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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 BENTIVOGLI CIV. 31÷59 PER COMPLESSIVI 56 ALLOGGI DI ERP CON RELATIVE PERTINENZE E PARTI COMUNI

LOTTO **3053/PN_1**

PROGETTO ESECUTIVO

TAV.	OGGETTO	DATA
TAB_18	TABULATI DI CALCOLO CIVICO 59 STATO DI PROGETTO	Settembre 2022
SCALA		N. DISEGNO

VERSIONE	DESCRIZIONE	DATA	REDATTO	VERIFICATO		APPROVATO
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TABULATI DI CALCOLO
CIVICO 59
STATO DI PROGETTO

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1 Risultati numerici

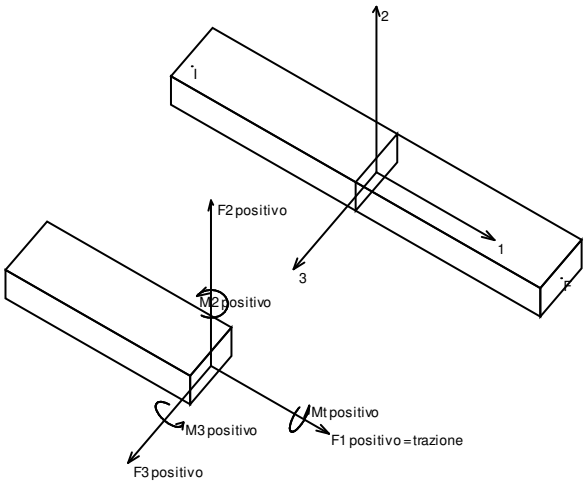
1.1 Sollecitazioni

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 (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.



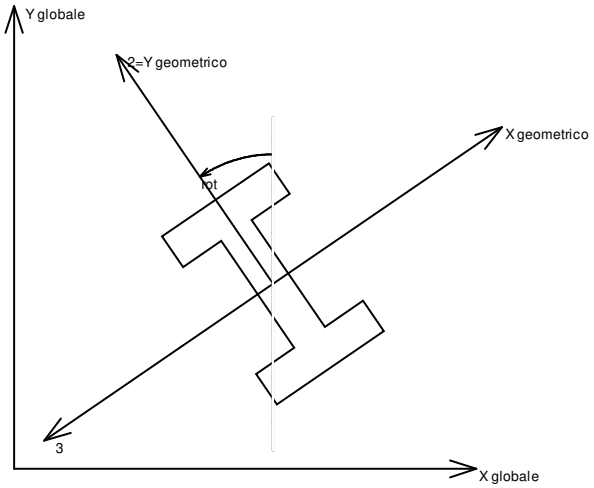
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando 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.

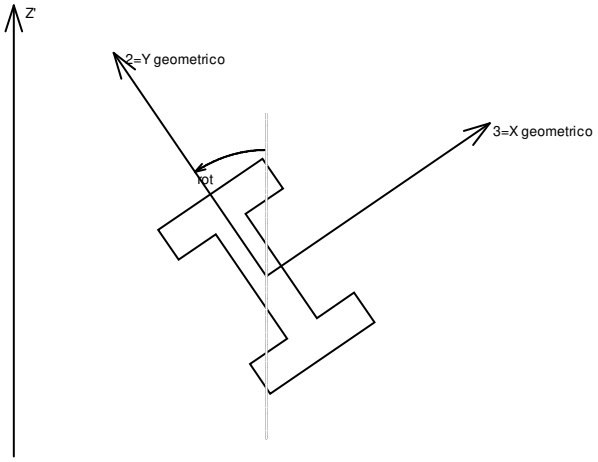
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

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).

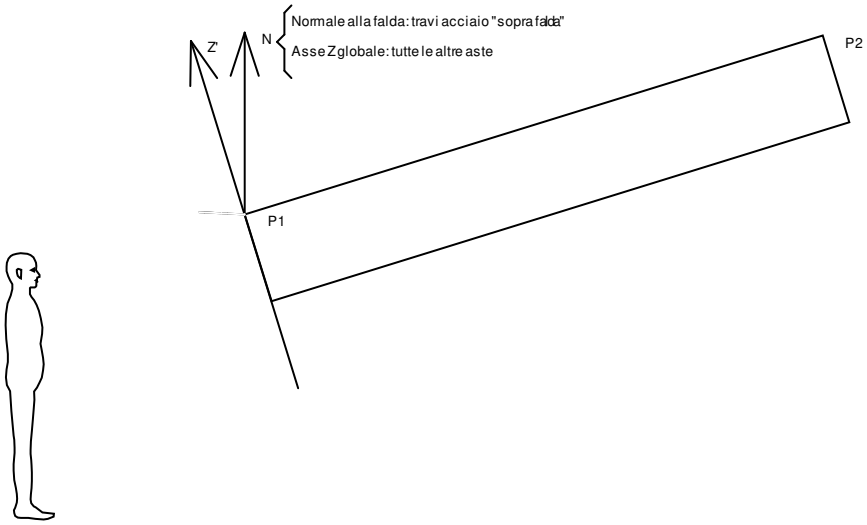
Sistema locale aste non verticali



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

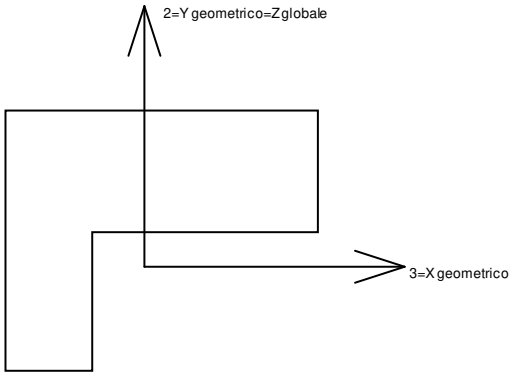
L'asse Z' è illustrato nella figura seguente dove:

- 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.

