	2.34	Si
SLV 6	-19526	0.45	1532.64	2809.79	4391.38	3600.58	2.35	Si
SLV 13	-21325	0.45	1532.64	3056.76	4686.06	3871.41	2.53	Si
SLV 1	-21599	0.45	1532.64	3094.1	4730.85	3912.47	2.55	Si
SLV 14	-21810	0.45	1532.64	3122.91	4765.44	3944.18	2.57	Si
SLV 2	-22083	0.45	1532.64	3160.17	4810.24	3985.21	2.6	Si
SLV 15	-23439	0.45	1532.64	3344.27	5031.61	4187.94	2.73	Si
SLV 3	-23712	0.45	1532.64	3381.25	5076.08	4228.67	2.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-11608	-32199	1646	2.295	2785.7	0.89	37.48036	16.42755	Si
SLV 15	-11562	-31051	1644	2.3	2781.4	0.89	37.5631	16.42755	Si
SLV 14	-11343	-28667	1720	2.32	2761	0.89	37.89777	16.42755	Si
SLV 4	-11331	-39276	-1720	2.321	2759.9	0.89	37.92063	16.42755	Si
SLV 13	-11297	-27519	1719	2.325	2756.8	0.89	37.98232	16.42755	Si
SLV 3	-11285	-38128	-1721	2.326	2755.6	0.89	38.00303	16.42755	Si
SLV 2	-11066	-35744	-1646	2.354	2735.3	0.889	38.46611	16.42755	Si
SLV 1	-11020	-34596	-1647	2.359	2731.1	0.889	38.55062	16.42755	Si
SLV 8	-11737	-40930	-629	2.329	2797.7	0.89	38.03286	14.79547	Si
SLV 12	-11820	-38807	381	2.332	2805.5	0.89	38.07344	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	74.831	SLV 39	Si
V_SLV	173.316	SLV 81	Si
PF_SLV	4.57	SLV 5	Si
V_SLV	9.537	SLV 9	Si
PFFP_SLV	2.293	SLV 9	Si
R_SLV	2.282	SLV 16	Si

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
27.92	-0.169	25.794	-0.169	L2	L3	2.125	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_f,d	γ_f,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 43	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 49	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 49	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 1	1.51	-57.45	-2968	-0.0000073	0.0003743	0.0035	2.1255	3009.82	4314.03	4314.03	75.09	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 1	3.41	269.84	-1088	-0.0000043	0.0003743	0.0035	2.1255	1137.22	1384.57	1384.57	5.13	No	Si
SLU 47	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 47	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 44	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 44	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 51	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 51	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 46	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 46	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 45	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 45	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 50	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 50	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si
SLU 48	1.51	-143.27	-3760	-0.0000098	0.0003743	0.0035	2.1255	3764.77	5099.74	5099.74	35.59	No	Si
SLU 48	3.41	364.07	-1313	-0.0000054	0.0003743	0.0035	2.1255	1367.44	1615.76	1615.76	4.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 8	1.51	2481.4	-152	-0.0149957	0.0005615	0.0035	2.1255		411.45	411.45	0.17	No	No
SLV 8	3.41	-958.51	-2400	-0.0000119	0.0005615	0.0035	2.1255		3776.43	3776.43	3.94		Si
SLV 10	1.51	-1895.5	-5824	-0.0000262	0.0005615	0.0035	2.1255		7143.6	7143.6	3.77		Si
SLV 10	3.41	1098.95	-550	-0.0018906	0.0005615	0.0035	1.7004		830.02	830.02	0.76	No	No
SLV 14	1.51	-2167.04	-4442	-0.0000257	0.0005615	0.0035	2.1255		5811.06	5811.06	2.68		Si
SLV 14	3.41	1899.26	356	-0.0120936	0.0005615	0.0035	2.1255		0	0	0	No	No
SLV 9	1.51	-2315.14	-6303	-0.0000302	0.0005615	0.0035	2.1255		7607.09	7607.09	3.29		Si
SLV 9	3.41	1424.02	-276	-0.0066704	0.0005615	0.0035	2.1255		541.76	541.76	0.38	No	No
SLV 16	1.51	-1209.99	-2858	-0.0000147	0.0005615	0.0035	2.1255		4237.18	4237.18	3.5		Si
SLV 16	3.41	1582.2	108	-0.0108181	0.0005615	0.0035	2.1255		0	0	0	No	No
SLV 13	1.51	-2579.44	-4912	-0.0000305	0.0005615	0.0035	2.1255		6265.58	6265.58	2.43		Si
SLV 13	3.41	2218.71	626	-0.0012329	0.0005615	0.0035	1.7004		0	0	0	No	No
SLV 12	1.51	1294.69	-546	-0.0033174	0.0005615	0.0035	2.1255		825.45	825.45	0.64	No	No
SLV 12	3.41	42.11	-1378	-0.0000035	0.0005615	0.0035	2.1255		1688.93	1688.93	40.11		Si
SLV 4	1.51	2745.7	-1543	-0.0069077	0.0005615	0.0035	2.1255		1859.51	1859.51	0.68	No	No
SLV 4	3.41	-1753.2	-3302	-0.0000206	0.0005615	0.0035	2.1255		4682.46	4682.46	2.67		Si
SLV 15	1.51	-1622.38	-3328	-0.0000191	0.0005615	0.0035	2.1255		4708.36	4708.36	2.9		Si
SLV 15	3.41	1901.66	378	-0.0113475	0.0005615	0.0035	2.1255		0	0	0	No	No
SLV 7	1.51	2061.76	-630	-0.0084879	0.0005615	0.0035	2.1255		912.47	912.47	0.44	No	No
SLV 7	3.41	-633.44	-2126	-0.0000091	0.0005615	0.0035	2.1255		3497.82	3497.82	5.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.51	473.92	-4934	-4155	472	2.1255	2.1255	-6517	7813	4982	45199	19094	5420	24514	No	51.98	Si
SLU 81	3.41	195.22	-2435	-2051	478	2.1255	2.1255	-3216	7373	4701	45199	19094	5420	24514	No	51.33	Si
SLU 83	1.51	473.92	-4934	-4155	472	2.1255	2.1255	-6517	7813	4982	45199	19094	5420	24514	No	51.98	Si
SLU 83	3.41	195.22	-2435	-2051	478	2.1255	2.1255	-3216	7373	4701	45199	19094	5420	24514	No	51.33	Si
SLU 37	1.51	434.59	-3875	-3263	425	2.1255	2.1255	-5118	7627	4863	45199	19094	5420	24514	No	57.63	Si
SLU 37	3.41	140.03	-1963	-1653	430	2.1255	2.1255	-2592	7290	4648	45199	19094	5420	24514	No	56.99	Si
SLU 41	1.51	559.74	-4142	-3488	501	2.1255	2.1255	-5470	7674	4893	45199	19094	5420	24514	No	48.93	Si
SLU 41	3.41	100.99	-2210	-1861	506	2.1255	2.1255	-2919	7334	4676	45199	19094	5420	24514	No	48.43	Si
SLU 40	1.51	559.74	-4142	-3488	501	2.1255	2.1255	-5470	7674	4893	45199	19094	5420	24514	No	48.93	Si
SLU 40	3.41	100.99	-2210	-1861	506	2.1255	2.1255	-2919	7334	4676	45199	19094	5420	24514	No	48.43	Si
SLU 38	1.51	434.59	-3875	-3263	425	2.1255	2.1255	-5118	7627	4863	45199	19094	5420	24514	No	57.63	Si
SLU 38	3.41	140.03	-1963	-1653	430	2.1255	2.1255	-2592	7290	4648	45199	19094	5420	24514	No	56.99	Si
SLU 42	1.51	559.74	-4142	-3488	501	2.1255	2.1255	-5470	7674	4893	45199	19094	5420	24514	No	48.93	Si
SLU 42	3.41	100.99	-2210	-1861	506	2.1255	2.1255	-2919	7334	4676	45199	19094	5420	24514	No	48.43	Si
SLU 84	1.51	473.92	-4934	-4155	472	2.1255	2.1255	-6517	7813	4982	45199	19094	5420	24514	No	51.98	Si
SLU 84	3.41	195.22	-2435	-2051	478	2.1255	2.1255	-3216	7373	4701	45199	19094	5420	24514	No	51.33	Si
SLU 82	1.51	473.92	-4934	-4155	472	2.1255	2.1255	-6517	7813	4982	45199	19094	5420	24514	No	51.98	Si
SLU 82	3.41	195.22	-2435	-2051	478	2.1255	2.1255	-3216	7373	4701	45199	19094	5420	24514	No	51.33	Si
SLU 39	1.51	559.74	-4142	-3488	501	2.1255	2.1255	-5470	7674	4893	45199	19094	5420	24514	No	48.93	Si
SLU 39	3.41	100.99	-2210	-1861	506	2.1255	2.1255	-2919	7334	4676	45199	19094	5420	24514	No	48.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	1.51	2061.76	-630	-530	3637	2.1255	0	0	16250	0	45199	28641	5420	34060		9.36	Si
SLV 7	3.41	-633.44	-2126	-1790	3448	2.1255	2.1255	-2807	10978	7000	45199	28641	5420	34060		9.88	Si
SLV 2	1.51	1788.64	-3126	-2633	3313	2.1255	1.4718	-4129	11242	4964	45199	28641	5420	34060		10.28	Si
SLV 2	3.41	-1436.15	-3054	-2572	2567	2.1255	1.7774	-4832	11383	6070	45199	28641	5420	34060		13.27	Si
SLV 14	1.51	-2167.04	-4442	-3740	-3821	2.1255	1.7245	-7252	11867	6139	45199	28641	5420	34060		8.91	Si
SLV 14	3.41	1899.26	356	300	-3085	2.1255	0	0	9878	0	45199	28641	5420	34060		11.04	Si
SLV 4	1.51	2745.7	-1543	-1299	4987	2.1255	0	-96974	16250	0	45199	28641	5420	34060		6.83	Si
SLV 4	3.41	-1753.2	-3302	-2781	4258	2.1255	1.5954	-5824	11581	5543	45199	28641	5420	34060		8	Si
SLV 8	1.51	2481.4	-152	-128	4450	2.1255	0	0	0	0	45199	28641	5420	34060		7.65	Si
SLV 8	3.41	-958.51	-2400	-2021	4261	2.1255	1.9903	-3389	11095	6624	45199	28641	5420	34060		7.99	Si
SLV 13	1.51	-2579.44	-4912	-4136	-4620	2.1255	1.6126	-8577	12132	5869	45199	28641	5420	34060		7.37	Si
SLV 13	3.41	2218.71	626	527	-3883	1.7004	0	0	0	0	45199	22912	4336	27248		7.02	Si
SLV 15	1.51	-1622.38	-3328	-2803	-2946	2.1255	1.7257	-5425	11502	5955	45199	28641	5420	34060		11.56	Si
SLV 15	3.41	1901.66	378	318	-2192	2.1255	0	0	9987	0	45199	28641	5420	34060		15.54	Si
SLV 3	1.51	2333.31	-2013	-1695	4188	2.1255	0	-108152	16250	0	45199	28641	5420	34060		8.13	Si
SLV 3	3.41	-1433.75	-3032	-2553	3459	2.1255	1.7696	-4819	11380	6042	45199	28641	5420	34060		9.85	Si
SLV 10	1.51	-1895.5	-5824	-4905	-3270	2.1255	2.1255	-7692	11955	7623	45199	28641	5420	34060		10.41	Si
SLV 10	3.41	1098.95	-550	-464	-3073	1.7004	0	0	0	0	45199	22912	4336	27248		8.87	Si
SLV 9	1.51	-2315.14	-6303	-5308	-4083	2.1255	2.0862	-8324	12081	7561	45199	28641	5420	34060		8.34	Si
SLV 9	3.41	1424.02	-276	-232	-3886	2.1255	0	0	0	0	45199	28641	5420	34060		8.76	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	0	-1035	363.82	0	0	No, $e > t/2$
SLV 8	179667	0.45	0	-1556	363.82	0	0	No, $e > t/2$
SLV 16	179667	0.45	0	-1019	363.82	0	0	No, $e > t/2$
SLV 7	179667	0.45	0	-1571	363.82	0	0	No, $e > t/2$
SLV 13	179667	0.45	0	-1511	363.82	0	0	No, $e > t/2$
SLV 11	179667	0.45	0	-1067	363.82	0	0	No, $e > t/2$
SLV 14	179667	0.45	0	-1496	363.82	0	0	No, $e > t/2$
SLV 12	179667	0.45	0	-1051	363.82	0	0	No, $e > t/2$
SLV 10	179667	0.45	4140	-2640	363.82	385.22	1.06	Si
SLV 9	179667	0.45	4164	-2655	363.82	387.44	1.06	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 4	-286	-3316	140	4.591	479.6	0.954	69.97033	16.42755	Si
SLV 3	-257	-3611	140	4.641	478.6	0.957	70.47715	16.42755	Si
SLV 2	-264	-4980	75	4.655	478.8	0.956	70.74387	16.42755	Si
SLV 1	-235	-5274	75	4.707	477.9	0.96	71.2524	16.42755	Si
SLV 14	165	-3840	-141	5.337	473.8	1	77.56487	16.42755	Si, Trazione
SLV 16	143	-2176	-76	5.34	473.8	1	77.60768	16.42755	Si, Trazione
SLV 13	194	-4134	-141	5.371	473.8	1	78.05952	16.42755	Si, Trazione
SLV 15	172	-2471	-76	5.374	473.8	1	78.10016	16.42755	Si, Trazione
SLV 8	-162	-974	140	4.818	475.9	0.97	72.14849	14.79547	Si
SLV 7	-133	-1274	140	4.875	475.2	0.975	72.65192	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.438	SLV 43	Si
V_SLV	48.427	SLV 39	Si
PF_SLV	0	SLV 13	No
V_SLV	6.83	SLV 4	Si
PFFP_SLV	0	SLV 7	No
R_SLV	4.259	SLV 4	Si

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
29.469	-0.169	28.92	-0.169	L2	L3	0.549	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	γ_{fd}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	$\epsilon_{m_}$	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 51	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 51	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 1	2.51	-116.96	-728	-0.0000213	0.0003743	0.0035	0.4396	191.32	259.91	259.91	2.22	No	Si
SLU 1	3.41	115.78	-566	-0.0000271	0.0003743	0.0035	0.5495	150.25	168.7	168.7	1.46	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 43	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 46	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 46	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 49	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 49	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 44	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 44	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 50	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 50	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 45	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 45	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 48	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 48	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si
SLU 47	2.51	-155.87	-932	-0.0000292	0.0003743	0.0035	0.4396	241.73	311.92	311.92	2	No	Si
SLU 47	3.41	155.2	-742	-0.0000386	0.0003743	0.0035	0.5495	194.79	213.97	213.97	1.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	2.51	176.73	89	-0.0163239	0.0005615	0.0035	0.4396		0	0	0		No
SLV 3	3.41	-263.6	755	0.3016456	0.0005615	0.0035	0.4396		0	0	0		No
SLV 12	2.51	-50.34	125	0.0501788	0.0005615	0.0035	0.4396		0	0	0		No
SLV 12	3.41	-33.1	276	0.1086445	0.0005615	0.0035	0.4396		0	0	0		No
SLV 1	2.51	111	-518	-0.0000286	0.0005615	0.0035	0.5495		157.12	157.12	1.42		Si
SLV 1	3.41	-142.3	131	0.0541567	0.0005615	0.0035	0.4396		0	0	0		No
SLV 15	2.51	-382.15	-1207	-0.0007137	0.0005615	0.0035	0.4396		384.74	384.74	1.01		Si
SLV 15	3.41	426.33	-1518	-0.0031007	0.0005615	0.0035	0.4396		414.36	414.36	0.97		No
SLV 2	2.51	169.99	-348	-0.0058992	0.0005615	0.0035	0.4396		111.98	111.98	0.66		No
SLV 2	3.41	-218.06	399	0.1610556	0.0005615	0.0035	0.4396		0	0	0		No
SLV 16	2.51	-323.16	-1037	-0.000536	0.0005615	0.0035	0.4396		342.06	342.06	1.06		Si
SLV 16	3.41	350.57	-1250	-0.0018315	0.0005615	0.0035	0.4396		346.89	346.89	0.99		No
SLV 7	2.51	57.29	342	0.1287474	0.0005615	0.0035	0.4396		0	0	0		No
SLV 7	3.41	-162.98	685	0.2719812	0.0005615	0.0035	0.4396		0	0	0		No
SLV 8	2.51	117.32	514	0.1906608	0.0005615	0.0035	0.4396		0	0	0		No
SLV 8	3.41	-240.08	958	0.3807546	0.0005615	0.0035	0.4396		0	0	0		No
SLV 11	2.51	-110.37	-47	-0.0006504	0.0005615	0.0035	0.4396		81.5	81.5	0.74		No
SLV 11	3.41	44	3	-0.0027089	0.0005615	0.0035	0.4396		17.24	17.24	0.39		No
SLV 4	2.51	235.72	258	0.0228621	0.0005615	0.0035	0.4396		0	0	0		No
SLV 4	3.41	-339.36	1023	0.4085369	0.0005615	0.0035	0.4396		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 45	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 70	2.51	-144.72	-975	-821	-359	0.4396	0.3788	0	0	0	45199	3949	1121	5070	No	14.12	Si
SLU 70	3.41	141.52	-724	-610	-316	0.5495	0.238	-3700	7438	531	45199	4936	1401	6338	No	20.08	Si
SLU 50	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 50	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 43	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 43	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 48	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 48	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 51	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 51	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 49	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 49	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 46	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 46	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 44	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 44	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si
SLU 47	2.51	-155.87	-932	-784	-406	0.4396	0.3222	0	0	0	45199	3949	1121	5070	No	12.5	Si
SLU 47	3.41	155.2	-742	-625	-359	0.5495	0.1965	-3789	7450	439	45199	4936	1401	6338	No	17.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	2.51	-388.89	-1644	-1384	-1136	0.4396	0.1145	0	0	0	45199	5924	1121	7045		6.2	Si
SLV 14	3.41	471.87	-1874	-1578	-1189	0.4396	0.0689	0	0	0	45199	5924	1121	7045		5.92	Si
SLV 9	2.51	-329.48	-2069	-1742	-954	0.4396	0.3464	0	0	0	45199	5924	1121	7045		7.39	Si
SLV 9	3.41	448.35	-2077	-1749	-1126	0.5495	0.1768	-33595	16250	862	45199	7404	1401	8806		7.82	Si
SLV 16	2.51	-323.16	-1037	-873	-928	0.4396	0	0	0	0	45199	5924	1121	7045		7.59	Si
SLV 16	3.41	350.57	-1250	-1053	-874	0.4396	0	0	0	0	45199	5924	1121	7045		8.06	Si
SLV 4	2.51	235.72	258	218	805	0.4396	0	0	0	0	45199	5924	1121	7045		8.75	Si
SLV 4	3.41	-339.36	1023	862	934	0.4396	0	0	0	0	45199	5924	1121	7045		7.54	Si
SLV 3	2.51	176.73	89	75	624	0.4396	0	0	0	0	45199	5924	1121	7045		11.3	Si
SLV 3	3.41	-263.6	755	636	734	0.4396	0	0	0	0	45199	5924	1121	7045		9.6	Si
SLV 8	2.51	117.32	514	433	442	0.4396	0.1394	0	0	0	45199	5924	1121	7045		15.95	Si
SLV 8	3.41	-240.08	958	807	670	0.4396	0.0725	0	0	0	45199	5924	1121	7045		10.51	Si
SLV 2	2.51	169.99	-348	-293	597	0.4396	0	0	0	0	45199	5924	1121	7045		11.79	Si
SLV 2	3.41	-218.06	399	336	619	0.4396	0	0	0	0	45199	5924	1121	7045		11.38	Si
SLV 10	2.51	-269.45	-1896	-1597	-769	0.5495	0.398	-13461	13109	1565	45199	7404	1401	8806		11.44	Si
SLV 10	3.41	371.25	-1804	-1519	-922	0.5495	0.2069	-9216	12260	761	45199	7404	1401	8806		9.55	Si
SLV 15	2.51	-382.15	-1207	-1016	-1110	0.4396	0	0	0	0	45199	5924	1121	7045		6.35	Si
SLV 15	3.41	426.33	-1518	-1279	-1075	0.4396	0	0	0	0	45199	5924	1121	7045		6.56	Si
SLV 13	2.51	-447.88	-1813	-1527	-1317	0.4396	0.0832	0	0	0	45199	5924	1121	7045		5.35	Si
SLV 13	3.41	547.64	-2143	-1804	-1389	0.4396	0.0575	0	0	0	45199	5924	1121	7045		5.07	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.45	0	89	94.06	0	0	No, Trazione
SLV 1	179667	0.45	0	-518	94.06	0	0	No, e>t/2
SLV 7	179667	0.45	0	342	94.06	0	0	No, Trazione
SLV 2	179667	0.45	0	-348	94.06	0	0	No, e>t/2
SLV 8	179667	0.45	0	514	94.06	0	0	No, Trazione
SLV 12	179667	0.45	0	125	94.06	0	0	No, Trazione
SLV 11	179667	0.45	0	-47	94.06	0	0	No, e>t/2
SLV 4	179667	0.45	0	258	94.06	0	0	No, Trazione
SLV 16	179667	0.45	6292	-1037	94.06	149.17	1.59	Si
SLV 15	179667	0.45	7320	-1207	94.06	172.32	1.83	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 13	-165	-53	-23	4.069	128.4	0.922	64.12568	16.42755	Si
SLV 14	-136	-142	-23	4.228	126.8	0.93	66.05512	16.42755	Si
SLV 15	-96	289	-5	4.487	124.9	0.944	69.10376	16.42755	Si, Trazione
SLV 16	-67	199	-5	4.68	123.8	0.957	71.10799	16.42755	Si, Trazione
SLV 9	-156	-882	-33	4.099	128	0.924	64.45704	14.79547	Si
SLV 10	-127	-973	-33	4.264	126.3	0.933	66.42767	14.79547	Si
SLV 5	-81	-1252	-25	4.561	124.2	0.95	69.75152	14.79547	Si
SLV 6	-51	-1343	-25	4.766	123.3	0.965	71.77105	14.79547	Si
SLV 1	87	-1286	5	5.602	122.5	1	81.41455	16.42755	Si, Trazione
SLV 2	116	-1376	5	5.749	122.5	1	83.55773	16.42755	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.379	SLU 43	Si
V_SLU	12.495	SLU 43	Si
PF_SLV	0	SLV 1	No
V_SLV	5.07	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.904	SLV 13	Si

Maschio 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
32.569	-0.169	29.969	-0.169	L2	L3	2.6	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 47	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 47	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 39	2.51	663.62	-4225	-0.000011	0.0003743	0.0035	2.5998	5200.21	5601.75	5601.75	8.44	No	Si
SLU 39	3.41	470.85	-3335	-0.0000084	0.0003743	0.0035	2.5998	4153.55	4530.15	4530.15	9.62	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 50	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 45	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 45	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 46	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 46	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 43	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 43	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 48	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 48	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 51	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 51	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 44	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 44	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si
SLU 49	2.51	-514.75	-1787	-0.0000056	0.0003743	0.0035	2.5998	2270.32	4163.62	4163.62	8.09	No	Si
SLU 49	3.41	340.67	-2236	-0.0000057	0.0003743	0.0035	2.5998	2824.46	3179.44	3179.44	9.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	2.51	-1734.57	-678	-0.0002001	0.0005615	0.0035	2.0798		2770.31	2770.31	1.6		Si
SLV 15	3.41	2963.45	-473	-0.0093659	0.0005615	0.0035	2.5998		962.05	962.05	0.32		No
SLV 4	2.51	1656.06	-2400	-0.000013	0.0005615	0.0035	2.5998		3403.53	3403.53	2.06		Si
SLV 4	3.41	-1605.37	-2937	-0.0000128	0.0005615	0.0035	2.5998		5597.95	5597.95	3.49		Si
SLV 8	2.51	734.66	-498	-0.0001799	0.0005615	0.0035	2.0798		994.25	994.25	1.35		Si
SLV 8	3.41	644.79	-1147	-0.0000051	0.0005615	0.0035	2.5998		1822.82	1822.82	2.83		Si
SLV 14	2.51	-1611.58	-2052	-0.0000131	0.0005615	0.0035	2.0798		4496.99	4496.99	2.79		Si
SLV 14	3.41	1751.95	-1685	-0.0000214	0.0005615	0.0035	2.5998		2503.95	2503.95	1.43		Si
SLV 12	2.51	-202.13	-41	-0.0000306	0.0005615	0.0035	2.0798		1956.57	1956.57	9.68		Si
SLV 12	3.41	1865.51	-504	-0.003889	0.0005615	0.0035	2.0798		1001.51	1001.51	0.54		No
SLV 11	2.51	-474.83	161	0.0108371	0.0005615	0.0035	2.0798		0	0	0		No
SLV 11	3.41	2374.05	-179	-0.0085443	0.0005615	0.0035	2.5998		584.52	584.52	0.25		No
SLV 3	2.51	1388.07	-2201	-0.0000108	0.0005615	0.0035	2.5998		3154.12	3154.12	2.27		Si
SLV 3	3.41	-1105.62	-2618	-0.0000098	0.0005615	0.0035	2.5998		5201.78	5201.78	4.7		Si
SLV 13	2.51	-1879.57	-1853	-0.0000212	0.0005615	0.0035	2.0798		4248.5	4248.5	2.26		Si
SLV 13	3.41	2251.7	-1366	-0.0011079	0.0005615	0.0035	2.0798		2099.79	2099.79	0.93		No
SLV 16	2.51	-1466.57	-877	-0.0001048	0.0005615	0.0035	2.0798		3021.94	3021.94	2.06		Si
SLV 16	3.41	2463.7	-792	-0.0050881	0.0005615	0.0035	2.5998		1370.58	1370.58	0.56		No
SLV 7	2.51	461.96	-296	-0.0001404	0.0005615	0.0035	2.0798		735.03	735.03	1.59		Si
SLV 7	3.41	1153.33	-822	-0.0002176	0.0005615	0.0035	2.0798		1409.07	1409.07	1.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 77	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si
SLU 80	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 80	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si
SLU 83	2.51	480.57	-4476	-3769	141	2.5998	2.5998	-4833	7589	5919	45199	23355	6629	29984	No	211.92	Si
SLU 83	3.41	532.27	-3755	-3162	287	2.5998	2.5998	-4054	7485	5838	45199	23355	6629	29984	No	104.39	Si
SLU 81	2.51	480.57	-4476	-3769	141	2.5998	2.5998	-4833	7589	5919	45199	23355	6629	29984	No	211.92	Si
SLU 81	3.41	532.27	-3755	-3162	287	2.5998	2.5998	-4054	7485	5838	45199	23355	6629	29984	No	104.39	Si
SLU 76	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 76	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si
SLU 84	2.51	480.57	-4476	-3769	141	2.5998	2.5998	-4833	7589	5919	45199	23355	6629	29984	No	211.92	Si
SLU 84	3.41	532.27	-3755	-3162	287	2.5998	2.5998	-4054	7485	5838	45199	23355	6629	29984	No	104.39	Si
SLU 78	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 78	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si
SLU 82	2.51	480.57	-4476	-3769	141	2.5998	2.5998	-4833	7589	5919	45199	23355	6629	29984	No	211.92	Si
SLU 82	3.41	532.27	-3755	-3162	287	2.5998	2.5998	-4054	7485	5838	45199	23355	6629	29984	No	104.39	Si
SLU 75	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 75	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si
SLU 79	2.51	255.07	-3853	-3245	69	2.5998	2.5998	-4160	7499	5849	45199	23355	6629	29984	No	431.61	Si
SLU 79	3.41	494.36	-3409	-2871	278	2.5998	2.5998	-3681	7435	5799	45199	23355	6629	29984	No	108.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	2.51	1243.06	-3376	-2843	4728	2.5998	2.5998	-3645	11146	8693	45199	35032	6629	41662		8.81	Si
SLV 1	3.41	-1817.37	-3511	-2957	3737	2.5998	2.3469	-4204	11257	7926	45199	35032	6629	41662		11.15	Si
SLV 6	2.51	251.32	-4414	-3717	2684	2.5998	2.5998	-4766	11370	8868	45199	35032	6629	41662		15.52	Si
SLV 6	3.41	-1727.72	-4125	-3473	2721	2.5998	2.5998	-4453	11307	8819	45199	35032	6629	41662		15.31	Si
SLV 14	2.51	-1611.58	-2052	-1728	-4432	2.0798	1.5431	0	0	0	45199	28026	5304	33329		7.52	Si
SLV 14	3.41	1751.95	-1685	-1419	-2759	2.5998	0.7813	-6071	11631	2726	45199	35032	6629	41662		15.1	Si
SLV 4	2.51	1656.06	-2400	-2021	5389	2.5998	1.8297	-2591	10935	6002	45199	35032	6629	41662		7.73	Si
SLV 4	3.41	-1605.37	-2937	-2474	4013	2.5998	2.2601	-3653	11147	7558	45199	35032	6629	41662		10.38	Si
SLV 13	2.51	-1879.57	-1853	-1560	-5490	2.0798	0.8565	0	0	0	45199	28026	5304	33329		6.07	Si
SLV 13	3.41	2251.7	-1366	-1150	-3624	2.0798	0	0	0	0	45199	28026	5304	33329		9.2	Si
SLV 16	2.51	-1466.57	-877	-738	-4829	2.0798	0	0	0	0	45199	28026	5304	33329		6.9	Si
SLV 16	3.41	2463.7	-792	-667	-3348	2.5998	0	0	16250	0	45199	35032	6629	41662		12.44	Si
SLV 15	2.51	-1734.57	-678	-571	-5888	2.0798	0	0	0	0	45199	28026	5304	33329		5.66	Si
SLV 15	3.41	2963.45	-473	-398	-4214	2.5998	0	0	16250	0	45199	35032	6629	41662		9.89	Si
SLV 3	2.51	1388.07	-2201	-1854	4331	2.5998	2.0081	-2377	10892	6562	45199	35032	6629	41662		9.62	Si
SLV 3	3.41	-1105.62	-2618	-2205	3148	2.5998	2.5998	-2827	10982	8565	45199	35032	6629	41662		13.23	Si
SLV 11	2.51	-474.83	161	136	-2785	2.0798	0	0	0	0	45199	28026	5304	33329		11.97	Si
SLV 11	3.41	2374.05	-179	-151	-2332	2.5998	0	0	0	0	45199	35032	6629	41662		17.86	Si
SLV 2	2.51	1511.06	-3575	-3010	5787	2.5998	2.5998	-3860	11189	8726	45199	35032	6629	41662		7.2	Si
SLV 2	3.41	-2317.12	-3830	-3226	4603	2.5998	2.0849	-5167	11450	7162	45199	35032	6629	41662		9.05	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	0	-524	445.01	0	0	No, $e > t/2$
SLV 7	179667	0.45	0	-917	445.01	0	0	No, $e > t/2$
SLV 4	179667	0.45	0	-2895	445.01	0	0	No, $e > t/2$
SLV 14	179667	0.45	0	-2715	445.01	0	0	No, $e > t/2$
SLV 3	179667	0.45	0	-2699	445.01	0	0	No, $e > t/2$
SLV 15	179667	0.45	0	-1387	445.01	0	0	No, $e > t/2$
SLV 13	179667	0.45	0	-2519	445.01	0	0	No, $e > t/2$
SLV 12	179667	0.45	0	-723	445.01	0	0	No, $e > t/2$
SLV 16	179667	0.45	0	-1583	445.01	0	0	No, $e > t/2$
SLV 8	179667	0.45	0	-1117	445.01	0	0	No, $e > t/2$

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-492	-3237	-67	4.427	592.5	0.941	68.38865	16.42755	Si
SLV 1	-444	-3381	-67	4.492	590.4	0.945	69.09398	16.42755	Si
SLV 4	-366	-979	-34	4.61	587.2	0.952	70.38733	16.42755	Si
SLV 3	-317	-1122	-34	4.68	585.5	0.957	71.09471	16.42755	Si
SLV 14	-179	-4689	29	4.894	581.6	0.973	73.11453	16.42755	Si
SLV 13	-131	-4833	29	4.973	580.7	0.979	73.7999	16.42755	Si
SLV 16	-53	-2431	62	5.095	579.8	0.991	74.71252	16.42755	Si
SLV 6	-531	-6379	-71	4.376	594.3	0.938	67.8107	14.79547	Si
SLV 15	-4	-2574	62	5.181	579.6	0.999	75.35788	16.42755	Si
SLV 5	-481	-6526	-71	4.44	592	0.942	68.52631	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.089	SLU 43	Si
V_SLU	104.393	SLU 81	Si
PF_SLV	0	SLV 11	No
V_SLV	5.661	SLV 15	Si
PFFP_SLV	0	SLV 3	No
R_SLV	4.163	SLV 2	Si

Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	-0.169	33.569	-0.169	L2	L3	1.855	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	$\epsilon_f d$	$y_F d$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 64	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 64	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 68	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 68	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 69	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 65	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 65	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 29	1.51	-279.85	-2658	-0.0000095	0.0003743	0.0035	1.8552	2349.75	3245.51	3245.51	11.6	No	Si
SLU 29	3.41	-101.9	-1600	-0.0000051	0.0003743	0.0035	1.8552	1442.48	2331.15	2331.15	22.88	No	Si
SLU 72	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 72	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 66	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 66	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 71	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 71	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 70	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 70	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si
SLU 67	1.51	-326.52	-3288	-0.0000117	0.0003743	0.0035	1.8552	2873.16	3785.54	3785.54	11.59	No	Si
SLU 67	3.41	-109.93	-1961	-0.0000062	0.0003743	0.0035	1.8552	1756.45	2644.99	2644.99	24.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	1.51	1364.76	-3470	-0.0000215	0.0005615	0.0035	1.8552		3297.67	3297.67	2.42		Si
SLV 1	3.41	-1422.33	260	0.0255053	0.0005615	0.0035	1.4842		0	0	0		No
SLV 6	1.51	1592.85	-4685	-0.000265	0.0005615	0.0035	1.8552		4340.43	4340.43	2.72		Si
SLV 6	3.41	-1030.01	168	0.0161828	0.0005615	0.0035	1.4842		0	0	0		No
SLV 12	1.51	-1782.89	-1051	-0.000436	0.0005615	0.0035	1.4842		1845.5	1845.5	1.04		Si
SLV 12	3.41	593.37	-2937	-0.000129	0.0005615	0.0035	1.8552		2832.79	2832.79	4.77		Si
SLV 4	1.51	907.97	-2880	-0.000155	0.0005615	0.0035	1.8552		2783.14	2783.14	3.07		Si
SLV 4	3.41	-1423.02	7	-0.0008684	0.0005615	0.0035	1.4842		885.96	885.96	0.62		No
SLV 3	1.51	601.73	-2473	-0.000118	0.0005615	0.0035	1.8552		2424.56	2424.56	4.03		Si
SLV 3	3.41	-1174.83	-364	-0.0003956	0.0005615	0.0035	1.4842		1226.87	1226.87	1.04		Si
SLV 7	1.51	-1262.2	-945	-0.0002295	0.0005615	0.0035	1.4842		1750.34	1750.34	1.39		Si
SLV 7	3.41	47.54	-2291	-0.0000065	0.0005615	0.0035	1.8552		2264.6	2264.6	47.63		Si
SLV 11	1.51	-2094.52	-636	-0.0007994	0.0005615	0.0035	1.4842		1472.22	1472.22	0.7		No
SLV 11	3.41	845.92	-3315	-0.000162	0.0005615	0.0035	1.8552		3163.81	3163.81	3.74		Si
SLV 2	1.51	1671	-3878	-0.000026	0.0005615	0.0035	1.8552		3650	3650	2.18		Si
SLV 2	3.41	-1670.52	632	0.064384	0.0005615	0.0035	1.4842		0	0	0		No
SLV 16	1.51	-1866.43	-1851	-0.0001927	0.0005615	0.0035	1.4842		2558.66	2558.66	1.37		Si
SLV 16	3.41	1238.24	-3407	-0.00002	0.0005615	0.0035	1.8552		3243.42	3243.42	2.62		Si
SLV 15	1.51	-2172.67	-1443	-0.0004877	0.0005615	0.0035	1.4842		2196.03	2196.03	1.01		Si
SLV 15	3.41	1486.44	-3779	-0.0000235	0.0005615	0.0035	1.8552		3564.64	3564.64	2.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	1.51	-326.52	-3288	-2769	-771	1.8552	1.8552	-4975	7608	4234	45199	16666	4731	21397	No	27.75	Si
SLU 68	3.41	-109.93	-1961	-1652	-775	1.8552	1.8552	-2968	7340	4085	45199	16666	4731	21397	No	27.62	Si
SLU 49	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 49	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 44	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 44	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 43	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 43	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 50	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 50	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 45	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 45	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 47	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 47	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 48	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 48	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 51	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 51	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si
SLU 46	1.51	-268.51	-3028	-2550	-773	1.8552	1.8552	-4582	7555	4205	45199	16666	4731	21397	No	27.69	Si
SLU 46	3.41	-74.86	-1776	-1496	-776	1.8552	1.8552	-2688	7303	4065	45199	16666	4731	21397	No	27.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	1.51	-1103.4	-2848	-2398	-2486	1.8552	1.6206	-4943	11405	5545	45199	24999	4731	29730		11.96	Si
SLV 14	3.41	990.74	-2783	-2344	-1603	1.8552	1.7149	-4211	11259	5792	45199	24999	4731	29730		18.55	Si
SLV 6	1.51	1592.85	-4685	-3945	2841	1.8552	1.7628	-7088	11834	6259	45199	24999	4731	29730		10.47	Si
SLV 6	3.41	-1030.01	168	141	2645	1.4842	0	0	0	0	45199	20000	3785	23784		8.99	Si
SLV 15	1.51	-2172.67	-1443	-1215	-4462	1.4842	0	0	0	0	45199	20000	3785	23784		5.33	Si
SLV 15	3.41	1486.44	-3779	-3182	-3620	1.8552	1.6028	-5718	11560	5559	45199	24999	4731	29730		8.21	Si
SLV 13	1.51	-1409.65	-2440	-2055	-3158	1.4842	1.0498	0	0	0	45199	20000	3785	23784		7.53	Si
SLV 13	3.41	1238.94	-3155	-2657	-2275	1.8552	1.6048	-4773	11371	5475	45199	24999	4731	29730		13.07	Si
SLV 16	1.51	-1866.43	-1851	-1558	-3790	1.4842	0	0	0	0	45199	20000	3785	23784		6.28	Si
SLV 16	3.41	1238.24	-3407	-2869	-2947	1.8552	1.6926	-5155	11448	5813	45199	24999	4731	29730		10.09	Si
SLV 12	1.51	-1782.89	-1051	-885	-3260	1.4842	0	0	0	0	45199	20000	3785	23784		7.29	Si
SLV 12	3.41	593.37	-2937	-2473	-3070	1.8552	1.8552	-4444	11305	6292	45199	24999	4731	29730		9.68	Si
SLV 1	1.51	1364.76	-3470	-2922	2687	1.8552	1.603	-5250	11467	5514	45199	24999	4731	29730		11.07	Si
SLV 1	3.41	-1422.33	260	219	1838	1.4842	0	0	0	0	45199	20000	3785	23784		12.94	Si
SLV 11	1.51	-2094.52	-636	-536	-3944	1.4842	0	0	0	0	45199	20000	3785	23784		6.03	Si
SLV 11	3.41	845.92	-3315	-2792	-3755	1.8552	1.8552	-5016	11420	6356	45199	24999	4731	29730		7.92	Si
SLV 7	1.51	-1262.2	-945	-796	-2191	1.4842	0	0	0	0	45199	20000	3785	23784		10.86	Si
SLV 7	3.41	47.54	-2291	-1929	-2521	1.8552	1.8552	-3466	11110	6183	45199	24999	4731	29730		11.8	Si
SLV 2	1.51	1671	-3878	-3266	3359	1.8552	1.4901	-5867	11590	5181	45199	24999	4731	29730		8.85	Si
SLV 2	3.41	-1670.52	632	532	2511	1.4842	0	0	0	0	45199	20000	3785	23784		9.47	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	0	-1750	317.57	0	0	No, e>t/2
SLV 6	179667	0.45	0	-1667	317.57	0	0	No, e>t/2
SLV 3	179667	0.45	0	-1212	317.57	0	0	No, e>t/2
SLV 7	179667	0.45	0	-1905	317.57	0	0	No, e>t/2
SLV 4	179667	0.45	0	-1130	317.57	0	0	No, e>t/2
SLV 8	179667	0.45	0	-1822	317.57	0	0	No, e>t/2
SLV 2	179667	0.45	0	-1083	317.57	0	0	No, e>t/2
SLV 1	179667	0.45	0	-1165	317.57	0	0	No, e>t/2
SLV 10	179667	0.45	3978	-2214	317.57	323.45	1.02	Si
SLV 9	179667	0.45	4128	-2298	317.57	335.31	1.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-435	-3207	172	4.228	426.9	0.932	65.90888	16.42755	Si
SLV 16	-378	-3461	172	4.326	424.1	0.938	67.04018	16.42755	Si
SLV 13	-327	-4006	121	4.442	421.7	0.944	68.408	16.42755	Si
SLV 14	-270	-4259	121	4.55	419.4	0.951	69.55738	16.42755	Si
SLV 11	-398	-1926	128	4.31	425	0.936	66.93514	14.79547	Si
SLV 3	34	-2212	-122	5.193	413.6	1	75.47805	16.42755	Si, Trazione
SLV 12	-340	-2183	128	4.414	422.3	0.942	68.09769	14.79547	Si
SLV 4	91	-2466	-122	5.267	413.6	1	76.54152	16.42755	Si, Trazione
SLV 1	142	-3010	-172	5.309	413.6	1	77.16168	16.42755	Si, Trazione
SLV 7	-257	-1627	39	4.612	418.9	0.952	70.36948	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.594	SLU 64	Si
V_SLU	27.575	SLU 43	Si
PF_SLV	0	SLV 1	No
V_SLV	5.33	SLV 15	Si
PFFP_SLV	0	SLV 1	No
R_SLV	4.012	SLV 15	Si