1.1.1.2 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 mezzeria, 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
158	SLU 82	1	6.57	5.05	4.16	-29600	15743	49	1.89	-22.42	-3608.96
157	SLU 82	1	6.57	5.05	3.75	-28498	7919	48	1.27	-41.87	-499.97
149	SLU 82	1	6.57	5.05	0.51	-27422	2256	42	-1.06	-190.43	1695.58
150	SLU 82	1	6.57	5.05	0.92	-26727	1052	45	-0.78	-173.94	682.57
156	SLU 82	1	6.57	5.05	3.35	-26607	2719	47	0.56	-61.31	277.15

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
85	SLV 1	31	6.32	9.42	-1.89	12332	-2255	-3186	3.17	470.4	-1219.99
49	SLV 12	31	0.61	5.3	-1.89	10249	-5184	3212	-3.05	-485.04	-1500
86	SLV 5	31	6.32	9.03	-1.89	9295	-1945	-1992	1.33	247.37	-361.98
81	SLV 4	1	0.21	0.47	-1.89	7439	8459	794	-93.43	143.33	-1872.56
80	SLV 2	1	6.17	4.8	-1.89	6967	3700	1245	1.47	284.53	-419.96

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
36	SLV 12	31	0.56	5.05	-1.89	-3796	-8229	-3376	-139.93	-5854.29	5515.92
1	SLV 8	1	0.21	9.46	-1.89	-3125	6512	4878	-380.55	-5720.3	-1943.05
24	SLV 15	31	9.79	9.46	-1.89	-2314	-6934	-5042	210.85	-4292.67	-1237.97
35	SLV 12	31	0.56	5.45	-1.89	-2884	-6915	-3321	-38.26	-4269.4	3115.99
37	SLV 13	1	0.56	5.05	-1.89	-4211	5260	3431	160.73	-4209	2867.72

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
16	SLU 82	31	6.57	9.45	-1.89	-2676	-11152	3985	223.57	7914.45	7382.5
17	SLV 15	1	6.57	9.45	-1.89	-5333	10311	-2448	-163.85	6133.35	4892.15
15	SLU 82	31	6.18	9.46	-1.89	86	-8941	3900	70.74	5462.42	4290.29
25	SLV 8	1	0.56	9.81	-1.89	-4248	6454	-3589	324.06	5265.42	-2041.95
18	SLV 15	1	6.97	9.45	-1.89	-3441	8352	-2302	-28.22	4503.66	1810.95

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
173	SLU 81	1	6.57	5.2	4.56	0	-16826	0	0	0	-17068.77
158	SLU 81	31	6.57	5.05	4.56	-29479	15745	48	1.65	-2.7	-9985.65
82	SLU 82	5	2.02	0.47	-1.89	4916	33	-117	-4.29	220.19	-9808.44
106	SLU 81	31	6.82	2.01	-1.89	-5604	1435	671	1.44	282.13	-9772.42
81	SLU 82	31	1.8	0.47	-1.89	4950	620	-106	-6.43	243.88	-9743.16

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
84	SLU 82	31	6.57	0.48	-1.89	4309	-18894	307	247.09	195.75	17064.9
126	SLU 82	1	6.57	0.48	-1.89	-608	18116	-1186	-232.11	2083.13	14496.68
36	SLU 82	31	0.56	5.05	-1.89	-12911	-13490	-773	-186.38	-4588.66	9922.49
173	SLU 82	20	6.57	2.05	4.56	0	371	0	0	0	8854.16
37	SLU 82	1	0.56	5.05	-1.89	-14671	13118	-678	288.63	-2029.26	8133.32

1.1.2 Sollecitazioni gusci

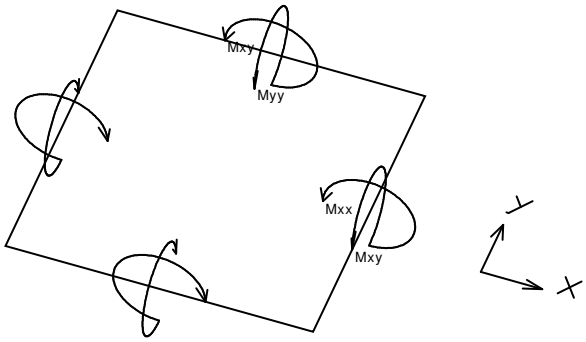
1.1.2.1 Convenzioni di segno gusci

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

Convenzione di segno per gusci non verticali

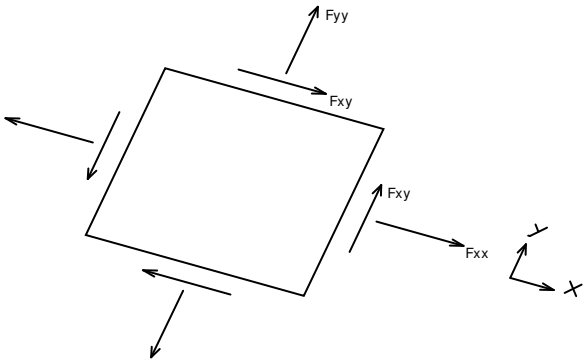
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione 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 Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: 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 Fxx, Fyy, Fxy.



Si definiscono:

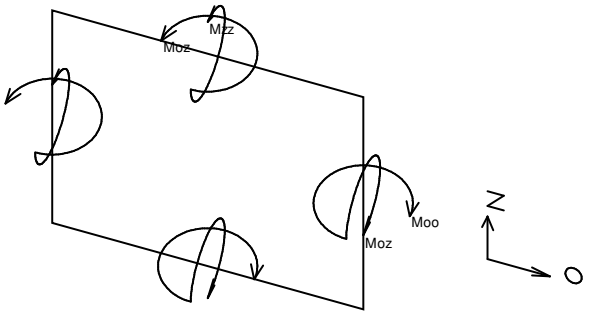
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fxy: 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:

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

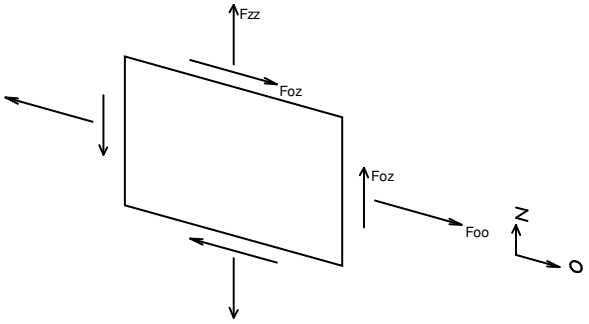
Convenzione di segno per gusci verticali

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 destrogira. 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 Moo, Mzz, Moz.



- 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
1030	SLU 82	2118	-786	-476	-3143	-2284	-6081	-28109	3802	7799
1040	SLU 82	2118	-776	497	-3104	-2280	6863	-27542	-3780	7466
1758	SLV 10	1023	-583	-29	-218	7852	1386	-12984	1589	835
1029	SLU 82	2017	-511	92	-152	3082	-1366	-9789	1048	-25
1039	SLU 82	2017	-499	-82	-152	2876	2129	-9720	-1024	-32

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
1758	SLV 7	1023	517	28	207	2234	-355	-9356	-1465	-957
1759	SLV 10	22	447	87	165	-51103	-20474	-75277	882	465
1849	SLV 9	4	429	-72	134	-5793	8808	-37361	-901	432
1728	SLV Y	1029	303	15	77	3678	-2200	1896	694	-209
1353	SLV 10	1881	278	-37	29	1153	58	-65	494	82

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
1030	SLU 82	2118	-786	-476	-3143	-2284	-6081	-28109	3802	7799
1040	SLU 82	2118	-776	497	-3104	-2280	6863	-27542	-3780	7466
1020	SLU 82	2016	-65	-106	-609	-2838	-3912	-194	77	-3204
1050	SLU 82	2018	-53	123	-590	-2731	4220	-41	-33	-3158
1699	SLU 82	50	-117	126	-569	-2281	7264	-16299	738	-1602

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
1040	SLU 82	2119	180	557	720	-4636	9514	-29	-3720	-3417
1020	SLU 82	2117	179	-46	715	-392	-2150	3024	-701	-3217
1050	SLU 82	2119	179	59	714	-406	2516	2980	694	-3149
1030	SLU 82	2117	177	-560	707	-4759	-9294	-264	3865	-3388
410	SLU 82	50	170	22	683	-2291	-669	-1920	-272	1862

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
523	SLU 81	963	-1	1	0	-75780	-15158	-26628	0	1
1759	SLV 13	20	66	24	-24	-71900	-31654	-7963	402	-90
1849	SLV 2	6	1	-12	-25	-61490	32433	-15525	-275	0
1699	SLV 13	47	17	93	101	-53101	41775	-39562	572	292
1702	SLV 10	37	10	-53	64	-48509	-45540	-42702	-476	161

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
526	SLU 81	960	0	0	1	64980	-21182	8624	-16	7
1699	SLU 82	308	102	-4	53	41567	-36602	23962	124	-1602
1702	SLU 82	304	7	16	1	41517	41838	18935	-175	-847
1849	SLV X	6	20	4	6	30051	-8537	2646	-138	15
1703	SLU 82	307	25	-27	-36	27125	-16146	9180	-379	-179

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
586	SLU 81	383	-1	3	2	-2131	-16069	-105390	-26	-6
682	SLU 82	1081	8	3	33	-10755	-20227	-94799	-43	-178
1759	SLU 82	22	18	27	76	-56957	-22931	-80860	11	138
585	SLU 82	383	0	3	6	7262	-9909	-78374	-4	16
1753	SLU 82	22	-60	-11	56	-37583	17206	-75987	186	46

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
517	SLV 7	384	0	0	4	4132	-8535	31142	2	10
582	SLV 11	800	2	13	-7	580	-10051	29728	37	44
1701	SLU 82	43	17	19	-42	25505	20465	26221	11	-152
1699	SLU 82	308	102	-4	53	41567	-36602	23962	124	-1602
1700	SLU 82	43	17	-18	-42	21606	-16818	23890	-101	-160

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
1722	SLV 10	855	-135	19	-5	126	2200	-5596	-289	-10
1695	SLV 6	1173	-75	-19	-17	-951	3653	-5250	-138	-64
1698	SLV 13	1177	-21	15	-4	-61	-671	-3315	54	-4
1696	SLV 6	1174	-14	-4	-18	-1434	3934	-3462	-53	-132
1697	SLV Y	1175	-14	-5	-12	565	-1664	334	-10	-91

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
1722	SLV 7	855	149	-11	36	590	651	-1536	355	-172
1695	SLV Y	1173	64	22	18	531	-1672	1914	156	74
1698	SLV 4	1177	23	-17	5	243	1793	49	-35	27
1697	SLV 6	1175	22	6	25	-463	2906	-1631	7	167
1696	SLV 6	1175	22	3	25	-38	3451	-1616	-76	162

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
1697	SLV 8	1033	-12	0	-47	-30	-159	-1048	-15	-15
1695	SLV 8	1030	-12	-2	-47	-360	458	-820	45	130
1696	SLV 8	1030	-12	1	-47	-73	121	28	-26	106
1722	SLV 11	1030	-13	16	-39	-662	-913	-2085	40	-186
1698	SLV 8	1036	-7	-8	-31	-92	-613	-564	-27	-22

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
1722	SLV 6	1030	16	-9	58	-1363	2288	-3715	-100	281
1696	SLV 9	1030	8	4	38	-1363	1631	-3602	16	-85
1695	SLV 9	1030	9	5	38	-1238	1997	-3451	-44	-133
1697	SLV 9	1033	8	0	31	-815	1471	-2354	5	123
1698	SLV 9	1036	6	5	24	-1026	1366	-2695	32	74