Maschio 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
30.718	3.536	30.718	-0.169	L2	L3	3.705	0.18	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 78	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si
SLU 83	0.51	-6871.05	-30155	-0.0000847	0.0004492	0.0035	3.705	35189.68	53779.01	53779.01	7.83	No	Si
SLU 83	2.61	-7377.5	-22518	-0.0000695	0.0004492	0.0035	3.705	30187.49	43869.24	43869.24	5.95	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.51	-6871.05	-30155	-0.0000847	0.0004492	0.0035	3.705	35189.68	53779.01	53779.01	7.83	No	Si
SLU 84	2.61	-7377.5	-22518	-0.0000695	0.0004492	0.0035	3.705	30187.49	43869.24	43869.24	5.95	No	Si
SLU 76	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 76	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si
SLU 75	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 75	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si
SLU 81	0.51	-6871.05	-30155	-0.0000847	0.0004492	0.0035	3.705	35189.68	53779.01	53779.01	7.83	No	Si
SLU 81	2.61	-7377.5	-22518	-0.0000695	0.0004492	0.0035	3.705	30187.49	43869.24	43869.24	5.95	No	Si
SLU 79	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 79	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si
SLU 80	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 80	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si
SLU 82	0.51	-6871.05	-30155	-0.0000847	0.0004492	0.0035	3.705	35189.68	53779.01	53779.01	7.83	No	Si
SLU 82	2.61	-7377.5	-22518	-0.0000695	0.0004492	0.0035	3.705	30187.49	43869.24	43869.24	5.95	No	Si
SLU 77	0.51	-6457.41	-27937	-0.0000783	0.0004492	0.0035	3.705	34010.02	50998.98	50998.98	7.9	No	Si
SLU 77	2.61	-6631.31	-20009	-0.0000616	0.0004492	0.0035	3.705	27964.94	40349.4	40349.4	6.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.51	202.3	-22591	-0.0000447	0.0006738	0.0035	3.705		38371.79	38371.79	189.68		Si
SLV 5	2.61	-9587.81	-17316	-0.0000645	0.0006738	0.0035	3.705		37154.66	37154.66	3.88		Si
SLV 11	0.51	-8957.94	-13994	-0.0000557	0.0006738	0.0035	3.705		31975.25	31975.25	3.57		Si
SLV 11	2.61	1473.46	-6436	-0.0000169	0.0006738	0.0035	3.705		12764.05	12764.05	8.66		Si
SLV 10	0.51	447.14	-22068	-0.0000445	0.0006738	0.0035	3.705		37668.01	37668.01	84.24		Si
SLV 10	2.61	-8501.52	-16425	-0.0000592	0.0006738	0.0035	3.705		35764.37	35764.37	4.21		Si
SLV 1	0.51	-3353.23	-20342	-0.0000504	0.0006738	0.0035	3.705		41760.55	41760.55	12.45		Si
SLV 1	2.61	-7269.06	-14810	-0.0000519	0.0006738	0.0035	3.705		33248.18	33248.18	4.57		Si
SLV 7	0.51	-9188.42	-14495	-0.0000575	0.0006738	0.0035	3.705		32756.92	32756.92	3.57		Si
SLV 7	2.61	449.35	-7294	-0.0000154	0.0006738	0.0035	3.705		14240.89	14240.89	31.69		Si
SLV 12	0.51	-8943.58	-13973	-0.0000556	0.0006738	0.0035	3.705		31941.99	31941.99	3.57		Si
SLV 12	2.61	1535.63	-6403	-0.000017	0.0006738	0.0035	3.705		12707.41	12707.41	8.28		Si
SLV 9	0.51	432.78	-22089	-0.0000445	0.0006738	0.0035	3.705		37696.74	37696.74	87.1		Si
SLV 9	2.61	-8563.7	-16457	-0.0000594	0.0006738	0.0035	3.705		35815.71	35815.71	4.18		Si
SLV 8	0.51	-9174.06	-14474	-0.0000574	0.0006738	0.0035	3.705		32723.66	32723.66	3.57		Si
SLV 8	2.61	511.52	-7262	-0.0000155	0.0006738	0.0035	3.705		14184.25	14184.25	27.73		Si
SLV 2	0.51	-3339.12	-20321	-0.0000504	0.0006738	0.0035	3.705		41729.52	41729.52	12.5		Si
SLV 2	2.61	-7207.96	-14778	-0.0000516	0.0006738	0.0035	3.705		33197.72	33197.72	4.61		Si
SLV 6	0.51	216.66	-22569	-0.0000447	0.0006738	0.0035	3.705		38343.06	38343.06	176.97		Si
SLV 6	2.61	-9525.64	-17283	-0.0000643	0.0006738	0.0035	3.705		37103.32	37103.32	3.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 49	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 48	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 48	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 47	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 47	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 50	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 50	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 68	0.51	-5492.25	-22761	-14007	-4876	3.705	3.705	-21003	10833	7225	129139	23967	18896	42862	No	8.79	Si
SLU 68	2.61	-4890.19	-14154	-8710	-4844	3.705	3.705	-13060	10075	6719	129139	23967	18896	42862	No	8.85	Si
SLU 43	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 43	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 45	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 45	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 44	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 44	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 46	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 46	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si
SLU 51	0.51	-4901.09	-19550	-12031	-5164	3.705	3.705	-18040	10739	7162	129139	23967	18896	42862	No	8.3	Si
SLU 51	2.61	-3829.77	-10965	-6747	-5136	3.705	3.705	-10118	9682	6457	129139	23967	18896	42862	No	8.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.51	-2584.95	-18671	-11490	-2909	3.705	3.705	-17229	15946	10634	129139	35950	18896	54846		18.86	Si
SLV 13	2.61	-3855.36	-11947	-7352	-3309	3.705	3.705	-11025	14705	9807	129139	35950	18896	54846		16.57	Si
SLV 3	0.51	-6170.45	-17914	-11024	-4136	3.705	3.705	-16530	15806	10541	129139	35950	18896	54846		13.26	Si
SLV 3	2.61	-4257.92	-11804	-7264	-3685	3.705	3.705	-10892	14678	9789	129139	35950	18896	54846		14.88	Si
SLV 16	0.51	-5388.05	-16221	-9982	-6536	3.705	3.705	-14968	15494	10333	129139	35950	18896	54846		8.39	Si
SLV 16	2.61	-783.11	-8909	-5482	-6241	3.705	3.705	-8220	14144	9433	129139	35950	18896	54846		8.79	Si
SLV 15	0.51	-5402.16	-16242	-9995	-6503	3.705	3.705	-14987	15497	10335	129139	35950	18896	54846		8.43	Si
SLV 15	2.61	-844.21	-8941	-5502	-6209	3.705	3.705	-8250	14150	9437	129139	35950	18896	54846		8.83	Si
SLV 4	0.51	-6156.33	-17893	-11011	-4169	3.705	3.705	-16510	15802	10538	129139	35950	18896	54846		13.16	Si
SLV 4	2.61	-4196.81	-11772	-7244	-3717	3.705	3.705	-10862	14672	9785	129139	35950	18896	54846		14.75	Si
SLV 11	0.51	-8957.94	-13994	-8612	-9868	3.705	3.6371	-13234	15147	9916	129139	35950	18896	54846		5.56	Si
SLV 11	2.61	1473.46	-6436	-3960	-8708	3.705	3.705	-5938	13688	9128	129139	35950	18896	54846		6.3	Si
SLV 12	0.51	-8943.58	-13973	-8599	-9901	3.705	3.6373	-13213	15143	9914	129139	35950	18896	54846		5.54	Si
SLV 12	2.61	1535.63	-6403	-3940	-8741	3.705	3.705	-5908	13682	9124	129139	35950	18896	54846		6.27	Si
SLV 8	0.51	-9174.06	-14474	-8907	-9191	3.705	3.656	-13620	15224	10019	129139	35950	18896	54846		5.97	Si
SLV 8	2.61	511.52	-7262	-4469	-7984	3.705	3.705	-6701	13840	9230	129139	35950	18896	54846		6.87	Si
SLV 7	0.51	-9188.42	-14495	-8920	-9158	3.705	3.6558	-13641	15228	10021	129139	35950	18896	54846		5.99	Si
SLV 7	2.61	449.35	-7294	-4489	-7951	3.705	3.705	-6731	13846	9234	129139	35950	18896	54846		6.9	Si
SLV 14	0.51	-2570.83	-18650	-11477	-2941	3.705	3.705	-17209	15942	10632	129139	35950	18896	54846		18.65	Si
SLV 14	2.61	-3794.26	-11915	-7332	-3342	3.705	3.705	-10995	14699	9803	129139	35950	18896	54846		16.41	Si



Verifica a pressoflessione fuori piano muratura rinforzata con FRDM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-6408	0.45	389.14	546.48	989.73	768.11	1.97	Si
SLV 11	-6441	0.45	389.14	549.13	993.22	771.17	1.98	Si
SLV 8	-7279	0.45	389.14	616.08	1081.85	848.96	2.18	Si
SLV 7	-7312	0.45	389.14	618.69	1085.33	852.01	2.19	Si
SLV 16	-8905	0.45	389.14	743.09	1252.77	997.93	2.56	Si
SLV 15	-8938	0.45	389.14	745.58	1256.16	1000.87	2.57	Si
SLV 4	-11808	0.45	389.14	960.06	1555.14	1257.6	3.23	Si
SLV 3	-11840	0.45	389.14	962.41	1558.48	1260.45	3.24	Si
SLV 14	-11917	0.45	389.14	967.93	1566.34	1267.14	3.26	Si
SLV 13	-11949	0.45	389.14	970.28	1569.69	1269.98	3.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.535 Wa = 0.03 Ta = 0.1522

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-8793	-22591	62	1.876	1283	0.922	29.57378	18.64567	Si
SLV 6	-8790	-22569	62	1.876	1282.8	0.922	29.58147	18.64567	Si
SLV 9	-8718	-22089	-20	1.892	1275.5	0.921	29.83972	18.64567	Si
SLV 10	-8715	-22068	-20	1.892	1275.3	0.921	29.84753	18.64567	Si
SLV 1	-8543	-20342	142	1.911	1258	0.921	30.16206	18.64567	Si
SLV 2	-8540	-20321	142	1.911	1257.7	0.921	30.16994	18.64567	Si
SLV 13	-8294	-18671	-130	1.956	1233	0.919	30.91195	18.64567	Si
SLV 14	-8291	-18650	-130	1.956	1232.7	0.919	30.92022	18.64567	Si
SLV 3	-8254	-17914	130	1.963	1229	0.919	31.03329	18.64567	Si
SLV 4	-8251	-17893	130	1.963	1228.7	0.919	31.04163	18.64567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.946	SLU 81	Si
V_SLU	8.3	SLU 43	Si
PF_SLV	3.565	SLV 7	Si
V_SLV	5.539	SLV 12	Si
PFFP_SLV	1.974	SLV 12	Si
R_SLV	1.586	SLV 5	Si

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
30.718	4.834	30.718	4.336	L2	L3	0.497	0.18	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRDM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRDM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.51	254.49	-7634	-0.0001798	0.0004492	0.0035	0.4973	573.44	1336.88	1336.88	5.25	No	Si
SLU 83	2.61	-66.74	-6010	-0.000107	0.0004492	0.0035	0.4973	673.37	1176.88	1176.88	17.63	No	Si
SLU 74	0.51	234.9	-7062	-0.0001634	0.0004492	0.0035	0.4973	622.37	1279.82	1279.82	5.45	No	Si
SLU 74	2.61	-60.92	-5404	-0.0000952	0.0004492	0.0035	0.4973	679.92	1099.47	1099.47	18.05	No	Si
SLU 84	0.51	254.49	-7634	-0.0001798	0.0004492	0.0035	0.4973	573.44	1336.88	1336.88	5.25	No	Si
SLU 84	2.61	-66.74	-6010	-0.000107	0.0004492	0.0035	0.4973	673.37	1176.88	1176.88	17.63	No	Si
SLU 62	0.51	231.76	-6827	-0.000158	0.0004492	0.0035	0.4973	638.13	1256.4	1256.4	5.42	No	Si
SLU 62	2.61	-61.66	-5319	-0.0000939	0.0004492	0.0035	0.4973	679.51	1088.62	1088.62	17.66	No	Si
SLU 81	0.51	254.49	-7634	-0.0001798	0.0004492	0.0035	0.4973	573.44	1336.88	1336.88	5.25	No	Si
SLU 81	2.61	-66.74	-6010	-0.000107	0.0004492	0.0035	0.4973	673.37	1176.88	1176.88	17.63	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 60	0.51	231.76	-6827	-0.000158	0.0004492	0.0035	0.4973	638.13	1256.4	1256.4	5.42	No	Si
SLU 60	2.61	-61.66	-5319	-0.0000939	0.0004492	0.0035	0.4973	679.51	1088.62	1088.62	17.66	No	Si
SLU 61	0.51	231.76	-6827	-0.000158	0.0004492	0.0035	0.4973	638.13	1256.4	1256.4	5.42	No	Si
SLU 61	2.61	-61.66	-5319	-0.0000939	0.0004492	0.0035	0.4973	679.51	1088.62	1088.62	17.66	No	Si
SLU 75	0.51	234.9	-7062	-0.0001634	0.0004492	0.0035	0.4973	622.37	1279.82	1279.82	5.45	No	Si
SLU 75	2.61	-60.92	-5404	-0.0000952	0.0004492	0.0035	0.4973	679.92	1099.47	1099.47	18.05	No	Si
SLU 63	0.51	231.76	-6827	-0.000158	0.0004492	0.0035	0.4973	638.13	1256.4	1256.4	5.42	No	Si
SLU 63	2.61	-61.66	-5319	-0.0000939	0.0004492	0.0035	0.4973	679.51	1088.62	1088.62	17.66	No	Si
SLU 82	0.51	254.49	-7634	-0.0001798	0.0004492	0.0035	0.4973	573.44	1336.88	1336.88	5.25	No	Si
SLU 82	2.61	-66.74	-6010	-0.000107	0.0004492	0.0035	0.4973	673.37	1176.88	1176.88	17.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	0.51	359.71	-5464	-0.0001512	0.0006738	0.0035	0.4973		1132.59	1132.59	3.15		Si
SLV 5	2.61	-306.11	-3774	-0.0001122	0.0006738	0.0035	0.4973		882.03	882.03	2.88		Si
SLV 1	0.51	329.79	-7053	-0.0001734	0.0006738	0.0035	0.4973		1362.83	1362.83	4.13		Si
SLV 1	2.61	-170.39	-3763	-0.0000866	0.0006738	0.0035	0.4973		880.05	880.05	5.16		Si
SLV 11	0.51	-48.86	-3781	-0.0000644	0.0006738	0.0035	0.4973		883.45	883.45	18.08		Si
SLV 11	2.61	223.43	-2907	-0.0000829	0.0006738	0.0035	0.4973		666.39	666.39	2.98		Si
SLV 12	0.51	-52.52	-3753	-0.0000646	0.0006738	0.0035	0.4973		878.08	878.08	16.72		Si
SLV 12	2.61	227.78	-2870	-0.0000831	0.0006738	0.0035	0.4973		659.58	659.58	2.9		Si
SLV 7	0.51	25.72	-5218	-0.0000824	0.0006738	0.0035	0.4973		1092.24	1092.24	42.47		Si
SLV 7	2.61	190.69	-3100	-0.0000799	0.0006738	0.0035	0.4973		702.02	702.02	3.68		Si
SLV 6	0.51	356.05	-5436	-0.00015	0.0006738	0.0035	0.4973		1128.53	1128.53	3.17		Si
SLV 6	2.61	-301.76	-3737	-0.0001108	0.0006738	0.0035	0.4973		874.97	874.97	2.9		Si
SLV 2	0.51	326.19	-7026	-0.0001722	0.0006738	0.0035	0.4973		1358.84	1358.84	4.17		Si
SLV 2	2.61	-166.11	-3727	-0.0000852	0.0006738	0.0035	0.4973		873.11	873.11	5.26		Si
SLV 8	0.51	22.06	-5190	-0.0000813	0.0006738	0.0035	0.4973		1087.07	1087.07	49.28		Si
SLV 8	2.61	195.04	-3063	-0.0000801	0.0006738	0.0035	0.4973		695.22	695.22	3.56		Si
SLV 10	0.51	281.47	-3999	-0.0001113	0.0006738	0.0035	0.4973		867.65	867.65	3.08		Si
SLV 10	2.61	-269.02	-3543	-0.0001015	0.0006738	0.0035	0.4973		838	838	3.12		Si
SLV 9	0.51	285.13	-4027	-0.0001124	0.0006738	0.0035	0.4973		872.82	872.82	3.06		Si
SLV 9	2.61	-273.36	-3580	-0.0001029	0.0006738	0.0035	0.4973		845.06	845.06	3.09		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.51	254.49	-7634	-4698	110	0.4973	0.4973	-52480	10833	970	129139	3217	2536	5754	No	52.23	Si
SLU 84	2.61	-66.74	-6010	-3699	110	0.4973	0.4973	-41314	10833	970	129139	3217	2536	5754	No	52.33	Si
SLU 62	0.51	231.76	-6827	-4201	101	0.4973	0.4973	-46927	10833	970	129139	3217	2536	5754	No	57.06	Si
SLU 62	2.61	-61.66	-5319	-3273	101	0.4973	0.4973	-36566	10833	970	129139	3217	2536	5754	No	57.18	Si
SLU 41	0.51	222.07	-6713	-4131	100	0.4973	0.4973	-46144	10833	970	129139	3217	2536	5754	No	57.74	Si
SLU 41	2.61	-58.34	-5431	-3342	99	0.4973	0.4973	-37332	10833	970	129139	3217	2536	5754	No	57.85	Si
SLU 83	0.51	254.49	-7634	-4698	110	0.4973	0.4973	-52480	10833	970	129139	3217	2536	5754	No	52.23	Si
SLU 83	2.61	-66.74	-6010	-3699	110	0.4973	0.4973	-41314	10833	970	129139	3217	2536	5754	No	52.33	Si
SLU 61	0.51	231.76	-6827	-4201	101	0.4973	0.4973	-46927	10833	970	129139	3217	2536	5754	No	57.06	Si
SLU 61	2.61	-61.66	-5319	-3273	101	0.4973	0.4973	-36566	10833	970	129139	3217	2536	5754	No	57.18	Si
SLU 81	0.51	254.49	-7634	-4698	110	0.4973	0.4973	-52480	10833	970	129139	3217	2536	5754	No	52.23	Si
SLU 81	2.61	-66.74	-6010	-3699	110	0.4973	0.4973	-41314	10833	970	129139	3217	2536	5754	No	52.33	Si
SLU 82	0.51	254.49	-7634	-4698	110	0.4973	0.4973	-52480	10833	970	129139	3217	2536	5754	No	52.23	Si
SLU 82	2.61	-66.74	-6010	-3699	110	0.4973	0.4973	-41314	10833	970	129139	3217	2536	5754	No	52.33	Si
SLU 40	0.51	222.07	-6713	-4131	100	0.4973	0.4973	-46144	10833	970	129139	3217	2536	5754	No	57.74	Si
SLU 40	2.61	-58.34	-5431	-3342	99	0.4973	0.4973	-37332	10833	970	129139	3217	2536	5754	No	57.85	Si
SLU 60	0.51	231.76	-6827	-4201	101	0.4973	0.4973	-46927	10833	970	129139	3217	2536	5754	No	57.06	Si
SLU 60	2.61	-61.66	-5319	-3273	101	0.4973	0.4973	-36566	10833	970	129139	3217	2536	5754	No	57.18	Si
SLU 63	0.51	231.76	-6827	-4201	101	0.4973	0.4973	-46927	10833	970	129139	3217	2536	5754	No	57.06	Si
SLU 63	2.61	-61.66	-5319	-3273	101	0.4973	0.4973	-36566	10833	970	129139	3217	2536	5754	No	57.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.51	359.71	-5464	-3362	339	0.4973	0.4973	-37558	16250	1455	129139	4826	2536	7362		21.72	Si
SLV 5	2.61	-306.11	-3774	-2322	251	0.4973	0.4973	-25941	16250	1455	129139	4826	2536	7362		29.3	Si
SLV 10	0.51	281.47	-3999	-2461	334	0.4973	0.4973	-27490	16250	1455	129139	4826	2536	7362		22.07	Si
SLV 10	2.61	-269.02	-3543	-2181	241	0.4973	0.4973	-24358	16250	1455	129139	4826	2536	7362		30.56	Si
SLV 9	0.51	285.13	-4027	-2478	338	0.4973	0.4973	-27683	16250	1455	129139	4826	2536	7362		21.8	Si
SLV 9	2.61	-273.36	-3580	-2203	245	0.4973	0.4973	-24612	16250	1455	129139	4826	2536	7362		30.05	Si
SLV 13	0.51	81.2	-2265	-1394	141	0.4973	0.4973	-15569	15614	1398	129139	4826	2536	7362		52.19	Si
SLV 13	2.61	-61.25	-3119	-1919	106	0.4973	0.4973	-21439	16250	1455	129139	4826	2536	7362		69.78	Si
SLV 7	0.51	25.72	-5218	-3211	-219	0.4973	0.4973	-35866	16250	1455	129139	4826	2536	7362		33.63	Si
SLV 7	2.61	190.69	-3100	-1908	-126	0.4973	0.4973	-21313	16250	1455	129139	4826	2536	7362		58.21	Si
SLV 12	0.51	-52.52	-3753	-2310	-224	0.4973	0.4973	-25799	16250	1455	129139	4826	2536	7362		32.83	Si
SLV 12	2.61	227.78	-2870	-1766	-137	0.4973	0.4973	-19730	16250	1455	129139	4826	2536	7362		53.8	Si
SLV 6	0.51	356.05	-5436	-3345	335	0.4973	0.4973	-37365	16250	1455	129139	4826	2536	7362		21.99	Si
SLV 6	2.61	-301.76	-3737	-2300	247	0.4973	0.4973	-25687	16250	1455	129139	4826	2536	7362		29.79	Si
SLV 1	0.51	329.79	-7053	-4340	145	0.4973	0.4973	-48485	16250	1455	129139	4826	2536	7362		50.77	Si
SLV 1	2.61	-170.39	-3763	-2316	126	0.4973	0.4973	-25869	16250	1455	129139	4826	2536	7362		58.3	Si
SLV 8	0.51	22.06	-5190	-3194	-223	0.4973	0.4973	-35674	16250	1455	129139	4826	2536	7362		33.01	Si
SLV 8	2.61	195.04	-3063	-1885	-131	0.4973	0.4973	-21059	16250	1455	129139	4826	2536	7362		56.36	Si
SLV 11	0.51	-48.86	-3781	-2327	-220	0.4973	0.4973	-25992	16250	1455	129139	4826	2536	7362		33.45	Si
SLV 11	2.61	223.43	-2907	-1789	-133	0.4973	0.4973	-19984	16250	1455	129139	4826	2536	7362		55.48	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-2870	0.45	52.24	213.13	318.76	265.94	5.09	Si

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Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-2881	0.45	52.24	213.74	319.81	266.77	5.11	Si
SLV 11	-2907	0.45	52.24	215.28	322.5	268.89	5.15	Si
SLV 15	-2917	0.45	52.24	215.85	323.49	269.67	5.16	Si
SLV 8	-3063	0.45	52.24	224.24	338.32	281.28	5.38	Si
SLV 14	-3083	0.45	52.24	225.31	340.2	282.75	5.41	Si
SLV 7	-3100	0.45	52.24	226.31	341.96	284.14	5.44	Si
SLV 13	-3119	0.45	52.24	227.34	343.78	285.56	5.47	Si
SLV 4	-3525	0.45	52.24	249.09	383.83	316.46	6.06	Si
SLV 10	-3543	0.45	52.24	250.04	385.64	317.84	6.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.03 Ta = 0.1522

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-1000	-2265	5	2.129	154.2	0.915	33.8149	18.64567	Si
SLV 14	-999	-2237	5	2.131	154.1	0.915	33.84848	18.64567	Si
SLV 9	-999	-4027	2	2.134	154.1	0.915	33.89466	18.64567	Si
SLV 15	-997	-2191	6	2.134	153.9	0.915	33.89704	18.64567	Si
SLV 10	-998	-3999	2	2.136	153.9	0.915	33.92895	18.64567	Si
SLV 16	-996	-2163	6	2.136	153.8	0.915	33.93078	18.64567	Si
SLV 5	-995	-5464	-1	2.141	153.6	0.915	34.01738	18.64567	Si
SLV 6	-993	-5436	-1	2.144	153.5	0.915	34.05174	18.64567	Si
SLV 11	-988	-3781	3	2.151	153	0.915	34.17105	18.64567	Si
SLV 12	-987	-3753	3	2.153	152.9	0.915	34.2059	18.64567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.253	SLU 81	Si
V_SLU	52.226	SLU 81	Si
PF_SLV	2.881	SLV 5	Si
V_SLV	21.724	SLV 5	Si
PFFP_SLV	5.091	SLV 12	Si
R_SLV	1.814	SLV 13	Si

Maschio 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
30.718	9.502	30.718	5.634	L2	L3	3.869	0.18	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α	α	elim,conv	ϵ ,fd	γ F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.51	4983.59	-33072	-0.00008	0.0004492	0.0035	3.8686	39106.12	53424.68	53424.68	10.72	No	Si
SLU 84	2.61	7825.1	-24079	-0.00007	0.0004492	0.0035	3.8686	33395.44	40984.01	40984.01	5.24	No	Si
SLU 82	0.51	4983.59	-33072	-0.00008	0.0004492	0.0035	3.8686	39106.12	53424.68	53424.68	10.72	No	Si
SLU 82	2.61	7825.1	-24079	-0.00007	0.0004492	0.0035	3.8686	33395.44	40984.01	40984.01	5.24	No	Si
SLU 39	0.51	4289.87	-29089	-0.0000693	0.0004492	0.0035	3.8686	37030.62	47915.07	47915.07	11.17	No	Si
SLU 39	2.61	7243.55	-22282	-0.0000645	0.0004492	0.0035	3.8686	31813.1	38497.39	38497.39	5.31	No	Si
SLU 41	0.51	4289.87	-29089	-0.0000693	0.0004492	0.0035	3.8686	37030.62	47915.07	47915.07	11.17	No	Si
SLU 41	2.61	7243.55	-22282	-0.0000645	0.0004492	0.0035	3.8686	31813.1	38497.39	38497.39	5.31	No	Si
SLU 83	0.51	4983.59	-33072	-0.00008	0.0004492	0.0035	3.8686	39106.12	53424.68	53424.68	10.72	No	Si
SLU 83	2.61	7825.1	-24079	-0.00007	0.0004492	0.0035	3.8686	33395.44	40984.01	40984.01	5.24	No	Si
SLU 40	0.51	4289.87	-29089	-0.0000693	0.0004492	0.0035	3.8686	37030.62	47915.07	47915.07	11.17	No	Si
SLU 40	2.61	7243.55	-22282	-0.0000645	0.0004492	0.0035	3.8686	31813.1	38497.39	38497.39	5.31	No	Si
SLU 77	0.51	4665.01	-30667	-0.0000738	0.0004492	0.0035	3.8686	37938.95	50097.35	50097.35	10.74	No	Si
SLU 77	2.61	6989.93	-21409	-0.0000619	0.0004492	0.0035	3.8686	30992.02	37290.3	37290.3	5.33	No	Si
SLU 78	0.51	4665.01	-30667	-0.0000738	0.0004492	0.0035	3.8686	37938.95	50097.35	50097.35	10.74	No	Si
SLU 78	2.61	6989.93	-21409	-0.0000619	0.0004492	0.0035	3.8686	30992.02	37290.3	37290.3	5.33	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.51	4983.59	-33072	-0.00008	0.0004492	0.0035	3.8686	39106.12	53424.68	53424.68	10.72	No	Si
SLU 81	2.61	7825.1	-24079	-0.00007	0.0004492	0.0035	3.8686	33395.44	40984.01	40984.01	5.24	No	Si
SLU 42	0.51	4289.87	-29089	-0.0000693	0.0004492	0.0035	3.8686	37030.62	47915.07	47915.07	11.17	No	Si
SLU 42	2.61	7243.55	-22282	-0.0000645	0.0004492	0.0035	3.8686	31813.1	38497.39	38497.39	5.31	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.51	8622.34	-15726	-0.0000545	0.0006738	0.0035	3.8686		29589.29	29589.29	3.43		Si
SLV 9	2.61	-1165.89	-7521	-0.0000171	0.0006738	0.0035	3.8686		22210.91	22210.91	19.05		Si
SLV 6	0.51	8780.71	-16731	-0.0000569	0.0006738	0.0035	3.8686		31254.13	31254.13	3.56		Si
SLV 6	2.61	-498.46	-8229	-0.0000165	0.0006738	0.0035	3.8686		23462.49	23462.49	47.07		Si
SLV 8	0.51	-2352.07	-24427	-0.0000527	0.0006738	0.0035	3.8686		50030.83	50030.83	21.27		Si
SLV 8	2.61	9517.98	-17876	-0.0000613	0.0006738	0.0035	3.8686		33142.42	33142.42	3.48		Si
SLV 10	0.51	8632.15	-15537	-0.0000541	0.0006738	0.0035	3.8686		29272.34	29272.34	3.39		Si
SLV 10	2.61	-1036.77	-7489	-0.0000167	0.0006738	0.0035	3.8686		22154.58	22154.58	21.37		Si
SLV 4	0.51	1717.64	-23128	-0.0000483	0.0006738	0.0035	3.8686		41299.78	41299.78	24.04		Si
SLV 4	2.61	6639.14	-15363	-0.0000479	0.0006738	0.0035	3.8686		28979.65	28979.65	4.36		Si
SLV 3	0.51	1708.01	-23314	-0.0000487	0.0006738	0.0035	3.8686		41559.3	41559.3	24.33		Si
SLV 3	2.61	6512.25	-15394	-0.0000476	0.0006738	0.0035	3.8686		29032.19	29032.19	4.46		Si
SLV 5	0.51	8770.91	-16920	-0.0000572	0.0006738	0.0035	3.8686		31565.68	31565.68	3.6		Si
SLV 5	2.61	-627.58	-8261	-0.0000169	0.0006738	0.0035	3.8686		23518.82	23518.82	37.48		Si
SLV 12	0.51	-2500.63	-23233	-0.0000509	0.0006738	0.0035	3.8686		48175.57	48175.57	19.27		Si
SLV 12	2.61	8979.67	-17136	-0.0000583	0.0006738	0.0035	3.8686		31922.07	31922.07	3.55		Si
SLV 7	0.51	-2361.88	-24616	-0.0000531	0.0006738	0.0035	3.8686		50324.27	50324.27	21.31		Si
SLV 7	2.61	9388.86	-17908	-0.000061	0.0006738	0.0035	3.8686		33194.68	33194.68	3.54		Si
SLV 11	0.51	-2510.44	-23422	-0.0000513	0.0006738	0.0035	3.8686		48469.01	48469.01	19.31		Si
SLV 11	2.61	8850.55	-17168	-0.000058	0.0006738	0.0035	3.8686		31974.63	31974.63	3.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 47	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 48	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 48	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 50	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 50	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 64	0.51	3921.65	-25055	-15418	5288	3.8686	3.8686	-22142	10833	7544	129139	25025	19730	44755	No	8.46	Si
SLU 64	2.61	5041.19	-15180	-9341	5253	3.8686	3.8686	-13415	10122	7048	129139	25025	19730	44755	No	8.52	Si
SLU 51	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 51	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 43	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 43	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 45	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 45	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 44	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 44	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 46	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 46	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si
SLU 49	0.51	3494.39	-21416	-13179	5563	3.8686	3.8686	-18926	10833	7544	129139	25025	19730	44755	No	8.05	Si
SLU 49	2.61	3864.67	-11731	-7219	5532	3.8686	3.8686	-10367	9716	6765	129139	25025	19730	44755	No	8.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.51	8770.91	-16920	-10412	10630	3.8686	3.8686	-14953	15491	10787	129139	37538	19730	57268		5.39	Si
SLV 5	2.61	-627.58	-8261	-5084	9377	3.8686	3.8686	-7300	13960	9721	129139	37538	19730	57268		6.11	Si
SLV 13	0.51	4552.63	-17025	-10477	5041	3.8686	3.8686	-15045	15509	10800	129139	37538	19730	57268		11.36	Si
SLV 13	2.61	1712.95	-10034	-6175	4476	3.8686	3.8686	-8867	14273	9939	129139	37538	19730	57268		12.79	Si
SLV 9	0.51	8622.34	-15726	-9678	10146	3.8686	3.8686	-13898	15280	10640	129139	37538	19730	57268		5.64	Si
SLV 9	2.61	-1165.89	-7521	-4628	8800	3.8686	3.8686	-6647	13829	9630	129139	37538	19730	57268		6.51	Si
SLV 1	0.51	5047.84	-21005	-12926	6654	3.8686	3.8686	-18563	16213	11290	129139	37538	19730	57268		8.61	Si
SLV 1	2.61	3507.32	-12500	-7692	6399	3.8686	3.8686	-11047	14709	10243	129139	37538	19730	57268		8.95	Si
SLV 10	0.51	8632.15	-15537	-9561	9944	3.8686	3.8686	-13731	15246	10617	129139	37538	19730	57268		5.76	Si
SLV 10	2.61	-1036.77	-7489	-4609	8599	3.8686	3.8686	-6618	13824	9626	129139	37538	19730	57268		6.66	Si
SLV 14	0.51	4562.27	-16839	-10363	4843	3.8686	3.8686	-14881	15476	10777	129139	37538	19730	57268		11.83	Si
SLV 14	2.61	1839.84	-10003	-6156	4278	3.8686	3.8686	-8840	14268	9935	129139	37538	19730	57268		13.39	Si
SLV 2	0.51	5057.48	-20820	-12812	6456	3.8686	3.8686	-18399	16180	11267	129139	37538	19730	57268		8.87	Si
SLV 2	2.61	3634.21	-12469	-7673	6202	3.8686	3.8686	-11019	14704	10239	129139	37538	19730	57268		9.23	Si
SLV 4	0.51	1717.64	-23128	-14233	2565	3.8686	3.8686	-20439	16250	11316	129139	37538	19730	57268		22.33	Si
SLV 4	2.61	6639.14	-15363	-9454	3074	3.8686	3.8686	-13577	15215	10595	129139	37538	19730	57268		18.63	Si
SLV 3	0.51	1708.01	-23314	-14347	2763	3.8686	3.8686	-20603	16250	11316	129139	37538	19730	57268		20.72	Si
SLV 3	2.61	6512.25	-15394	-9473	3271	3.8686	3.8686	-13604	15221	10599	129139	37538	19730	57268		17.51	Si
SLV 6	0.51	8780.71	-16731	-10296	10428	3.8686	3.8686	-14786	15457	10764	129139	37538	19730	57268		5.49	Si
SLV 6	2.61	-498.46	-8229	-5064	9176	3.8686	3.8686	-7272	13954	9717	129139	37538	19730	57268		6.24	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-7497	0.45	406.32	635.12	1106.65	870.88	2.14	Si
SLV 9	-7529	0.45	406.32	637.65	1110.02	873.83	2.15	Si
SLV 6	-8242	0.45	406.32	693.89	1185.19	939.54	2.31	Si
SLV 5	-8274	0.45	406.32	696.38	1188.55	942.47	2.32	Si
SLV 14	-10010	0.45	406.32	830.24	1370.25	1100.24	2.71	Si
SLV 13	-10041	0.45	406.32	832.62	1373.51	1103.07	2.71	Si
SLV 2	-12493	0.45	406.32	1014.31	1628.6	1321.45	3.25	Si



Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-12524	0.45	406.32	1016.57	1631.83	1324.2	3.26	Si
SLV 16	-12908	0.45	406.32	1044.26	1671.52	1357.89	3.34	Si
SLV 15	-12940	0.45	406.32	1046.5	1674.75	1360.63	3.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.03 Ta = 0.1522

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-9174	-24427	106	1.873	1339	0.922	29.53639	18.64567	Si
SLV 7	-9173	-24616	105	1.873	1338.9	0.922	29.5385	18.64567	Si
SLV 12	-9099	-23233	48	1.89	1331.4	0.921	29.81477	18.64567	Si
SLV 11	-9098	-23422	48	1.89	1331.4	0.921	29.81691	18.64567	Si
SLV 4	-8902	-23128	119	1.916	1311.6	0.921	30.25366	18.64567	Si
SLV 3	-8901	-23314	119	1.916	1311.6	0.921	30.25583	18.64567	Si
SLV 16	-8650	-19148	-73	1.963	1286.4	0.919	31.03168	18.64567	Si
SLV 15	-8649	-19334	-73	1.963	1286.3	0.919	31.03341	18.64567	Si
SLV 2	-8592	-20820	73	1.973	1280.6	0.919	31.1982	18.64567	Si
SLV 1	-8592	-21005	73	1.973	1280.6	0.919	31.20049	18.64567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.238	SLV 81	Si
V_SLV	8.046	SLV 43	Si
PF_SLV	3.391	SLV 10	Si
V_SLV	5.387	SLV 5	Si
PFFP_SLV	2.143	SLV 10	Si
R_SLV	1.584	SLV 8	Si