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
1722	SLU 82	1029	-10	7	-34	-2345	2603	-7540	-33	-156
1695	SLV 6	1029	-1	-15	-11	-1650	3130	-5463	-34	-59
1696	SLV 6	1030	5	8	27	-1447	2827	-3090	27	-124
1698	SLV 10	1036	6	4	23	-1050	1609	-2730	32	78
1697	SLV 10	1036	5	4	23	-1024	2167	-2576	7	86

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
1722	SLV 13	856	-13	3	-28	1580	-1233	-2784	25	32
1697	SLV 7	1175	-6	-4	-1	700	-681	-954	-14	-19
1696	SLV Y	1030	-8	-3	-37	687	-1353	1559	-26	115
1695	SLV Y	1174	14	11	16	625	-1507	1343	152	158
1698	SLV 6	1177	-1	5	4	469	3086	-2291	35	29

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
1722	SLU 82	1029	-10	7	-34	-2345	2603	-7540	-33	-156
1695	SLU 82	1029	-3	-1	-11	-1648	1886	-6700	-3	22
1696	SLV 9	1174	-8	-8	-13	-1408	2624	-3978	-43	-92
1698	SLV 14	1177	-21	14	-3	-57	-418	-3370	55	-3
1697	SLU 82	1033	-3	0	-13	-792	1279	-2910	-7	92

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
1722	SLV Y	1029	5	-26	4	805	-1466	2028	40	-114
1695	SLV Y	1173	64	22	18	531	-1672	1914	156	74
1696	SLV Y	1174	13	6	14	667	-1901	1563	28	120
1698	SLV Y	1177	8	-10	-2	-303	-1896	1049	-35	-11
1697	SLV Y	1036	-5	-4	-21	338	-1618	655	-13	-73

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
1030	SLU 82	2118	-786	-476	-3143	-2284	-6081	-28109	3802	7799
1040	SLU 82	2118	-776	497	-3104	-2280	6863	-27542	-3780	7466
1758	SLV 7	1023	-517	28	-207	2234	355	-9356	-1465	957
1029	SLU 82	2017	-511	92	-152	3082	-1366	-9789	1048	-25
1039	SLU 82	2017	-499	-82	-152	2876	2129	-9720	-1024	-32

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1758	SLV 10	1023	583	-29	218	7852	-1386	-12984	1589	-835
1759	SLV 7	22	445	-54	67	-21701	8797	-27669	-912	296
1728	SLV 9	1029	349	-10	104	-14065	-5376	-6608	-809	-272
1849	SLV Y	4	337	46	86	2384	2289	10150	629	258
1353	SLV 7	1881	278	37	30	5794	-2004	2815	-494	82

Sollecitazioni con momento Mzz 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
1030	SLU 82	2118	-786	-476	-3143	-2284	-6081	-28109	3802	7799
1040	SLU 82	2118	-776	497	-3104	-2280	6863	-27542	-3780	7466
410	SLU 82	50	-170	22	-683	-2291	669	-1920	-272	-1862
1020	SLU 82	2016	-65	-106	-609	-2838	-3912	-194	77	-3204
1050	SLU 82	2018	-53	123	-590	-2731	4220	-41	-33	-3158

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1040	SLU 82	2119	180	557	720	-4636	9514	-29	-3720	-3417
1020	SLU 82	2117	179	-46	715	-392	-2150	3024	-701	-3217
1050	SLU 82	2119	179	59	714	-406	2516	2980	694	-3149
1030	SLU 82	2117	177	-560	707	-4759	-9294	-264	3865	-3388
763	SLV 13	1060	118	-28	473	-1640	1224	-8055	-132	550

Sollecitazioni con sforzo Foo 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
523	SLU 81	963	1	1	0	-75780	15158	-26628	0	-1
1759	SLV 13	20	-66	24	24	-71900	31654	-7963	402	90
1849	SLV 2	6	-1	-12	25	-61490	-32433	-15525	-275	0
1699	SLV 13	47	17	93	101	-53101	41775	-39562	572	292
1702	SLV 10	37	10	-53	64	-48509	-45540	-42702	-476	161

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
526	SLU 81	960	0	0	-1	64980	21182	8624	-16	-7
1699	SLU 82	308	102	-4	53	41567	-36602	23962	124	-1602
1702	SLU 82	304	7	16	1	41517	41838	18935	-175	-847

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1849	SLV X	6	-20	4	-6	30051	8537	2646	-138	-15
1703	SLU 82	307	25	-27	-36	27125	-16146	9180	-379	-179

Sollecitazioni con sforzo Fzz 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
586	SLU 81	383	1	3	-2	-2131	16069	-105390	-26	6
682	SLU 82	1081	8	3	33	-10755	-20227	-94799	-43	-178
1759	SLU 82	22	-18	27	-76	-56957	22931	-80860	11	-138
585	SLU 82	383	0	3	-6	7262	9909	-78374	-4	-16
1753	SLU 82	22	60	-11	-56	-37583	-17206	-75987	186	-46

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
517	SLV 7	384	0	0	-4	4132	8535	31142	2	-10
582	SLV 11	800	-2	13	7	580	10051	29728	37	-44
1701	SLU 82	43	17	19	-42	25505	20465	26221	11	-152
1699	SLU 82	308	102	-4	53	41567	-36602	23962	124	-1602
1700	SLU 82	43	17	-18	-42	21606	-16818	23890	-101	-160

1.1.3 Sollecitazioni gusci armati

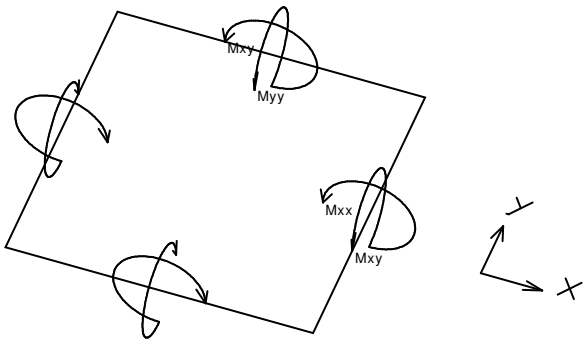
1.1.3.1 Convenzioni di segno gusci

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

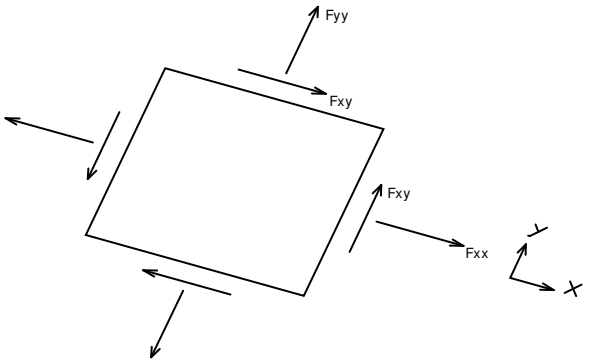
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione 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 Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: 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 Fxx, Fyy, Fxy.