Maschio 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
26.639	9.502	35.424	9.502	L2	L3	8.785	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	$\varepsilon_f d$	$\nu_f d$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 67	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 65	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 65	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 70	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 70	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 69	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 69	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 68	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 68	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 64	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 64	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 71	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 71	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 25	0.51	-2674.55	-13825	-0.000082	0.0004492	0.0035	8.785	58118.48	104808.93	104808.93	39.19	No	Si
SLU 25	4.56	-824.41	-461	-0.0000005	0.0004492	0.0035	8.785	2022.01	49109.45	49109.45	59.57	No	Si
SLU 66	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 66	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si
SLU 72	0.51	-3101.02	-16944	-0.00001	0.0004492	0.0035	8.785	70510.46	117287.24	117287.24	37.82	No	Si
SLU 72	4.56	-1075.39	-403	-0.0000007	0.0004492	0.0035	7.028	1769.22	48864.4	48864.4	45.44	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	0.51	30382.99	-8274	-0.0000356	0.0006738	0.0035	8.785		43275.41	43275.41	1.42		Si
SLV 14	4.56	-943.37	-82	-0.0000045	0.0006738	0.0035	7.028		47476.23	47476.23	50.33		Si
SLV 11	0.51	24032.67	-17842	-0.000018	0.0006738	0.0035	8.785		83386	83386	3.47		Si
SLV 11	4.56	1118.19	-24	-0.0000459	0.0006738	0.0035	8.785		7930.84	7930.84	7.09		Si
SLV 6	0.51	-28575.11	-9453	-0.0000211	0.0006738	0.0035	7.028		86944.68	86944.68	3.04		Si
SLV 6	4.56	-2705.89	-806	-0.000023	0.0006738	0.0035	7.028		50562.75	50562.75	18.69		Si
SLV 13	0.51	25647.87	-9139	-0.0000177	0.0006738	0.0035	8.785		46931.25	46931.25	1.83		Si
SLV 13	4.56	-484.22	-79	-0.0000018	0.0006738	0.0035	7.028		47464.51	47464.51	98.02		Si
SLV 16	0.51	41186.88	-11156	-0.0000498	0.0006738	0.0035	8.785		55431.68	55431.68	1.35		Si
SLV 16	4.56	-32.69	78	0	0.0006738	0.0035	7.028		46797.39	46797.39	1431.6		Si
SLV 2	0.51	-40994.21	-15273	-0.0000276	0.0006738	0.0035	7.028		111067.42	111067.42	2.71		Si
SLV 2	4.56	-2014.17	-911	-0.0000013	0.0006738	0.0035	8.785		51006.13	51006.13	25.32		Si
SLV 12	0.51	28851.02	-16961	-0.0000194	0.0006738	0.0035	8.785		79729.94	79729.94	2.76		Si
SLV 12	4.56	650.96	-27	-0.0000247	0.0006738	0.0035	8.785		7942.93	7942.93	12.2		Si
SLV 5	0.51	-33393.46	-10333	-0.0000272	0.0006738	0.0035	7.028		90601.63	90601.63	2.71		Si
SLV 5	4.56	-2238.67	-804	-0.0000015	0.0006738	0.0035	7.028		50550.82	50550.82	22.58		Si
SLV 15	0.51	36451.76	-12022	-0.0000273	0.0006738	0.0035	8.785		59078.27	59078.27	1.62		Si
SLV 15	4.56	426.46	80	-0.0000304	0.0006738	0.0035	8.785		7481.88	7481.88	17.54		Si
SLV 1	0.51	-45729.32	-16138	-0.000032	0.0006738	0.0035	7.028		114624.25	114624.25	2.51		Si
SLV 1	4.56	-1555.02	-908	-0.000001	0.0006738	0.0035	8.785		50994.4	50994.4	32.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 65	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 67	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 67	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 69	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 69	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 70	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 70	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 64	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 64	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 68	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 68	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 71	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 71	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 66	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 66	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si
SLU 50	0.51	-2516.29	-15345	-11160	2121	8.785	8.785	-4234	8898	23450	129139	94713	44803	139517	No	65.79	Si
SLU 50	4.56	-1081.08	-98	-72	2138	7.028	0	0	0	0	129139	75771	35843	111613	No	52.2	Si
SLU 72	0.51	-3101.02	-16944	-12323	2126	8.785	8.785	-4676	8957	23606	129139	94713	44803	139517	No	65.61	Si
SLU 72	4.56	-1075.39	-403	-293	2147	7.028	5.1778	0	0	0	129139	75771	35843	111613	No	51.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.51	-7161.95	-7353	-5348	8668	8.785	8.785	-2029	12906	34013	129139	142070	44803	163152		18.82	Si
SLV 10	4.56	-2384.65	-558	-406	5921	7.028	0.3519	0	0	0	129139	113656	35843	129139		21.81	Si
SLV 15	0.51	36451.76	-12022	-8743	16918	8.785	4.081	-3317	13163	16116	129139	142070	44803	145255		8.59	Si
SLV 15	4.56	426.46	80	58	9749	8.785	0	2041	14091	0	129139	142070	44803	129139		13.25	Si
SLV 1	0.51	-45729.32	-16138	-11737	-16430	7.028	4.6766	0	0	0	129139	113656	35843	129139		7.86	Si
SLV 1	4.56	-1555.02	-908	-660	-9216	8.785	8.0385	-274	12555	30276	129139	142070	44803	159415		17.3	Si
SLV 16	0.51	41186.88	-11156	-8114	19633	8.785	2.1021	-12932	15087	9514	129139	142070	44803	138654		7.06	Si
SLV 16	4.56	-32.69	78	56	12449	7.028	8.785	0	0	0	129139	113656	35843	129139		10.37	Si
SLV 12	0.51	28851.02	-16961	-12335	7414	8.785	8.0744	-4680	13436	32547	129139	142070	44803	161686		21.81	Si
SLV 12	4.56	650.96	-27	-19	5764	8.785	0	-577	13797	0	129139	142070	44803	129139		22.4	Si
SLV 13	0.51	25647.87	-9139	-6647	17294	8.785	4.7585	-2522	13004	18564	129139	142070	44803	147704		8.54	Si
SLV 13	4.56	-484.22	-79	-57	9796	7.028	0	0	0	0	129139	113656	35843	129139		13.18	Si
SLV 4	0.51	-30190.32	-18155	-13204	-14092	8.785	8.1888	-5386	13577	33354	129139	142070	44803	162493		11.53	Si
SLV 4	4.56	-1103.49	-751	-546	-6562	8.785	8.7702	-207	12541	32997	129139	142070	44803	162137		24.71	Si
SLV 14	0.51	30382.99	-8274	-6017	20009	8.785	2.1611	-9314	14363	9312	129139	142070	44803	138451		6.92	Si
SLV 14	4.56	-943.37	-82	-59	12496	7.028	0	0	0	0	129139	113656	35843	129139		10.33	Si
SLV 2	0.51	-40994.21	-15273	-11107	-13716	7.028	5.125	0	0	0	129139	113656	35843	129139		9.42	Si
SLV 2	4.56	-2014.17	-911	-662	-6515	8.785	6.5412	-337	12567	24662	129139	142070	44803	153801		23.61	Si
SLV 3	0.51	-34925.43	-19020	-13833	-16807	8.785	7.6689	-6028	13706	31532	129139	142070	44803	160671		9.56	Si
SLV 3	4.56	-644.33	-748	-544	-9263	8.785	8.785	-207	12541	33053	129139	142070	44803	162192		17.51	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.09 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-6596	0.45	1541.41	0	2242.81	1121.41	0.73	No
SLV 16	-6725	0.45	1541.41	0	2264.73	1132.37	0.73	No
SLV 13	-6965	0.45	1541.41	0	2305.5	1152.75	0.75	No
SLV 15	-7093	0.45	1541.41	0	2327.39	1163.7	0.75	No
SLV 10	-8072	0.45	1541.41	0	2492.78	1246.39	0.81	No
SLV 9	-8446	0.45	1541.41	0	2555.83	1277.91	0.83	No
SLV 12	-8501	0.45	1541.41	0	2564.95	1282.48	0.83	No
SLV 11	-8876	0.45	1541.41	0	2627.94	1313.97	0.85	No
SLV 6	-9468	0.45	1541.41	0	2727.37	1363.69	0.88	No
SLV 5	-9843	0.45	1541.41	0	2790.25	1395.13	0.91	No



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.535 $W_a = 0.05$ $T_a = 0.0913$

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-911	-15273	24	4.761	1973.3	0.962	71.92326	16.42755	Si
SLV 1	-908	-16138	25	4.762	1973.2	0.962	71.93364	16.42755	Si
SLV 4	-751	-18155	-268	4.81	1968.8	0.967	72.25215	16.42755	Si
SLV 3	-748	-19020	-267	4.811	1968.8	0.968	72.26531	16.42755	Si
SLV 14	-82	-8274	256	5.141	1958.6	0.996	75.02353	16.42755	Si
SLV 13	-79	-9139	257	5.142	1958.6	0.996	75.03282	16.42755	Si
SLV 16	78	-11156	-35	5.228	1958.5	1	75.97975	16.42755	Si, Trazione
SLV 15	80	-12022	-34	5.229	1958.5	1	75.99207	16.42755	Si, Trazione
SLV 6	-806	-9453	445	4.767	1970.3	0.966	71.76051	14.79547	Si
SLV 5	-804	-10333	446	4.769	1970.2	0.966	71.77091	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	37.822	SLU 64	Si
V_SLU	51.986	SLU 64	Si
PF_SLV	1.346	SLV 16	Si
V_SLV	6.919	SLV 14	Si
PFFP_SLV	0.728	SLV 14	No
R_SLV	4.378	SLV 2	Si

Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
30.718	4.507	35.424	4.507	L2	L3	4.706	0.18	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	0.51	-3393.83	-22650	-0.0000419	0.0004492	0.0035	4.7061	41634.12	60192.38	60192.38	17.74	No	Si
SLU 60	4.56	-839.91	-1820	-0.0000043	0.0004492	0.0035	4.7061	4207.3	17572.64	17572.64	20.92	No	Si
SLU 81	0.51	-3580.23	-24447	-0.0000452	0.0004492	0.0035	4.7061	43938.03	63444.5	63444.5	17.72	No	Si
SLU 81	4.56	-1128.67	-2136	-0.0000054	0.0004492	0.0035	4.7061	4922.92	18279.91	18279.91	16.2	No	Si
SLU 39	0.51	-3094.08	-20937	-0.0000385	0.0004492	0.0035	4.7061	39300	56979.63	56979.63	18.42	No	Si
SLU 39	4.56	-1214.12	-2010	-0.0000053	0.0004492	0.0035	4.7061	4637.35	17998.34	17998.34	14.82	No	Si
SLU 84	0.51	-3580.23	-24447	-0.0000452	0.0004492	0.0035	4.7061	43938.03	63444.5	63444.5	17.72	No	Si
SLU 84	4.56	-1128.67	-2136	-0.0000054	0.0004492	0.0035	4.7061	4922.92	18279.91	18279.91	16.2	No	Si
SLU 61	0.51	-3393.83	-22650	-0.0000419	0.0004492	0.0035	4.7061	41634.12	60192.38	60192.38	17.74	No	Si
SLU 61	4.56	-839.91	-1820	-0.0000043	0.0004492	0.0035	4.7061	4207.3	17572.64	17572.64	20.92	No	Si
SLU 83	0.51	-3580.23	-24447	-0.0000452	0.0004492	0.0035	4.7061	43938.03	63444.5	63444.5	17.72	No	Si
SLU 83	4.56	-1128.67	-2136	-0.0000054	0.0004492	0.0035	4.7061	4922.92	18279.91	18279.91	16.2	No	Si
SLU 42	0.51	-3094.08	-20937	-0.0000385	0.0004492	0.0035	4.7061	39300	56979.63	56979.63	18.42	No	Si
SLU 42	4.56	-1214.12	-2010	-0.0000053	0.0004492	0.0035	4.7061	4637.35	17998.34	17998.34	14.82	No	Si
SLU 40	0.51	-3094.08	-20937	-0.0000385	0.0004492	0.0035	4.7061	39300	56979.63	56979.63	18.42	No	Si
SLU 40	4.56	-1214.12	-2010	-0.0000053	0.0004492	0.0035	4.7061	4637.35	17998.34	17998.34	14.82	No	Si
SLU 82	0.51	-3580.23	-24447	-0.0000452	0.0004492	0.0035	4.7061	43938.03	63444.5	63444.5	17.72	No	Si
SLU 82	4.56	-1128.67	-2136	-0.0000054	0.0004492	0.0035	4.7061	4922.92	18279.91	18279.91	16.2	No	Si
SLU 41	0.51	-3094.08	-20937	-0.0000385	0.0004492	0.0035	4.7061	39300	56979.63	56979.63	18.42	No	Si
SLU 41	4.56	-1214.12	-2010	-0.0000053	0.0004492	0.0035	4.7061	4637.35	17998.34	17998.34	14.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	0.51	4802.25	-17906	-0.0000367	0.0006738	0.0035	4.7061		41229.08	41229.08	8.59		Si
SLV 15	4.56	-1057.92	-1214	-0.0000038	0.0006738	0.0035	4.7061		16203.28	16203.28	15.32		Si
SLV 14	0.51	4027.33	-18366	-0.0000359	0.0006738	0.0035	4.7061		42176.3	42176.3	10.47		Si
SLV 14	4.56	-949.17	-1222	-0.0000036	0.0006738	0.0035	4.7061		16220.74	16220.74	17.09		Si
SLV 3	0.51	-8230.55	-12322	-0.0000347	0.0006738	0.0035	4.7061		40385.24	40385.24	4.91		Si
SLV 3	4.56	341.75	-888	-0.000002	0.0006738	0.0035	4.7061		4269.05	4269.05	12.49		Si
SLV 4	0.51	-8136.05	-12290	-0.0000345	0.0006738	0.0035	4.7061		40319.16	40319.16	4.96		Si
SLV 4	4.56	350.72	-885	-0.000002	0.0006738	0.0035	4.7061		4262.22	4262.22	12.15		Si
SLV 2	0.51	-9005.48	-12783	-0.000037	0.0006738	0.0035	4.7061		41343.78	41343.78	4.59		Si
SLV 2	4.56	450.5	-896	-0.0000022	0.0006738	0.0035	4.7061		4286.9	4286.9	9.52		Si
SLV 16	0.51	4896.75	-17874	-0.0000368	0.0006738	0.0035	4.7061		41163.77	41163.77	8.41		Si
SLV 16	4.56	-1048.94	-1211	-0.0000038	0.0006738	0.0035	4.7061		16196.6	16196.6	15.44		Si
SLV 5	0.51	-5553.64	-15344	-0.0000342	0.0006738	0.0035	4.7061		46669.66	46669.66	8.4		Si
SLV 5	4.56	67.97	-1026	-0.0000017	0.0006738	0.0035	4.7061		4584.38	4584.38	67.45		Si
SLV 1	0.51	-9099.97	-12815	-0.0000372	0.0006738	0.0035	4.7061		41409.86	41409.86	4.55		Si
SLV 1	4.56	441.52	-899	-0.0000022	0.0006738	0.0035	4.7061		4293.73	4293.73	9.72		Si
SLV 13	0.51	3932.83	-18398	-0.0000357	0.0006738	0.0035	4.7061		42241.61	42241.61	10.74		Si
SLV 13	4.56	-958.14	-1225	-0.0000037	0.0006738	0.0035	4.7061		16227.42	16227.42	16.94		Si
SLV 6	0.51	-5457.49	-15312	-0.0000339	0.0006738	0.0035	4.7061		46602.41	46602.41	8.54		Si
SLV 6	4.56	77.1	-1023	-0.0000017	0.0006738	0.0035	4.7061		4577.43	4577.43	59.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 44	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 48	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 48	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 64	0.51	-2506.07	-19060	-11729	-3156	4.7061	4.7061	-13847	10180	8623	129139	30443	24001	54444	No	17.25	Si
SLU 64	4.56	-248.47	-1225	-754	-3129	4.7061	4.7061	-890	8452	7160	129139	30443	24001	54444	No	17.4	Si
SLU 43	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 43	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 49	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 49	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 46	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 46	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 50	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 50	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 45	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 45	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 51	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 51	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si
SLU 47	0.51	-2319.67	-17264	-10624	-3462	4.7061	4.7061	-12541	10006	8476	129139	30443	24001	54444	No	15.73	Si
SLU 47	4.56	40.28	-909	-560	-3437	4.7061	4.7061	-661	8421	7134	129139	30443	24001	54444	No	15.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.51	3932.83	-18398	-11322	4221	4.7061	4.7061	-13366	15173	12853	129139	45664	24001	69665		16.5	Si
SLV 13	4.56	-958.14	-1225	-754	1400	4.7061	4.7061	-890	12678	10740	129139	45664	24001	69665		49.78	Si
SLV 15	0.51	4802.25	-17906	-11019	4738	4.7061	4.7061	-13008	15102	12793	129139	45664	24001	69665		14.7	Si
SLV 15	4.56	-1057.92	-1214	-747	1934	4.7061	4.4459	-934	12687	10153	129139	45664	24001	69665		36.02	Si
SLV 1	0.51	-9099.97	-12815	-7886	-9316	4.7061	4.7061	-9309	14362	12166	129139	45664	24001	69665		7.48	Si
SLV 1	4.56	441.52	-899	-553	-6468	4.7061	4.7061	-653	12631	10699	129139	45664	24001	69665		10.77	Si
SLV 4	0.51	-8136.05	-12290	-7563	-8807	4.7061	4.7061	-8928	14286	12101	129139	45664	24001	69665		7.91	Si
SLV 4	4.56	350.72	-885	-545	-5941	4.7061	4.7061	-643	12629	10698	129139	45664	24001	69665		11.73	Si
SLV 14	0.51	4027.33	-18366	-11302	4214	4.7061	4.7061	-13342	15168	12849	129139	45664	24001	69665		16.53	Si
SLV 14	4.56	-949.17	-1222	-752	1392	4.7061	4.7061	-888	12678	10739	129139	45664	24001	69665		50.04	Si
SLV 6	0.51	-5457.49	-15312	-9423	-5189	4.7061	4.7061	-11123	14725	12473	129139	45664	24001	69665		13.43	Si
SLV 6	4.56	77.1	-1023	-629	-4345	4.7061	4.7061	-743	12649	10715	129139	45664	24001	69665		16.03	Si
SLV 2	0.51	-9005.48	-12783	-7866	-9324	4.7061	4.7061	-9286	14357	12162	129139	45664	24001	69665		7.47	Si
SLV 2	4.56	450.5	-896	-551	-6475	4.7061	4.7061	-651	12630	10699	129139	45664	24001	69665		10.76	Si
SLV 5	0.51	-5553.64	-15344	-9443	-5181	4.7061	4.7061	-11147	14729	12477	129139	45664	24001	69665		13.45	Si
SLV 5	4.56	67.97	-1026	-631	-4338	4.7061	4.7061	-745	12649	10715	129139	45664	24001	69665		16.06	Si
SLV 3	0.51	-8230.55	-12322	-7583	-8799	4.7061	4.7061	-8951	14290	12105	129139	45664	24001	69665		7.92	Si
SLV 3	4.56	341.75	-888	-547	-5933	4.7061	4.7061	-645	12629	10698	129139	45664	24001	69665		11.74	Si
SLV 16	0.51	4896.75	-17874	-10999	4731	4.7061	4.7061	-12985	15097	12789	129139	45664	24001	69665		14.73	Si
SLV 16	4.56	-1048.94	-1211	-746	1927	4.7061	4.4617	-929	12686	10188	129139	45664	24001	69665		36.16	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-8424	0.45	494.29	717.03	1285.51	1001.27	2.03	Si
SLV 1	-8456	0.45	494.29	719.55	1288.83	1004.19	2.03	Si
SLV 4	-8493	0.45	494.29	722.58	1292.82	1007.7	2.04	Si
SLV 3	-8525	0.45	494.29	725.1	1296.14	1010.62	2.04	Si
SLV 6	-9679	0.45	494.29	816.81	1417.96	1117.38	2.26	Si
SLV 5	-9711	0.45	494.29	819.33	1421.34	1120.33	2.27	Si
SLV 8	-9910	0.45	494.29	834.96	1442.32	1138.64	2.3	Si
SLV 7	-9942	0.45	494.29	837.47	1445.69	1141.58	2.31	Si
SLV 10	-10824	0.45	494.29	906.26	1538.18	1222.22	2.47	Si
SLV 9	-10856	0.45	494.29	908.74	1541.52	1225.13	2.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.535 Wa = 0.03 Ta = 0.1522

Orizzale di aggancio al piano - 2017 quota mezzeluna - 2.955 Wd - 0.05 Rd - 0.1922										
Comb.	N top	N base	V orto	α0	M*	e*	α0*	aLim	Verifica	
SLV 13	-1225	-18398	78	6.149	684.8	0.908	98.45584	18.64567	Si	
SLV 14	-1222	-18366	78	6.153	684.6	0.908	98.51407	18.64567	Si	
SLV 15	-1214	-17906	-44	6.173	684	0.908	98.79465	18.64567	Si	



Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 16	-1211	-17874	-44	6.177	683.8	0.908	98.85312	18.64567	Si
SLV 9	-1124	-17019	208	6.266	677.7	0.911	99.97532	18.64567	Si
SLV 10	-1121	-16987	208	6.271	677.5	0.911	100.03583	18.64567	Si
SLV 11	-1088	-15377	-197	6.322	675.3	0.912	100.73389	18.64567	Si
SLV 12	-1085	-15344	-197	6.327	675.1	0.912	100.79497	18.64567	Si
SLV 5	-1026	-15344	197	6.417	671.2	0.914	101.99118	18.64567	Si
SLV 6	-1023	-15312	197	6.422	671	0.915	102.05316	18.64567	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.824	SLU 39	Si
V_SLU	15.726	SLU 43	Si
PF_SLV	4.551	SLV 1	Si
V_SLV	7.472	SLV 2	Si
PFFP_SLV	2.026	SLV 2	Si
R_SLV	5.28	SLV 13	Si

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	1.847	35.424	-0.169	L2	L3	2.016	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 78	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si
SLU 81	1.51	-2144.06	-10205	-0.0000425	0.0003743	0.0035	2.0156	8580.24	10096.82	10096.82	4.71	No	Si
SLU 81	3.41	-182.66	-6291	-0.0000171	0.0003743	0.0035	2.0156	5692.65	6920.28	6920.28	37.89	No	Si
SLU 75	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 75	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si
SLU 73	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 73	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si
SLU 74	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 74	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si
SLU 83	1.51	-2144.06	-10205	-0.0000425	0.0003743	0.0035	2.0156	8580.24	10096.82	10096.82	4.71	No	Si
SLU 83	3.41	-182.66	-6291	-0.0000171	0.0003743	0.0035	2.0156	5692.65	6920.28	6920.28	37.89	No	Si
SLU 84	1.51	-2144.06	-10205	-0.0000425	0.0003743	0.0035	2.0156	8580.24	10096.82	10096.82	4.71	No	Si
SLU 84	3.41	-182.66	-6291	-0.0000171	0.0003743	0.0035	2.0156	5692.65	6920.28	6920.28	37.89	No	Si
SLU 82	1.51	-2144.06	-10205	-0.0000425	0.0003743	0.0035	2.0156	8580.24	10096.82	10096.82	4.71	No	Si
SLU 82	3.41	-182.66	-6291	-0.0000171	0.0003743	0.0035	2.0156	5692.65	6920.28	6920.28	37.89	No	Si
SLU 77	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 77	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si
SLU 80	1.51	-2008.17	-9428	-0.0000393	0.0003743	0.0035	2.0156	8046.68	9497.54	9497.54	4.73	No	Si
SLU 80	3.41	-24.38	-5390	-0.0000136	0.0003743	0.0035	2.0156	4956.97	6135.77	6135.77	251.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.51	-2403.4	-7121	-0.0000356	0.0005615	0.0035	2.0156		7788.57	7788.57	3.24		Si
SLV 7	3.41	1615.56	-1490	-0.0005491	0.0005615	0.0035	1.6125		1691.84	1691.84	1.05		Si
SLV 8	1.51	-2091.36	-6680	-0.0000321	0.0005615	0.0035	2.0156		7401.25	7401.25	3.54		Si
SLV 8	3.41	1366.29	-1843	-0.0000229	0.0005615	0.0035	2.0156		2035.25	2035.25	1.49		Si
SLV 12	1.51	-2214.67	-8013	-0.0000365	0.0005615	0.0035	2.0156		8578.91	8578.91	3.87		Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 12	3.41	1276.52	-1775	-0.0000204	0.0005615	0.0035	2.0156		1970	1970	1.54		Si
SLV 10	1.51	-282.32	-5166	-0.0000148	0.0005615	0.0035	2.0156		6021.31	6021.31	21.33		Si
SLV 10	3.41	-1227.48	-4318	-0.0000196	0.0005615	0.0035	2.0156		5246.73	5246.73	4.27		Si
SLV 6	1.51	-159.01	-3834	-0.0000106	0.0005615	0.0035	2.0156		4796.14	4796.14	30.16		Si
SLV 6	3.41	-1137.71	-4386	-0.0000192	0.0005615	0.0035	2.0156		5308.65	5308.65	4.67		Si
SLV 11	1.51	-2526.71	-8453	-0.00004	0.0005615	0.0035	2.0156		8972.29	8972.29	3.55		Si
SLV 11	3.41	1525.78	-1423	-0.0004675	0.0005615	0.0035	1.6125		1626.2	1626.2	1.07		Si
SLV 3	1.51	-1580.51	-4566	-0.0000229	0.0005615	0.0035	2.0156		5473.07	5473.07	3.46		Si
SLV 3	3.41	841.74	-2461	-0.0000122	0.0005615	0.0035	2.0156		2635.87	2635.87	3.13		Si
SLV 1	1.51	-1000.81	-3713	-0.0000165	0.0005615	0.0035	2.0156		4682.72	4682.72	4.68		Si
SLV 1	3.41	90.54	-3224	-0.0000086	0.0005615	0.0035	2.0156		3364.3	3364.3	37.16		Si
SLV 4	1.51	-1273.87	-4134	-0.0000195	0.0005615	0.0035	2.0156		5075.06	5075.06	3.98		Si
SLV 4	3.41	596.79	-2808	-0.0000112	0.0005615	0.0035	2.0156		2967.63	2967.63	4.97		Si
SLV 15	1.51	-1991.56	-9007	-0.0000374	0.0005615	0.0035	2.0156		9441.03	9441.03	4.74		Si
SLV 15	3.41	542.49	-2237	-0.0000094	0.0005615	0.0035	2.0156		2418.32	2418.32	4.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 71	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 72	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 72	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 70	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 70	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 64	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 64	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 66	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 66	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 67	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 67	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 50	1.51	-1470.1	-6560	-5524	-1794	2.0156	2.0156	-9135	8162	4936	45199	18107	5140	23247	No	12.96	Si
SLU 50	3.41	500.65	-2260	-1903	-1791	2.0156	2.0156	-3147	7364	4453	45199	18107	5140	23247	No	12.98	Si
SLU 68	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 68	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 69	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 69	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si
SLU 65	1.51	-1691.08	-7614	-6412	-1815	2.0156	2.0156	-10604	8358	5054	45199	18107	5140	23247	No	12.81	Si
SLU 65	3.41	344.94	-3288	-2769	-1812	2.0156	2.0156	-4579	7555	4568	45199	18107	5140	23247	No	12.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	1.51	-2091.36	-6680	-5625	-3680	2.0156	2.0156	-9303	12277	7424	45199	27161	5140	32301		8.78	Si
SLV 8	3.41	1366.29	-1843	-1552	-2676	2.0156	0.7989	-2566	10930	2620	45199	27161	5140	32301		12.07	Si
SLV 10	1.51	-282.32	-5166	-4351	1715	2.0156	2.0156	-7195	11856	7169	45199	27161	5140	32301		18.83	Si
SLV 10	3.41	-1227.48	-4318	-3637	717	2.0156	2.0156	-6014	11619	7026	45199	27161	5140	32301		45.08	Si
SLV 6	1.51	-159.01	-3834	-3229	2413	2.0156	2.0156	-5339	11485	6945	45199	27161	5140	32301		13.39	Si
SLV 6	3.41	-1137.71	-4386	-3693	1493	2.0156	2.0156	-6108	11638	7038	45199	27161	5140	32301		21.63	Si
SLV 7	1.51	-2403.4	-7121	-5996	-4396	2.0156	2.0109	-9916	12400	7481	45199	27161	5140	32301		7.35	Si
SLV 7	3.41	1615.56	-1490	-1255	-3392	1.6125	0	0	0	0	45199	21729	4112	25841		7.62	Si
SLV 12	1.51	-2214.67	-8013	-6747	-4377	2.0156	2.0156	-11158	12648	7648	45199	27161	5140	32301		7.38	Si
SLV 12	3.41	1276.52	-1775	-1495	-3453	2.0156	0.8663	-2472	10911	2836	45199	27161	5140	32301		9.36	Si
SLV 15	1.51	-1991.56	-9007	-7585	-3769	2.0156	2.0156	-12544	12925	7816	45199	27161	5140	32301		8.57	Si
SLV 15	3.41	542.49	-2237	-1884	-3610	2.0156	2.0156	-3116	11040	6676	45199	27161	5140	32301		8.95	Si
SLV 11	1.51	-2526.71	-8453	-7118	-5093	2.0156	2.0156	-11772	12771	7723	45199	27161	5140	32301		6.34	Si
SLV 11	3.41	1525.78	-1423	-1198	-4169	1.6125	0	0	0	0	45199	21729	4112	25841		6.2	Si
SLV 5	1.51	-471.05	-4275	-3600	1697	2.0156	2.0156	-5953	11607	7019	45199	27161	5140	32301		19.04	Si
SLV 5	3.41	-888.44	-4033	-3396	777	2.0156	2.0156	-5616	11540	6978	45199	27161	5140	32301		41.55	Si
SLV 13	1.51	-1411.85	-8154	-6866	-1941	2.0156	2.0156	-11355	12688	7672	45199	27161	5140	32301		16.64	Si
SLV 13	3.41	-208.71	-3000	-2526	-2359	2.0156	2.0156	-4178	11252	6804	45199	27161	5140	32301		13.69	Si
SLV 16	1.51	-1684.91	-8575	-7221	-3065	2.0156	2.0156	-11941	12805	7743	45199	27161	5140	32301		10.54	Si
SLV 16	3.41	297.53	-2584	-2176	-2906	2.0156	2.0156	-3598	11136	6734	45199	27161	5140	32301		11.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.45	5479	-3313	345.02	479.17	1.39	Si
SLV 4	179667	0.45	5574	-3370	345.02	487.11	1.41	Si
SLV 1	179667	0.45	5762	-3484	345.02	502.95	1.46	Si
SLV 2	179667	0.45	5857	-3541	345.02	510.85	1.48	Si
SLV 7	179667	0.45	5991	-3623	345.02	522.13	1.51	Si
SLV 8	179667	0.45	6087	-3681	345.02	530.15	1.54	Si
SLV 11	179667	0.45	6714	-4060	345.02	582.22	1.69	Si
SLV 12	179667	0.45	6810	-4118	345.02	590.15	1.71	Si
SLV 5	179667	0.45	6935	-4193	345.02	600.45	1.74	Si
SLV 6	179667	0.45	7031	-4251	345.02	608.35	1.76	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2288	-3144	136	2.545	606.8	0.889	41.61546	16.42755	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 1	-2236	-3408	136	2.575	602	0.889	42.09435	16.42755	Si
SLV 14	-2193	-7864	-65	2.616	598.1	0.889	42.76698	16.42755	Si
SLV 4	-2189	-3451	65	2.618	597.7	0.889	42.80871	16.42755	Si
SLV 13	-2141	-8129	-65	2.646	593.4	0.889	43.26825	16.42755	Si
SLV 3	-2137	-3715	65	2.649	593.1	0.889	43.31026	16.42755	Si
SLV 16	-2094	-8171	-137	2.659	589.2	0.889	43.46472	16.42755	Si
SLV 15	-2042	-8436	-137	2.691	584.5	0.889	43.98329	16.42755	Si
SLV 6	-2371	-4435	149	2.497	614.3	0.889	40.82237	14.79547	Si
SLV 5	-2318	-4704	149	2.526	609.5	0.889	41.2934	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.709	SLV 81	Si
V_SLV	12.805	SLV 64	Si
PF_SLV	1.047	SLV 7	Si
V_SLV	6.199	SLV 11	Si
PFFP_SLV	1.389	SLV 3	Si
R_SLV	2.533	SLV 2	Si

Maschio 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	6.497	35.424	2.847	L2	L3	3.65	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 50	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 43	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 43	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 49	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 49	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 45	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 45	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 46	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 46	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 48	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 48	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 51	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 51	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 44	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 44	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si
SLU 9	1.51	-454.22	-9053	-0.0000134	0.0003743	0.0035	3.65	15179.34	19217.8	19217.8	42.31	No	Si
SLU 9	3.41	463.71	-7985	-0.000012	0.0003743	0.0035	3.65	13529.5	14443.55	14443.55	31.15	No	Si
SLU 47	1.51	-536.67	-10939	-0.0000163	0.0003743	0.0035	3.65	18004.65	22161.65	22161.65	41.3	No	Si
SLU 47	3.41	579.03	-9507	-0.0000144	0.0003743	0.0035	3.65	15870.11	16903.66	16903.66	29.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	1.51	-2491.52	-8325	-0.0000169	0.0005615	0.0035	3.65		18235.16	18235.16	7.32		Si
SLV 4	3.41	1736.99	-8255	-0.0000151	0.0005615	0.0035	3.65		15133.99	15133.99	8.71		Si
SLV 3	1.51	-3727.08	-8316	-0.0000197	0.0005615	0.0035	3.65		18221.33	18221.33	4.89		Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	3.41	2903.19	-8244	-0.0000177	0.0005615	0.0035	3.65		15115.63	15115.63	5.21		Si
SLV 9	1.51	5062.82	-11322	-0.0000269	0.0005615	0.0035	3.65		20231.77	20231.77	4		Si
SLV 9	3.41	-3343.91	-10530	-0.0000219	0.0005615	0.0035	3.65		21887.16	21887.16	6.55		Si
SLV 6	1.51	5866.3	-9649	-0.0000264	0.0005615	0.0035	3.65		17466.98	17466.98	2.98		Si
SLV 6	3.41	-4210.28	-9413	-0.0000223	0.0005615	0.0035	3.65		20029.07	20029.07	4.76		Si
SLV 8	1.51	-6160.67	-10631	-0.0000284	0.0005615	0.0035	3.65		22055.52	22055.52	3.58		Si
SLV 8	3.41	4348.66	-9657	-0.0000229	0.0005615	0.0035	3.65		17479.61	17479.61	4.02		Si
SLV 12	1.51	-5706.87	-12313	-0.0000298	0.0005615	0.0035	3.65		24809.16	24809.16	4.35		Si
SLV 12	3.41	4028.33	-10785	-0.0000238	0.0005615	0.0035	3.65		19345.3	19345.3	4.8		Si
SLV 7	1.51	-7417.94	-10622	-0.0000315	0.0005615	0.0035	3.65		22041.21	22041.21	2.97		Si
SLV 7	3.41	5535.35	-9646	-0.0000256	0.0005615	0.0035	3.65		17461.28	17461.28	3.15		Si
SLV 10	1.51	6320.1	-11331	-0.0000298	0.0005615	0.0035	3.65		20245.91	20245.91	3.2		Si
SLV 10	3.41	-4530.61	-10541	-0.0000246	0.0005615	0.0035	3.65		21905.53	21905.53	4.84		Si
SLV 11	1.51	-6964.14	-12304	-0.0000326	0.0005615	0.0035	3.65		24795.61	24795.61	3.56		Si
SLV 11	3.41	5215.03	-10774	-0.0000265	0.0005615	0.0035	3.65		19327.18	19327.18	3.71		Si
SLV 5	1.51	4609.02	-9640	-0.0000235	0.0005615	0.0035	3.65		17452.72	17452.72	3.79		Si
SLV 5	3.41	-3023.59	-9402	-0.0000196	0.0005615	0.0035	3.65		20010.82	20010.82	6.62		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.51	-942.92	-19522	-16440	-473	3.65	3.65	-15013	8946	9796	45199	32789	9308	42097	No	88.96	Si
SLU 81	3.41	742.61	-18953	-15960	-473	3.65	3.65	-14575	8888	9732	45199	32789	9308	42097	No	88.97	Si
SLU 78	1.51	-868.13	-17673	-14882	-438	3.65	3.65	-13591	8757	9588	45199	32789	9308	42097	No	96.1	Si
SLU 78	3.41	714.36	-16884	-14218	-438	3.65	3.65	-12985	8676	9500	45199	32789	9308	42097	No	96.11	Si
SLU 42	1.51	-860.47	-17636	-14851	-440	3.65	3.65	-13563	8753	9584	45199	32789	9308	42097	No	95.63	Si
SLU 42	3.41	627.29	-17431	-14679	-440	3.65	3.65	-13406	8732	9561	45199	32789	9308	42097	No	95.64	Si
SLU 41	1.51	-860.47	-17636	-14851	-440	3.65	3.65	-13563	8753	9584	45199	32789	9308	42097	No	95.63	Si
SLU 41	3.41	627.29	-17431	-14679	-440	3.65	3.65	-13406	8732	9561	45199	32789	9308	42097	No	95.64	Si
SLU 83	1.51	-942.92	-19522	-16440	-473	3.65	3.65	-15013	8946	9796	45199	32789	9308	42097	No	88.96	Si
SLU 83	3.41	742.61	-18953	-15960	-473	3.65	3.65	-14575	8888	9732	45199	32789	9308	42097	No	88.97	Si
SLU 82	1.51	-942.92	-19522	-16440	-473	3.65	3.65	-15013	8946	9796	45199	32789	9308	42097	No	88.96	Si
SLU 82	3.41	742.61	-18953	-15960	-473	3.65	3.65	-14575	8888	9732	45199	32789	9308	42097	No	88.97	Si
SLU 77	1.51	-868.13	-17673	-14882	-438	3.65	3.65	-13591	8757	9588	45199	32789	9308	42097	No	96.1	Si
SLU 77	3.41	714.36	-16884	-14218	-438	3.65	3.65	-12985	8676	9500	45199	32789	9308	42097	No	96.11	Si
SLU 39	1.51	-860.47	-17636	-14851	-440	3.65	3.65	-13563	8753	9584	45199	32789	9308	42097	No	95.63	Si
SLU 39	3.41	627.29	-17431	-14679	-440	3.65	3.65	-13406	8732	9561	45199	32789	9308	42097	No	95.64	Si
SLU 84	1.51	-942.92	-19522	-16440	-473	3.65	3.65	-15013	8946	9796	45199	32789	9308	42097	No	88.96	Si
SLU 84	3.41	742.61	-18953	-15960	-473	3.65	3.65	-14575	8888	9732	45199	32789	9308	42097	No	88.97	Si
SLU 40	1.51	-860.47	-17636	-14851	-440	3.65	3.65	-13563	8753	9584	45199	32789	9308	42097	No	95.63	Si
SLU 40	3.41	627.29	-17431	-14679	-440	3.65	3.65	-13406	8732	9561	45199	32789	9308	42097	No	95.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	1.51	-5706.87	-12313	-10368	-5482	3.65	3.65	-9469	12310	13480	45199	49184	9308	58491		10.67	Si
SLV 12	3.41	4028.33	-10785	-9082	-4311	3.65	3.65	-8294	12075	13223	45199	49184	9308	58421		13.55	Si
SLV 10	1.51	6320.1	-11331	-9542	6600	3.65	3.65	-8714	12159	13315	45199	49184	9308	58491		8.86	Si
SLV 10	3.41	-4530.61	-10541	-8877	5297	3.65	3.65	-8106	12038	13182	45199	49184	9308	58380		11.02	Si
SLV 7	1.51	-7417.94	-10622	-8945	-7151	3.65	3.38	-8854	12187	12358	45199	49184	9308	57557		8.05	Si
SLV 7	3.41	5535.35	-9646	-8123	-5848	3.65	3.65	-7418	11900	13031	45199	49184	9308	58229		9.96	Si
SLV 8	1.51	-6160.67	-10631	-8952	-5865	3.65	3.65	-8175	12052	13197	45199	49184	9308	58395		9.96	Si
SLV 8	3.41	4348.66	-9657	-8132	-4562	3.65	3.65	-7426	11902	13033	45199	49184	9308	58231		12.77	Si
SLV 5	1.51	4609.02	-9640	-8118	4931	3.65	3.65	-7414	11899	13030	45199	49184	9308	58229		11.81	Si
SLV 5	3.41	-3023.59	-9402	-7917	3760	3.65	3.65	-7230	11863	12990	45199	49184	9308	58188		15.47	Si
SLV 14	1.51	2629.23	-13637	-11483	2807	3.65	3.65	-10487	12514	13703	45199	49184	9308	58491		20.84	Si
SLV 14	3.41	-1898.44	-11942	-10057	2216	3.65	3.65	-9184	12253	13418	45199	49184	9308	58491		26.4	Si
SLV 9	1.51	5062.82	-11322	-9535	5314	3.65	3.65	-8707	12158	13313	45199	49184	9308	58491		11.01	Si
SLV 9	3.41	-3343.91	-10530	-8867	4011	3.65	3.65	-8098	12036	13180	45199	49184	9308	58378		14.55	Si
SLV 6	1.51	5866.3	-9649	-8125	6218	3.65	3.65	-7421	11901	13031	45199	49184	9308	58230		9.37	Si
SLV 6	3.41	-4210.28	-9413	-7927	5047	3.65	3.65	-7239	11864	12992	45199	49184	9308	58190		11.53	Si
SLV 3	1.51	-3727.08	-8316	-7003	-3358	3.65	3.65	-6396	11696	12807	45199	49184	9308	58006		17.27	Si
SLV 3	3.41	2903.19	-8244	-6943	-2766	3.65	3.65	-6340	11685	12795	45199	49184	9308	57993		20.96	Si
SLV 11	1.51	-6964.14	-12304	-10361	-6769	3.65	3.65	-9462	12309	13479	45199	49184	9308	58491		8.64	Si
SLV 11	3.41	5215.03	-10774	-9073	-5598	3.65	3.65	-8285	12074	13221	45199	49184	9308	58419		10.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	7294	-7987	624.78	1140.78	1.83	Si
SLV 2	179667	0.45	7304	-7997	624.78	1142.25	1.83	Si
SLV 3	179667	0.45	7429	-8135	624.78	1160.87	1.86	Si
SLV 4	179667	0.45	7439	-8146	624.78	1162.33	1.86	Si
SLV 5	179667	0.45	8594	-9410	624.78	1332.08	2.13	Si
SLV 6	179667	0.45	8604	-9421	624.78	1333.54	2.13	Si
SLV 7	179667	0.45	9045	-9904	624.78	1397.61	2.24	Si
SLV 8	179667	0.45	9055	-9915	624.78	1399.07	2.24	Si
SLV 9	179667	0.45	9843	-10778	624.78	1512.55	2.42	Si
SLV 10	179667	0.45	9853	-10789	624.78	1513.99	2.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.535 Wa = 0.05 Ta = 0.0913