Si definiscono:

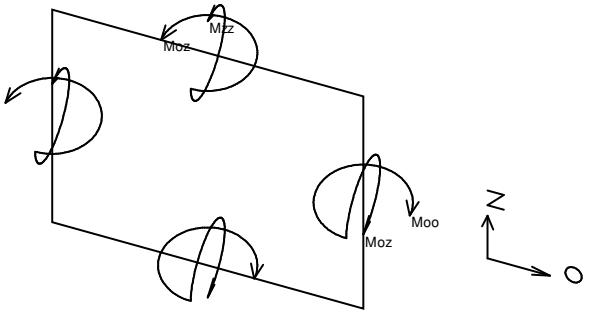
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fxy: 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:

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

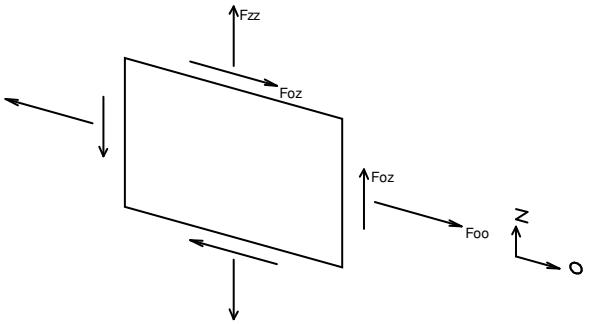
Convenzione di segno per gusci verticali

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 destrogira. 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 Moo, Mzz, Moz.



- 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

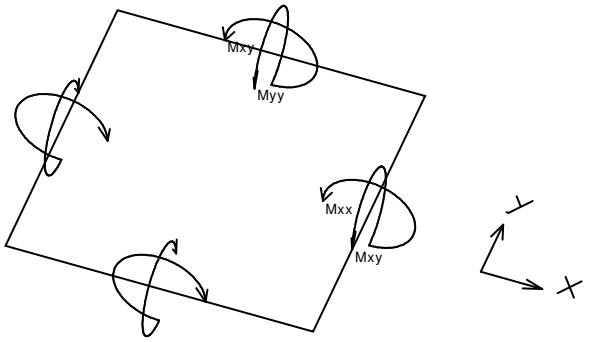
1.1.4.1 Convenzioni di segno gusci muratura

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

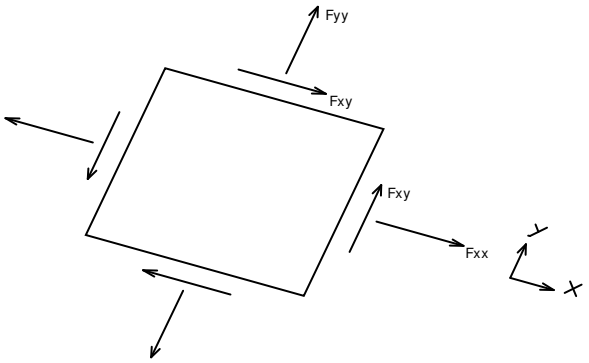
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione 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 Mxx, Myy, Mxy.



Si definiscono:

- Mxx: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Myy: momento flettente [Forza*Lunghezza/Lunghezza] agente sul bordo di normale y (verso positivo indicato dalla freccia in figura che tende le fibre inferiori);
- Mxy: 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 Fxx, Fyy, Fxy.

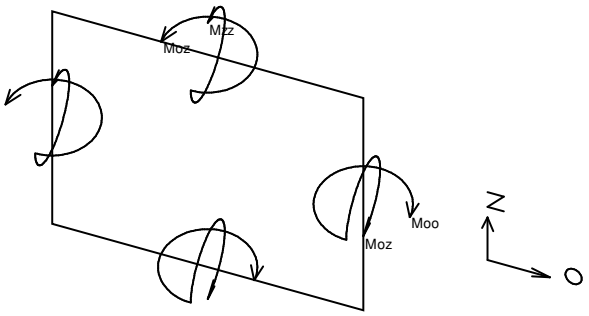


Si definiscono:

- Fxx: sforzo tensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: 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);
- Fxy: sforzo tagliante [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

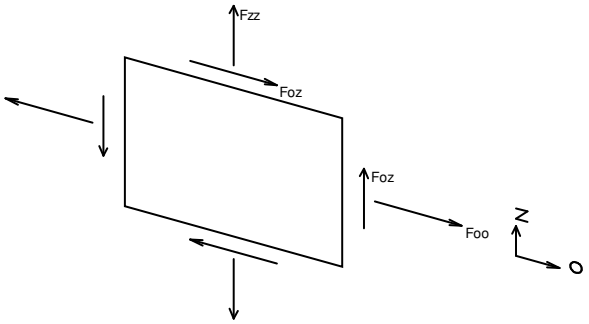
Convenzione di segno per gusci verticali

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 destrogira. 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 Moo, Mzz, Moz.