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-5034	-16034	-126	2.311	1181.2	0.89	37.72794	16.42755	Si
SLV 13	-5032	-16025	-126	2.312	1181	0.89	37.73919	16.42755	Si
SLV 16	-5039	-16399	-87	2.314	1181.6	0.89	37.78131	16.42755	Si
SLV 15	-5036	-16391	-87	2.315	1181.4	0.89	37.79257	16.42755	Si
SLV 4	-4454	-9168	117	2.468	1127.3	0.889	40.34335	16.42755	Si
SLV 3	-4452	-9160	117	2.469	1127	0.889	40.35607	16.42755	Si
SLV 2	-4450	-8803	77	2.474	1126.9	0.889	40.44065	16.42755	Si
SLV 1	-4447	-8795	77	2.475	1126.6	0.889	40.45341	16.42755	Si
SLV 10	-4825	-13077	-101	2.368	1161.6	0.89	38.67589	14.79547	Si
SLV 9	-4822	-13068	-101	2.369	1161.4	0.89	38.68787	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	29.193	SLU 43	Si
V_SLU	88.956	SLU 81	Si
PF_SLV	2.971	SLV 7	Si
V_SLV	8.048	SLV 7	Si
PFFP_SLV	1.826	SLV 1	Si
R_SLV	2.297	SLV 14	Si

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
35.424	9.502	35.424	7.497	L2	L3	2.005	0.3	4.05	4.05	4.05			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 79	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 76	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 76	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 80	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 80	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 75	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 75	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 83	1.51	1453	-11014	-0.0000396	0.0003743	0.0035	2.0053	9057.15	9559.52	9559.52	6.58	No	Si
SLU 83	3.41	638.79	-7135	-0.0000228	0.0003743	0.0035	2.0053	6320.92	6719.48	6719.48	10.52	No	Si
SLU 84	1.51	1453	-11014	-0.0000396	0.0003743	0.0035	2.0053	9057.15	9559.52	9559.52	6.58	No	Si
SLU 84	3.41	638.79	-7135	-0.0000228	0.0003743	0.0035	2.0053	6320.92	6719.48	6719.48	10.52	No	Si
SLU 82	1.51	1453	-11014	-0.0000396	0.0003743	0.0035	2.0053	9057.15	9559.52	9559.52	6.58	No	Si
SLU 82	3.41	638.79	-7135	-0.0000228	0.0003743	0.0035	2.0053	6320.92	6719.48	6719.48	10.52	No	Si
SLU 77	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 77	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 78	1.51	1356.68	-10182	-0.0000365	0.0003743	0.0035	2.0053	8511.6	8932.51	8932.51	6.58	No	Si
SLU 78	3.41	448.53	-6190	-0.0000189	0.0003743	0.0035	2.0053	5578.92	5947.72	5947.72	13.26	No	Si
SLU 81	1.51	1453	-11014	-0.0000396	0.0003743	0.0035	2.0053	9057.15	9559.52	9559.52	6.58	No	Si
SLU 81	3.41	638.79	-7135	-0.0000228	0.0003743	0.0035	2.0053	6320.92	6719.48	6719.48	10.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	1.51	2076.88	-6942	-0.0000329	0.0005615	0.0035	2.0053		6756.33	6756.33	3.25		Si
SLV 6	3.41	-1386.13	-1882	-0.0000233	0.0005615	0.0035	1.6042		2924.1	2924.1	2.11		Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	1.51	-268.71	-6329	-0.0000178	0.0005615	0.0035	2.0053		7055.2	7055.2	26.26		Si
SLV 11	3.41	1551.28	-5008	-0.000024	0.0005615	0.0035	2.0053		5010.26	5010.26	3.23		Si
SLV 10	1.51	2492.64	-8395	-0.0000399	0.0005615	0.0035	2.0053		8031.56	8031.56	3.22		Si
SLV 10	3.41	-1579.37	-1832	-0.0000415	0.0005615	0.0035	1.6042		2875.92	2875.92	1.82		Si
SLV 9	1.51	2140.45	-7928	-0.000036	0.0005615	0.0035	2.0053		7625.86	7625.86	3.56		Si
SLV 9	3.41	-1270.39	-2113	-0.0000174	0.0005615	0.0035	1.6042		3145.91	3145.91	2.48		Si
SLV 12	1.51	83.48	-6796	-0.0000176	0.0005615	0.0035	2.0053		6626.77	6626.77	79.38		Si
SLV 12	3.41	1242.3	-4727	-0.0000209	0.0005615	0.0035	2.0053		4750.46	4750.46	3.82		Si
SLV 7	1.51	-684.47	-4876	-0.0000172	0.0005615	0.0035	2.0053		5726.72	5726.72	8.37		Si
SLV 7	3.41	1744.52	-5059	-0.0000256	0.0005615	0.0035	2.0053		5056.05	5056.05	2.9		Si
SLV 14	1.51	2131.45	-9526	-0.0000401	0.0005615	0.0035	2.0053		9003.14	9003.14	4.22		Si
SLV 14	3.41	-814.57	-2789	-0.0000129	0.0005615	0.0035	2.0053		3789.55	3789.55	4.65		Si
SLV 8	1.51	-332.28	-5343	-0.0000157	0.0005615	0.0035	2.0053		6152.08	6152.08	18.51		Si
SLV 8	3.41	1435.55	-4777	-0.0000225	0.0005615	0.0035	2.0053		4796.97	4796.97	3.34		Si
SLV 3	1.51	-323.28	-3745	-0.0000117	0.0005615	0.0035	2.0053		4689.59	4689.59	14.51		Si
SLV 3	3.41	979.73	-4101	-0.0000174	0.0005615	0.0035	2.0053		4169.24	4169.24	4.26		Si
SLV 5	1.51	1724.69	-6475	-0.000029	0.0005615	0.0035	2.0053		6341.34	6341.34	3.68		Si
SLV 5	3.41	-1077.15	-2163	-0.0000141	0.0005615	0.0035	2.0053		3193.96	3193.96	2.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 50	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 46	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 46	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 51	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 51	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 68	1.51	1131.93	-8240	-6939	1316	2.0053	2.0053	-11535	8482	5103	45199	18014	5114	23128	No	17.58	Si
SLU 68	3.41	4.58	-3983	-3354	1310	2.0053	2.0053	-5575	7688	4625	45199	18014	5114	23128	No	17.66	Si
SLU 49	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 49	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 44	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 44	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 48	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 48	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 47	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 47	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 43	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 43	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si
SLU 45	1.51	991.59	-7068	-5952	1362	2.0053	2.0053	-9894	8264	4971	45199	18014	5114	23128	No	16.98	Si
SLU 45	3.41	-212.86	-2850	-2400	1357	2.0053	2.0053	-3989	7476	4498	45199	18014	5114	23128	No	17.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.51	-323.28	-3745	-3154	-2183	2.0053	2.0053	-5242	11465	6897	45199	27021	5114	32135		14.72	Si
SLV 3	3.41	979.73	-4101	-3454	-1841	2.0053	2.0053	-5741	11565	6957	45199	27021	5114	32135		17.46	Si
SLV 6	1.51	2076.88	-6942	-5846	3760	2.0053	2.0053	-9717	12360	7436	45199	27021	5114	32135		8.55	Si
SLV 6	3.41	-1386.13	-1882	-1585	2813	1.6042	0.7983	0	0	0	45199	21617	4091	25708		9.14	Si
SLV 8	1.51	-332.28	-5343	-4499	-2240	2.0053	2.0053	-7479	11912	7166	45199	27021	5114	32135		14.35	Si
SLV 8	3.41	1435.55	-4777	-4023	-1266	2.0053	2.0053	-6687	11754	7071	45199	27021	5114	32135		25.38	Si
SLV 13	1.51	1785.35	-9068	-7636	3352	2.0053	2.0053	-12693	12955	7794	45199	27021	5114	32135		9.59	Si
SLV 13	3.41	-510.93	-3065	-2581	3001	2.0053	2.0053	-4291	11275	6783	45199	27021	5114	32135		10.71	Si
SLV 7	1.51	-684.47	-4876	-4106	-2982	2.0053	2.0053	-6826	11782	7088	45199	27021	5114	32135		10.78	Si
SLV 7	3.41	1744.52	-5059	-4260	-2009	2.0053	1.9734	-7081	11833	7005	45199	27021	5114	32135		16	Si
SLV 9	1.51	2140.45	-7928	-6676	4138	2.0053	2.0053	-11098	12636	7602	45199	27021	5114	32135		7.77	Si
SLV 9	3.41	-1270.39	-2113	-1779	3156	1.6042	1.2043	0	0	0	45199	21617	4091	25708		8.15	Si
SLV 10	1.51	2492.64	-8395	-7069	4881	2.0053	2.0053	-11751	12767	7680	45199	27021	5114	32135		6.58	Si
SLV 10	3.41	-1579.37	-1832	-1542	3899	1.6042	0.4212	0	0	0	45199	21617	4091	25708		6.59	Si
SLV 16	1.51	1408.7	-9047	-7618	2282	2.0053	2.0053	-12664	12949	7790	45199	27021	5114	32135		14.08	Si
SLV 16	3.41	31.93	-3658	-3080	2507	2.0053	2.0053	-5120	11441	6883	45199	27021	5114	32135		12.82	Si
SLV 5	1.51	1724.69	-6475	-5453	3017	2.0053	2.0053	-9064	12229	7357	45199	27021	5114	32135		10.65	Si
SLV 5	3.41	-1077.15	-2163	-1822	2071	2.0053	1.5142	-4014	11220	5096	45199	27021	5114	32135		15.52	Si
SLV 14	1.51	2131.45	-9526	-8022	4082	2.0053	2.0053	-13335	13084	7871	45199	27021	5114	32135		7.87	Si
SLV 14	3.41	-814.57	-2789	-2349	3731	2.0053	2.0053	-3904	11197	6736	45199	27021	5114	32135		8.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.535 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	6045	-3637	343.25	523.89	1.53	Si
SLV 2	179667	0.45	6062	-3647	343.25	525.34	1.53	Si
SLV 5	179667	0.45	6297	-3788	343.25	544.78	1.59	Si
SLV 6	179667	0.45	6314	-3799	343.25	546.24	1.59	Si
SLV 3	179667	0.45	6672	-4014	343.25	575.75	1.68	Si
SLV 4	179667	0.45	6689	-4024	343.25	577.18	1.68	Si
SLV 9	179667	0.45	7139	-4295	343.25	614.14	1.79	Si
SLV 10	179667	0.45	7157	-4306	343.25	615.59	1.79	Si
SLV 7	179667	0.45	8386	-5045	343.25	715.21	2.08	Si
SLV 8	179667	0.45	8404	-5056	343.25	716.63	2.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.535 Wa = 0.05 Ta = 0.0913

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Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-2335	-4152	145	2.511	609	0.889	41.04399	16.42755	Si
SLV 4	-2302	-4465	145	2.529	606	0.889	41.34834	16.42755	Si
SLV 15	-2345	-9159	-19	2.533	609.9	0.889	41.41	16.42755	Si
SLV 16	-2311	-9473	-18	2.552	606.9	0.889	41.71818	16.42755	Si
SLV 13	-2225	-9103	-145	2.572	599	0.889	42.05155	16.42755	Si
SLV 14	-2192	-9416	-145	2.592	596	0.889	42.37126	16.42755	Si
SLV 1	-2216	-4095	18	2.606	598.1	0.889	42.616	16.42755	Si
SLV 2	-2182	-4409	18	2.626	595.1	0.889	42.93897	16.42755	Si
SLV 7	-2479	-5967	235	2.415	622.2	0.889	39.47391	14.79547	Si
SLV 11	-2481	-7470	186	2.424	622.5	0.889	39.62039	14.79547	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.579	SLU 81	Si
V_SLU	16.984	SLU 43	Si
PF_SLV	1.821	SLV 10	Si
V_SLV	6.584	SLV 10	Si
PFFP_SLV	1.526	SLV 1	Si
R_SLV	2.498	SLV 3	Si

1.5 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

X_{ini.}: coordinata punto iniziale. [m]

Y_{ini.}: coordinata punto iniziale. [m]

Z_{ini.inf.}: coordinata punto iniziale. [m]

Z_{ini.sup.}: coordinata punto iniziale. [m]

H_{ini.}: altezza della sezione iniziale. [m]

X_{fin.}: coordinata punto finale. [m]

Y_{fin.}: coordinata punto finale. [m]

Z_{fin.inf.}: coordinata punto finale. [m]

Z_{fin.sup.}: coordinata punto finale. [m]

H_{fin.}: altezza della sezione finale. [m]

Luce: lunghezza della trave. [m]

Spessore: spessore. [m]

R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]

f_b: resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]

f_{hk}: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]

f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]

f_{hmedio}: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]

τ_0 : resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]

f_{vo}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]

μ : coefficiente di attrito [C8.7.1.17].

ϕ : coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

f_{vk,lim}: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]

E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]

G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]

FC: fattore di confidenza della muratura.

Materiale: descrizione del materiale.

Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.

t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.

E: modulo di elasticità longitudinale. [daN/m²]

eu: dilatazione a rottura.

Tipo fibra: natura della fibra.

materiale: materiale fibra del rinforzo.

lato applicazione: lato di applicazione del rinforzo.

esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.

ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.

ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.

ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.

ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.

strati: numero strati del rinforzo.

verifica taglio: tipo di verifica a taglio.

elim,conv / e,CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.

α : coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.

α : coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.

elim,conv: deformazione limite convenzionale del rinforzo FRCCM.

e,fd: deformazione di progetto del rinforzo FRCCM ovvero CRM.



yF,d: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.

connettori: presenza di connettori per la prevenzione del distacco del rinforzo.

tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.

CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.

CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.

intonaco: materiale intonaco FRCM ovvero CRM.

spessore intonaco: spessore intonaco. [m]

tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.

Comb.: combinazione.

Sez.: sezione di verifica.

M: momento flettente nel piano. [daN*m]

N: sforzo normale. [daN]

em: deformazione della muratura.

em_: deformazione elastica della muratura.

emu: deformazione ultima della muratura.

df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]

M0d: momento resistente della sezione non rinforzata. [daN*m]

M1d: momento resistente della sezione rinforzata. [daN*m]

MRd: momento resistente della sezione. [daN*m]

incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.

c.s.: coefficiente di sicurezza.

Verifica: stato di verifica.

V: taglio nel piano. [daN]

df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]

fvd: resistenza a taglio di calcolo. [daN/m²]

Vt: resistenza a taglio della muratura non rinforzata. [daN]

Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]

Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]

Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]

Vt,R: resistenza a taglio della sezione rinforzata. [daN]

Stato limite: pF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.

Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
25.882	8.663	-1.89	-0.5	1.39	26.284	9.108	-1.89	-0.5	1.39	0.6	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato _ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si
SLU 78	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 74	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si
SLU 74	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 75	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si
SLU 75	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 83	ini.	-1552.59	-146	-0.0003734	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.38	Si
SLU 83	fin.	302.72	-146	-0.0000635	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.28	Si
SLU 76	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si
SLU 76	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 82	ini.	-1552.59	-146	-0.0003734	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.38	Si
SLU 82	fin.	302.72	-146	-0.0000635	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.28	Si
SLU 79	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si



Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 73	ini.	-1478.32	-142	-0.0003524	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.55	Si
SLU 73	fin.	312.23	-142	-0.0000655	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.75	Si
SLU 81	ini.	-1552.59	-146	-0.0003734	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.38	Si
SLU 81	fin.	302.72	-146	-0.0000635	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.28	Si
SLU 84	ini.	-1552.59	-146	-0.0003734	0.0001872	0.0035	1.39		5240.94	5240.94	No	3.38	Si
SLU 84	fin.	302.72	-146	-0.0000635	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1552.59	3751	1.39	0	934	4758	9365	3545	5692	No	1.52	Si
SLU 84	fin.	302.72	2754	1.39	0	934	4758	9365	3545	5692	No	2.07	Si
SLU 73	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 73	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si
SLU 75	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 75	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si
SLU 82	ini.	-1552.59	3751	1.39	0	934	4758	9365	3545	5692	No	1.52	Si
SLU 82	fin.	302.72	2754	1.39	0	934	4758	9365	3545	5692	No	2.07	Si
SLU 76	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 76	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si
SLU 74	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 74	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si
SLU 83	ini.	-1552.59	3751	1.39	0	934	4758	9365	3545	5692	No	1.52	Si
SLU 83	fin.	302.72	2754	1.39	0	934	4758	9365	3545	5692	No	2.07	Si
SLU 79	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 79	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si
SLU 81	ini.	-1552.59	3751	1.39	0	934	4758	9365	3545	5692	No	1.52	Si
SLU 81	fin.	302.72	2754	1.39	0	934	4758	9365	3545	5692	No	2.07	Si
SLU 78	ini.	-1478.32	3643	1.39	0	934	4758	9365	3545	5691	No	1.56	Si
SLU 78	fin.	312.23	2646	1.39	0	934	4758	9365	3545	5691	No	2.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-3719.92	-2015	-0.0010425	0.0002807	0.0035	1.39		7578.45	7578.45		2.04	Si
SLV 1	fin.	1603.02	-2151	-0.000369	0.0002807	0.0035	1.39		7569.61	7569.61		4.72	Si
SLV 10	ini.	-677.5	1078	-0.0001444	0.0002807	0.0035	1.39		7578.45	7578.45		11.19	Si
SLV 10	fin.	2902.62	1249	-0.0007556	0.0002807	0.0035	1.39		7569.61	7569.61		2.61	Si
SLV 8	ini.	-996.54	-1036	-0.0002174	0.0002807	0.0035	1.39		7578.45	7578.45		7.6	Si
SLV 8	fin.	-2706.12	-1207	-0.0006907	0.0002807	0.0035	1.39		7578.45	7578.45		2.8	Si
SLV 4	ini.	-3043.03	-2066	-0.0008012	0.0002807	0.0035	1.39		7578.45	7578.45		2.49	Si
SLV 4	fin.	-428.94	-2274	-0.0000899	0.0002807	0.0035	1.39		7578.45	7578.45		17.67	Si
SLV 2	ini.	-3373.61	-1781	-0.0009157	0.0002807	0.0035	1.39		7578.45	7578.45		2.25	Si
SLV 2	fin.	1315.31	-1918	-0.0002949	0.0002807	0.0035	1.39		7569.61	7569.61		5.75	Si
SLV 6	ini.	-2098.45	-87	-0.0005057	0.0002807	0.0035	1.39		7578.45	7578.45		3.61	Si
SLV 6	fin.	3108.06	-20	-0.0008245	0.0002807	0.0035	1.39		7569.61	7569.61		2.44	Si
SLV 9	ini.	-1029.9	841	-0.0002253	0.0002807	0.0035	1.39		7578.45	7578.45		7.36	Si
SLV 9	fin.	3195.38	1011	-0.0008545	0.0002807	0.0035	1.39		7569.61	7569.61		2.37	Si
SLV 5	ini.	-2450.85	-325	-0.0006108	0.0002807	0.0035	1.39		7578.45	7578.45		3.09	Si
SLV 5	fin.	3400.83	-258	-0.0009268	0.0002807	0.0035	1.39		7569.61	7569.61		2.23	Si
SLV 12	ini.	424.41	129	-0.0000891	0.0002807	0.0035	1.39		7569.61	7569.61		17.84	Si
SLV 12	fin.	-2911.56	62	-0.0007574	0.0002807	0.0035	1.39		7578.45	7578.45		2.6	Si
SLV 3	ini.	-3389.35	-2299	-0.0009213	0.0002807	0.0035	1.39		7578.45	7578.45		2.24	Si
SLV 3	fin.	-141.24	-2507	-0.0000291	0.0002807	0.0035	1.39		7578.45	7578.45		53.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-2098.45	8966	1.39	0	1377	4758	14048	3545	6134		0.68	No
SLV 6	fin.	3108.06	8247	1.39	0	1364	4758	14048	3545	6121		0.74	No
SLV 3	ini.	-3389.35	5992	1.39	0	1749	4758	14048	3545	6506		1.09	Si
SLV 3	fin.	-141.24	5135	1.39	0	1779	4758	14048	3545	6537		1.27	Si
SLV 4	ini.	-3043.03	4935	1.39	0	1713	4758	14048	3545	6471		1.31	Si
SLV 4	fin.	-428.94	4078	1.39	0	1745	4758	14048	3545	6502		1.59	Si
SLV 12	ini.	424.41	-4838	1.39	0	1335	4758	14048	3545	6092		1.26	Si
SLV 12	fin.	-2911.56	-5645	1.39	0	1348	4758	14048	3545	6105		1.08	Si
SLV 5	ini.	-2450.85	10042	1.39	0	1421	4758	14048	3545	6179		0.62	No
SLV 5	fin.	3400.83	9323	1.39	0	1409	4758	14048	3545	6166		0.66	No
SLV 10	ini.	-677.5	6251	1.39	0	1132	4758	14048	3545	5890		0.94	No
SLV 10	fin.	2902.62	5577	1.39	0	1092	4758	14048	3545	5850		1.05	Si
SLV 1	ini.	-3719.92	9319	1.39	0	1705	4758	14048	3545	6463		0.69	No
SLV 1	fin.	1603.02	8501	1.39	0	1726	4758	14048	3545	6484		0.76	No
SLV 9	ini.	-1029.9	7326	1.39	0	1186	4758	14048	3545	5944		0.81	No
SLV 9	fin.	3195.38	6652	1.39	0	1148	4758	14048	3545	5906		0.89	No
SLV 16	ini.	1693.48	-4116	1.39	0	945	4758	14048	3545	5703		1.39	Si
SLV 16	fin.	-1113.76	-4824	1.39	0	906	4758	14048	3545	5664		1.17	Si
SLV 2	ini.	-3373.61	8262	1.39	0	1669	4758	14048	3545	6427		0.78	No
SLV 2	fin.	1315.31	7445	1.39	0	1690	4758	14048	3545	6448		0.87	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.037	SLV 1	Si
V_SLV	0.615	SLV 5	No
PF_SLU	3.376	SLU 81	Si
V_SLU	1.517	SLU 81	Si



Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
25.882	8.663	-0.1	0.51	0.61	26.284	9.108	-0.1	0.51	0.61	0.6	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 77	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si
SLU 84	ini.	-202.71	100	-0.0002378	0.0001872	0.0035	0.61		1013.84	1013.84	No	5	Si
SLU 84	fin.	352.67	100	-0.0004555	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.86	Si
SLU 78	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 78	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si
SLU 81	ini.	-202.71	100	-0.0002378	0.0001872	0.0035	0.61		1013.84	1013.84	No	5	Si
SLU 81	fin.	352.67	100	-0.0004555	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.86	Si
SLU 82	ini.	-202.71	100	-0.0002378	0.0001872	0.0035	0.61		1013.84	1013.84	No	5	Si
SLU 82	fin.	352.67	100	-0.0004555	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.86	Si
SLU 79	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 79	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si
SLU 83	ini.	-202.71	100	-0.0002378	0.0001872	0.0035	0.61		1013.84	1013.84	No	5	Si
SLU 83	fin.	352.67	100	-0.0004555	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.86	Si
SLU 80	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 80	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si
SLU 76	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 76	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si
SLU 75	ini.	-203.64	112	-0.000239	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.98	Si
SLU 75	fin.	344.28	112	-0.0004425	0.0001872	0.0035	0.61		1009.47	1009.47	No	2.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-202.71	1118	0.61	0	378	4758	4110	1556	5136	No	4.59	Si
SLU 81	fin.	352.67	733	0.61	0	378	4758	4110	1556	5136	No	7.01	Si
SLU 78	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 78	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si
SLU 75	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 75	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si
SLU 83	ini.	-202.71	1118	0.61	0	378	4758	4110	1556	5136	No	4.59	Si
SLU 83	fin.	352.67	733	0.61	0	378	4758	4110	1556	5136	No	7.01	Si
SLU 74	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 74	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si
SLU 84	ini.	-202.71	1118	0.61	0	378	4758	4110	1556	5136	No	4.59	Si
SLU 84	fin.	352.67	733	0.61	0	378	4758	4110	1556	5136	No	7.01	Si
SLU 77	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 77	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si
SLU 73	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 73	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si
SLU 82	ini.	-202.71	1118	0.61	0	378	4758	4110	1556	5136	No	4.59	Si
SLU 82	fin.	352.67	733	0.61	0	378	4758	4110	1556	5136	No	7.01	Si
SLU 80	ini.	-203.64	1106	0.61	0	375	4758	4110	1556	5133	No	4.64	Si
SLU 80	fin.	344.28	721	0.61	0	375	4758	4110	1556	5133	No	7.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-874.77	838	-0.0013761	0.0002807	0.0035	0.61		1463.7	1463.7		1.67	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	fin.	1047.1	838	-0.0018351	0.0002807	0.0035	0.61		1459.78	1459.78		1.39	Si
SLV 10	ini.	-724.4	683	-0.0010564	0.0002807	0.0035	0.61		1463.7	1463.7		2.02	Si
SLV 10	fin.	875.95	683	-0.0013843	0.0002807	0.0035	0.61		1459.78	1459.78		1.67	Si
SLV 11	ini.	768.83	-731	-0.00115	0.0002807	0.0035	0.61		1459.78	1459.78		1.9	Si
SLV 11	fin.	-787.05	-733	-0.0011836	0.0002807	0.0035	0.61		1463.7	1463.7		1.86	Si
SLV 3	ini.	-562.26	345	-0.0007588	0.0002807	0.0035	0.61		1463.7	1463.7		2.6	Si
SLV 3	fin.	724.24	347	-0.0010599	0.0002807	0.0035	0.61		1459.78	1459.78		2.02	Si
SLV 12	ini.	919.21	-885	-0.0014876	0.0002807	0.0035	0.61		1459.78	1459.78		1.59	Si
SLV 12	fin.	-958.2	-887	-0.0015793	0.0002807	0.0035	0.61		1463.7	1463.7		1.53	Si
SLV 1	ini.	-1055.34	815	-0.0018516	0.0002807	0.0035	0.61		1463.7	1463.7		1.39	Si
SLV 1	fin.	1274.48	818	-0.0027047	0.0002807	0.0035	0.61		1459.78	1459.78		1.15	Si
SLV 16	ini.	750.33	-619	-0.0011122	0.0002807	0.0035	0.61		1459.78	1459.78		1.95	Si
SLV 16	fin.	-783.67	-622	-0.0011765	0.0002807	0.0035	0.61		1463.7	1463.7		1.87	Si
SLV 5	ini.	-1224.22	1081	-0.0024637	0.0002807	0.0035	0.61		1463.7	1463.7		1.2	Si
SLV 5	fin.	1449.02	1083	-0.0036038	0.0002807	0.0035	0.61		1459.78	1459.78		1.01	Si
SLV 2	ini.	-907.56	663	-0.0014533	0.0002807	0.0035	0.61		1463.7	1463.7		1.61	Si
SLV 2	fin.	1106.29	667	-0.0020254	0.0002807	0.0035	0.61		1459.78	1459.78		1.32	Si
SLV 6	ini.	-1073.84	927	-0.0019092	0.0002807	0.0035	0.61		1463.7	1463.7		1.36	Si
SLV 6	fin.	1277.87	929	-0.0027208	0.0002807	0.0035	0.61		1459.78	1459.78		1.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-562.26	2342	0.61	0	526	4758	6165	1556	5284		2.26	Si
SLV 3	fin.	724.24	2007	0.61	0	525	4758	6165	1556	5283		2.63	Si
SLV 11	ini.	768.83	-2472	0.61	0	724	4758	6165	1556	5482		2.22	Si
SLV 11	fin.	-787.05	-2750	0.61	0	725	4758	6165	1556	5482		1.99	Si
SLV 12	ini.	919.21	-3007	0.61	0	748	4758	6165	1556	5506		1.83	Si
SLV 12	fin.	-958.2	-3286	0.61	0	749	4758	6165	1556	5507		1.68	Si
SLV 6	ini.	-1073.84	4094	0.61	0	377	4758	6165	1556	5135		1.25	Si
SLV 6	fin.	1277.87	3780	0.61	0	377	4758	6165	1556	5135		1.36	Si
SLV 10	ini.	-724.4	2810	0.61	0	446	4758	6165	1556	5203		1.85	Si
SLV 10	fin.	875.95	2521	0.61	0	446	4758	6165	1556	5203		2.06	Si
SLV 9	ini.	-874.77	3346	0.61	0	404	4758	6165	1556	5161		1.54	Si
SLV 9	fin.	1047.1	3056	0.61	0	404	4758	6165	1556	5161		1.69	Si
SLV 1	ini.	-1055.34	4088	0.61	0	410	4758	6165	1556	5168		1.26	Si
SLV 1	fin.	1274.48	3749	0.61	0	409	4758	6165	1556	5167		1.38	Si
SLV 2	ini.	-907.56	3561	0.61	0	451	4758	6165	1556	5208		1.46	Si
SLV 2	fin.	1106.29	3222	0.61	0	450	4758	6165	1556	5208		1.62	Si
SLV 16	ini.	750.33	-2465	0.61	0	706	4758	6165	1556	5464		2.22	Si
SLV 16	fin.	-783.67	-2719	0.61	0	707	4758	6165	1556	5465		2.01	Si
SLV 5	ini.	-1224.22	4630	0.61	0	327	4758	6165	1556	5084		1.1	Si
SLV 5	fin.	1449.02	4316	0.61	0	326	4758	6165	1556	5084		1.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.007	SLV 5	Si
V_SLV	1.098	SLV 5	Si
PF_SLU	2.862	SLU 81	Si
V_SLU	4.592	SLU 81	Si

Trave di accoppiamento 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
28.92	-0.169	-1.89	-0.5	1.39	27.92	-0.169	-1.89	-0.5	1.39	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 42	ini.	320.15	-782	-0.0000672	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.34	Si
SLU 42	fin.	201.88	-231	-0.000042	0.0001872	0.0035	1.39		5230.97	5230.97	No	25.91	Si
SLU 45	ini.	102.05	-467	-0.000021	0.0001872	0.0035	1.39		5230.97	5230.97	No	51.26	Si
SLU 45	fin.	292.21	-275	-0.0000612	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.9	Si
SLU 81	ini.	325.74	-860	-0.0000684	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.06	Si
SLU 81	fin.	270.08	-295	-0.0000565	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.37	Si
SLU 39	ini.	320.15	-782	-0.0000672	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.34	Si
SLU 39	fin.	201.88	-231	-0.000042	0.0001872	0.0035	1.39		5230.97	5230.97	No	25.91	Si
SLU 82	ini.	325.74	-860	-0.0000684	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.06	Si
SLU 82	fin.	270.08	-295	-0.0000565	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.37	Si
SLU 84	ini.	325.74	-860	-0.0000684	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.06	Si
SLU 84	fin.	270.08	-295	-0.0000565	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.37	Si
SLU 46	ini.	102.05	-467	-0.000021	0.0001872	0.0035	1.39		5230.97	5230.97	No	51.26	Si
SLU 46	fin.	292.21	-275	-0.0000612	0.0001872	0.0035	1.39		5230.97	5230.97	No	17.9	Si
SLU 83	ini.	325.74	-860	-0.0000684	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.06	Si
SLU 83	fin.	270.08	-295	-0.0000565	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.37	Si
SLU 41	ini.	320.15	-782	-0.0000672	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.34	Si
SLU 41	fin.	201.88	-231	-0.000042	0.0001872	0.0035	1.39		5230.97	5230.97	No	25.91	Si
SLU 40	ini.	320.15	-782	-0.0000672	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.34	Si
SLU 40	fin.	201.88	-231	-0.000042	0.0001872	0.0035	1.39		5230.97	5230.97	No	25.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 42	ini.	320.15	-800	1.39	0	1047	7930	9365	3545	8976	No	11.22	Si
SLU 42	fin.	201.88	638	1.39	0	950	7930	9365	3545	8880	No	13.92	Si
SLU 40	ini.	320.15	-800	1.39	0	1047	7930	9365	3545	8976	No	11.22	Si
SLU 40	fin.	201.88	638	1.39	0	950	7930	9365	3545	8880	No	13.92	Si
SLU 84	ini.	325.74	-720	1.39	0	1060	7930	9365	3545	8989	No	12.49	Si
SLU 84	fin.	270.08	799	1.39	0	962	7930	9365	3545	8891	No	11.12	Si
SLU 80	ini.	279.06	-556	1.39	0	1046	7930	9365	3545	8975	No	16.13	Si
SLU 80	fin.	275.85	792	1.39	0	961	7930	9365	3545	8890	No	11.23	Si
SLU 81	ini.	325.74	-720	1.39	0	1060	7930	9365	3545	8989	No	12.49	Si
SLU 81	fin.	270.08	799	1.39	0	962	7930	9365	3545	8891	No	11.12	Si
SLU 82	ini.	325.74	-720	1.39	0	1060	7930	9365	3545	8989	No	12.49	Si
SLU 82	fin.	270.08	799	1.39	0	962	7930	9365	3545	8891	No	11.12	Si
SLU 39	ini.	320.15	-800	1.39	0	1047	7930	9365	3545	8976	No	11.22	Si
SLU 39	fin.	201.88	638	1.39	0	950	7930	9365	3545	8880	No	13.92	Si
SLU 83	ini.	325.74	-720	1.39	0	1060	7930	9365	3545	8989	No	12.49	Si
SLU 83	fin.	270.08	799	1.39	0	962	7930	9365	3545	8891	No	11.12	Si
SLU 77	ini.	279.06	-556	1.39	0	1046	7930	9365	3545	8975	No	16.13	Si
SLU 77	fin.	275.85	792	1.39	0	961	7930	9365	3545	8890	No	11.23	Si
SLU 41	ini.	320.15	-800	1.39	0	1047	7930	9365	3545	8976	No	11.22	Si
SLU 41	fin.	201.88	638	1.39	0	950	7930	9365	3545	8880	No	13.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-919.11	-3563	-0.0001994	0.0002807	0.0035	1.39		7578.45	7578.45		8.25	Si
SLV 9	fin.	953.24	-4129	-0.0002076	0.0002807	0.0035	1.39		7569.61	7569.61		7.94	Si
SLV 8	ini.	1213.18	2610	-0.0002697	0.0002807	0.0035	1.39		7569.61	7569.61		6.24	Si
SLV 8	fin.	-514.56	3702	-0.0001085	0.0002807	0.0035	1.39		7578.45	7578.45		14.73	Si
SLV 16	ini.	-401.12	1605	-0.000084	0.0002807	0.0035	1.39		7578.45	7578.45		18.89	Si
SLV 16	fin.	958.44	204	-0.0002088	0.0002807	0.0035	1.39		7569.61	7569.61		7.9	Si
SLV 7	ini.	1026.75	2650	-0.0002248	0.0002807	0.0035	1.39		7569.61	7569.61		7.37	Si
SLV 7	fin.	-353.77	3366	-0.0000738	0.0002807	0.0035	1.39		7578.45	7578.45		21.42	Si
SLV 13	ini.	-1014.24	-413	-0.0002216	0.0002807	0.0035	1.39		7578.45	7578.45		7.47	Si
SLV 13	fin.	1341.08	-2230	-0.0003014	0.0002807	0.0035	1.39		7569.61	7569.61		5.64	Si
SLV 4	ini.	1308.31	-540	-0.0002932	0.0002807	0.0035	1.39		7569.61	7569.61		5.79	Si
SLV 4	fin.	-902.4	1803	-0.0001955	0.0002807	0.0035	1.39		7578.45	7578.45		8.4	Si
SLV 3	ini.	1125.1	-501	-0.0002483	0.0002807	0.0035	1.39		7569.61	7569.61		6.73	Si
SLV 3	fin.	-744.39	1473	-0.0001594	0.0002807	0.0035	1.39		7578.45	7578.45		10.18	Si
SLV 2	ini.	878.41	-2597	-0.0001902	0.0002807	0.0035	1.39		7569.61	7569.61		8.62	Si
SLV 2	fin.	-677.78	-302	-0.0001445	0.0002807	0.0035	1.39		7578.45	7578.45		11.18	Si
SLV 15	ini.	-584.34	1644	-0.0001238	0.0002807	0.0035	1.39		7578.45	7578.45		12.97	Si
SLV 15	fin.	1116.46	-126	-0.0002462	0.0002807	0.0035	1.39		7569.61	7569.61		6.78	Si
SLV 14	ini.	-831.03	-452	-0.0001791	0.0002807	0.0035	1.39		7578.45	7578.45		9.12	Si
SLV 14	fin.	1183.07	-1901	-0.0002623	0.0002807	0.0035	1.39		7569.61	7569.61		6.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	695.19	-2786	1.39	0	1787	7930	14048	3545	9717		3.49	Si
SLV 1	fin.	-519.76	-1224	1.39	0	1477	7930	14048	3545	9406		7.69	Si
SLV 4	ini.	1308.31	-3895	1.39	0	1460	7930	14048	3545	9390		2.41	Si
SLV 4	fin.	-902.4	-2963	1.39	0	950	7930	14048	3545	8879		3	Si
SLV 10	ini.	-732.68	1333	1.39	0	1934	7930	14048	3545	9864		7.4	Si
SLV 10	fin.	792.45	3006	1.39	0	1960	7930	14048	3545	9890		3.29	Si
SLV 9	ini.	-919.11	1928	1.39	0	1929	7930	14048	3545	9859		5.11	Si
SLV 9	fin.	953.24	3610	1.39	0	2005	7930	14048	3545	9934		2.75	Si
SLV 15	ini.	-584.34	2991	1.39	0	993	7930	14048	3545	8922		2.98	Si
SLV 15	fin.	1116.46	3002	1.39	0	1384	7930	14048	3545	9313		3.1	Si
SLV 8	ini.	1213.18	-2307	1.39	0	691	7930	14048	3545	8620		3.74	Si
SLV 8	fin.	-514.56	-2425	1.39	0	0	7930	14048	3545	7930		3.27	Si
SLV 2	ini.	878.41	-3371	1.39	0	1793	7930	14048	3545	9722		2.88	Si
SLV 2	fin.	-677.78	-1817	1.39	0	1417	7930	14048	3545	9347		5.14	Si
SLV 3	ini.	1125.1	-3311	1.39	0	1453	7930	14048	3545	9383		2.83	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	fin.	-744.39	-2370	1.39	0	1037	7930	14048	3545	8966		3.78	Si
SLV 13	ini.	-1014.24	3516	1.39	0	1437	7930	14048	3545	9367		2.66	Si
SLV 13	fin.	1341.08	4148	1.39	0	1738	7930	14048	3545	9668		2.33	Si
SLV 14	ini.	-831.03	2931	1.39	0	1444	7930	14048	3545	9374		3.2	Si
SLV 14	fin.	1183.07	3555	1.39	0	1688	7930	14048	3545	9617		2.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.644	SLV 13	Si
V_SLV	2.33	SLV 13	Si
PF_SLU	16.059	SLU 81	Si
V_SLU	11.122	SLU 81	Si

Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
28.92	-0.169	-0.1	0.51	0.61	27.92	-0.169	-0.1	0.51	0.61	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{nk}	f _{vk0}	f _{hmedio}	τ0	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	Incremento > 50%	c.s.	Verifica
SLU 79	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 79	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 80	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 80	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 83	ini.	-255.02	-496	-0.0003093	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.98	Si
SLU 83	fin.	-154.96	-260	-0.0001766	0.0001872	0.0035	0.61		1013.84	1013.84	No	6.54	Si
SLU 82	ini.	-255.02	-496	-0.0003093	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.98	Si
SLU 82	fin.	-154.96	-260	-0.0001766	0.0001872	0.0035	0.61		1013.84	1013.84	No	6.54	Si
SLU 78	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 78	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 81	ini.	-255.02	-496	-0.0003093	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.98	Si
SLU 81	fin.	-154.96	-260	-0.0001766	0.0001872	0.0035	0.61		1013.84	1013.84	No	6.54	Si
SLU 75	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 75	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 76	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 76	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 77	ini.	-249.67	-481	-0.0003018	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.06	Si
SLU 77	fin.	-133.02	-211	-0.0001498	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.62	Si
SLU 84	ini.	-255.02	-496	-0.0003093	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.98	Si
SLU 84	fin.	-154.96	-260	-0.0001766	0.0001872	0.0035	0.61		1013.84	1013.84	No	6.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-255.02	1500	0.61	0	323	4837	4110	1556	5160	No	3.44	Si
SLU 84	fin.	-154.96	-1155	0.61	0	297	4837	4110	1556	5134	No	4.45	Si
SLU 78	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 78	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si
SLU 80	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 80	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si
SLU 82	ini.	-255.02	1500	0.61	0	323	4837	4110	1556	5160	No	3.44	Si
SLU 82	fin.	-154.96	-1155	0.61	0	297	4837	4110	1556	5134	No	4.45	Si
SLU 83	ini.	-255.02	1500	0.61	0	323	4837	4110	1556	5160	No	3.44	Si
SLU 83	fin.	-154.96	-1155	0.61	0	297	4837	4110	1556	5134	No	4.45	Si
SLU 79	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 79	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si
SLU 75	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 75	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 76	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si
SLU 77	ini.	-249.67	1446	0.61	0	321	4837	4110	1556	5158	No	3.57	Si
SLU 77	fin.	-133.02	-1047	0.61	0	291	4837	4110	1556	5128	No	4.9	Si
SLU 81	ini.	-255.02	1500	0.61	0	323	4837	4110	1556	5160	No	3.44	Si
SLU 81	fin.	-154.96	-1155	0.61	0	297	4837	4110	1556	5134	No	4.45	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-638.6	-1608	-0.0008937	0.0002807	0.0035	0.61		1463.7	1463.7		2.29	Si
SLV 10	fin.	235.45	386	-0.000272	0.0002807	0.0035	0.61		1459.78	1459.78		6.2	Si
SLV 9	ini.	-720.85	-1796	-0.0010494	0.0002807	0.0035	0.61		1463.7	1463.7		2.03	Si
SLV 9	fin.	312.77	550	-0.0003746	0.0002807	0.0035	0.61		1459.78	1459.78		4.67	Si
SLV 2	ini.	150.54	331	-0.0001681	0.0002807	0.0035	0.61		1459.78	1459.78		9.7	Si
SLV 2	fin.	-466.98	-1030	-0.0006018	0.0002807	0.0035	0.61		1463.7	1463.7		3.13	Si
SLV 3	ini.	294.8	796	-0.0003501	0.0002807	0.0035	0.61		1459.78	1459.78		4.95	Si
SLV 3	fin.	-521.19	-1035	-0.0006896	0.0002807	0.0035	0.61		1463.7	1463.7		2.81	Si
SLV 4	ini.	375.64	981	-0.0004642	0.0002807	0.0035	0.61		1459.78	1459.78		3.89	Si
SLV 4	fin.	-597.17	-1196	-0.0008194	0.0002807	0.0035	0.61		1463.7	1463.7		2.45	Si
SLV 15	ini.	-516.33	-1023	-0.0006816	0.0002807	0.0035	0.61		1463.7	1463.7		2.83	Si
SLV 15	fin.	326.83	846	-0.0003942	0.0002807	0.0035	0.61		1459.78	1459.78		4.47	Si
SLV 14	ini.	-660.59	-1488	-0.0009343	0.0002807	0.0035	0.61		1463.7	1463.7		2.22	Si
SLV 14	fin.	381.03	852	-0.0004721	0.0002807	0.0035	0.61		1459.78	1459.78		3.83	Si
SLV 8	ini.	355.07	1104	-0.0004343	0.0002807	0.0035	0.61		1459.78	1459.78		4.11	Si
SLV 8	fin.	-452.92	-734	-0.0005797	0.0002807	0.0035	0.61		1463.7	1463.7		3.23	Si
SLV 5	ini.	-477.52	-1250	-0.0006186	0.0002807	0.0035	0.61		1463.7	1463.7		3.07	Si
SLV 5	fin.	58.36	-14	-0.0000631	0.0002807	0.0035	0.61		1459.78	1459.78		25.01	Si
SLV 13	ini.	-741.43	-1673	-0.0010902	0.0002807	0.0035	0.61		1463.7	1463.7		1.97	Si
SLV 13	fin.	457.02	1013	-0.0005881	0.0002807	0.0035	0.61		1459.78	1459.78		3.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-660.59	2636	0.61	0	557	4837	6165	1556	5395		2.05	Si
SLV 14	fin.	381.03	934	0.61	0	266	4837	6165	1556	5103		5.46	Si
SLV 2	ini.	150.54	-89	0.61	0	353	4837	6165	1556	5190		58.08	Si
SLV 2	fin.	-466.98	-2014	0.61	0	514	4837	6165	1556	5351		2.66	Si
SLV 10	ini.	-638.6	2574	0.61	0	568	4837	6165	1556	5405		2.1	Si
SLV 10	fin.	235.45	444	0.61	0	345	4837	6165	1556	5182		11.66	Si
SLV 4	ini.	375.64	-856	0.61	0	240	4837	6165	1556	5077		5.93	Si
SLV 4	fin.	-597.17	-2480	0.61	0	530	4837	6165	1556	5367		2.16	Si
SLV 5	ini.	-477.52	2037	0.61	0	535	4837	6165	1556	5372		2.64	Si
SLV 5	fin.	58.36	-177	0.61	0	400	4837	6165	1556	5237		29.66	Si
SLV 3	ini.	294.8	-581	0.61	0	277	4837	6165	1556	5114		8.8	Si
SLV 3	fin.	-521.19	-2221	0.61	0	514	4837	6165	1556	5351		2.41	Si
SLV 13	ini.	-741.43	2911	0.61	0	574	4837	6165	1556	5411		1.86	Si
SLV 13	fin.	457.02	1193	0.61	0	233	4837	6165	1556	5070		4.25	Si
SLV 9	ini.	-720.85	2854	0.61	0	585	4837	6165	1556	5422		1.9	Si
SLV 9	fin.	312.77	708	0.61	0	319	4837	6165	1556	5156		7.28	Si
SLV 8	ini.	355.07	-800	0.61	0	212	4837	6165	1556	5049		6.31	Si
SLV 8	fin.	-452.92	-1995	0.61	0	483	4837	6165	1556	5320		2.67	Si
SLV 15	ini.	-516.33	2144	0.61	0	513	4837	6165	1556	5350		2.5	Si
SLV 15	fin.	326.83	727	0.61	0	267	4837	6165	1556	5104		7.02	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.974	SLV 13	Si
V_SLV	1.859	SLV 13	Si
PF_SLU	3.975	SLU 81	Si
V_SLU	3.441	SLU 81	Si

Trave di accoppiamento 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
33.569	-0.169	-1.89	-0.5	1.39	32.569	-0.169	-1.89	-0.5	1.39	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	358.67	-397	-0.0000756	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.58	Si
SLU 84	fin.	310.23	-827	-0.0000651	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.86	Si
SLU 83	ini.	358.67	-397	-0.0000756	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.58	Si
SLU 83	fin.	310.23	-827	-0.0000651	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.86	Si
SLU 81	ini.	358.67	-397	-0.0000756	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.58	Si
SLU 81	fin.	310.23	-827	-0.0000651	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.86	Si
SLU 80	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 80	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 79	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 79	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 75	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 75	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 78	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 78	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 76	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 76	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 77	ini.	350.15	-396	-0.0000737	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.94	Si
SLU 77	fin.	274.39	-747	-0.0000574	0.0001872	0.0035	1.39		5230.97	5230.97	No	19.06	Si
SLU 82	ini.	358.67	-397	-0.0000756	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.58	Si
SLU 82	fin.	310.23	-827	-0.0000651	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 77	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si
SLU 83	ini.	358.67	-1714	1.39	0	980	7930	9365	3545	8910	No	5.2	Si
SLU 83	fin.	310.23	1260	1.39	0	1054	7930	9365	3545	8984	No	7.13	Si
SLU 75	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 75	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si
SLU 76	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 76	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si
SLU 82	ini.	358.67	-1714	1.39	0	980	7930	9365	3545	8910	No	5.2	Si
SLU 82	fin.	310.23	1260	1.39	0	1054	7930	9365	3545	8984	No	7.13	Si
SLU 80	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 80	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si
SLU 79	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 79	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si
SLU 81	ini.	358.67	-1714	1.39	0	980	7930	9365	3545	8910	No	5.2	Si
SLU 81	fin.	310.23	1260	1.39	0	1054	7930	9365	3545	8984	No	7.13	Si
SLU 84	ini.	358.67	-1714	1.39	0	980	7930	9365	3545	8910	No	5.2	Si
SLU 84	fin.	310.23	1260	1.39	0	1054	7930	9365	3545	8984	No	7.13	Si
SLU 78	ini.	350.15	-1655	1.39	0	980	7930	9365	3545	8910	No	5.38	Si
SLU 78	fin.	274.39	1098	1.39	0	1041	7930	9365	3545	8971	No	8.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-154.83	1534	-0.0000319	0.0002807	0.0035	1.39		7578.45	7578.45		48.95	Si
SLV 12	fin.	717.71	2317	-0.0001536	0.0002807	0.0035	1.39		7569.61	7569.61		10.55	Si
SLV 6	ini.	767.02	-2515	-0.0001648	0.0002807	0.0035	1.39		7569.61	7569.61		9.87	Si
SLV 6	fin.	-537.18	-3109	-0.0001134	0.0002807	0.0035	1.39		7578.45	7578.45		14.11	Si
SLV 5	ini.	667.36	-2151	-0.0001424	0.0002807	0.0035	1.39		7569.61	7569.61		11.34	Si
SLV 5	fin.	-400.45	-3242	-0.0000838	0.0002807	0.0035	1.39		7578.45	7578.45		18.92	Si
SLV 15	ini.	-398.29	1376	-0.0000834	0.0002807	0.0035	1.39		7578.45	7578.45		19.03	Si
SLV 15	fin.	909.38	-958	-0.0001974	0.0002807	0.0035	1.39		7569.61	7569.61		8.32	Si
SLV 11	ini.	-254.5	1898	-0.0000528	0.0002807	0.0035	1.39		7578.45	7578.45		29.78	Si
SLV 11	fin.	854.43	2185	-0.0001847	0.0002807	0.0035	1.39		7569.61	7569.61		8.86	Si
SLV 4	ini.	726.69	-956	-0.0001557	0.0002807	0.0035	1.39		7569.61	7569.61		10.42	Si
SLV 4	fin.	-313.64	1908	-0.0000653	0.0002807	0.0035	1.39		7578.45	7578.45		24.16	Si
SLV 13	ini.	-214.17	339	-0.0000443	0.0002807	0.0035	1.39		7578.45	7578.45		35.39	Si
SLV 13	fin.	630.9	-2832	-0.0001342	0.0002807	0.0035	1.39		7569.61	7569.61		12	Si
SLV 16	ini.	-300.35	1019	-0.0000625	0.0002807	0.0035	1.39		7578.45	7578.45		25.23	Si
SLV 16	fin.	775.02	-828	-0.0001666	0.0002807	0.0035	1.39		7569.61	7569.61		9.77	Si
SLV 2	ini.	910.81	-1993	-0.0001977	0.0002807	0.0035	1.39		7569.61	7569.61		8.31	Si
SLV 2	fin.	-592.13	34	-0.0001255	0.0002807	0.0035	1.39		7578.45	7578.45		12.8	Si
SLV 1	ini.	812.87	-1636	-0.0001752	0.0002807	0.0035	1.39		7569.61	7569.61		9.31	Si
SLV 1	fin.	-457.77	-96	-0.0000962	0.0002807	0.0035	1.39		7578.45	7578.45		16.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	812.87	-3222	1.39	0	1646	7930	14048	3545	9575		2.97	Si
SLV 1	fin.	-457.77	-1689	1.39	0	1378	7930	14048	3545	9308		5.51	Si
SLV 2	ini.	910.81	-3781	1.39	0	1702	7930	14048	3545	9631		2.55	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	fin.	-592.13	-2249	1.39	0	1353	7930	14048	3545	9283		4.13	Si
SLV 15	ini.	-398.29	1408	1.39	0	1061	7930	14048	3545	8991		6.39	Si
SLV 15	fin.	909.38	3460	1.39	0	1534	7930	14048	3545	9463		2.74	Si
SLV 6	ini.	767.02	-2896	1.39	0	1781	7930	14048	3545	9710		3.35	Si
SLV 6	fin.	-537.18	215	1.39	0	1866	7930	14048	3545	9796		45.59	Si
SLV 4	ini.	726.69	-3299	1.39	0	1533	7930	14048	3545	9463		2.87	Si
SLV 4	fin.	-313.64	-2688	1.39	0	920	7930	14048	3545	8850		3.29	Si
SLV 14	ini.	-116.22	368	1.39	0	1363	7930	14048	3545	9293		25.27	Si
SLV 14	fin.	496.53	3339	1.39	0	1808	7930	14048	3545	9738		2.92	Si
SLV 3	ini.	628.75	-2741	1.39	0	1471	7930	14048	3545	9401		3.43	Si
SLV 3	fin.	-179.28	-2128	1.39	0	956	7930	14048	3545	8886		4.18	Si
SLV 9	ini.	359.25	-1083	1.39	0	1633	7930	14048	3545	9563		8.83	Si
SLV 9	fin.	-73.86	2461	1.39	0	1996	7930	14048	3545	9926		4.03	Si
SLV 13	ini.	-214.17	926	1.39	0	1293	7930	14048	3545	9222		9.96	Si
SLV 13	fin.	630.9	3899	1.39	0	1827	7930	14048	3545	9756		2.5	Si
SLV 16	ini.	-300.35	849	1.39	0	1146	7930	14048	3545	9076		10.68	Si
SLV 16	fin.	775.02	2900	1.39	0	1511	7930	14048	3545	9441		3.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 2	Si
V_SLV		SLV 13	Si
PF_SLU		SLU 81	Si
V_SLU		SLU 81	Si

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
33.569	-0.169	-0.1	0.51	0.61	32.569	-0.169	-0.1	0.51	0.61	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmed	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	$\epsilon_f d$	$y_F d$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 76	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si
SLU 82	ini.	-116.19	-254	-0.0001297	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.73	Si
SLU 82	fin.	-271.31	-473	-0.0003325	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.74	Si
SLU 84	ini.	-116.19	-254	-0.0001297	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.73	Si
SLU 84	fin.	-271.31	-473	-0.0003325	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.74	Si
SLU 81	ini.	-116.19	-254	-0.0001297	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.73	Si
SLU 81	fin.	-271.31	-473	-0.0003325	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.74	Si
SLU 79	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 79	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si
SLU 78	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 78	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si
SLU 80	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 80	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si
SLU 83	ini.	-116.19	-254	-0.0001297	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.73	Si
SLU 83	fin.	-271.31	-473	-0.0003325	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.74	Si
SLU 75	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 75	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si
SLU 77	ini.	-99.82	-220	-0.0001105	0.0001872	0.0035	0.61		1013.84	1013.84	No	10.16	Si
SLU 77	fin.	-262.13	-448	-0.0003194	0.0001872	0.0035	0.61		1013.84	1013.84	No	3.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-116.19	875	0.61	0	296	4837	4110	1556	5133	No	5.87	Si
SLU 83	fin.	-271.31	-1313	0.61	0	320	4837	4110	1556	5157	No	3.93	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 76	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 81	ini.	-116.19	875	0.61	0	296	4837	4110	1556	5133	No	5.87	Si
SLU 81	fin.	-271.31	-1313	0.61	0	320	4837	4110	1556	5157	No	3.93	Si
SLU 79	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 79	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 80	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 80	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 82	ini.	-116.19	875	0.61	0	296	4837	4110	1556	5133	No	5.87	Si
SLU 82	fin.	-271.31	-1313	0.61	0	320	4837	4110	1556	5157	No	3.93	Si
SLU 78	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 78	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 77	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 77	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 75	ini.	-99.82	803	0.61	0	292	4837	4110	1556	5129	No	6.39	Si
SLU 75	fin.	-262.13	-1260	0.61	0	318	4837	4110	1556	5155	No	4.09	Si
SLU 84	ini.	-116.19	875	0.61	0	296	4837	4110	1556	5133	No	5.87	Si
SLU 84	fin.	-271.31	-1313	0.61	0	320	4837	4110	1556	5157	No	3.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	463.12	514	-0.0005977	0.0002807	0.0035	0.61		1459.78	1459.78		3.15	Si
SLV 2	fin.	-723.67	-1055	-0.0010549	0.0002807	0.0035	0.61		1463.7	1463.7		2.02	Si
SLV 13	ini.	-486.34	-785	-0.0006327	0.0002807	0.0035	0.61		1463.7	1463.7		3.01	Si
SLV 13	fin.	200.14	102	-0.0002278	0.0002807	0.0035	0.61		1459.78	1459.78		7.29	Si
SLV 16	ini.	-479.13	-643	-0.0006212	0.0002807	0.0035	0.61		1463.7	1463.7		3.05	Si
SLV 16	fin.	257.38	317	-0.0003003	0.0002807	0.0035	0.61		1459.78	1459.78		5.67	Si
SLV 6	ini.	257.91	65	-0.000301	0.0002807	0.0035	0.61		1459.78	1459.78		5.66	Si
SLV 6	fin.	-606.69	-1090	-0.0008363	0.0002807	0.0035	0.61		1463.7	1463.7		2.41	Si
SLV 4	ini.	381.5	544	-0.0004728	0.0002807	0.0035	0.61		1459.78	1459.78		3.83	Si
SLV 4	fin.	-574.93	-716	-0.0007806	0.0002807	0.0035	0.61		1463.7	1463.7		2.55	Si
SLV 14	ini.	-397.51	-673	-0.000495	0.0002807	0.0035	0.61		1463.7	1463.7		3.68	Si
SLV 14	fin.	108.64	-22	-0.0001195	0.0002807	0.0035	0.61		1459.78	1459.78		13.44	Si
SLV 1	ini.	374.29	403	-0.0004622	0.0002807	0.0035	0.61		1459.78	1459.78		3.9	Si
SLV 1	fin.	-632.17	-931	-0.000882	0.0002807	0.0035	0.61		1463.7	1463.7		2.32	Si
SLV 5	ini.	167.52	-49	-0.0001883	0.0002807	0.0035	0.61		1459.78	1459.78		8.71	Si
SLV 5	fin.	-513.58	-964	-0.000677	0.0002807	0.0035	0.61		1463.7	1463.7		2.85	Si
SLV 3	ini.	292.67	433	-0.0003472	0.0002807	0.0035	0.61		1459.78	1459.78		4.99	Si
SLV 3	fin.	-483.43	-592	-0.000628	0.0002807	0.0035	0.61		1463.7	1463.7		3.03	Si
SLV 15	ini.	-567.96	-755	-0.0007686	0.0002807	0.0035	0.61		1463.7	1463.7		2.58	Si
SLV 15	fin.	348.87	440	-0.0004254	0.0002807	0.0035	0.61		1459.78	1459.78		4.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	292.67	-506	0.61	0	337	4837	6165	1556	5175		10.22	Si
SLV 3	fin.	-483.43	-1744	0.61	0	468	4837	6165	1556	5305		3.04	Si
SLV 16	ini.	-479.13	1701	0.61	0	473	4837	6165	1556	5311		3.12	Si
SLV 16	fin.	257.38	359	0.61	0	355	4837	6165	1556	5192		14.47	Si
SLV 5	ini.	167.52	-27	0.61	0	404	4837	6165	1556	5241		193.54	Si
SLV 5	fin.	-513.58	-1763	0.61	0	507	4837	6165	1556	5344		3.03	Si
SLV 6	ini.	257.91	-281	0.61	0	389	4837	6165	1556	5226		18.57	Si
SLV 6	fin.	-606.69	-2026	0.61	0	520	4837	6165	1556	5357		2.64	Si
SLV 4	ini.	381.5	-756	0.61	0	320	4837	6165	1556	5157		6.82	Si
SLV 4	fin.	-574.93	-2002	0.61	0	481	4837	6165	1556	5318		2.66	Si
SLV 15	ini.	-567.96	1951	0.61	0	485	4837	6165	1556	5322		2.73	Si
SLV 15	fin.	348.87	617	0.61	0	336	4837	6165	1556	5173		8.38	Si
SLV 2	ini.	463.12	-933	0.61	0	325	4837	6165	1556	5162		5.53	Si
SLV 2	fin.	-723.67	-2394	0.61	0	516	4837	6165	1556	5353		2.24	Si
SLV 13	ini.	-486.34	1774	0.61	0	489	4837	6165	1556	5326		3	Si
SLV 13	fin.	200.14	226	0.61	0	385	4837	6165	1556	5222		23.1	Si
SLV 1	ini.	374.29	-683	0.61	0	342	4837	6165	1556	5179		7.58	Si
SLV 1	fin.	-632.17	-2135	0.61	0	504	4837	6165	1556	5341		2.5	Si
SLV 14	ini.	-397.51	1524	0.61	0	477	4837	6165	1556	5314		3.49	Si
SLV 14	fin.	108.64	-32	0.61	0	401	4837	6165	1556	5238		161.68	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.023	SLV 2	Si
V_SLV	2.236	SLV 2	Si
PF_SLU	3.737	SLU 81	Si
V_SLU	3.929	SLU 81	Si

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
30.644	9.502	0.31	0.51	0.2	31.644	9.502	0.31	0.51	0.2	1	0.45	30000



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 68	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 69	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 69	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 70	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 70	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 65	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 65	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 64	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 64	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 66	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 66	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 76	ini.	-90.72	-285	-0.0013407	0.0002246	0.0035	0.2		155.13	155.13	No	1.71	Si
SLU 76	fin.	135.29	577	-0.0027587	0.0002246	0.0035	0.2		153.9	153.9	No	1.14	Si
SLU 71	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 71	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 72	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 72	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si
SLU 67	ini.	-74.9	-192	-0.001028	0.0002246	0.0035	0.2		155.13	155.13	No	2.07	Si
SLU 67	fin.	135.76	541	-0.0027807	0.0002246	0.0035	0.2		153.9	153.9	No	1.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 78	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 82	ini.	-97.51	1476	0.2	0	122	1586	1617	510	1708	No	1.16	Si
SLU 82	fin.	135.08	240	0.2	0	0	1586	1617	510	1586	No	6.61	Si
SLU 79	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 79	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 80	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 80	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 76	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 76	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 83	ini.	-97.51	1476	0.2	0	122	1586	1617	510	1708	No	1.16	Si
SLU 83	fin.	135.08	240	0.2	0	0	1586	1617	510	1586	No	6.61	Si
SLU 81	ini.	-97.51	1476	0.2	0	122	1586	1617	510	1708	No	1.16	Si
SLU 81	fin.	135.08	240	0.2	0	0	1586	1617	510	1586	No	6.61	Si
SLU 75	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 75	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 77	ini.	-90.72	1342	0.2	0	118	1586	1617	510	1704	No	1.27	Si
SLU 77	fin.	135.29	249	0.2	0	0	1586	1617	510	1586	No	6.37	Si
SLU 84	ini.	-97.51	1476	0.2	0	122	1586	1617	510	1708	No	1.16	Si
SLU 84	fin.	135.08	240	0.2	0	0	1586	1617	510	1586	No	6.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-90.63	-443	-0.0012472	0.0003369	0.0035	0.2		163.6	163.6		1.81	Si
SLV 4	fin.	274.21	959	-0.0077357	0.0003369	0.0035	0.2		162.3	162.3		0.59	No
SLV 7	ini.	-100.8	-478	-0.0014567	0.0003369	0.0035	0.2		163.6	163.6		1.62	Si
SLV 7	fin.	182.8	749	-0.0045464	0.0003369	0.0035	0.2		162.3	162.3		0.89	No
SLV 11	ini.	-86.85	-343	-0.0011749	0.0003369	0.0035	0.2		163.6	163.6		1.88	Si
SLV 11	fin.	74.92	424	-0.0009723	0.0003369	0.0035	0.2		162.3	162.3		2.17	Si
SLV 2	ini.	-71.34	-304	-0.0009018	0.0003369	0.0035	0.2		163.6	163.6		2.29	Si
SLV 2	fin.	266.66	882	-0.0074858	0.0003369	0.0035	0.2		162.3	162.3		0.61	No
SLV 5	ini.	-36.51	-13	-0.0003988	0.0003369	0.0035	0.2		163.6	163.6		4.48	Si
SLV 5	fin.	157.62	491	-0.0035056	0.0003369	0.0035	0.2		162.3	162.3		1.03	Si
SLV 14	ini.	-24.84	147	-0.0002602	0.0003369	0.0035	0.2		163.6	163.6		6.59	Si
SLV 14	fin.	-92.94	-201	-0.0012929	0.0003369	0.0035	0.2		163.6	163.6		1.76	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-96.82	-448	-0.0013719	0.0003369	0.0035	0.2		163.6	163.6		1.69	Si
SLV 8	fin.	156.95	670	-0.0034751	0.0003369	0.0035	0.2		162.3	162.3		1.03	Si
SLV 1	ini.	-75.25	-334	-0.0009674	0.0003369	0.0035	0.2		163.6	163.6		2.17	Si
SLV 1	fin.	292.07	959	-0.0083191	0.0003369	0.0035	0.2		162.3	162.3		0.56	No
SLV 3	ini.	-94.54	-473	-0.001325	0.0003369	0.0035	0.2		163.6	163.6		1.73	Si
SLV 3	fin.	299.63	1037	-0.0085642	0.0003369	0.0035	0.2		162.3	162.3		0.54	No
SLV 6	ini.	-32.52	17	-0.00035	0.0003369	0.0035	0.2		163.6	163.6		5.03	Si
SLV 6	fin.	131.76	412	-0.0023595	0.0003369	0.0035	0.2		162.3	162.3		1.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-96.82	1649	0.2	0	179	1586	2426	510	1765		1.07	Si
SLV 8	fin.	156.95	258	0.2	0	0	1586	2426	510	1586		6.15	Si
SLV 7	ini.	-100.8	1740	0.2	0	182	1586	2426	510	1768		1.02	Si
SLV 7	fin.	182.8	326	0.2	0	0	1586	2426	510	1586		4.86	Si
SLV 4	ini.	-90.63	1639	0.2	0	179	1586	2426	510	1765		1.08	Si
SLV 4	fin.	274.21	630	0.2	0	0	1586	2426	510	1586		2.52	Si
SLV 11	ini.	-86.85	1352	0.2	0	169	1586	2426	510	1755		1.3	Si
SLV 11	fin.	74.92	40	0.2	0	53	1586	2426	510	1639		41.42	Si
SLV 15	ini.	-48.04	435	0.2	0	133	1586	2426	510	1719		3.96	Si
SLV 15	fin.	-59.97	-258	0.2	0	136	1586	2426	510	1722		6.68	Si
SLV 1	ini.	-75.25	1332	0.2	0	168	1586	2426	510	1754		1.32	Si
SLV 1	fin.	292.07	730	0.2	0	0	1586	2426	510	1586		2.17	Si
SLV 2	ini.	-71.34	1242	0.2	0	165	1586	2426	510	1751		1.41	Si
SLV 2	fin.	266.66	663	0.2	0	0	1586	2426	510	1586		2.39	Si
SLV 5	ini.	-36.51	416	0.2	0	132	1586	2426	510	1718		4.13	Si
SLV 5	fin.	157.62	434	0.2	0	23	1586	2426	510	1609		3.71	Si
SLV 12	ini.	-82.87	1260	0.2	0	166	1586	2426	510	1752		1.39	Si
SLV 12	fin.	49.07	-29	0.2	0	74	1586	2426	510	1660		57.98	Si
SLV 3	ini.	-94.54	1729	0.2	0	181	1586	2426	510	1767		1.02	Si
SLV 3	fin.	299.63	697	0.2	0	0	1586	2426	510	1586		2.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.542	SLV 3	No
V_SLV	1.016	SLV 7	Si
PF_SLU	1.134	SLU 64	Si
V_SLU	1.157	SLU 81	Si

Trave di accoppiamento 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	2.847	-1.89	-0.5	1.39	35.424	1.847	-1.89	-0.5	1.39	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	f _{hk}	f _{vk0}	f _{hmedio}	t ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	e _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 79	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si
SLU 78	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 78	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si
SLU 82	ini.	-829.27	-905	-0.0001828	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.32	Si
SLU 82	fin.	1431.11	-2421	-0.0003397	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.66	Si
SLU 83	ini.	-829.27	-905	-0.0001828	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.32	Si
SLU 83	fin.	1431.11	-2421	-0.0003397	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.66	Si
SLU 84	ini.	-829.27	-905	-0.0001828	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.32	Si
SLU 84	fin.	1431.11	-2421	-0.0003397	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.66	Si
SLU 76	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si
SLU 77	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 77	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si
SLU 81	ini.	-829.27	-905	-0.0001828	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.32	Si
SLU 81	fin.	1431.11	-2421	-0.0003397	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.66	Si
SLU 75	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 75	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si
SLU 80	ini.	-817.53	-825	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 80	fin.	1378.91	-2309	-0.0003252	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 76	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 81	ini.	-829.27	3393	1.39	0	1067	7930	9365	3545	8997	No	2.65	Si
SLU 81	fin.	1431.11	4293	1.39	0	1292	7930	9365	3545	9222	No	2.15	Si
SLU 80	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 80	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 77	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 77	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 75	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 75	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 78	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 78	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 84	ini.	-829.27	3393	1.39	0	1067	7930	9365	3545	8997	No	2.65	Si
SLU 84	fin.	1431.11	4293	1.39	0	1292	7930	9365	3545	9222	No	2.15	Si
SLU 79	ini.	-817.53	3342	1.39	0	1054	7930	9365	3545	8984	No	2.69	Si
SLU 79	fin.	1378.91	4111	1.39	0	1277	7930	9365	3545	9207	No	2.24	Si
SLU 83	ini.	-829.27	3393	1.39	0	1067	7930	9365	3545	8997	No	2.65	Si
SLU 83	fin.	1431.11	4293	1.39	0	1292	7930	9365	3545	9222	No	2.15	Si
SLU 82	ini.	-829.27	3393	1.39	0	1067	7930	9365	3545	8997	No	2.65	Si
SLU 82	fin.	1431.11	4293	1.39	0	1292	7930	9365	3545	9222	No	2.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1084.27	1814	-0.0002382	0.0002807	0.0035	1.39		7578.45	7578.45		6.99	Si
SLV 3	fin.	1606.95	-890	-0.00037	0.0002807	0.0035	1.39		7569.61	7569.61		4.71	Si
SLV 7	ini.	-2166.85	2796	-0.0005256	0.0002807	0.0035	1.39		7578.45	7578.45		3.5	Si
SLV 7	fin.	2819.36	-2779	-0.0007283	0.0002807	0.0035	1.39		7569.61	7569.61		2.68	Si
SLV 4	ini.	-893.37	1747	-0.0001934	0.0002807	0.0035	1.39		7578.45	7578.45		8.48	Si
SLV 4	fin.	1440.8	-609	-0.0003267	0.0002807	0.0035	1.39		7569.61	7569.61		5.25	Si
SLV 6	ini.	988.05	-2963	-0.0002157	0.0002807	0.0035	1.39		7569.61	7569.61		7.66	Si
SLV 6	fin.	-845.61	337	-0.0001824	0.0002807	0.0035	1.39		7578.45	7578.45		8.96	Si
SLV 15	ini.	-1211.91	-1072	-0.000269	0.0002807	0.0035	1.39		7578.45	7578.45		6.25	Si
SLV 15	fin.	1570.91	-3450	-0.0003605	0.0002807	0.0035	1.39		7569.61	7569.61		4.82	Si
SLV 8	ini.	-1972.6	2728	-0.0004697	0.0002807	0.0035	1.39		7578.45	7578.45		3.84	Si
SLV 8	fin.	2650.29	-2493	-0.0006739	0.0002807	0.0035	1.39		7569.61	7569.61		2.86	Si
SLV 12	ini.	-2010.89	1862	-0.0004806	0.0002807	0.0035	1.39		7578.45	7578.45		3.77	Si
SLV 12	fin.	2639.47	-3261	-0.0006705	0.0002807	0.0035	1.39		7569.61	7569.61		2.87	Si
SLV 11	ini.	-2205.34	1930	-0.0005369	0.0002807	0.0035	1.39		7578.45	7578.45		3.44	Si
SLV 11	fin.	2808.55	-3547	-0.0007247	0.0002807	0.0035	1.39		7569.61	7569.61		2.7	Si
SLV 10	ini.	949.76	-3828	-0.0002068	0.0002807	0.0035	1.39		7569.61	7569.61		7.97	Si
SLV 10	fin.	-856.43	-431	-0.0001849	0.0002807	0.0035	1.39		7578.45	7578.45		8.85	Si
SLV 16	ini.	-1021.01	-1139	-0.0002232	0.0002807	0.0035	1.39		7578.45	7578.45		7.42	Si
SLV 16	fin.	1404.75	-3169	-0.0003175	0.0002807	0.0035	1.39		7569.61	7569.61		5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1084.27	4982	1.39	0	947	7930	14048	3545	8876		1.78	Si
SLV 3	fin.	1606.95	4415	1.39	0	1522	7930	14048	3545	9452		2.14	Si
SLV 7	ini.	-2166.85	9059	1.39	0	616	7930	14048	3545	8546		0.94	No
SLV 7	fin.	2819.36	8612	1.39	0	1819	7930	14048	3545	9749		1.13	Si
SLV 8	ini.	-1972.6	8459	1.39	0	645	7930	14048	3545	8574		1.01	Si
SLV 8	fin.	2650.29	8015	1.39	0	1777	7930	14048	3545	9707		1.21	Si
SLV 4	ini.	-893.37	4392	1.39	0	965	7930	14048	3545	8895		2.03	Si
SLV 4	fin.	1440.8	3828	1.39	0	1473	7930	14048	3545	9402		2.46	Si
SLV 15	ini.	-1211.91	4281	1.39	0	1553	7930	14048	3545	9483		2.22	Si
SLV 15	fin.	1570.91	5279	1.39	0	1914	7930	14048	3545	9843		1.86	Si
SLV 12	ini.	-2010.89	8248	1.39	0	933	7930	14048	3545	8863		1.07	Si
SLV 12	fin.	2639.47	8274	1.39	0	1887	7930	14048	3545	9817		1.19	Si
SLV 6	ini.	988.05	-3877	1.39	0	1846	7930	14048	3545	9775		2.52	Si
SLV 6	fin.	-845.61	-3097	1.39	0	1293	7930	14048	3545	9223		2.98	Si
SLV 16	ini.	-1021.01	3690	1.39	0	1564	7930	14048	3545	9494		2.57	Si
SLV 16	fin.	1404.75	4692	1.39	0	1875	7930	14048	3545	9804		2.09	Si
SLV 11	ini.	-2205.34	8849	1.39	0	914	7930	14048	3545	8843		1	No
SLV 11	fin.	2808.55	8871	1.39	0	1927	7930	14048	3545	9857		1.11	Si
SLV 10	ini.	949.76	-4087	1.39	0	1965	7930	14048	3545	9894		2.42	Si
SLV 10	fin.	-856.43	-2838	1.39	0	1441	7930	14048	3545	9370		3.3	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 7	Si
V_SLV	0.943	SLV 7	No



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	3.655	SLU 81	Si
V SLU	2.148	SLU 81	Si

Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	2.847	-0.1	0.51	0.61	35.424	1.847	-0.1	0.51	0.61	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _f ,d	γ _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-722.47	-1802	-0.0011248	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.4	Si
SLU 83	fin.	328.2	632	-0.0004178	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.08	Si
SLU 79	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 79	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 77	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 77	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 75	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 75	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 76	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 76	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 80	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 80	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 84	ini.	-722.47	-1802	-0.0011248	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.4	Si
SLU 84	fin.	328.2	632	-0.0004178	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.08	Si
SLU 78	ini.	-694.51	-1723	-0.0010663	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.46	Si
SLU 78	fin.	323.58	633	-0.0004108	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.12	Si
SLU 82	ini.	-722.47	-1802	-0.0011248	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.4	Si
SLU 82	fin.	328.2	632	-0.0004178	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.08	Si
SLU 81	ini.	-722.47	-1802	-0.0011248	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.4	Si
SLU 81	fin.	328.2	632	-0.0004178	0.0001872	0.0035	0.61		1009.47	1009.47	No	3.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c} int.	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 77	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si
SLU 80	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 80	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si
SLU 82	ini.	-722.47	2919	0.61	0	440	4837	4110	1556	5277	No	1.81	Si
SLU 82	fin.	328.2	719	0.61	0	165	4837	4110	1556	5002	No	6.95	Si
SLU 84	ini.	-722.47	2919	0.61	0	440	4837	4110	1556	5277	No	1.81	Si
SLU 84	fin.	328.2	719	0.61	0	165	4837	4110	1556	5002	No	6.95	Si
SLU 79	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 79	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si
SLU 81	ini.	-722.47	2919	0.61	0	440	4837	4110	1556	5277	No	1.81	Si
SLU 81	fin.	328.2	719	0.61	0	165	4837	4110	1556	5002	No	6.95	Si
SLU 83	ini.	-722.47	2919	0.61	0	440	4837	4110	1556	5277	No	1.81	Si
SLU 83	fin.	328.2	719	0.61	0	165	4837	4110	1556	5002	No	6.95	Si
SLU 78	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 78	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si
SLU 76	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 76	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si
SLU 75	ini.	-694.51	2802	0.61	0	434	4837	4110	1556	5271	No	1.88	Si
SLU 75	fin.	323.58	722	0.61	0	165	4837	4110	1556	5002	No	6.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1246.76	-2979	-0.0025618	0.0002807	0.0035	0.61		1463.7	1463.7		1.17	Si
SLV 11	fin.	1008.54	2187	-0.0017223	0.0002807	0.0035	0.61		1459.78	1459.78		1.45	Si
SLV 16	ini.	-750.73	-1829	-0.0011089	0.0002807	0.0035	0.61		1463.7	1463.7		1.95	Si
SLV 16	fin.	486.36	910	-0.0006349	0.0002807	0.0035	0.61		1459.78	1459.78		3	Si
SLV 7	ini.	-1191.37	-2840	-0.0023282	0.0002807	0.0035	0.61		1463.7	1463.7		1.23	Si
SLV 7	fin.	964.82	2172	-0.0016033	0.0002807	0.0035	0.61		1459.78	1459.78		1.51	Si
SLV 3	ini.	-645.23	-1548	-0.0009059	0.0002807	0.0035	0.61		1463.7	1463.7		2.27	Si
SLV 3	fin.	418.66	1026	-0.0005286	0.0002807	0.0035	0.61		1459.78	1459.78		3.49	Si
SLV 8	ini.	-1110.84	-2653	-0.0020308	0.0002807	0.0035	0.61		1463.7	1463.7		1.32	Si
SLV 8	fin.	885.4	2004	-0.0014064	0.0002807	0.0035	0.61		1459.78	1459.78		1.65	Si
SLV 4	ini.	-566.09	-1365	-0.0007653	0.0002807	0.0035	0.61		1463.7	1463.7		2.59	Si
SLV 4	fin.	340.61	861	-0.0004136	0.0002807	0.0035	0.61		1459.78	1459.78		4.29	Si
SLV 15	ini.	-829.87	-2012	-0.0012752	0.0002807	0.0035	0.61		1463.7	1463.7		1.76	Si
SLV 15	fin.	564.41	1076	-0.0007651	0.0002807	0.0035	0.61		1459.78	1459.78		2.59	Si
SLV 6	ini.	262.93	569	-0.0003076	0.0002807	0.0035	0.61		1459.78	1459.78		5.55	Si
SLV 6	fin.	-527.35	-1217	-0.0006998	0.0002807	0.0035	0.61		1463.7	1463.7		2.78	Si
SLV 10	ini.	207.54	430	-0.000237	0.0002807	0.0035	0.61		1459.78	1459.78		7.03	Si
SLV 10	fin.	-483.62	-1202	-0.0006284	0.0002807	0.0035	0.61		1463.7	1463.7		3.03	Si
SLV 12	ini.	-1166.23	-2792	-0.0022303	0.0002807	0.0035	0.61		1463.7	1463.7		1.26	Si
SLV 12	fin.	929.12	2019	-0.0015121	0.0002807	0.0035	0.61		1459.78	1459.78		1.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1191.37	4358	0.61	0	670	4837	6165	1556	5507		1.26	Si
SLV 7	fin.	964.82	3185	0.61	0	0	4837	6165	1556	4837		1.52	Si
SLV 12	ini.	-1166.23	4253	0.61	0	667	4837	6165	1556	5504		1.29	Si
SLV 12	fin.	929.12	2814	0.61	0	0	4837	6165	1556	4837		1.72	Si
SLV 16	ini.	-750.73	2820	0.61	0	588	4837	6165	1556	5425		1.92	Si
SLV 16	fin.	486.36	992	0.61	0	255	4837	6165	1556	5092		5.13	Si
SLV 15	ini.	-829.87	3085	0.61	0	604	4837	6165	1556	5441		1.76	Si
SLV 15	fin.	564.41	1263	0.61	0	219	4837	6165	1556	5056		4	Si
SLV 11	ini.	-1246.76	4523	0.61	0	681	4837	6165	1556	5518		1.22	Si
SLV 11	fin.	1008.54	3090	0.61	0	0	4837	6165	1556	4837		1.57	Si
SLV 4	ini.	-566.09	2270	0.61	0	546	4837	6165	1556	5383		2.37	Si
SLV 4	fin.	340.61	1310	0.61	0	265	4837	6165	1556	5102		3.89	Si
SLV 6	ini.	262.93	-562	0.61	0	316	4837	6165	1556	5153		9.16	Si
SLV 6	fin.	-527.35	-1985	0.61	0	532	4837	6165	1556	5369		2.71	Si
SLV 10	ini.	207.54	-397	0.61	0	338	4837	6165	1556	5175		13.02	Si
SLV 10	fin.	-483.62	-2080	0.61	0	531	4837	6165	1556	5368		2.58	Si
SLV 3	ini.	-645.23	2535	0.61	0	563	4837	6165	1556	5400		2.13	Si
SLV 3	fin.	418.66	1581	0.61	0	230	4837	6165	1556	5067		3.21	Si
SLV 8	ini.	-1110.84	4088	0.61	0	656	4837	6165	1556	5493		1.34	Si
SLV 8	fin.	885.4	2910	0.61	0	0	4837	6165	1556	4837		1.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.174	SLV 11	Si
V_SLV	1.22	SLV 11	Si
PF_SLU	1.403	SLU 81	Si
V_SLU	1.808	SLU 81	Si

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	7.497	-1.89	-0.5	1.39	35.424	6.497	-1.89	-0.5	1.39	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	887.13	-2423	-0.0001971	0.0001872	0.0035	1.39		5230.97	5230.97	No	5.9	Si
SLU 83	fin.	-258.63	-788	-0.000054	0.0001872	0.0035	1.39		5240.94	5240.94	No	20.26	Si
SLU 79	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 79	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si
SLU 81	ini.	887.13	-2423	-0.0001971	0.0001872	0.0035	1.39		5230.97	5230.97	No	5.9	Si
SLU 81	fin.	-258.63	-788	-0.000054	0.0001872	0.0035	1.39		5240.94	5240.94	No	20.26	Si
SLU 78	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 78	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si
SLU 76	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 76	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si
SLU 84	ini.	887.13	-2423	-0.0001971	0.0001872	0.0035	1.39		5230.97	5230.97	No	5.9	Si
SLU 84	fin.	-258.63	-788	-0.000054	0.0001872	0.0035	1.39		5240.94	5240.94	No	20.26	Si
SLU 77	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 77	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si
SLU 82	ini.	887.13	-2423	-0.0001971	0.0001872	0.0035	1.39		5230.97	5230.97	No	5.9	Si
SLU 82	fin.	-258.63	-788	-0.000054	0.0001872	0.0035	1.39		5240.94	5240.94	No	20.26	Si
SLU 75	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 75	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si
SLU 80	ini.	856.25	-2318	-0.0001896	0.0001872	0.0035	1.39		5230.97	5230.97	No	6.11	Si
SLU 80	fin.	-267.16	-699	-0.0000558	0.0001872	0.0035	1.39		5240.94	5240.94	No	19.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 75	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 77	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 77	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 81	ini.	887.13	-4796	1.39	0	1293	7930	9365	3545	9222	No	1.92	Si
SLU 81	fin.	-258.63	-1215	1.39	0	1048	7930	9365	3545	8977	No	7.39	Si
SLU 79	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 79	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 83	ini.	887.13	-4796	1.39	0	1293	7930	9365	3545	9222	No	1.92	Si
SLU 83	fin.	-258.63	-1215	1.39	0	1048	7930	9365	3545	8977	No	7.39	Si
SLU 80	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 80	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 78	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 78	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 76	ini.	856.25	-4589	1.39	0	1278	7930	9365	3545	9208	No	2.01	Si
SLU 76	fin.	-267.16	-1269	1.39	0	1033	7930	9365	3545	8962	No	7.06	Si
SLU 82	ini.	887.13	-4796	1.39	0	1293	7930	9365	3545	9222	No	1.92	Si
SLU 82	fin.	-258.63	-1215	1.39	0	1048	7930	9365	3545	8977	No	7.39	Si
SLU 84	ini.	887.13	-4796	1.39	0	1293	7930	9365	3545	9222	No	1.92	Si
SLU 84	fin.	-258.63	-1215	1.39	0	1048	7930	9365	3545	8977	No	7.39	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	1598.06	-4727	-0.0003677	0.0002807	0.0035	1.39		7569.61	7569.61		4.74	Si
SLV 9	fin.	-1264.78	2535	-0.000282	0.0002807	0.0035	1.39		7578.45	7578.45		5.99	Si
SLV 11	ini.	-393.22	624	-0.0000823	0.0002807	0.0035	1.39		7578.45	7578.45		19.27	Si
SLV 11	fin.	734.51	-4129	-0.0001574	0.0002807	0.0035	1.39		7569.61	7569.61		10.31	Si
SLV 7	ini.	-473.32	1930	-0.0000995	0.0002807	0.0035	1.39		7578.45	7578.45		16.01	Si
SLV 7	fin.	973.6	-3506	-0.0002123	0.0002807	0.0035	1.39		7569.61	7569.61		7.77	Si
SLV 6	ini.	1617.66	-3861	-0.0003728	0.0002807	0.0035	1.39		7569.61	7569.61		4.68	Si
SLV 6	fin.	-1166.33	3325	-0.0002579	0.0002807	0.0035	1.39		7578.45	7578.45		6.5	Si
SLV 13	ini.	995.43	-4382	-0.0002175	0.0002807	0.0035	1.39		7569.61	7569.61		7.6	Si
SLV 13	fin.	-845.17	-523	-0.0001823	0.0002807	0.0035	1.39		7578.45	7578.45		8.97	Si
SLV 5	ini.	1517.96	-3421	-0.0003466	0.0002807	0.0035	1.39		7569.61	7569.61		4.99	Si
SLV 5	fin.	-1025.69	3158	-0.0002243	0.0002807	0.0035	1.39		7578.45	7578.45		7.39	Si
SLV 14	ini.	1093.4	-4815	-0.0002407	0.0002807	0.0035	1.39		7569.61	7569.61		6.92	Si
SLV 14	fin.	-983.38	-358	-0.0002144	0.0002807	0.0035	1.39		7578.45	7578.45		7.71	Si
SLV 8	ini.	-373.62	1490	-0.0000781	0.0002807	0.0035	1.39		7578.45	7578.45		20.28	Si
SLV 8	fin.	832.96	-3339	-0.0001798	0.0002807	0.0035	1.39		7569.61	7569.61		9.09	Si
SLV 2	ini.	826.4	-461	-0.0001783	0.0002807	0.0035	1.39		7569.61	7569.61		9.16	Si
SLV 2	fin.	-186.44	1718	-0.0000385	0.0002807	0.0035	1.39		7578.45	7578.45		40.65	Si
SLV 10	ini.	1697.76	-5168	-0.0003943	0.0002807	0.0035	1.39		7569.61	7569.61		4.46	Si
SLV 10	fin.	-1405.41	2702	-0.0003172	0.0002807	0.0035	1.39		7578.45	7578.45		5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	1598.06	-8693	1.39	0	2082	7930	14048	3545	10011		1.15	Si
SLV 9	fin.	-1264.78	-7051	1.39	0	719	7930	14048	3545	8649		1.23	Si
SLV 5	ini.	1517.96	-7455	1.39	0	1910	7930	14048	3545	9839		1.32	Si
SLV 5	fin.	-1025.69	-6816	1.39	0	435	7930	14048	3545	8365		1.23	Si
SLV 14	ini.	1093.4	-7152	1.39	0	2093	7930	14048	3545	10022		1.4	Si
SLV 14	fin.	-983.38	-3619	1.39	0	1427	7930	14048	3545	9357		2.59	Si
SLV 11	ini.	-393.22	1675	1.39	0	1233	7930	14048	3545	9163		5.47	Si
SLV 11	fin.	734.51	5365	1.39	0	2005	7930	14048	3545	9934		1.85	Si
SLV 7	ini.	-473.32	2912	1.39	0	914	7930	14048	3545	8843		3.04	Si
SLV 7	fin.	973.6	5600	1.39	0	1921	7930	14048	3545	9851		1.76	Si
SLV 10	ini.	1697.76	-9343	1.39	0	2137	7930	14048	3545	10066		1.08	Si
SLV 10	fin.	-1405.41	-7696	1.39	0	655	7930	14048	3545	8585		1.12	Si
SLV 8	ini.	-373.62	2262	1.39	0	1033	7930	14048	3545	8962		3.96	Si
SLV 8	fin.	832.96	4954	1.39	0	1898	7930	14048	3545	9828		1.98	Si
SLV 13	ini.	995.43	-6513	1.39	0	2038	7930	14048	3545	9967		1.53	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	fin.	-845.17	-2985	1.39	0	1457	7930	14048	3545	9387		3.14	Si
SLV 12	ini.	-293.52	1025	1.39	0	1324	7930	14048	3545	9253		9.03	Si
SLV 12	fin.	593.87	4719	1.39	0	1983	7930	14048	3545	9912		2.1	Si
SLV 6	ini.	1617.66	-8106	1.39	0	1969	7930	14048	3545	9899		1.22	Si
SLV 6	fin.	-1166.33	-7461	1.39	0	319	7930	14048	3545	8248		1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.459	SLV 10	Si
V_SLV	1.077	SLV 10	Si
PF_SLU	5.897	SLU 81	Si
V_SLU	1.923	SLU 81	Si

Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	7.497	-0.1	0.51	0.61	35.424	6.497	-0.1	0.51	0.61	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb _m	f _{mk}	f _{vk0}	f _m medio	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	M1d	M1d	incremento > 50%	c.s.	Verifica
SLU 81	ini.	290.04	127	-0.0003608	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.48	Si
SLU 81	fin.	-666.63	-1180	-0.0010095	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.52	Si
SLU 75	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 75	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 77	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 77	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 80	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 80	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 84	ini.	290.04	127	-0.0003608	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.48	Si
SLU 84	fin.	-666.63	-1180	-0.0010095	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.52	Si
SLU 76	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 76	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 78	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 78	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 82	ini.	290.04	127	-0.0003608	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.48	Si
SLU 82	fin.	-666.63	-1180	-0.0010095	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.52	Si
SLU 79	ini.	289.53	148	-0.00036	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.49	Si
SLU 79	fin.	-643.94	-1125	-0.0009643	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.57	Si
SLU 83	ini.	290.04	127	-0.0003608	0.0001872	0.0035	0.61		1009.47	1009.47	1009.47	No	3.48	Si
SLU 83	fin.	-666.63	-1180	-0.0010095	0.0001872	0.0035	0.61		1013.84	1013.84	1013.84	No	1.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 80	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si
SLU 79	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 79	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si
SLU 76	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 76	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si
SLU 81	ini.	290.04	-385	0.61	0	248	4837	4110	1556	5085	No	13.21	Si
SLU 81	fin.	-666.63	-2313	0.61	0	389	4837	4110	1556	5226	No	2.26	Si
SLU 77	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 77	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si
SLU 83	ini.	290.04	-385	0.61	0	248	4837	4110	1556	5085	No	13.21	Si
SLU 83	fin.	-666.63	-2313	0.61	0	389	4837	4110	1556	5226	No	2.26	Si
SLU 82	ini.	290.04	-385	0.61	0	248	4837	4110	1556	5085	No	13.21	Si
SLU 82	fin.	-666.63	-2313	0.61	0	389	4837	4110	1556	5226	No	2.26	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 75	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si
SLU 84	ini.	290.04	-385	0.61	0	248	4837	4110	1556	5085	No	13.21	Si
SLU 84	fin.	-666.63	-2313	0.61	0	389	4837	4110	1556	5226	No	2.26	Si
SLU 78	ini.	289.53	-400	0.61	0	245	4837	4110	1556	5082	No	12.7	Si
SLU 78	fin.	-643.94	-2232	0.61	0	384	4837	4110	1556	5221	No	2.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-627.97	-1054	-0.0008744	0.0002807	0.0035	0.61		1463.7	1463.7		2.33	Si
SLV 11	fin.	351.21	258	-0.0004288	0.0002807	0.0035	0.61		1459.78	1459.78		4.16	Si
SLV 13	ini.	636.03	578	-0.0008922	0.0002807	0.0035	0.61		1459.78	1459.78		2.3	Si
SLV 13	fin.	-943.38	-1537	-0.0015415	0.0002807	0.0035	0.61		1463.7	1463.7		1.55	Si
SLV 14	ini.	733.92	700	-0.0010791	0.0002807	0.0035	0.61		1459.78	1459.78		1.99	Si
SLV 14	fin.	-1044.82	-1676	-0.0018197	0.0002807	0.0035	0.61		1463.7	1463.7		1.4	Si
SLV 16	ini.	217.51	-6	-0.0002494	0.0002807	0.0035	0.61		1459.78	1459.78		6.71	Si
SLV 16	fin.	-538.19	-1006	-0.0007179	0.0002807	0.0035	0.61		1463.7	1463.7		2.72	Si
SLV 10	ini.	1192.98	1425	-0.0023476	0.0002807	0.0035	0.61		1459.78	1459.78		1.22	Si
SLV 10	fin.	-1440.77	-2117	-0.0035434	0.0002807	0.0035	0.61		1463.7	1463.7		1.02	Si
SLV 8	ini.	-652.02	-1015	-0.0009184	0.0002807	0.0035	0.61		1463.7	1463.7		2.24	Si
SLV 8	fin.	416	410	-0.0005245	0.0002807	0.0035	0.61		1459.78	1459.78		3.51	Si
SLV 5	ini.	969.72	1215	-0.0016162	0.0002807	0.0035	0.61		1459.78	1459.78		1.51	Si
SLV 5	fin.	-1169.54	-1683	-0.0022429	0.0002807	0.0035	0.61		1463.7	1463.7		1.25	Si
SLV 9	ini.	1093.37	1301	-0.001982	0.0002807	0.0035	0.61		1459.78	1459.78		1.34	Si
SLV 9	fin.	-1337.55	-1976	-0.0030034	0.0002807	0.0035	0.61		1463.7	1463.7		1.09	Si
SLV 7	ini.	-751.63	-1139	-0.0011107	0.0002807	0.0035	0.61		1463.7	1463.7		1.95	Si
SLV 7	fin.	519.22	551	-0.0006887	0.0002807	0.0035	0.61		1459.78	1459.78		2.81	Si
SLV 6	ini.	1069.33	1339	-0.001904	0.0002807	0.0035	0.61		1459.78	1459.78		1.37	Si
SLV 6	fin.	-1272.77	-1824	-0.0026805	0.0002807	0.0035	0.61		1463.7	1463.7		1.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-751.63	2295	0.61	0	524	4837	6165	1556	5362		2.34	Si
SLV 7	fin.	519.22	1198	0.61	0	319	4837	6165	1556	5156		4.3	Si
SLV 8	ini.	-652.02	2015	0.61	0	512	4837	6165	1556	5349		2.65	Si
SLV 8	fin.	416	907	0.61	0	341	4837	6165	1556	5178		5.71	Si
SLV 5	ini.	969.72	-2584	0.61	0	184	4837	6165	1556	5021		1.94	Si
SLV 5	fin.	-1169.54	-3640	0.61	0	575	4837	6165	1556	5412		1.49	Si
SLV 6	ini.	1069.33	-2865	0.61	0	145	4837	6165	1556	4982		1.74	Si
SLV 6	fin.	-1272.77	-3932	0.61	0	588	4837	6165	1556	5425		1.38	Si
SLV 9	ini.	1093.37	-2667	0.61	0	158	4837	6165	1556	4995		1.87	Si
SLV 9	fin.	-1337.55	-4099	0.61	0	601	4837	6165	1556	5438		1.33	Si
SLV 12	ini.	-528.36	1933	0.61	0	504	4837	6165	1556	5341		2.76	Si
SLV 12	fin.	247.99	448	0.61	0	382	4837	6165	1556	5220		11.64	Si
SLV 13	ini.	636.03	-1057	0.61	0	315	4837	6165	1556	5152		4.87	Si
SLV 13	fin.	-943.38	-2943	0.61	0	562	4837	6165	1556	5399		1.83	Si
SLV 14	ini.	733.92	-1333	0.61	0	294	4837	6165	1556	5131		3.85	Si
SLV 14	fin.	-1044.82	-3229	0.61	0	575	4837	6165	1556	5412		1.68	Si
SLV 10	ini.	1192.98	-2947	0.61	0	110	4837	6165	1556	4947		1.68	Si
SLV 10	fin.	-1440.77	-4390	0.61	0	613	4837	6165	1556	5450		1.24	Si
SLV 11	ini.	-627.97	2213	0.61	0	516	4837	6165	1556	5353		2.42	Si
SLV 11	fin.	351.21	740	0.61	0	363	4837	6165	1556	5200		7.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.016	SLV 10	Si
V_SLV	1.241	SLV 10	Si
PF_SLU	1.521	SLU 81	Si
V_SLU	2.259	SLU 81	Si

Trave di accoppiamento 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
25.882	8.663	2.51	4.56	2.05	26.552	9.405	2.51	4.56	2.05	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fvmmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 39	ini.	171.82	-19	-0.0000163	0.0001872	0.0035	2.05		14975.9	14975.9	No	87.16	Si
SLU 39	fin.	118.17	87	-0.0000112	0.0001872	0.0035	2.05		14975.9	14975.9	No	126.73	Si
SLU 40	ini.	171.82	-19	-0.0000163	0.0001872	0.0035	2.05		14975.9	14975.9	No	87.16	Si
SLU 40	fin.	118.17	87	-0.0000112	0.0001872	0.0035	2.05		14975.9	14975.9	No	126.73	Si
SLU 77	ini.	161.16	-5	-0.0000153	0.0001872	0.0035	2.05		14975.9	14975.9	No	92.92	Si
SLU 77	fin.	114.08	104	-0.0000108	0.0001872	0.0035	2.05		14975.9	14975.9	No	131.27	Si
SLU 41	ini.	171.82	-19	-0.0000163	0.0001872	0.0035	2.05		14975.9	14975.9	No	87.16	Si
SLU 41	fin.	118.17	87	-0.0000112	0.0001872	0.0035	2.05		14975.9	14975.9	No	126.73	Si
SLU 83	ini.	184.17	-12	-0.0000174	0.0001872	0.0035	2.05		14975.9	14975.9	No	81.32	Si
SLU 83	fin.	128.07	106	-0.0000121	0.0001872	0.0035	2.05		14975.9	14975.9	No	116.93	Si
SLU 81	ini.	184.17	-12	-0.0000174	0.0001872	0.0035	2.05		14975.9	14975.9	No	81.32	Si
SLU 81	fin.	128.07	106	-0.0000121	0.0001872	0.0035	2.05		14975.9	14975.9	No	116.93	Si
SLU 84	ini.	184.17	-12	-0.0000174	0.0001872	0.0035	2.05		14975.9	14975.9	No	81.32	Si
SLU 84	fin.	128.07	106	-0.0000121	0.0001872	0.0035	2.05		14975.9	14975.9	No	116.93	Si
SLU 75	ini.	161.16	-5	-0.0000153	0.0001872	0.0035	2.05		14975.9	14975.9	No	92.92	Si
SLU 75	fin.	114.08	104	-0.0000108	0.0001872	0.0035	2.05		14975.9	14975.9	No	131.27	Si
SLU 42	ini.	171.82	-19	-0.0000163	0.0001872	0.0035	2.05		14975.9	14975.9	No	87.16	Si
SLU 42	fin.	118.17	87	-0.0000112	0.0001872	0.0035	2.05		14975.9	14975.9	No	126.73	Si
SLU 82	ini.	184.17	-12	-0.0000174	0.0001872	0.0035	2.05		14975.9	14975.9	No	81.32	Si
SLU 82	fin.	128.07	106	-0.0000121	0.0001872	0.0035	2.05		14975.9	14975.9	No	116.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 74	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 79	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 79	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 75	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 75	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 78	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 78	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 73	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 73	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 83	ini.	184.17	2004	2.05	0	894	7930	9208	5228	8823	No	4.4	Si
SLU 83	fin.	128.07	-1839	2.05	0	872	7930	9208	5228	8801	No	4.79	Si
SLU 84	ini.	184.17	2004	2.05	0	894	7930	9208	5228	8823	No	4.4	Si
SLU 84	fin.	128.07	-1839	2.05	0	872	7930	9208	5228	8801	No	4.79	Si
SLU 76	ini.	161.16	1846	2.05	0	892	7930	9208	5228	8822	No	4.78	Si
SLU 76	fin.	114.08	-1687	2.05	0	872	7930	9208	5228	8802	No	5.22	Si
SLU 82	ini.	184.17	2004	2.05	0	894	7930	9208	5228	8823	No	4.4	Si
SLU 82	fin.	128.07	-1839	2.05	0	872	7930	9208	5228	8801	No	4.79	Si
SLU 81	ini.	184.17	2004	2.05	0	894	7930	9208	5228	8823	No	4.4	Si
SLU 81	fin.	128.07	-1839	2.05	0	872	7930	9208	5228	8801	No	4.79	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-397.34	-783	-0.0000378	0.0002807	0.0035	2.05		14566.96	14566.96		36.66	Si
SLV 9	fin.	-810.25	-2316	-0.0000779	0.0002807	0.0035	2.05		14566.96	14566.96		17.98	Si
SLV 10	ini.	-391.17	-771	-0.0000372	0.0002807	0.0035	2.05		14566.96	14566.96		37.24	Si
SLV 10	fin.	-831.77	-2309	-0.00008	0.0002807	0.0035	2.05		14566.96	14566.96		17.51	Si
SLV 8	ini.	582.29	795	-0.0000557	0.0002807	0.0035	2.05		14553.23	14553.23		24.99	Si
SLV 8	fin.	946.29	2468	-0.0000914	0.0002807	0.0035	2.05		14553.23	14553.23		15.38	Si
SLV 6	ini.	-79	201	-0.0000074	0.0002807	0.0035	2.05		14566.96	14566.96		184.4	Si
SLV 6	fin.	-766.01	-2164	-0.0000736	0.0002807	0.0035	2.05		14566.96	14566.96		19.02	Si
SLV 11	ini.	263.95	-190	-0.000025	0.0002807	0.0035	2.05		14553.23	14553.23		55.14	Si
SLV 11	fin.	902.04	2316	-0.000087	0.0002807	0.0035	2.05		14553.23	14553.23		16.13	Si
SLV 7	ini.	576.13	782	-0.0000551	0.0002807	0.0035	2.05		14553.23	14553.23		25.26	Si
SLV 7	fin.	967.8	2461	-0.0000936	0.0002807	0.0035	2.05		14553.23	14553.23		15.04	Si
SLV 4	ini.	714.99	1720	-0.0000686	0.0002807	0.0035	2.05		14553.23	14553.23		20.35	Si
SLV 4	fin.	423.89	1017	-0.0000404	0.0002807	0.0035	2.05		14553.23	14553.23		34.33	Si
SLV 3	ini.	708.93	1708	-0.000068	0.0002807	0.0035	2.05		14553.23	14553.23		20.53	Si
SLV 3	fin.	445.03	1011	-0.0000424	0.0002807	0.0035	2.05		14553.23	14553.23		32.7	Si
SLV 5	ini.	-85.16	188	-0.000008	0.0002807	0.0035	2.05		14566.96	14566.96		171.05	Si
SLV 5	fin.	-744.49	-2170	-0.0000715	0.0002807	0.0035	2.05		14566.96	14566.96		19.57	Si
SLV 12	ini.	270.12	-177	-0.0000256	0.0002807	0.0035	2.05		14553.23	14553.23		53.88	Si
SLV 12	fin.	880.53	2322	-0.0000849	0.0002807	0.0035	2.05		14553.23	14553.23		16.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-530.03	3015	2.05	0	1620	7930	13812	5228	9549		3.17	Si
SLV 13	fin.	-287.86	60	2.05	0	1487	7930	13812	5228	9416		157.81	Si
SLV 12	ini.	270.12	3872	2.05	0	1369	7930	13812	5228	9299		2.4	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	fin.	880.53	1575	2.05	0	807	7930	13812	5228	8736		5.55	Si
SLV 16	ini.	-325.59	4166	2.05	0	1591	7930	13812	5228	9520		2.29	Si
SLV 16	fin.	204.69	1314	2.05	0	1236	7930	13812	5228	9166		6.98	Si
SLV 11	ini.	263.95	3906	2.05	0	1371	7930	13812	5228	9301		2.38	Si
SLV 11	fin.	902.04	1610	2.05	0	809	7930	13812	5228	8738		5.43	Si
SLV 6	ini.	-79	-1515	2.05	0	1300	7930	13812	5228	9229		6.09	Si
SLV 6	fin.	-766.01	-3780	2.05	0	1687	7930	13812	5228	9617		2.54	Si
SLV 2	ini.	516.6	-1809	2.05	0	1016	7930	13812	5228	8946		4.95	Si
SLV 2	fin.	-89.8	-3518	2.05	0	1403	7930	13812	5228	9333		2.65	Si
SLV 1	ini.	510.55	-1775	2.05	0	1019	7930	13812	5228	8949		5.04	Si
SLV 1	fin.	-68.66	-3484	2.05	0	1405	7930	13812	5228	9334		2.68	Si
SLV 15	ini.	-331.65	4200	2.05	0	1593	7930	13812	5228	9522		2.27	Si
SLV 15	fin.	225.83	1347	2.05	0	1237	7930	13812	5228	9167		6.8	Si
SLV 5	ini.	-85.16	-1481	2.05	0	1302	7930	13812	5228	9232		6.23	Si
SLV 5	fin.	-744.49	-3746	2.05	0	1688	7930	13812	5228	9618		2.57	Si
SLV 14	ini.	-523.98	2981	2.05	0	1618	7930	13812	5228	9548		3.2	Si
SLV 14	fin.	-309	26	2.05	0	1486	7930	13812	5228	9415		360.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	15.037	SLV 7	Si
V_SLV	2.267	SLV 15	Si
PF_SLU	81.317	SLU 81	Si
V_SLU	4.403	SLU 81	Si

Trave di accoppiamento 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
28.92	-0.169	0.51	1.51	1	27.92	-0.169	0.51	1.51	1	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmed	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ε_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 49	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 48	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 48	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 50	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 50	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 51	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 51	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 46	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 46	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 47	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 47	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 44	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 44	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 45	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 45	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 43	ini.	-146.48	-235	-0.0000591	0.0001872	0.0035	1		3649.64	3649.64	No	24.92	Si
SLU 43	fin.	201.56	-671	-0.0000823	0.0001872	0.0035	1		3643.26	3643.26	No	18.08	Si
SLU 64	ini.	-106.49	-345	-0.0000427	0.0001872	0.0035	1		3649.64	3649.64	No	34.27	Si
SLU 64	fin.	179.57	-703	-0.000073	0.0001872	0.0035	1		3643.26	3643.26	No	20.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 47	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 49	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 51	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 51	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 48	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 48	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 46	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 46	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 43	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 43	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 50	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 50	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 70	ini.	-106.49	719	1	0	494	7930	4492	2550	7042	No	9.79	Si
SLU 70	fin.	179.57	98	1	0	549	7930	4492	2550	7042	No	71.86	Si
SLU 45	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 45	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si
SLU 44	ini.	-146.48	793	1	0	476	7930	4492	2550	7042	No	8.88	Si
SLU 44	fin.	201.56	224	1	0	544	7930	4492	2550	7042	No	31.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-622.64	327	-0.0002667	0.0002807	0.0035	1		3671.29	3671.29		5.9	Si
SLV 16	fin.	690.93	-1317	-0.0002999	0.0002807	0.0035	1		3664.83	3664.83		5.3	Si
SLV 3	ini.	740.37	-1149	-0.0003241	0.0002807	0.0035	1		3664.83	3664.83		4.95	Si
SLV 3	fin.	-675.62	575	-0.0002919	0.0002807	0.0035	1		3671.29	3671.29		5.43	Si
SLV 13	ini.	-1025.86	705	-0.0004721	0.0002807	0.0035	1		3671.29	3671.29		3.58	Si
SLV 13	fin.	1087.64	-1888	-0.0005073	0.0002807	0.0035	1		3664.83	3664.83		3.37	Si
SLV 14	ini.	-876.84	550	-0.0003926	0.0002807	0.0035	1		3671.29	3671.29		4.19	Si
SLV 14	fin.	939.03	-1670	-0.0004261	0.0002807	0.0035	1		3664.83	3664.83		3.9	Si
SLV 8	ini.	658.05	-995	-0.000284	0.0002807	0.0035	1		3664.83	3664.83		5.57	Si
SLV 8	fin.	-584.69	469	-0.000249	0.0002807	0.0035	1		3671.29	3671.29		6.28	Si
SLV 15	ini.	-771.66	482	-0.000339	0.0002807	0.0035	1		3671.29	3671.29		4.76	Si
SLV 15	fin.	839.54	-1534	-0.0003741	0.0002807	0.0035	1		3664.83	3664.83		4.37	Si
SLV 9	ini.	-794.52	395	-0.0003505	0.0002807	0.0035	1		3671.29	3671.29		4.62	Si
SLV 9	fin.	848.09	-1564	-0.0003785	0.0002807	0.0035	1		3664.83	3664.83		4.32	Si
SLV 4	ini.	889.38	-1305	-0.0003999	0.0002807	0.0035	1		3664.83	3664.83		4.12	Si
SLV 4	fin.	-824.23	793	-0.0003655	0.0002807	0.0035	1		3671.29	3671.29		4.45	Si
SLV 2	ini.	635.19	-1082	-0.0002731	0.0002807	0.0035	1		3664.83	3664.83		5.77	Si
SLV 2	fin.	-576.13	439	-0.000245	0.0002807	0.0035	1		3671.29	3671.29		6.37	Si
SLV 10	ini.	-642.88	237	-0.0002763	0.0002807	0.0035	1		3671.29	3671.29		5.71	Si
SLV 10	fin.	696.87	-1343	-0.0003028	0.0002807	0.0035	1		3664.83	3664.83		5.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	889.38	-2554	1	0	858	7930	6738	2550	8788		3.44	Si
SLV 4	fin.	-824.23	-3067	1	0	486	7930	6738	2550	8415		2.74	Si
SLV 15	ini.	-771.66	2947	1	0	557	7930	6738	2550	8487		2.88	Si
SLV 15	fin.	839.54	2229	1	0	890	7930	6738	2550	8819		3.96	Si
SLV 16	ini.	-622.64	2475	1	0	589	7930	6738	2550	8519		3.44	Si
SLV 16	fin.	690.93	1741	1	0	860	7930	6738	2550	8790		5.05	Si
SLV 8	ini.	658.05	-1532	1	0	814	7930	6738	2550	8744		5.71	Si
SLV 8	fin.	-584.69	-2484	1	0	560	7930	6738	2550	8489		3.42	Si
SLV 13	ini.	-1025.86	3576	1	0	507	7930	6738	2550	8437		2.36	Si
SLV 13	fin.	1087.64	3167	1	0	936	7930	6738	2550	8866		2.8	Si
SLV 9	ini.	-794.52	2555	1	0	575	7930	6738	2550	8505		3.33	Si
SLV 9	fin.	848.09	2583	1	0	894	7930	6738	2550	8823		3.42	Si
SLV 3	ini.	740.37	-2083	1	0	837	7930	6738	2550	8766		4.21	Si
SLV 3	fin.	-675.62	-2580	1	0	537	7930	6738	2550	8466		3.28	Si
SLV 10	ini.	-642.88	2075	1	0	607	7930	6738	2550	8537		4.11	Si
SLV 10	fin.	696.87	2087	1	0	864	7930	6738	2550	8793		4.21	Si
SLV 2	ini.	635.19	-1924	1	0	827	7930	6738	2550	8756		4.55	Si
SLV 2	fin.	-576.13	-2129	1	0	566	7930	6738	2550	8496		3.99	Si
SLV 14	ini.	-876.84	3105	1	0	542	7930	6738	2550	8472		2.73	Si
SLV 14	fin.	939.03	2680	1	0	908	7930	6738	2550	8837		3.3	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.37	SLV 13	Si
V_SLV	2.359	SLV 13	Si
PF_SLU	18.076	SLU 43	Si
V_SLU	8.879	SLU 43	Si

Trave di accoppiamento 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
28.92	-0.169	3.41	4.56	1.15	27.92	-0.169	3.41	4.56	1.15	1	0.3	30000



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,f,d	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 43	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 69	ini.	-148.1	-267	-0.000045	0.0001872	0.0035	1.15		4818.72	4818.72	No	32.54	Si
SLU 69	fin.	120.65	112	-0.0000366	0.0001872	0.0035	1.15		4811.48	4811.48	No	39.88	Si
SLU 51	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 51	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 49	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 49	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 45	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 45	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 48	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 48	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 50	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 50	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 47	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 47	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 44	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 44	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si
SLU 46	ini.	-166.82	-258	-0.0000508	0.0001872	0.0035	1.15		4818.72	4818.72	No	28.89	Si
SLU 46	fin.	190.09	250	-0.0000581	0.0001872	0.0035	1.15		4811.48	4811.48	No	25.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 49	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 45	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 45	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 46	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 46	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 48	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 48	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 51	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 51	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 50	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 50	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 47	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 47	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 44	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 44	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 43	ini.	-166.82	1118	1.15	0	545	7930	5165	2933	8098	No	7.24	Si
SLU 43	fin.	190.09	87	1.15	0	452	7930	5165	2933	8098	No	93.47	Si
SLU 64	ini.	-148.1	962	1.15	0	547	7930	5165	2933	8098	No	8.42	Si
SLU 64	fin.	120.65	-82	1.15	0	479	7930	5165	2933	8098	No	98.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-545.42	-793	-0.0001712	0.0002807	0.0035	1.15		4857.47	4857.47		8.91	Si
SLV 10	fin.	747.36	992	-0.0002403	0.0002807	0.0035	1.15		4849.69	4849.69		6.49	Si
SLV 14	ini.	-689.15	-1003	-0.0002198	0.0002807	0.0035	1.15		4857.47	4857.47		7.05	Si
SLV 14	fin.	953.92	1271	-0.0003146	0.0002807	0.0035	1.15		4849.69	4849.69		5.08	Si
SLV 4	ini.	592.67	742	-0.0001873	0.0002807	0.0035	1.15		4849.69	4849.69		8.18	Si
SLV 4	fin.	-1001.57	-1453	-0.0003318	0.0002807	0.0035	1.15		4857.47	4857.47		4.85	Si
SLV 13	ini.	-810.14	-1162	-0.000262	0.0002807	0.0035	1.15		4857.47	4857.47		6	Si
SLV 13	fin.	1144.72	1537	-0.0003874	0.0002807	0.0035	1.15		4849.69	4849.69		4.24	Si
SLV 9	ini.	-668.54	-955	-0.0002127	0.0002807	0.0035	1.15		4857.47	4857.47		7.27	Si
SLV 9	fin.	941.51	1263	-0.00031	0.0002807	0.0035	1.15		4849.69	4849.69		5.15	Si
SLV 3	ini.	471.68	583	-0.0001472	0.0002807	0.0035	1.15		4849.69	4849.69		10.28	Si
SLV 3	fin.	-810.77	-1187	-0.0002622	0.0002807	0.0035	1.15		4857.47	4857.47		5.99	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	451.08	535	-0.0001405	0.0002807	0.0035	1.15		4849.69	4849.69		10.75	Si
SLV 8	fin.	-798.36	-1179	-0.0002578	0.0002807	0.0035	1.15		4857.47	4857.47		6.08	Si
SLV 15	ini.	-608.4	-896	-0.0001923	0.0002807	0.0035	1.15		4857.47	4857.47		7.98	Si
SLV 15	fin.	828.54	1091	-0.000269	0.0002807	0.0035	1.15		4849.69	4849.69		5.85	Si
SLV 2	ini.	390.93	477	-0.000121	0.0002807	0.0035	1.15		4849.69	4849.69		12.41	Si
SLV 2	fin.	-685.39	-1006	-0.0002185	0.0002807	0.0035	1.15		4857.47	4857.47		7.09	Si
SLV 16	ini.	-487.4	-738	-0.0001521	0.0002807	0.0035	1.15		4857.47	4857.47		9.97	Si
SLV 16	fin.	637.74	825	-0.0002025	0.0002807	0.0035	1.15		4849.69	4849.69		7.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-545.42	2647	1.15	0	883	7930	7748	2933	8813		3.33	Si
SLV 10	fin.	747.36	1842	1.15	0	539	7930	7748	2933	8468		4.6	Si
SLV 3	ini.	471.68	-1847	1.15	0	634	7930	7748	2933	8564		4.64	Si
SLV 3	fin.	-810.77	-2639	1.15	0	943	7930	7748	2933	8872		3.36	Si
SLV 15	ini.	-608.4	2860	1.15	0	899	7930	7748	2933	8829		3.09	Si
SLV 15	fin.	828.54	2053	1.15	0	513	7930	7748	2933	8442		4.11	Si
SLV 16	ini.	-487.4	2304	1.15	0	875	7930	7748	2933	8804		3.82	Si
SLV 16	fin.	637.74	1497	1.15	0	580	7930	7748	2933	8509		5.68	Si
SLV 14	ini.	-689.15	3225	1.15	0	915	7930	7748	2933	8845		2.74	Si
SLV 14	fin.	953.92	2417	1.15	0	462	7930	7748	2933	8392		3.47	Si
SLV 9	ini.	-668.54	3213	1.15	0	908	7930	7748	2933	8838		2.75	Si
SLV 9	fin.	941.51	2408	1.15	0	464	7930	7748	2933	8394		3.49	Si
SLV 13	ini.	-810.14	3781	1.15	0	939	7930	7748	2933	8868		2.35	Si
SLV 13	fin.	1144.72	2973	1.15	0	375	7930	7748	2933	8304		2.79	Si
SLV 2	ini.	390.93	-1482	1.15	0	657	7930	7748	2933	8587		5.79	Si
SLV 2	fin.	-685.39	-2275	1.15	0	916	7930	7748	2933	8846		3.89	Si
SLV 8	ini.	451.08	-1834	1.15	0	645	7930	7748	2933	8574		4.68	Si
SLV 8	fin.	-798.36	-2630	1.15	0	941	7930	7748	2933	8871		3.37	Si
SLV 4	ini.	592.67	-2402	1.15	0	599	7930	7748	2933	8529		3.55	Si
SLV 4	fin.	-1001.57	-3195	1.15	0	981	7930	7748	2933	8910		2.79	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.237	SLV 13	Si
V_SLV	2.346	SLV 13	Si
PF_SLU	25.312	SLU 43	Si
V_SLU	7.241	SLU 43	Si