- 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);

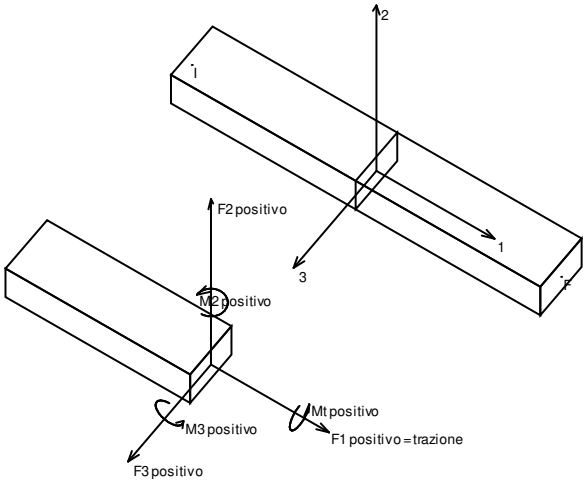
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia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

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:

- 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.



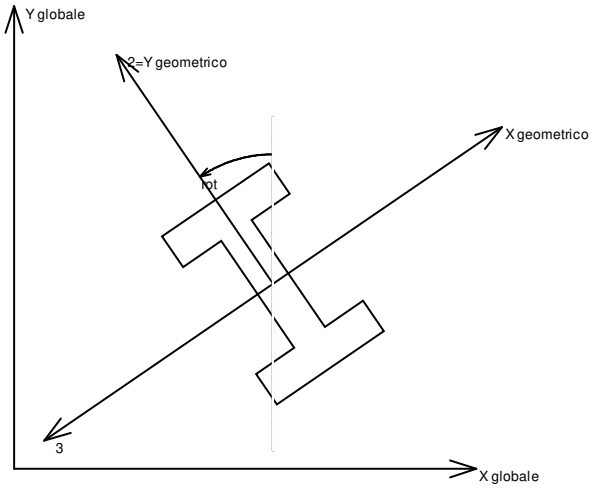
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando 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.

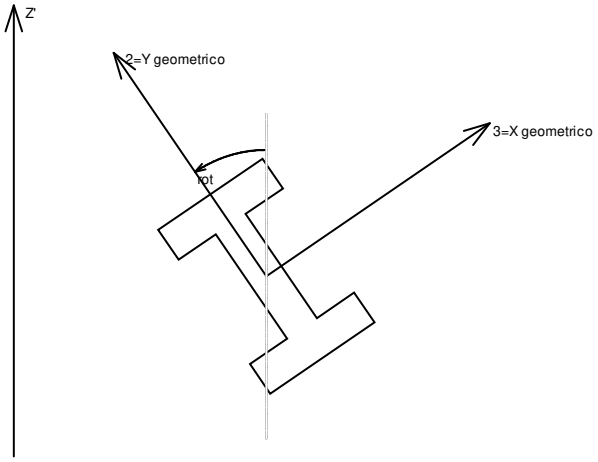
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

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).

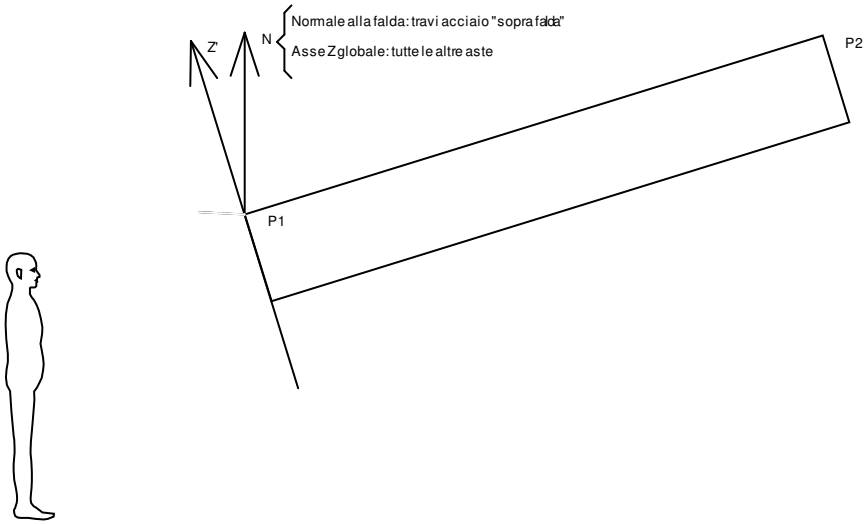
Sistema locale aste non verticali



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

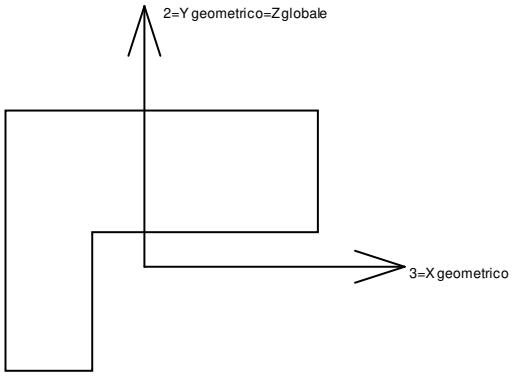
L'asse Z' è illustrato nella figura seguente dove:

- 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.



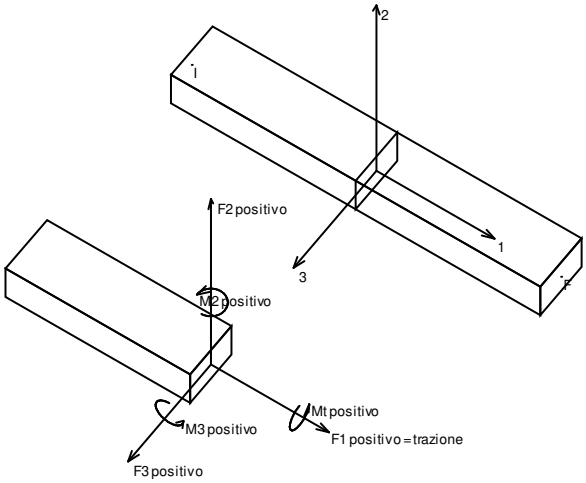
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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

1.1.6 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.