Trave di accoppiamento 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
29.969	-0.169	0.51	2.51	2	29.469	-0.169	0.51	2.51	2	0.5	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 50	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 50	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 46	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 46	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 49	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 49	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 47	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 47	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 70	ini.	-255.01	252	-0.0000255	0.0001872	0.0035	2		14219.44	14219.44	No	55.76	Si
SLU 70	fin.	238.12	-77	-0.0000238	0.0001872	0.0035	2		14206.68	14206.68	No	59.66	Si
SLU 48	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si



Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 45	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 45	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 44	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 44	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 43	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 43	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si
SLU 51	ini.	-265.19	357	-0.0000265	0.0001872	0.0035	2		14219.44	14219.44	No	53.62	Si
SLU 51	fin.	295.49	18	-0.0000296	0.0001872	0.0035	2		14206.68	14206.68	No	48.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 47	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 46	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 46	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 51	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 51	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 44	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 44	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 43	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 43	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 50	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 50	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 49	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 49	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 48	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 48	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 45	ini.	-265.19	1600	2	0	802	3965	8983	5100	4766	No	2.98	Si
SLU 45	fin.	295.49	1522	2	0	866	3965	8983	5100	4831	No	3.17	Si
SLU 70	ini.	-255.01	1381	2	0	822	3965	8983	5100	4787	No	3.47	Si
SLU 70	fin.	238.12	1401	2	0	884	3965	8983	5100	4848	No	3.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	274.01	-1333	-0.0000273	0.0002807	0.0035	2		13920.08	13920.08		50.8	Si
SLV 1	fin.	-506.31	-1190	-0.0000508	0.0002807	0.0035	2		13933.43	13933.43		27.52	Si
SLV 3	ini.	387.34	-1632	-0.0000387	0.0002807	0.0035	2		13920.08	13920.08		35.94	Si
SLV 3	fin.	-617.38	-1507	-0.0000621	0.0002807	0.0035	2		13933.43	13933.43		22.57	Si
SLV 16	ini.	-650.64	1608	-0.0000655	0.0002807	0.0035	2		13933.43	13933.43		21.41	Si
SLV 16	fin.	821.63	984	-0.0000833	0.0002807	0.0035	2		13920.08	13920.08		16.94	Si
SLV 10	ini.	-488.62	997	-0.000049	0.0002807	0.0035	2		13933.43	13933.43		28.52	Si
SLV 10	fin.	505.51	704	-0.0000507	0.0002807	0.0035	2		13920.08	13920.08		27.54	Si
SLV 2	ini.	397.41	-1678	-0.0000398	0.0002807	0.0035	2		13920.08	13920.08		35.03	Si
SLV 2	fin.	-654.37	-1456	-0.0000659	0.0002807	0.0035	2		13933.43	13933.43		21.29	Si
SLV 9	ini.	-614.19	1348	-0.0000618	0.0002807	0.0035	2		13933.43	13933.43		22.69	Si
SLV 9	fin.	656.18	974	-0.0000662	0.0002807	0.0035	2		13920.08	13920.08		21.21	Si
SLV 13	ini.	-887.37	2251	-0.00009	0.0002807	0.0035	2		13933.43	13933.43		15.7	Si
SLV 13	fin.	1080.76	1566	-0.0001104	0.0002807	0.0035	2		13920.08	13920.08		12.88	Si
SLV 15	ini.	-774.04	1952	-0.0000783	0.0002807	0.0035	2		13933.43	13933.43		18	Si
SLV 15	fin.	969.69	1249	-0.0000987	0.0002807	0.0035	2		13920.08	13920.08		14.36	Si
SLV 4	ini.	510.74	-1977	-0.0000513	0.0002807	0.0035	2		13920.08	13920.08		27.25	Si
SLV 4	fin.	-765.44	-1773	-0.0000774	0.0002807	0.0035	2		13933.43	13933.43		18.2	Si
SLV 14	ini.	-763.97	1906	-0.0000772	0.0002807	0.0035	2		13933.43	13933.43		18.24	Si
SLV 14	fin.	932.7	1301	-0.0000948	0.0002807	0.0035	2		13920.08	13920.08		14.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	397.41	-3485	2	0	1582	3965	13475	5100	5547		1.59	Si
SLV 2	fin.	-654.37	-2700	2	0	1548	3965	13475	5100	5513		2.04	Si
SLV 14	ini.	-763.97	4678	2	0	889	3965	13475	5100	4854		1.04	Si
SLV 14	fin.	932.7	4549	2	0	1039	3965	13475	5100	5004		1.1	Si
SLV 16	ini.	-650.64	4613	2	0	966	3965	13475	5100	4931		1.07	Si
SLV 16	fin.	821.63	4016	2	0	1110	3965	13475	5100	5075		1.26	Si
SLV 1	ini.	274.01	-2744	2	0	1529	3965	13475	5100	5494		2	Si
SLV 1	fin.	-506.31	-2016	2	0	1507	3965	13475	5100	5471		2.71	Si
SLV 4	ini.	510.74	-3550	2	0	1626	3965	13475	5100	5591		1.58	Si
SLV 4	fin.	-765.44	-3234	2	0	1596	3965	13475	5100	5561		1.72	Si
SLV 10	ini.	-488.62	1889	2	0	1107	3965	13475	5100	5072		2.68	Si
SLV 10	fin.	505.51	2628	2	0	1168	3965	13475	5100	5133		1.95	Si
SLV 13	ini.	-887.37	5419	2	0	791	3965	13475	5100	4756		0.88	No
SLV 13	fin.	1080.76	5234	2	0	976	3965	13475	5100	4941		0.94	No
SLV 9	ini.	-614.19	2643	2	0	1028	3965	13475	5100	4993		1.89	Si
SLV 9	fin.	656.18	3325	2	0	1112	3965	13475	5100	5077		1.53	Si
SLV 15	ini.	-774.04	5354	2	0	877	3965	13475	5100	4842		0.9	No
SLV 15	fin.	969.69	4700	2	0	1051	3965	13475	5100	5016		1.07	Si
SLV 3	ini.	387.34	-2809	2	0	1575	3965	13475	5100	5540		1.97	Si
SLV 3	fin.	-617.38	-2549	2	0	1556	3965	13475	5100	5521		2.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.88	SLV 13	Si
V_SLV	0.878	SLV 13	No



Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	48.079	SLU 43	Si
V_SLU	2.979	SLU 43	Si

Trave di accoppiamento 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
29.969	-0.169	3.31	4.56	1.25	29.469	-0.169	3.31	4.56	1.25	0.5	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 43	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 48	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 48	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 47	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 47	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 44	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 44	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 46	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 46	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 49	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 49	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 45	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 45	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 51	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 51	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si
SLU 71	ini.	-192.27	-728	-0.0000495	0.0001872	0.0035	1.25		5659.02	5659.02	No	29.43	Si
SLU 71	fin.	-56.09	-172	-0.0000143	0.0001872	0.0035	1.25		5659.02	5659.02	No	100.89	Si
SLU 50	ini.	-226.93	-853	-0.0000587	0.0001872	0.0035	1.25		5659.02	5659.02	No	24.94	Si
SLU 50	fin.	-74.23	-179	-0.0000189	0.0001872	0.0035	1.25		5659.02	5659.02	No	76.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 44	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 44	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 71	ini.	-192.27	1152	1.25	0	664	3965	5615	3188	4628	No	4.02	Si
SLU 71	fin.	-56.09	746	1.25	0	574	3965	5615	3188	4539	No	6.09	Si
SLU 49	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 49	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 43	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 43	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 47	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 47	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 45	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 45	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 50	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 50	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 48	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 48	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 51	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 51	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si
SLU 46	ini.	-226.93	1327	1.25	0	682	3965	5615	3188	4647	No	3.5	Si
SLU 46	fin.	-74.23	928	1.25	0	575	3965	5615	3188	4540	No	4.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-705.05	-2124	-0.0001885	0.0002807	0.0035	1.25		5724.08	5724.08		8.12	Si
SLV 15	fin.	-271.4	-847	-0.00007	0.0002807	0.0035	1.25		5724.08	5724.08		21.09	Si
SLV 4	ini.	596.35	1672	-0.0001582	0.0002807	0.0035	1.25		5715.6	5715.6		9.58	Si
SLV 4	fin.	342.19	903	-0.0000889	0.0002807	0.0035	1.25		5715.6	5715.6		16.7	Si
SLV 13	ini.	-865.36	-2694	-0.0002349	0.0002807	0.0035	1.25		5724.08	5724.08		6.61	Si
SLV 13	fin.	-420.16	-1171	-0.0001096	0.0002807	0.0035	1.25		5724.08	5724.08		13.62	Si
SLV 3	ini.	474.37	1305	-0.0001245	0.0002807	0.0035	1.25		5715.6	5715.6		12.05	Si
SLV 3	fin.	277.4	753	-0.0000717	0.0002807	0.0035	1.25		5715.6	5715.6		20.6	Si
SLV 9	ini.	-640.67	-2162	-0.0001703	0.0002807	0.0035	1.25		5724.08	5724.08		8.93	Si
SLV 9	fin.	-402.2	-991	-0.0001048	0.0002807	0.0035	1.25		5724.08	5724.08		14.23	Si
SLV 10	ini.	-516.54	-1788	-0.0001359	0.0002807	0.0035	1.25		5724.08	5724.08		11.08	Si
SLV 10	fin.	-336.27	-838	-0.0000872	0.0002807	0.0035	1.25		5724.08	5724.08		17.02	Si
SLV 8	ini.	371.66	1141	-0.0000967	0.0002807	0.0035	1.25		5715.6	5715.6		15.38	Si
SLV 8	fin.	324.23	722	-0.0000841	0.0002807	0.0035	1.25		5715.6	5715.6		17.63	Si
SLV 16	ini.	-583.07	-1756	-0.0001542	0.0002807	0.0035	1.25		5724.08	5724.08		9.82	Si
SLV 16	fin.	-206.61	-697	-0.000053	0.0002807	0.0035	1.25		5724.08	5724.08		27.7	Si
SLV 14	ini.	-743.38	-2326	-0.0001995	0.0002807	0.0035	1.25		5724.08	5724.08		7.7	Si
SLV 14	fin.	-355.37	-1021	-0.0000922	0.0002807	0.0035	1.25		5724.08	5724.08		16.11	Si
SLV 2	ini.	436.04	1102	-0.0001141	0.0002807	0.0035	1.25		5715.6	5715.6		13.11	Si
SLV 2	fin.	193.43	578	-0.0000497	0.0002807	0.0035	1.25		5715.6	5715.6		29.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	474.37	-868	1.25	0	525	3965	8422	3188	4489		5.17	Si
SLV 3	fin.	277.4	-1149	1.25	0	663	3965	8422	3188	4628		4.03	Si
SLV 5	ini.	-286.84	1017	1.25	0	1001	3965	8422	3188	4966		4.88	Si
SLV 5	fin.	-237.56	625	1.25	0	904	3965	8422	3188	4869		7.79	Si
SLV 4	ini.	596.35	-1255	1.25	0	407	3965	8422	3188	4372		3.48	Si
SLV 4	fin.	342.19	-1535	1.25	0	629	3965	8422	3188	4593		2.99	Si
SLV 9	ini.	-640.67	2040	1.25	0	1145	3965	8422	3188	5109		2.5	Si
SLV 9	fin.	-402.2	1645	1.25	0	980	3965	8422	3188	4945		3.01	Si
SLV 13	ini.	-865.36	2860	1.25	0	1212	3965	8422	3188	5177		1.81	Si
SLV 13	fin.	-420.16	2519	1.25	0	1007	3965	8422	3188	4972		1.97	Si
SLV 15	ini.	-705.05	2542	1.25	0	1140	3965	8422	3188	5104		2.01	Si
SLV 15	fin.	-271.4	2251	1.25	0	958	3965	8422	3188	4923		2.19	Si
SLV 14	ini.	-743.38	2473	1.25	0	1166	3965	8422	3188	5131		2.07	Si
SLV 14	fin.	-355.37	2132	1.25	0	985	3965	8422	3188	4949		2.32	Si
SLV 10	ini.	-516.54	1647	1.25	0	1095	3965	8422	3188	5059		3.07	Si
SLV 10	fin.	-336.27	1251	1.25	0	956	3965	8422	3188	4921		3.93	Si
SLV 2	ini.	436.04	-937	1.25	0	579	3965	8422	3188	4544		4.85	Si
SLV 2	fin.	193.43	-1268	1.25	0	701	3965	8422	3188	4666		3.68	Si
SLV 16	ini.	-583.07	2155	1.25	0	1090	3965	8422	3188	5055		2.35	Si
SLV 16	fin.	-206.61	1864	1.25	0	934	3965	8422	3188	4899		2.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.615	SLV 13	Si
V_SLV	1.81	SLV 13	Si
PF_SLU	24.938	SLU 43	Si
V_SLU	3.502	SLU 43	Si

Trave di accoppiamento 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
33.569	-0.169	0.51	1.51	1	32.569	-0.169	0.51	1.51	1	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _{bu}	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _s CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _s fd	γ _F d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	67.08	-722	-0.0000268	0.0001872	0.0035	1		3643.26	3643.26	No	54.31	Si
SLU 84	fin.	47.25	-699	-0.0000188	0.0001872	0.0035	1		3643.26	3643.26	No	77.1	Si
SLU 75	ini.	57.04	-655	-0.0000227	0.0001872	0.0035	1		3643.26	3643.26	No	63.87	Si
SLU 75	fin.	36.9	-630	-0.0000147	0.0001872	0.0035	1		3643.26	3643.26	No	98.74	Si
SLU 81	ini.	67.08	-722	-0.0000268	0.0001872	0.0035	1		3643.26	3643.26	No	54.31	Si
SLU 81	fin.	47.25	-699	-0.0000188	0.0001872	0.0035	1		3643.26	3643.26	No	77.1	Si
SLU 77	ini.	57.04	-655	-0.0000227	0.0001872	0.0035	1		3643.26	3643.26	No	63.87	Si
SLU 77	fin.	36.9	-630	-0.0000147	0.0001872	0.0035	1		3643.26	3643.26	No	98.74	Si
SLU 83	ini.	67.08	-722	-0.0000268	0.0001872	0.0035	1		3643.26	3643.26	No	54.31	Si
SLU 83	fin.	47.25	-699	-0.0000188	0.0001872	0.0035	1		3643.26	3643.26	No	77.1	Si
SLU 42	ini.	64.35	-648	-0.0000257	0.0001872	0.0035	1		3643.26	3643.26	No	56.62	Si
SLU 42	fin.	49.6	-632	-0.0000198	0.0001872	0.0035	1		3643.26	3643.26	No	73.45	Si
SLU 40	ini.	64.35	-648	-0.0000257	0.0001872	0.0035	1		3643.26	3643.26	No	56.62	Si
SLU 40	fin.	49.6	-632	-0.0000198	0.0001872	0.0035	1		3643.26	3643.26	No	73.45	Si
SLU 41	ini.	64.35	-648	-0.0000257	0.0001872	0.0035	1		3643.26	3643.26	No	56.62	Si
SLU 41	fin.	49.6	-632	-0.0000198	0.0001872	0.0035	1		3643.26	3643.26	No	73.45	Si
SLU 82	ini.	67.08	-722	-0.0000268	0.0001872	0.0035	1		3643.26	3643.26	No	54.31	Si
SLU 82	fin.	47.25	-699	-0.0000188	0.0001872	0.0035	1		3643.26	3643.26	No	77.1	Si
SLU 39	ini.	64.35	-648	-0.0000257	0.0001872	0.0035	1		3643.26	3643.26	No	56.62	Si
SLU 39	fin.	49.6	-632	-0.0000198	0.0001872	0.0035	1		3643.26	3643.26	No	73.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 68	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 66	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 66	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 64	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 64	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 72	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 72	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 76	ini.	57.04	218	1	0	542	7930	4492	2550	7042	No	32.25	Si
SLU 76	fin.	36.9	-289	1	0	538	7930	4492	2550	7042	No	24.34	Si
SLU 65	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 65	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 71	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 71	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 70	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 70	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 69	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 69	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si
SLU 67	ini.	33.61	226	1	0	518	7930	4492	2550	7042	No	31.12	Si
SLU 67	fin.	12.74	-303	1	0	513	7930	4492	2550	7042	No	23.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	913.36	-1104	-0.0004125	0.0002807	0.0035	1		3664.83	3664.83		4.01	Si
SLV 1	fin.	-815.4	85	-0.000361	0.0002807	0.0035	1		3671.29	3671.29		4.5	Si
SLV 13	ini.	-775.13	250	-0.0003407	0.0002807	0.0035	1		3671.29	3671.29		4.74	Si
SLV 13	fin.	742.2	-772	-0.000325	0.0002807	0.0035	1		3664.83	3664.83		4.94	Si
SLV 5	ini.	612.41	-830	-0.0002624	0.0002807	0.0035	1		3664.83	3664.83		5.98	Si
SLV 5	fin.	-581.98	17	-0.0002477	0.0002807	0.0035	1		3671.29	3671.29		6.31	Si
SLV 6	ini.	787.73	-970	-0.0003477	0.0002807	0.0035	1		3664.83	3664.83		4.65	Si
SLV 6	fin.	-751.46	129	-0.000329	0.0002807	0.0035	1		3671.29	3671.29		4.89	Si
SLV 4	ini.	835.76	-1069	-0.0003721	0.0002807	0.0035	1		3664.83	3664.83		4.39	Si
SLV 4	fin.	-713.5	-4	-0.0003103	0.0002807	0.0035	1		3671.29	3671.29		5.15	Si
SLV 16	ini.	-852.72	285	-0.0003801	0.0002807	0.0035	1		3671.29	3671.29		4.31	Si
SLV 16	fin.	844.1	-862	-0.0003764	0.0002807	0.0035	1		3664.83	3664.83		4.34	Si
SLV 2	ini.	1085.65	-1242	-0.0005062	0.0002807	0.0035	1		3664.83	3664.83		3.38	Si
SLV 2	fin.	-981.95	195	-0.0004483	0.0002807	0.0035	1		3671.29	3671.29		3.74	Si
SLV 15	ini.	-1025.02	423	-0.0004717	0.0002807	0.0035	1		3671.29	3671.29		3.58	Si
SLV 15	fin.	1010.66	-972	-0.0004647	0.0002807	0.0035	1		3664.83	3664.83		3.63	Si
SLV 3	ini.	663.46	-932	-0.0002866	0.0002807	0.0035	1		3664.83	3664.83		5.52	Si
SLV 3	fin.	-546.94	-114	-0.0002316	0.0002807	0.0035	1		3671.29	3671.29		6.71	Si
SLV 11	ini.	-727.1	151	-0.0003169	0.0002807	0.0035	1		3671.29	3671.29		5.05	Si
SLV 11	fin.	780.16	-906	-0.0003439	0.0002807	0.0035	1		3664.83	3664.83		4.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-775.13	2177	1	0	605	7930	6738	2550	8534		3.92	Si
SLV 13	fin.	742.2	1961	1	0	781	7930	6738	2550	8710		4.44	Si
SLV 4	ini.	835.76	-1844	1	0	825	7930	6738	2550	8755		4.75	Si
SLV 4	fin.	-713.5	-2411	1	0	653	7930	6738	2550	8583		3.56	Si
SLV 1	ini.	913.36	-2162	1	0	830	7930	6738	2550	8760		4.05	Si
SLV 1	fin.	-815.4	-2560	1	0	636	7930	6738	2550	8566		3.35	Si
SLV 6	ini.	787.73	-2025	1	0	811	7930	6738	2550	8740		4.32	Si
SLV 6	fin.	-751.46	-2144	1	0	628	7930	6738	2550	8558		3.99	Si
SLV 12	ini.	-551.78	1886	1	0	650	7930	6738	2550	8580		4.55	Si
SLV 12	fin.	610.68	1231	1	0	784	7930	6738	2550	8714		7.08	Si
SLV 3	ini.	663.46	-1379	1	0	805	7930	6738	2550	8734		6.33	Si
SLV 3	fin.	-546.94	-1955	1	0	673	7930	6738	2550	8602		4.4	Si
SLV 2	ini.	1085.65	-2626	1	0	850	7930	6738	2550	8779		3.34	Si
SLV 2	fin.	-981.95	-3016	1	0	615	7930	6738	2550	8545		2.83	Si
SLV 11	ini.	-727.1	2358	1	0	624	7930	6738	2550	8554		3.63	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	fin.	780.16	1695	1	0	801	7930	6738	2550	8731		5.15	Si
SLV 15	ini.	-1025.02	2960	1	0	570	7930	6738	2550	8499		2.87	Si
SLV 15	fin.	1010.66	2567	1	0	811	7930	6738	2550	8740		3.4	Si
SLV 16	ini.	-852.72	2495	1	0	598	7930	6738	2550	8527		3.42	Si
SLV 16	fin.	844.1	2111	1	0	794	7930	6738	2550	8724		4.13	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.376	SLV 2	Si
V_SLV	2.833	SLV 2	Si
PF_SLU	54.313	SLU 81	Si
V_SLU	23.245	SLU 64	Si

Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
33.569	-0.169	3.41	4.56	1.15	32.569	-0.169	3.41	4.56	1.15	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{nk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M _{0d}	M _{1d}	M _{Rd}	incremento > 50%	c.s.	Verifica
SLU 39	ini.	-105.24	-431	-0.0000318	0.0001872	0.0035	1.15		4818.72	4818.72	No	45.79	Si
SLU 39	fin.	-82.81	-352	-0.0000249	0.0001872	0.0035	1.15		4818.72	4818.72	No	58.19	Si
SLU 40	ini.	-105.24	-431	-0.0000318	0.0001872	0.0035	1.15		4818.72	4818.72	No	45.79	Si
SLU 40	fin.	-82.81	-352	-0.0000249	0.0001872	0.0035	1.15		4818.72	4818.72	No	58.19	Si
SLU 81	ini.	-111.24	-465	-0.0000336	0.0001872	0.0035	1.15		4818.72	4818.72	No	43.32	Si
SLU 81	fin.	-86.23	-387	-0.000026	0.0001872	0.0035	1.15		4818.72	4818.72	No	55.88	Si
SLU 75	ini.	-98.03	-416	-0.0000296	0.0001872	0.0035	1.15		4818.72	4818.72	No	49.16	Si
SLU 75	fin.	-73.64	-347	-0.0000222	0.0001872	0.0035	1.15		4818.72	4818.72	No	65.43	Si
SLU 84	ini.	-111.24	-465	-0.0000336	0.0001872	0.0035	1.15		4818.72	4818.72	No	43.32	Si
SLU 84	fin.	-86.23	-387	-0.000026	0.0001872	0.0035	1.15		4818.72	4818.72	No	55.88	Si
SLU 41	ini.	-105.24	-431	-0.0000318	0.0001872	0.0035	1.15		4818.72	4818.72	No	45.79	Si
SLU 41	fin.	-82.81	-352	-0.0000249	0.0001872	0.0035	1.15		4818.72	4818.72	No	58.19	Si
SLU 83	ini.	-111.24	-465	-0.0000336	0.0001872	0.0035	1.15		4818.72	4818.72	No	43.32	Si
SLU 83	fin.	-86.23	-387	-0.000026	0.0001872	0.0035	1.15		4818.72	4818.72	No	55.88	Si
SLU 42	ini.	-105.24	-431	-0.0000318	0.0001872	0.0035	1.15		4818.72	4818.72	No	45.79	Si
SLU 42	fin.	-82.81	-352	-0.0000249	0.0001872	0.0035	1.15		4818.72	4818.72	No	58.19	Si
SLU 82	ini.	-111.24	-465	-0.0000336	0.0001872	0.0035	1.15		4818.72	4818.72	No	43.32	Si
SLU 82	fin.	-86.23	-387	-0.000026	0.0001872	0.0035	1.15		4818.72	4818.72	No	55.88	Si
SLU 77	ini.	-98.03	-416	-0.0000296	0.0001872	0.0035	1.15		4818.72	4818.72	No	49.16	Si
SLU 77	fin.	-73.64	-347	-0.0000222	0.0001872	0.0035	1.15		4818.72	4818.72	No	65.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 80	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 81	ini.	-111.24	433	1.15	0	579	7930	5165	2933	8098	No	18.7	Si
SLU 81	fin.	-86.23	-291	1.15	0	566	7930	5165	2933	8098	No	27.82	Si
SLU 74	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 74	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 75	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 75	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 77	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 77	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 78	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 78	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 83	ini.	-111.24	433	1.15	0	579	7930	5165	2933	8098	No	18.7	Si
SLU 83	fin.	-86.23	-291	1.15	0	566	7930	5165	2933	8098	No	27.82	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-111.24	433	1.15	0	579	7930	5165	2933	8098	No	18.7	Si
SLU 84	fin.	-86.23	-291	1.15	0	566	7930	5165	2933	8098	No	27.82	Si
SLU 73	ini.	-98.03	427	1.15	0	571	7930	5165	2933	8098	No	18.96	Si
SLU 73	fin.	-73.64	-297	1.15	0	560	7930	5165	2933	8098	No	27.27	Si
SLU 82	ini.	-111.24	433	1.15	0	579	7930	5165	2933	8098	No	18.7	Si
SLU 82	fin.	-86.23	-291	1.15	0	566	7930	5165	2933	8098	No	27.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	476.59	1176	-0.0001488	0.0002807	0.0035	1.15		4849.69	4849.69		10.18	Si
SLV 6	fin.	-553.51	-1512	-0.0001739	0.0002807	0.0035	1.15		4857.47	4857.47		8.78	Si
SLV 16	ini.	-528.4	-1345	-0.0001656	0.0002807	0.0035	1.15		4857.47	4857.47		9.19	Si
SLV 16	fin.	517.53	1209	-0.0001623	0.0002807	0.0035	1.15		4849.69	4849.69		9.37	Si
SLV 15	ini.	-643.68	-1645	-0.0002042	0.0002807	0.0035	1.15		4857.47	4857.47		7.55	Si
SLV 15	fin.	637.31	1512	-0.0002024	0.0002807	0.0035	1.15		4849.69	4849.69		7.61	Si
SLV 1	ini.	415.86	848	-0.000129	0.0002807	0.0035	1.15		4849.69	4849.69		11.66	Si
SLV 1	fin.	-596.39	-1631	-0.0001882	0.0002807	0.0035	1.15		4857.47	4857.47		8.14	Si
SLV 4	ini.	323.26	556	-0.0000994	0.0002807	0.0035	1.15		4849.69	4849.69		15	Si
SLV 4	fin.	-539.41	-1489	-0.0001692	0.0002807	0.0035	1.15		4857.47	4857.47		9.01	Si
SLV 12	ini.	-471.82	-1368	-0.000147	0.0002807	0.0035	1.15		4857.47	4857.47		10.3	Si
SLV 12	fin.	352.76	782	-0.0001088	0.0002807	0.0035	1.15		4849.69	4849.69		13.75	Si
SLV 13	ini.	-435.81	-1053	-0.0001353	0.0002807	0.0035	1.15		4857.47	4857.47		11.15	Si
SLV 13	fin.	460.56	1067	-0.0001436	0.0002807	0.0035	1.15		4849.69	4849.69		10.53	Si
SLV 5	ini.	359.28	871	-0.0001109	0.0002807	0.0035	1.15		4849.69	4849.69		13.5	Si
SLV 5	fin.	-431.62	-1203	-0.0001339	0.0002807	0.0035	1.15		4857.47	4857.47		11.25	Si
SLV 2	ini.	531.14	1148	-0.0001668	0.0002807	0.0035	1.15		4849.69	4849.69		9.13	Si
SLV 2	fin.	-716.17	-1934	-0.0002291	0.0002807	0.0035	1.15		4857.47	4857.47		6.78	Si
SLV 11	ini.	-589.13	-1673	-0.0001858	0.0002807	0.0035	1.15		4857.47	4857.47		8.25	Si
SLV 11	fin.	474.65	1090	-0.0001482	0.0002807	0.0035	1.15		4849.69	4849.69		10.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-471.82	2309	1.15	0	969	7930	7748	2933	8898		3.85	Si
SLV 12	fin.	352.76	1748	1.15	0	590	7930	7748	2933	8519		4.87	Si
SLV 11	ini.	-589.13	2901	1.15	0	1011	7930	7748	2933	8940		3.08	Si
SLV 11	fin.	474.65	2340	1.15	0	513	7930	7748	2933	8443		3.61	Si
SLV 4	ini.	323.26	-1625	1.15	0	640	7930	7748	2933	8570		5.28	Si
SLV 4	fin.	-539.41	-2178	1.15	0	986	7930	7748	2933	8915		4.09	Si
SLV 1	ini.	415.86	-2031	1.15	0	574	7930	7748	2933	8504		4.19	Si
SLV 1	fin.	-596.39	-2580	1.15	0	1005	7930	7748	2933	8935		3.46	Si
SLV 5	ini.	359.28	-1677	1.15	0	569	7930	7748	2933	8498		5.07	Si
SLV 5	fin.	-431.62	-2223	1.15	0	945	7930	7748	2933	8875		3.99	Si
SLV 13	ini.	-435.81	2256	1.15	0	923	7930	7748	2933	8852		3.92	Si
SLV 13	fin.	460.56	1704	1.15	0	519	7930	7748	2933	8449		4.96	Si
SLV 15	ini.	-643.68	3244	1.15	0	1007	7930	7748	2933	8937		2.75	Si
SLV 15	fin.	637.31	2687	1.15	0	384	7930	7748	2933	8313		3.09	Si
SLV 2	ini.	531.14	-2612	1.15	0	497	7930	7748	2933	8427		3.23	Si
SLV 2	fin.	-716.17	-3162	1.15	0	1046	7930	7748	2933	8975		2.84	Si
SLV 6	ini.	476.59	-2269	1.15	0	490	7930	7748	2933	8419		3.71	Si
SLV 6	fin.	-553.51	-2815	1.15	0	989	7930	7748	2933	8918		3.17	Si
SLV 16	ini.	-528.4	2662	1.15	0	965	7930	7748	2933	8895		3.34	Si
SLV 16	fin.	517.53	2105	1.15	0	480	7930	7748	2933	8410		3.99	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.783	SLV 2	Si
V_SLV	2.755	SLV 15	Si
PF_SLU	43.317	SLU 81	Si
V_SLU	18.704	SLU 81	Si

Trave di accoppiamento 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
30.718	4.336	2.61	4.56	1.95	30.718	3.536	2.61	4.56	1.95	0.8	0.18	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato Corti

fb_	fhk	fvk0	fmedio	τ0	fν0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / $\epsilon_{\text{CNR DT-200}}$						CRM / Fibrenet?				
									α_t	α	elim,conv	$\epsilon_{\text{f,d}}$	$\gamma_{\text{F,d}}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-866.84	-3068	-0.0000929	0.0002246	0.0035	1.95		14375.9	14375.9	No	16.58	Si
SLU 81	fin.	278.6	-1696	-0.0000292	0.0002246	0.0035	1.95		14364	14364	No	51.56	Si
SLU 61	ini.	-810.97	-2639	-0.0000868	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.73	Si
SLU 61	fin.	237.83	-1422	-0.0000249	0.0002246	0.0035	1.95		14364	14364	No	60.4	Si
SLU 74	ini.	-803.04	-2683	-0.0000859	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.9	Si
SLU 74	fin.	230.78	-1461	-0.0000242	0.0002246	0.0035	1.95		14364	14364	No	62.24	Si
SLU 83	ini.	-866.84	-3068	-0.0000929	0.0002246	0.0035	1.95		14375.9	14375.9	No	16.58	Si
SLU 83	fin.	278.6	-1696	-0.0000292	0.0002246	0.0035	1.95		14364	14364	No	51.56	Si
SLU 84	ini.	-866.84	-3068	-0.0000929	0.0002246	0.0035	1.95		14375.9	14375.9	No	16.58	Si
SLU 84	fin.	278.6	-1696	-0.0000292	0.0002246	0.0035	1.95		14364	14364	No	51.56	Si
SLU 62	ini.	-810.97	-2639	-0.0000868	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.73	Si
SLU 62	fin.	237.83	-1422	-0.0000249	0.0002246	0.0035	1.95		14364	14364	No	60.4	Si
SLU 82	ini.	-866.84	-3068	-0.0000929	0.0002246	0.0035	1.95		14375.9	14375.9	No	16.58	Si
SLU 82	fin.	278.6	-1696	-0.0000292	0.0002246	0.0035	1.95		14364	14364	No	51.56	Si
SLU 75	ini.	-803.04	-2683	-0.0000859	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.9	Si
SLU 75	fin.	230.78	-1461	-0.0000242	0.0002246	0.0035	1.95		14364	14364	No	62.24	Si
SLU 60	ini.	-810.97	-2639	-0.0000868	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.73	Si
SLU 60	fin.	237.83	-1422	-0.0000249	0.0002246	0.0035	1.95		14364	14364	No	60.4	Si
SLU 63	ini.	-810.97	-2639	-0.0000868	0.0002246	0.0035	1.95		14375.9	14375.9	No	17.73	Si
SLU 63	fin.	237.83	-1422	-0.0000249	0.0002246	0.0035	1.95		14364	14364	No	60.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 42	ini.	-743.51	5133	1.95	0	861	6344	6307	4973	7205	No	1.4	Si
SLU 42	fin.	271.24	297	1.95	0	729	6344	6307	4973	7073	No	23.81	Si
SLU 84	ini.	-866.84	5581	1.95	0	881	6344	6307	4973	7224	No	1.29	Si
SLU 84	fin.	278.6	478	1.95	0	738	6344	6307	4973	7082	No	14.81	Si
SLU 39	ini.	-743.51	5133	1.95	0	861	6344	6307	4973	7205	No	1.4	Si
SLU 39	fin.	271.24	297	1.95	0	729	6344	6307	4973	7073	No	23.81	Si
SLU 75	ini.	-803.04	4934	1.95	0	843	6344	6307	4973	7187	No	1.46	Si
SLU 75	fin.	230.78	506	1.95	0	711	6344	6307	4973	7054	No	13.93	Si
SLU 81	ini.	-866.84	5581	1.95	0	881	6344	6307	4973	7224	No	1.29	Si
SLU 81	fin.	278.6	478	1.95	0	738	6344	6307	4973	7082	No	14.81	Si
SLU 40	ini.	-743.51	5133	1.95	0	861	6344	6307	4973	7205	No	1.4	Si
SLU 40	fin.	271.24	297	1.95	0	729	6344	6307	4973	7073	No	23.81	Si
SLU 82	ini.	-866.84	5581	1.95	0	881	6344	6307	4973	7224	No	1.29	Si
SLU 82	fin.	278.6	478	1.95	0	738	6344	6307	4973	7082	No	14.81	Si
SLU 41	ini.	-743.51	5133	1.95	0	861	6344	6307	4973	7205	No	1.4	Si
SLU 41	fin.	271.24	297	1.95	0	729	6344	6307	4973	7073	No	23.81	Si
SLU 77	ini.	-803.04	4934	1.95	0	843	6344	6307	4973	7187	No	1.46	Si
SLU 77	fin.	230.78	506	1.95	0	711	6344	6307	4973	7054	No	13.93	Si
SLU 83	ini.	-866.84	5581	1.95	0	881	6344	6307	4973	7224	No	1.29	Si
SLU 83	fin.	278.6	478	1.95	0	738	6344	6307	4973	7082	No	14.81	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-634.52	-2194	-0.000067	0.0003369	0.0035	1.95		14697.71	14697.71		23.16	Si
SLV 6	fin.	-2047.3	-3665	-0.0002258	0.0003369	0.0035	1.95		14697.71	14697.71		7.18	Si
SLV 8	ini.	-171.89	-582	-0.000179	0.0003369	0.0035	1.95		14697.71	14697.71		85.51	Si
SLV 8	fin.	2136.46	2012	-0.0002365	0.0003369	0.0035	1.95		14685.53	14685.53		6.87	Si
SLV 7	ini.	-188.72	-611	-0.000197	0.0003369	0.0035	1.95		14697.71	14697.71		77.88	Si
SLV 7	fin.	2109.73	1967	-0.0002334	0.0003369	0.0035	1.95		14685.53	14685.53		6.96	Si
SLV 11	ini.	-432.4	-878	-0.0000454	0.0003369	0.0035	1.95		14697.71	14697.71		33.99	Si
SLV 11	fin.	2276.55	2069	-0.0002532	0.0003369	0.0035	1.95		14685.53	14685.53		6.45	Si
SLV 16	ini.	-861.92	-1726	-0.0000916	0.0003369	0.0035	1.95		14697.71	14697.71		17.05	Si
SLV 16	fin.	1033.36	245	-0.0001105	0.0003369	0.0035	1.95		14685.53	14685.53		14.21	Si
SLV 13	ini.	-1017.25	-2238	-0.0001086	0.0003369	0.0035	1.95		14697.71	14697.71		14.45	Si
SLV 13	fin.	-248.04	-1501	-0.0000259	0.0003369	0.0035	1.95		14697.71	14697.71		59.26	Si
SLV 10	ini.	-878.2	-2461	-0.0000934	0.0003369	0.0035	1.95		14697.71	14697.71		16.74	Si
SLV 10	fin.	-1880.48	-3563	-0.0002062	0.0003369	0.0035	1.95		14697.71	14697.71		7.82	Si
SLV 12	ini.	-415.57	-850	-0.0000436	0.0003369	0.0035	1.95		14697.71	14697.71		35.37	Si
SLV 12	fin.	2303.28	2113	-0.0002565	0.0003369	0.0035	1.95		14685.53	14685.53		6.38	Si
SLV 9	ini.	-895.03	-2490	-0.0000953	0.0003369	0.0035	1.95		14697.71	14697.71		16.42	Si
SLV 9	fin.	-1907.21	-3607	-0.0002094	0.0003369	0.0035	1.95		14697.71	14697.71		7.71	Si
SLV 5	ini.	-651.35	-2222	-0.0000688	0.0003369	0.0035	1.95		14697.71	14697.71		22.57	Si
SLV 5	fin.	-2074.04	-3709	-0.0002289	0.0003369	0.0035	1.95		14697.71	14697.71		7.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-651.35	-2330	1.95	0	1070	6344	9461	4973	7413		3.18	Si
SLV 5	fin.	-2074.04	-4767	1.95	0	1233	6344	9461	4973	7576		1.59	Si
SLV 12	ini.	-415.57	8156	1.95	0	893	6344	9461	4973	7236		0.89	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	fin.	2303.28	5653	1.95	0	219	6344	9461	4973	6563		1.16	Si
SLV 15	ini.	-878.46	5959	1.95	0	1013	6344	9461	4973	7356		1.23	Si
SLV 15	fin.	1007.09	3475	1.95	0	729	6344	9461	4973	7073		2.04	Si
SLV 16	ini.	-861.92	5990	1.95	0	1009	6344	9461	4973	7353		1.23	Si
SLV 16	fin.	1033.36	3506	1.95	0	721	6344	9461	4973	7065		2.02	Si
SLV 9	ini.	-895.03	-1345	1.95	0	1101	6344	9461	4973	7444		5.53	Si
SLV 9	fin.	-1907.21	-3785	1.95	0	1222	6344	9461	4973	7566		2	Si
SLV 11	ini.	-432.4	8125	1.95	0	897	6344	9461	4973	7240		0.89	No
SLV 11	fin.	2276.55	5621	1.95	0	243	6344	9461	4973	6587		1.17	Si
SLV 10	ini.	-878.2	-1314	1.95	0	1097	6344	9461	4973	7441		5.66	Si
SLV 10	fin.	-1880.48	-3753	1.95	0	1218	6344	9461	4973	7561		2.01	Si
SLV 8	ini.	-171.89	7172	1.95	0	854	6344	9461	4973	7198		1	Si
SLV 8	fin.	2136.46	4671	1.95	0	272	6344	9461	4973	6615		1.42	Si
SLV 6	ini.	-634.52	-2298	1.95	0	1066	6344	9461	4973	7410		3.22	Si
SLV 6	fin.	-2047.3	-4735	1.95	0	1228	6344	9461	4973	7572		1.6	Si
SLV 7	ini.	-188.72	7140	1.95	0	858	6344	9461	4973	7202		1.01	Si
SLV 7	fin.	2109.73	4639	1.95	0	291	6344	9461	4973	6635		1.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 12	Si
V_SLV	0.887	SLV 12	No
PF_SLU		SLU 81	Si
V_SLU	1.294	SLU 81	Si

Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
30.718	5.634	2.61	4.56	1.95	30.718	4.834	2.61	4.56	1.95	0.8	0.18	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,f,d	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 62	ini.	494.53	-1628	-0.0000523	0.0002246	0.0035	1.95		14364	14364	No	29.05	Si
SLU 62	fin.	-449.05	-2761	-0.0000474	0.0002246	0.0035	1.95		14375.9	14375.9	No	32.01	Si
SLU 84	ini.	567.49	-1913	-0.0000602	0.0002246	0.0035	1.95		14364	14364	No	25.31	Si
SLU 84	fin.	-431.48	-3199	-0.0000455	0.0002246	0.0035	1.95		14375.9	14375.9	No	33.32	Si
SLU 40	ini.	529.2	-1807	-0.0000561	0.0002246	0.0035	1.95		14364	14364	No	27.14	Si
SLU 40	fin.	-323.97	-2984	-0.000034	0.0002246	0.0035	1.95		14375.9	14375.9	No	44.37	Si
SLU 42	ini.	529.2	-1807	-0.0000561	0.0002246	0.0035	1.95		14364	14364	No	27.14	Si
SLU 42	fin.	-323.97	-2984	-0.000034	0.0002246	0.0035	1.95		14375.9	14375.9	No	44.37	Si
SLU 81	ini.	567.49	-1913	-0.0000602	0.0002246	0.0035	1.95		14364	14364	No	25.31	Si
SLU 81	fin.	-431.48	-3199	-0.0000455	0.0002246	0.0035	1.95		14375.9	14375.9	No	33.32	Si
SLU 82	ini.	567.49	-1913	-0.0000602	0.0002246	0.0035	1.95		14364	14364	No	25.31	Si
SLU 82	fin.	-431.48	-3199	-0.0000455	0.0002246	0.0035	1.95		14375.9	14375.9	No	33.32	Si
SLU 63	ini.	494.53	-1628	-0.0000523	0.0002246	0.0035	1.95		14364	14364	No	29.05	Si
SLU 63	fin.	-449.05	-2761	-0.0000474	0.0002246	0.0035	1.95		14375.9	14375.9	No	32.01	Si
SLU 41	ini.	529.2	-1807	-0.0000561	0.0002246	0.0035	1.95		14364	14364	No	27.14	Si
SLU 41	fin.	-323.97	-2984	-0.000034	0.0002246	0.0035	1.95		14375.9	14375.9	No	44.37	Si
SLU 83	ini.	567.49	-1913	-0.0000602	0.0002246	0.0035	1.95		14364	14364	No	25.31	Si
SLU 83	fin.	-431.48	-3199	-0.0000455	0.0002246	0.0035	1.95		14375.9	14375.9	No	33.32	Si
SLU 39	ini.	529.2	-1807	-0.0000561	0.0002246	0.0035	1.95		14364	14364	No	27.14	Si
SLU 39	fin.	-323.97	-2984	-0.000034	0.0002246	0.0035	1.95		14375.9	14375.9	No	44.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	567.49	-1166	1.95	0	762	6344	6307	4973	7106	No	6.09	Si
SLU 82	fin.	-431.48	-6000	1.95	0	893	6344	6307	4973	7237	No	1.21	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	493.91	-1103	1.95	0	734	6344	6307	4973	7077	No	6.42	Si
SLU 75	fin.	-430.51	-5271	1.95	0	855	6344	6307	4973	7198	No	1.37	Si
SLU 42	ini.	529.2	-952	1.95	0	751	6344	6307	4973	7094	No	7.45	Si
SLU 42	fin.	-323.97	-5568	1.95	0	873	6344	6307	4973	7216	No	1.3	Si
SLU 83	ini.	567.49	-1166	1.95	0	762	6344	6307	4973	7106	No	6.09	Si
SLU 83	fin.	-431.48	-6000	1.95	0	893	6344	6307	4973	7237	No	1.21	Si
SLU 81	ini.	567.49	-1166	1.95	0	762	6344	6307	4973	7106	No	6.09	Si
SLU 81	fin.	-431.48	-6000	1.95	0	893	6344	6307	4973	7237	No	1.21	Si
SLU 77	ini.	493.91	-1103	1.95	0	734	6344	6307	4973	7077	No	6.42	Si
SLU 77	fin.	-430.51	-5271	1.95	0	855	6344	6307	4973	7198	No	1.37	Si
SLU 39	ini.	529.2	-952	1.95	0	751	6344	6307	4973	7094	No	7.45	Si
SLU 39	fin.	-323.97	-5568	1.95	0	873	6344	6307	4973	7216	No	1.3	Si
SLU 40	ini.	529.2	-952	1.95	0	751	6344	6307	4973	7094	No	7.45	Si
SLU 40	fin.	-323.97	-5568	1.95	0	873	6344	6307	4973	7216	No	1.3	Si
SLU 84	ini.	567.49	-1166	1.95	0	762	6344	6307	4973	7106	No	6.09	Si
SLU 84	fin.	-431.48	-6000	1.95	0	893	6344	6307	4973	7237	No	1.21	Si
SLU 41	ini.	529.2	-952	1.95	0	751	6344	6307	4973	7094	No	7.45	Si
SLU 41	fin.	-323.97	-5568	1.95	0	873	6344	6307	4973	7216	No	1.3	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1142.04	244	-0.0001225	0.0003369	0.0035	1.95		14685.53	14685.53		12.86	Si
SLV 1	fin.	160.18	-913	-0.0000167	0.0003369	0.0035	1.95		14685.53	14685.53		91.68	Si
SLV 5	ini.	2747.22	1674	-0.0003108	0.0003369	0.0035	1.95		14685.53	14685.53		5.35	Si
SLV 5	fin.	450.15	-1024	-0.0000474	0.0003369	0.0035	1.95		14685.53	14685.53		32.62	Si
SLV 9	ini.	2675.89	1422	-0.0003019	0.0003369	0.0035	1.95		14685.53	14685.53		5.49	Si
SLV 9	fin.	278.44	-1370	-0.0000292	0.0003369	0.0035	1.95		14685.53	14685.53		52.74	Si
SLV 6	ini.	2708.96	1651	-0.000306	0.0003369	0.0035	1.95		14685.53	14685.53		5.42	Si
SLV 6	fin.	454.63	-1007	-0.0000478	0.0003369	0.0035	1.95		14685.53	14685.53		32.3	Si
SLV 2	ini.	1104.43	221	-0.0001184	0.0003369	0.0035	1.95		14685.53	14685.53		13.3	Si
SLV 2	fin.	164.59	-897	-0.0000172	0.0003369	0.0035	1.95		14685.53	14685.53		89.23	Si
SLV 12	ini.	-2185.45	-3531	-0.0002421	0.0003369	0.0035	1.95		14697.71	14697.71		6.73	Si
SLV 12	fin.	-1118.02	-2190	-0.0001198	0.0003369	0.0035	1.95		14697.71	14697.71		13.15	Si
SLV 7	ini.	-2075.86	-3255	-0.0002291	0.0003369	0.0035	1.95		14697.71	14697.71		7.08	Si
SLV 7	fin.	-950.79	-1861	-0.0001014	0.0003369	0.0035	1.95		14697.71	14697.71		15.46	Si
SLV 8	ini.	-2114.12	-3278	-0.0002337	0.0003369	0.0035	1.95		14697.71	14697.71		6.95	Si
SLV 8	fin.	-946.31	-1844	-0.0001009	0.0003369	0.0035	1.95		14697.71	14697.71		15.53	Si
SLV 11	ini.	-2147.19	-3508	-0.0002376	0.0003369	0.0035	1.95		14697.71	14697.71		6.85	Si
SLV 11	fin.	-1122.5	-2207	-0.0001203	0.0003369	0.0035	1.95		14697.71	14697.71		13.09	Si
SLV 10	ini.	2637.63	1398	-0.0002972	0.0003369	0.0035	1.95		14685.53	14685.53		5.57	Si
SLV 10	fin.	282.93	-1353	-0.0000296	0.0003369	0.0035	1.95		14685.53	14685.53		51.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	2708.96	-5105	1.95	0	406	6344	9461	4973	6750		1.32	Si
SLV 6	fin.	454.63	-7380	1.95	0	915	6344	9461	4973	7258		0.98	No
SLV 9	ini.	2675.89	-5702	1.95	0	472	6344	9461	4973	6816		1.2	Si
SLV 9	fin.	278.44	-7992	1.95	0	964	6344	9461	4973	7307		0.91	No
SLV 14	ini.	866.66	-2936	1.95	0	860	6344	9461	4973	7204		2.45	Si
SLV 14	fin.	-407.77	-5244	1.95	0	1049	6344	9461	4973	7393		1.41	Si
SLV 13	ini.	904.26	-3037	1.95	0	856	6344	9461	4973	7200		2.37	Si
SLV 13	fin.	-412.17	-5345	1.95	0	1051	6344	9461	4973	7395		1.38	Si
SLV 8	ini.	-2114.12	4152	1.95	0	1188	6344	9461	4973	7532		1.81	Si
SLV 8	fin.	-946.31	1877	1.95	0	1024	6344	9461	4973	7368		3.92	Si
SLV 1	ini.	1142.04	-1390	1.95	0	722	6344	9461	4973	7065		5.08	Si
SLV 1	fin.	160.18	-3648	1.95	0	902	6344	9461	4973	7245		1.99	Si
SLV 7	ini.	-2075.86	4050	1.95	0	1185	6344	9461	4973	7529		1.86	Si
SLV 7	fin.	-950.79	1775	1.95	0	1026	6344	9461	4973	7370		4.15	Si
SLV 2	ini.	1104.43	-1289	1.95	0	726	6344	9461	4973	7069		5.48	Si
SLV 2	fin.	164.59	-3547	1.95	0	899	6344	9461	4973	7243		2.04	Si
SLV 5	ini.	2747.22	-5208	1.95	0	399	6344	9461	4973	6742		1.29	Si
SLV 5	fin.	450.15	-7483	1.95	0	917	6344	9461	4973	7261		0.97	No
SLV 10	ini.	2637.63	-5599	1.95	0	478	6344	9461	4973	6822		1.22	Si
SLV 10	fin.	282.93	-7889	1.95	0	961	6344	9461	4973	7305		0.93	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.346	SLV 5	Si
V_SLV	0.914	SLV 9	No
PF_SLU	25.312	SLU 81	Si
V_SLU	1.206	SLU 81	Si

Trave di accoppiamento 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	2.847	0.51	1.51	1	35.424	1.847	0.51	1.51	1	1	0.3	30000



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,f,d	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-551.63	-143	-0.0002414	0.0001872	0.0035	1		3649.64	3649.64	No	6.62	Si
SLU 84	fin.	642.26	-1401	-0.0002878	0.0001872	0.0035	1		3643.26	3643.26	No	5.67	Si
SLU 75	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 75	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 79	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 79	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 76	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 76	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 82	ini.	-551.63	-143	-0.0002414	0.0001872	0.0035	1		3649.64	3649.64	No	6.62	Si
SLU 82	fin.	642.26	-1401	-0.0002878	0.0001872	0.0035	1		3643.26	3643.26	No	5.67	Si
SLU 78	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 78	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 80	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 80	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 83	ini.	-551.63	-143	-0.0002414	0.0001872	0.0035	1		3649.64	3649.64	No	6.62	Si
SLU 83	fin.	642.26	-1401	-0.0002878	0.0001872	0.0035	1		3643.26	3643.26	No	5.67	Si
SLU 77	ini.	-546.79	-104	-0.000239	0.0001872	0.0035	1		3649.64	3649.64	No	6.67	Si
SLU 77	fin.	630.47	-1362	-0.0002817	0.0001872	0.0035	1		3643.26	3643.26	No	5.78	Si
SLU 81	ini.	-551.63	-143	-0.0002414	0.0001872	0.0035	1		3649.64	3649.64	No	6.62	Si
SLU 81	fin.	642.26	-1401	-0.0002878	0.0001872	0.0035	1		3643.26	3643.26	No	5.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 76	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 81	ini.	-551.63	1377	1	0	460	7930	4492	2550	7042	No	5.11	Si
SLU 81	fin.	642.26	2113	1	0	642	7930	4492	2550	7042	No	3.33	Si
SLU 77	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 77	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 80	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 80	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 83	ini.	-551.63	1377	1	0	460	7930	4492	2550	7042	No	5.11	Si
SLU 83	fin.	642.26	2113	1	0	642	7930	4492	2550	7042	No	3.33	Si
SLU 78	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 78	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 79	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 79	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 75	ini.	-546.79	1421	1	0	453	7930	4492	2550	7042	No	4.96	Si
SLU 75	fin.	630.47	2037	1	0	637	7930	4492	2550	7042	No	3.46	Si
SLU 84	ini.	-551.63	1377	1	0	460	7930	4492	2550	7042	No	5.11	Si
SLU 84	fin.	642.26	2113	1	0	642	7930	4492	2550	7042	No	3.33	Si
SLU 82	ini.	-551.63	1377	1	0	460	7930	4492	2550	7042	No	5.11	Si
SLU 82	fin.	642.26	2113	1	0	642	7930	4492	2550	7042	No	3.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	406.2	-794	-0.0001688	0.0002807	0.0035	1		3664.83	3664.83		9.02	Si
SLV 6	fin.	-371.77	256	-0.0001535	0.0002807	0.0035	1		3671.29	3671.29		9.88	Si
SLV 16	ini.	-650.47	43	-0.0002799	0.0002807	0.0035	1		3671.29	3671.29		5.64	Si
SLV 16	fin.	734.63	-1455	-0.0003212	0.0002807	0.0035	1		3664.83	3664.83		4.99	Si
SLV 3	ini.	-595.3	322	-0.0002539	0.0002807	0.0035	1		3671.29	3671.29		6.17	Si
SLV 3	fin.	632.9	-1162	-0.0002721	0.0002807	0.0035	1		3664.83	3664.83		5.79	Si
SLV 12	ini.	-1074.94	566	-0.0004993	0.0002807	0.0035	1		3671.29	3671.29		3.42	Si
SLV 12	fin.	1161.71	-2039	-0.0005494	0.0002807	0.0035	1		3664.83	3664.83		3.15	Si
SLV 7	ini.	-1164.87	773	-0.0005501	0.0002807	0.0035	1		3671.29	3671.29		3.15	Si
SLV 7	fin.	1229.21	-2084	-0.0005885	0.0002807	0.0035	1		3664.83	3664.83		2.98	Si
SLV 13	ini.	-372.85	-203	-0.000154	0.0002807	0.0035	1		3671.29	3671.29		9.85	Si
SLV 13	fin.	432.63	-993	-0.0001805	0.0002807	0.0035	1		3664.83	3664.83		8.47	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1013.86	598	-0.0004656	0.0002807	0.0035	1		3671.29	3671.29		3.62	Si
SLV 8	fin.	1090.21	-1896	-0.0005088	0.0002807	0.0035	1		3664.83	3664.83		3.36	Si
SLV 4	ini.	-446.9	150	-0.0001865	0.0002807	0.0035	1		3671.29	3671.29		8.22	Si
SLV 4	fin.	496.3	-977	-0.0002089	0.0002807	0.0035	1		3664.83	3664.83		7.38	Si
SLV 11	ini.	-1225.94	741	-0.0005854	0.0002807	0.0035	1		3671.29	3671.29		2.99	Si
SLV 11	fin.	1300.7	-2227	-0.0006309	0.0002807	0.0035	1		3664.83	3664.83		2.82	Si
SLV 15	ini.	-798.87	215	-0.0003527	0.0002807	0.0035	1		3671.29	3671.29		4.6	Si
SLV 15	fin.	871.22	-1639	-0.0003904	0.0002807	0.0035	1		3664.83	3664.83		4.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-446.9	1664	1	0	624	7930	6738	2550	8554		5.14	Si
SLV 4	fin.	496.3	1482	1	0	812	7930	6738	2550	8741		5.9	Si
SLV 11	ini.	-1225.94	3769	1	0	498	7930	6738	2550	8428		2.24	Si
SLV 11	fin.	1300.7	4057	1	0	978	7930	6738	2550	8908		2.2	Si
SLV 12	ini.	-1074.94	3299	1	0	539	7930	6738	2550	8468		2.57	Si
SLV 12	fin.	1161.71	3593	1	0	955	7930	6738	2550	8885		2.47	Si
SLV 15	ini.	-798.87	2063	1	0	612	7930	6738	2550	8541		4.14	Si
SLV 15	fin.	871.22	2766	1	0	904	7930	6738	2550	8833		3.19	Si
SLV 16	ini.	-650.47	1602	1	0	644	7930	6738	2550	8574		5.35	Si
SLV 16	fin.	734.63	2310	1	0	879	7930	6738	2550	8809		3.81	Si
SLV 3	ini.	-595.3	2125	1	0	590	7930	6738	2550	8520		4.01	Si
SLV 3	fin.	632.9	1938	1	0	838	7930	6738	2550	8768		4.52	Si
SLV 10	ini.	345.13	-1501	1	0	789	7930	6738	2550	8719		5.81	Si
SLV 10	fin.	-300.28	-913	1	0	631	7930	6738	2550	8561		9.38	Si
SLV 6	ini.	406.2	-1483	1	0	784	7930	6738	2550	8714		5.88	Si
SLV 6	fin.	-371.77	-1161	1	0	603	7930	6738	2550	8533		7.35	Si
SLV 8	ini.	-1013.86	3318	1	0	531	7930	6738	2550	8461		2.55	Si
SLV 8	fin.	1090.21	3344	1	0	937	7930	6738	2550	8867		2.65	Si
SLV 7	ini.	-1164.87	3788	1	0	491	7930	6738	2550	8420		2.22	Si
SLV 7	fin.	1229.21	3808	1	0	961	7930	6738	2550	8890		2.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.818	SLV 11	Si
V_SLV	2.196	SLV 11	Si
PF_SLU	5.673	SLU 81	Si
V_SLU	3.333	SLU 81	Si

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	2.847	3.41	4.56	1.15	35.424	1.847	3.41	4.56	1.15	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-849.21	-1560	-0.0002872	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.67	Si
SLU 83	fin.	740.98	535	-0.0002461	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.49	Si
SLU 82	ini.	-849.21	-1560	-0.0002872	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.67	Si
SLU 82	fin.	740.98	535	-0.0002461	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.49	Si
SLU 79	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 79	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si
SLU 75	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 75	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si
SLU 77	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 77	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si
SLU 81	ini.	-849.21	-1560	-0.0002872	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.67	Si



Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	740.98	535	-0.0002461	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.49	Si
SLU 84	ini.	-849.21	-1560	-0.0002872	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.67	Si
SLU 84	fin.	740.98	535	-0.0002461	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.49	Si
SLU 76	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 76	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si
SLU 78	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 78	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si
SLU 80	ini.	-813.53	-1457	-0.0002733	0.0001872	0.0035	1.15		4818.72	4818.72	No	5.92	Si
SLU 80	fin.	714.74	546	-0.0002363	0.0001872	0.0035	1.15		4811.48	4811.48	No	6.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-849.21	4402	1.15	0	732	7930	5165	2933	8098	No	1.84	Si
SLU 84	fin.	740.98	1144	1.15	0	390	7930	5165	2933	8098	No	7.08	Si
SLU 78	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 78	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si
SLU 79	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 79	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si
SLU 82	ini.	-849.21	4402	1.15	0	732	7930	5165	2933	8098	No	1.84	Si
SLU 82	fin.	740.98	1144	1.15	0	390	7930	5165	2933	8098	No	7.08	Si
SLU 81	ini.	-849.21	4402	1.15	0	732	7930	5165	2933	8098	No	1.84	Si
SLU 81	fin.	740.98	1144	1.15	0	390	7930	5165	2933	8098	No	7.08	Si
SLU 75	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 75	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si
SLU 73	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 73	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si
SLU 83	ini.	-849.21	4402	1.15	0	732	7930	5165	2933	8098	No	1.84	Si
SLU 83	fin.	740.98	1144	1.15	0	390	7930	5165	2933	8098	No	7.08	Si
SLU 76	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 76	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si
SLU 74	ini.	-813.53	4099	1.15	0	719	7930	5165	2933	8098	No	1.98	Si
SLU 74	fin.	714.74	1203	1.15	0	387	7930	5165	2933	8098	No	6.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1208.47	-1946	-0.0004119	0.0002807	0.0035	1.15		4857.47	4857.47		4.02	Si
SLV 7	fin.	1081.96	937	-0.000363	0.0002807	0.0035	1.15		4849.69	4849.69		4.48	Si
SLV 15	ini.	-966.56	-1521	-0.0003188	0.0002807	0.0035	1.15		4857.47	4857.47		5.03	Si
SLV 15	fin.	926.58	926	-0.0003045	0.0002807	0.0035	1.15		4849.69	4849.69		5.23	Si
SLV 13	ini.	-607.08	-969	-0.0001918	0.0002807	0.0035	1.15		4857.47	4857.47		8	Si
SLV 13	fin.	603.32	635	-0.0001909	0.0002807	0.0035	1.15		4849.69	4849.69		8.04	Si
SLV 3	ini.	-691.42	-1180	-0.0002205	0.0002807	0.0035	1.15		4857.47	4857.47		7.03	Si
SLV 3	fin.	583.11	417	-0.0001841	0.0002807	0.0035	1.15		4849.69	4849.69		8.32	Si
SLV 16	ini.	-811.26	-1314	-0.0002624	0.0002807	0.0035	1.15		4857.47	4857.47		5.99	Si
SLV 16	fin.	757.4	730	-0.0002438	0.0002807	0.0035	1.15		4849.69	4849.69		6.4	Si
SLV 12	ini.	-1132.98	-1837	-0.0003822	0.0002807	0.0035	1.15		4857.47	4857.47		4.29	Si
SLV 12	fin.	1012.84	889	-0.0003366	0.0002807	0.0035	1.15		4849.69	4849.69		4.79	Si
SLV 4	ini.	-536.12	-973	-0.0001682	0.0002807	0.0035	1.15		4857.47	4857.47		9.06	Si
SLV 4	fin.	413.93	221	-0.0001284	0.0002807	0.0035	1.15		4849.69	4849.69		11.72	Si
SLV 14	ini.	-451.78	-762	-0.0001405	0.0002807	0.0035	1.15		4857.47	4857.47		10.75	Si
SLV 14	fin.	434.14	438	-0.000135	0.0002807	0.0035	1.15		4849.69	4849.69		11.17	Si
SLV 8	ini.	-1050.44	-1735	-0.0003503	0.0002807	0.0035	1.15		4857.47	4857.47		4.62	Si
SLV 8	fin.	909.8	737	-0.0002983	0.0002807	0.0035	1.15		4849.69	4849.69		5.33	Si
SLV 11	ini.	-1291.01	-2048	-0.0004452	0.0002807	0.0035	1.15		4857.47	4857.47		3.76	Si
SLV 11	fin.	1185	1089	-0.0004033	0.0002807	0.0035	1.15		4849.69	4849.69		4.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-811.26	3545	1.15	0	961	7930	7748	2933	8891		2.51	Si
SLV 16	fin.	757.4	1820	1.15	0	602	7930	7748	2933	8531		4.69	Si
SLV 13	ini.	-607.08	2980	1.15	0	910	7930	7748	2933	8840		2.97	Si
SLV 13	fin.	603.32	1248	1.15	0	623	7930	7748	2933	8553		6.85	Si
SLV 12	ini.	-1132.98	4467	1.15	0	1033	7930	7748	2933	8963		2.01	Si
SLV 12	fin.	1012.84	2751	1.15	0	564	7930	7748	2933	8494		3.09	Si
SLV 4	ini.	-536.12	2455	1.15	0	911	7930	7748	2933	8840		3.6	Si
SLV 4	fin.	413.93	734	1.15	0	708	7930	7748	2933	8638		11.78	Si
SLV 8	ini.	-1050.44	4140	1.15	0	1019	7930	7748	2933	8949		2.16	Si
SLV 8	fin.	909.8	2425	1.15	0	600	7930	7748	2933	8530		3.52	Si
SLV 11	ini.	-1291.01	5033	1.15	0	1061	7930	7748	2933	8990		1.79	Si
SLV 11	fin.	1185	3317	1.15	0	513	7930	7748	2933	8443		2.55	Si
SLV 7	ini.	-1208.47	4706	1.15	0	1047	7930	7748	2933	8977		1.91	Si
SLV 7	fin.	1081.96	2991	1.15	0	553	7930	7748	2933	8482		2.84	Si
SLV 3	ini.	-691.42	3011	1.15	0	942	7930	7748	2933	8871		2.95	Si
SLV 3	fin.	583.11	1290	1.15	0	669	7930	7748	2933	8599		6.67	Si
SLV 14	ini.	-451.78	2424	1.15	0	878	7930	7748	2933	8808		3.63	Si
SLV 14	fin.	434.14	692	1.15	0	665	7930	7748	2933	8595		12.43	Si
SLV 15	ini.	-966.56	4101	1.15	0	990	7930	7748	2933	8920		2.17	Si
SLV 15	fin.	926.58	2376	1.15	0	555	7930	7748	2933	8485		3.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		3.763	SLV 11
V_SLV		1.786	SLV 11



Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	5.674	SLU 81	Si
V SLU	1.84	SLU 81	Si

Trave di accoppiamento 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	7.497	0.51	1.51	1	35.424	6.497	0.51	1.51	1	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _c fd	γ _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 67	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 50	ini.	494.41	-960	-0.0002139	0.0001872	0.0035	1		3643.26	3643.26	No	7.37	Si
SLU 50	fin.	-387.6	-336	-0.0001636	0.0001872	0.0035	1		3649.64	3649.64	No	9.42	Si
SLU 72	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 72	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 66	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 66	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 69	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 69	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 64	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 64	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 71	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 71	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 68	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 68	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 70	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 70	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si
SLU 65	ini.	499.28	-1028	-0.0002163	0.0001872	0.0035	1		3643.26	3643.26	No	7.3	Si
SLU 65	fin.	-381.53	-410	-0.0001608	0.0001872	0.0035	1		3649.64	3649.64	No	9.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c} int.	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 77	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 77	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 79	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 79	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 84	ini.	483.04	-1399	1	0	610	7930	4492	2550	7042	No	5.03	Si
SLU 84	fin.	-343.96	-831	1	0	532	7930	4492	2550	7042	No	8.47	Si
SLU 78	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 78	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 76	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 76	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 75	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 75	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 80	ini.	487.91	-1375	1	0	605	7930	4492	2550	7042	No	5.12	Si
SLU 80	fin.	-355.23	-902	1	0	524	7930	4492	2550	7042	No	7.81	Si
SLU 81	ini.	483.04	-1399	1	0	610	7930	4492	2550	7042	No	5.03	Si
SLU 81	fin.	-343.96	-831	1	0	532	7930	4492	2550	7042	No	8.47	Si
SLU 83	ini.	483.04	-1399	1	0	610	7930	4492	2550	7042	No	5.03	Si
SLU 83	fin.	-343.96	-831	1	0	532	7930	4492	2550	7042	No	8.47	Si
SLU 82	ini.	483.04	-1399	1	0	610	7930	4492	2550	7042	No	5.03	Si
SLU 82	fin.	-343.96	-831	1	0	532	7930	4492	2550	7042	No	8.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	ϵ_m	ϵ_m	ϵ_m	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	1479.03	-1674	-0.0007408	0.0002807	0.0035	1		3664.83	3664.83		2.48	Si
SLV 10	fin.	-1325.31	272	-0.0006444	0.0002807	0.0035	1		3671.29	3671.29		2.77	Si
SLV 16	ini.	508.42	-1017	-0.0002144	0.0002807	0.0035	1		3664.83	3664.83		7.21	Si
SLV 16	fin.	-392.41	-359	-0.0001625	0.0002807	0.0035	1		3671.29	3671.29		9.36	Si
SLV 8	ini.	-539.38	-65	-0.0002281	0.0002807	0.0035	1		3671.29	3671.29		6.81	Si
SLV 8	fin.	572.9	-817	-0.0002439	0.0002807	0.0035	1		3664.83	3664.83		6.4	Si
SLV 7	ini.	-719.55	72	-0.0003132	0.0002807	0.0035	1		3671.29	3671.29		5.1	Si
SLV 7	fin.	750.7	-941	-0.0003292	0.0002807	0.0035	1		3664.83	3664.83		4.88	Si
SLV 11	ini.	-530.79	-143	-0.0002242	0.0002807	0.0035	1		3671.29	3671.29		6.92	Si
SLV 11	fin.	584.2	-899	-0.0002492	0.0002807	0.0035	1		3664.83	3664.83		6.27	Si
SLV 9	ini.	1298.87	-1536	-0.0006298	0.0002807	0.0035	1		3664.83	3664.83		2.82	Si
SLV 9	fin.	-1147.51	147	-0.0005401	0.0002807	0.0035	1		3671.29	3671.29		3.2	Si
SLV 6	ini.	1290.28	-1459	-0.0006247	0.0002807	0.0035	1		3664.83	3664.83		2.84	Si
SLV 6	fin.	-1158.81	229	-0.0005466	0.0002807	0.0035	1		3671.29	3671.29		3.17	Si
SLV 14	ini.	1057.31	-1435	-0.0004904	0.0002807	0.0035	1		3664.83	3664.83		3.47	Si
SLV 14	fin.	-911.92	-45	-0.0004109	0.0002807	0.0035	1		3671.29	3671.29		4.03	Si
SLV 13	ini.	880.26	-1300	-0.0003951	0.0002807	0.0035	1		3664.83	3664.83		4.16	Si
SLV 13	fin.	-737.19	-167	-0.0003219	0.0002807	0.0035	1		3671.29	3671.29		4.98	Si
SLV 5	ini.	1110.11	-1322	-0.00052	0.0002807	0.0035	1		3664.83	3664.83		3.3	Si
SLV 5	fin.	-981.01	104	-0.0004478	0.0002807	0.0035	1		3671.29	3671.29		3.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-530.79	1347	1	0	678	7930	6738	2550	8607		6.39	Si
SLV 11	fin.	584.2	1784	1	0	800	7930	6738	2550	8730		4.89	Si
SLV 14	ini.	1057.31	-2930	1	0	876	7930	6738	2550	8806		3.01	Si
SLV 14	fin.	-911.92	-2349	1	0	660	7930	6738	2550	8590		3.66	Si
SLV 9	ini.	1298.87	-3459	1	0	890	7930	6738	2550	8820		2.55	Si
SLV 9	fin.	-1147.51	-3224	1	0	625	7930	6738	2550	8554		2.65	Si
SLV 7	ini.	-719.55	1918	1	0	639	7930	6738	2550	8568		4.47	Si
SLV 7	fin.	750.7	2127	1	0	806	7930	6738	2550	8736		4.11	Si
SLV 6	ini.	1290.28	-3380	1	0	880	7930	6738	2550	8809		2.61	Si
SLV 6	fin.	-1158.81	-3362	1	0	609	7930	6738	2550	8538		2.54	Si
SLV 13	ini.	880.26	-2447	1	0	858	7930	6738	2550	8787		3.59	Si
SLV 13	fin.	-737.19	-1876	1	0	682	7930	6738	2550	8612		4.59	Si
SLV 8	ini.	-539.38	1426	1	0	664	7930	6738	2550	8594		6.03	Si
SLV 8	fin.	572.9	1646	1	0	788	7930	6738	2550	8717		5.3	Si
SLV 10	ini.	1479.03	-3951	1	0	908	7930	6738	2550	8838		2.24	Si
SLV 10	fin.	-1325.31	-3705	1	0	600	7930	6738	2550	8530		2.3	Si
SLV 16	ini.	508.42	-1488	1	0	817	7930	6738	2550	8747		5.88	Si
SLV 16	fin.	-392.41	-847	1	0	715	7930	6738	2550	8644		10.21	Si
SLV 5	ini.	1110.11	-2888	1	0	861	7930	6738	2550	8790		3.04	Si
SLV 5	fin.	-981.01	-2881	1	0	633	7930	6738	2550	8562		2.97	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.478	SLV 10	Si
V_SLV	2.237	SLV 10	Si
PF_SLU	7.297	SLU 64	Si
V_SLU	5.033	SLU 81	Si

Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
35.424	7.497	3.41	4.56	1.15	35.424	6.497	3.41	4.56	1.15	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 75	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si
SLU 81	ini.	338.41	473	-0.0001054	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.22	Si
SLU 81	fin.	-354.96	-1762	-0.0001107	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.58	Si
SLU 84	ini.	338.41	473	-0.0001054	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.22	Si
SLU 84	fin.	-354.96	-1762	-0.0001107	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.58	Si
SLU 77	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 77	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si
SLU 76	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 76	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si
SLU 80	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 80	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si
SLU 82	ini.	338.41	473	-0.0001054	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.22	Si
SLU 82	fin.	-354.96	-1762	-0.0001107	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.58	Si
SLU 78	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 78	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si
SLU 83	ini.	338.41	473	-0.0001054	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.22	Si
SLU 83	fin.	-354.96	-1762	-0.0001107	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.58	Si
SLU 79	ini.	323	507	-0.0001004	0.0001872	0.0035	1.15		4811.48	4811.48	No	14.9	Si
SLU 79	fin.	-350.99	-1646	-0.0001094	0.0001872	0.0035	1.15		4818.72	4818.72	No	13.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 74	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 79	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 79	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 78	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 78	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 76	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 76	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 82	ini.	338.41	238	1.15	0	404	7930	5165	2933	8098	No	33.96	Si
SLU 82	fin.	-354.96	-4134	1.15	0	757	7930	5165	2933	8098	No	1.96	Si
SLU 73	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 73	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 84	ini.	338.41	238	1.15	0	404	7930	5165	2933	8098	No	33.96	Si
SLU 84	fin.	-354.96	-4134	1.15	0	757	7930	5165	2933	8098	No	1.96	Si
SLU 83	ini.	338.41	238	1.15	0	404	7930	5165	2933	8098	No	33.96	Si
SLU 83	fin.	-354.96	-4134	1.15	0	757	7930	5165	2933	8098	No	1.96	Si
SLU 75	ini.	323	11	1.15	0	397	7930	5165	2933	8098	No	749.62	Si
SLU 75	fin.	-350.99	-3782	1.15	0	743	7930	5165	2933	8098	No	2.14	Si
SLU 81	ini.	338.41	238	1.15	0	404	7930	5165	2933	8098	No	33.96	Si
SLU 81	fin.	-354.96	-4134	1.15	0	757	7930	5165	2933	8098	No	1.96	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	214.36	329	-0.0000653	0.0002807	0.0035	1.15		4849.69	4849.69		22.62	Si
SLV 2	fin.	-263.62	-1111	-0.0000805	0.0002807	0.0035	1.15		4857.47	4857.47		18.43	Si
SLV 13	ini.	461.6	1100	-0.0001439	0.0002807	0.0035	1.15		4849.69	4849.69		10.51	Si
SLV 13	fin.	-536.66	-1860	-0.0001683	0.0002807	0.0035	1.15		4857.47	4857.47		9.05	Si
SLV 9	ini.	598.94	1379	-0.0001894	0.0002807	0.0035	1.15		4849.69	4849.69		8.1	Si
SLV 9	fin.	-721.46	-2380	-0.0002309	0.0002807	0.0035	1.15		4857.47	4857.47		6.73	Si
SLV 5	ini.	493.78	1057	-0.0001544	0.0002807	0.0035	1.15		4849.69	4849.69		9.82	Si
SLV 5	fin.	-606.31	-2061	-0.0001916	0.0002807	0.0035	1.15		4857.47	4857.47		8.01	Si
SLV 14	ini.	564.9	1405	-0.000178	0.0002807	0.0035	1.15		4849.69	4849.69		8.59	Si
SLV 14	fin.	-647.47	-2174	-0.0002055	0.0002807	0.0035	1.15		4857.47	4857.47		7.5	Si
SLV 16	ini.	341.24	840	-0.0001051	0.0002807	0.0035	1.15		4849.69	4849.69		14.21	Si
SLV 16	fin.	-373.08	-1407	-0.0001151	0.0002807	0.0035	1.15		4857.47	4857.47		13.02	Si
SLV 10	ini.	704.06	1689	-0.0002252	0.0002807	0.0035	1.15		4849.69	4849.69		6.89	Si
SLV 10	fin.	-834.21	-2699	-0.0002706	0.0002807	0.0035	1.15		4857.47	4857.47		5.82	Si
SLV 7	ini.	-251.76	-825	-0.0000768	0.0002807	0.0035	1.15		4857.47	4857.47		19.29	Si
SLV 7	fin.	308.32	494	-0.0000947	0.0002807	0.0035	1.15		4849.69	4849.69		15.73	Si
SLV 15	ini.	237.94	536	-0.0000726	0.0002807	0.0035	1.15		4849.69	4849.69		20.38	Si
SLV 15	fin.	-262.28	-1094	-0.0000801	0.0002807	0.0035	1.15		4857.47	4857.47		18.52	Si
SLV 6	ini.	598.9	1366	-0.0001894	0.0002807	0.0035	1.15		4849.69	4849.69		8.1	Si
SLV 6	fin.	-719.06	-2380	-0.0002301	0.0002807	0.0035	1.15		4857.47	4857.47		6.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	493.78	-1684	1.15	0	522	7930	7748	2933	8451		5.02	Si
SLV 5	fin.	-606.31	-3799	1.15	0	1062	7930	7748	2933	8992		2.37	Si
SLV 9	ini.	598.94	-2272	1.15	0	429	7930	7748	2933	8358		3.68	Si
SLV 9	fin.	-721.46	-4380	1.15	0	1103	7930	7748	2933	9032		2.06	Si
SLV 2	ini.	214.36	-196	1.15	0	687	7930	7748	2933	8617		44.03	Si
SLV 2	fin.	-263.62	-2320	1.15	0	931	7930	7748	2933	8861		3.82	Si
SLV 10	ini.	704.06	-2852	1.15	0	314	7930	7748	2933	8244		2.89	Si
SLV 10	fin.	-834.21	-4959	1.15	0	1142	7930	7748	2933	9071		1.83	Si
SLV 16	ini.	341.24	-974	1.15	0	576	7930	7748	2933	8506		8.73	Si
SLV 16	fin.	-373.08	-3078	1.15	0	974	7930	7748	2933	8904		2.89	Si
SLV 7	ini.	-251.76	2251	1.15	0	888	7930	7748	2933	8818		3.92	Si
SLV 7	fin.	308.32	130	1.15	0	653	7930	7748	2933	8583		65.78	Si
SLV 14	ini.	564.9	-2155	1.15	0	420	7930	7748	2933	8350		3.87	Si
SLV 14	fin.	-647.47	-4257	1.15	0	1077	7930	7748	2933	9006		2.12	Si
SLV 15	ini.	237.94	-405	1.15	0	644	7930	7748	2933	8574		21.17	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	fin.	-262.28	-2509	1.15	0	929	7930	7748	2933	8858		3.53	Si
SLV 6	ini.	598.9	-2264	1.15	0	433	7930	7748	2933	8362		3.69	Si
SLV 6	fin.	-719.06	-4378	1.15	0	1103	7930	7748	2933	9032		2.06	Si
SLV 13	ini.	461.6	-1586	1.15	0	510	7930	7748	2933	8440		5.32	Si
SLV 13	fin.	-536.66	-3687	1.15	0	1036	7930	7748	2933	8966		2.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.823	SLV 10	Si
V_SLV	1.829	SLV 10	Si
PF_SLU	13.575	SLU 81	Si
V_SLU	1.959	SLU 81	Si