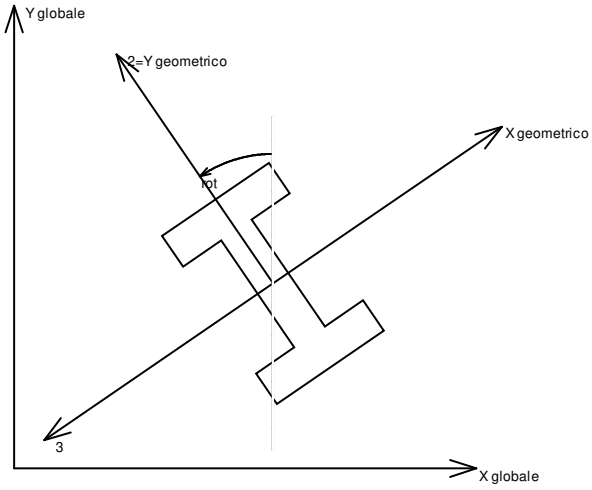
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando 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.

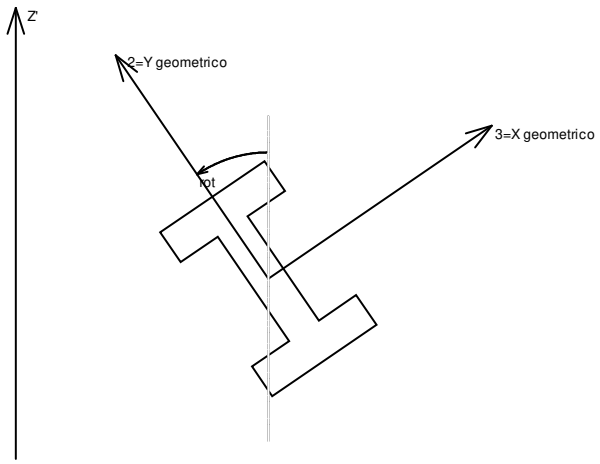
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

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).

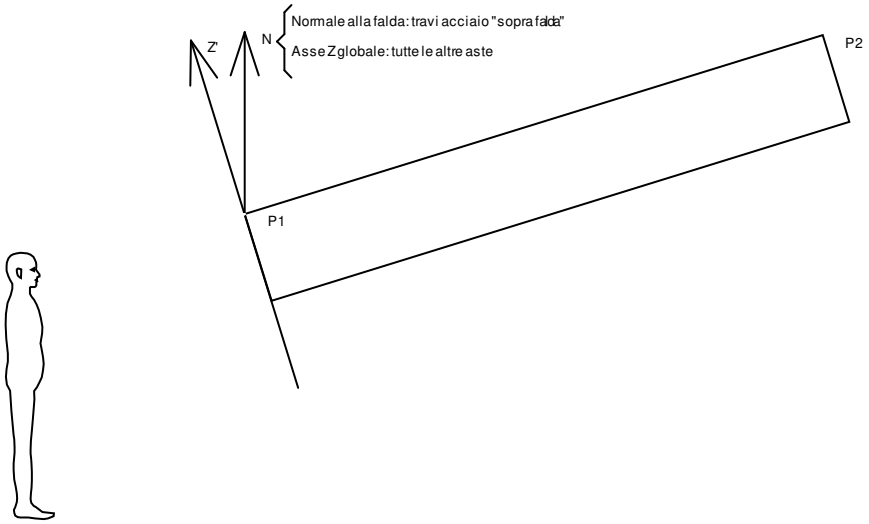
Sistema locale aste non verticali



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

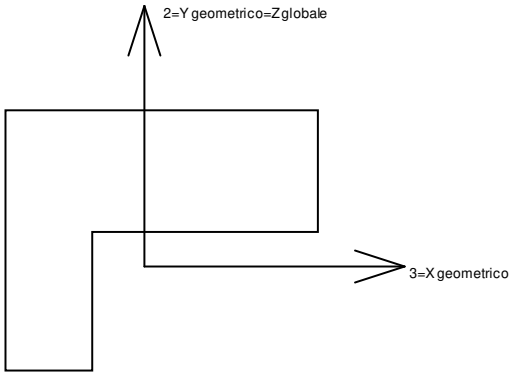
L'asse Z' è illustrato nella figura seguente dove:

- 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.



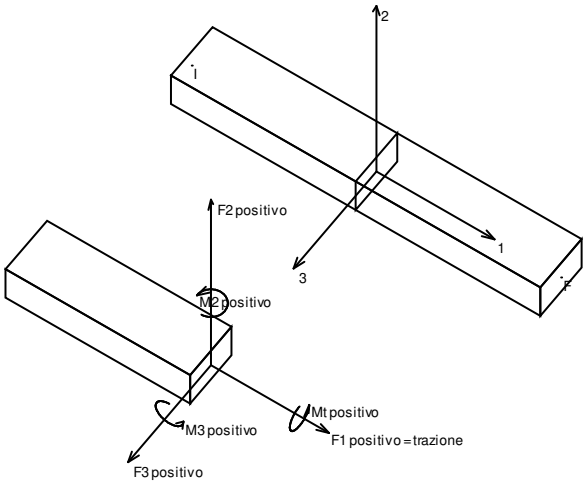
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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



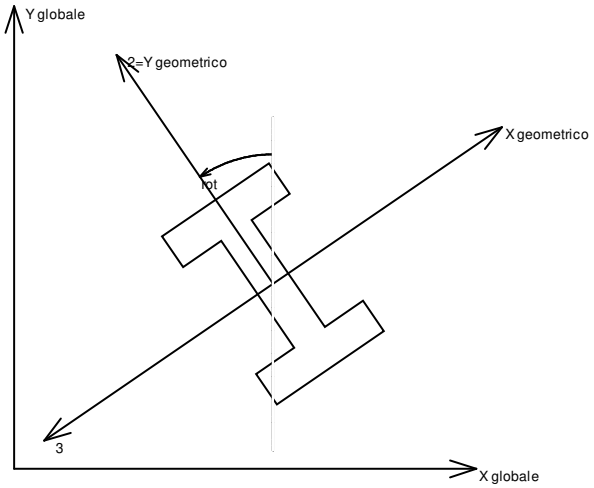
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando 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.

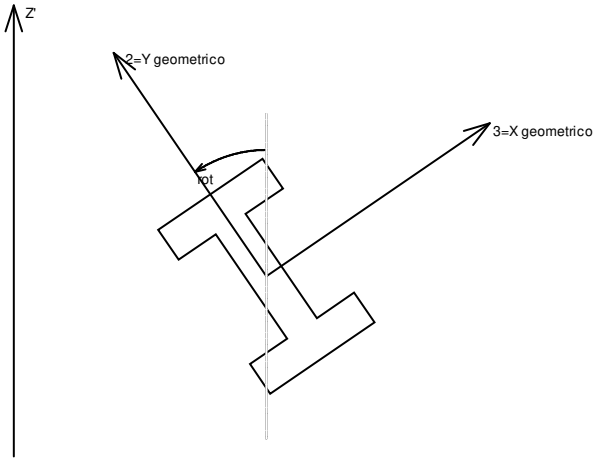
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

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).

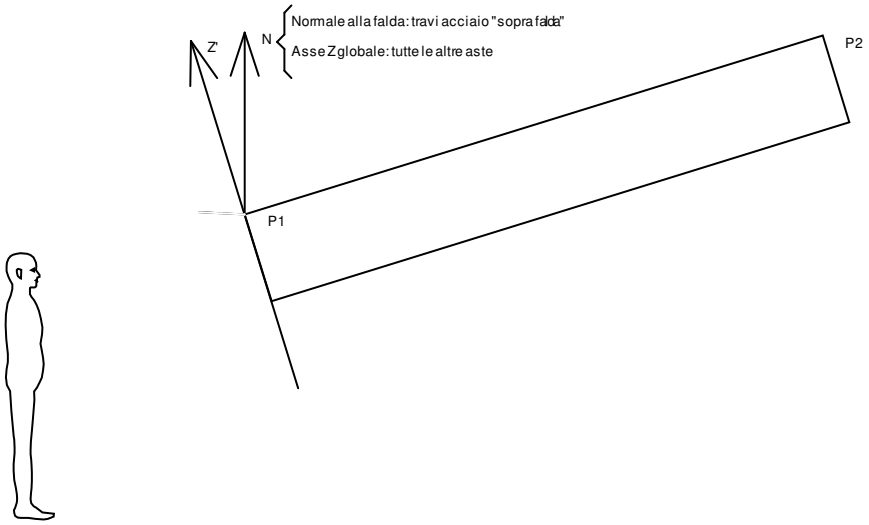
Sistema locale aste non verticali



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

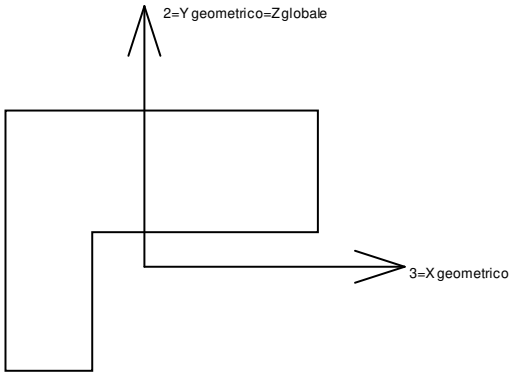
L'asse Z' è illustrato nella figura seguente dove:

- 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 Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV 15	-3354	-223	19705	1017.66	231.46	241.76
163	SLV 14	-2024	922	9476	-107.09	363.19	-65.2
55	SLV 15	-1691	-114	7467	-2067.78	-98.51	-450.83
32	SLV 15	-1656	-80	2454	-2.17	-246.48	18.55
33	SLV 15	-1641	-18	6017	-32.43	-518.47	5.58

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV 2	3815	1088	19613	1005.02	350.71	-259.68
32	SLV 2	1985	141	2548	-3.1	-115.06	4.2
31	SLV 2	1936	25	5421	-23.53	716.25	25.57
33	SLV 2	1928	245	5953	-32.9	-561.87	12.46
55	SLV 2	1715	624	7275	-2036.58	-16.66	485.74

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV Y	-279	-2186	-6363	-430.98	-73.6	63.4
163	SLV Y	73	-1503	-327	56.33	-15.92	64.04
4	SLV 8	527	-1355	5612	1181.88	-1974.52	-652.23
31	SLV 8	668	-1297	3284	-8.13	368.54	42.37
128	SLV 8	75	-1254	6248	12.32	-1376.59	-298.33

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV 10	-158	2732	26604	1486.39	354.05	-21.15
163	SLV 10	-911	1929	8621	-131.6	367.5	-91.41
55	SLV 10	-238	1553	10540	-2905.44	-108.94	-42.63
178	SLV 10	-617	1334	5976	-1054.12	98.08	-136.31
35	SLV 6	709	1219	10510	-214.63	162.61	5.74

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV Y	-279	-2186	-6363	-430.98	-73.6	63.4
55	SLV Y	-99	-1233	-2866	775.34	35.44	-31.54
35	SLV Y	-118	-968	-2598	60.02	-37.57	-11.02
4	SLV X	-1199	223	-2200	-453.98	762.07	338.55
128	SLV X	-815	199	-2063	0.88	422.21	46.34

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 82	310	707	30187	1585.62	439.64	-17.92
35	SLU 82	135	194	12668	-261.1	175.57	-19.49
163	SLU 82	-466	550	12441	-122.26	558.32	-32.25
55	SLU 82	20	415	11512	-3190.36	-88.1	24.25
4	SLU 82	207	-208	10924	2261.41	-3826.28	-122.48

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	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
4	SLU 1	142	-140	6453	1337.99	-2269.23	-82.7
4	SLU 2	142	-108	6515	1350.22	-2290.67	-70.29
4	SLU 3	142	-140	6453	1337.99	-2269.23	-82.7
4	SLU 4	142	-121	6490	1345.33	-2282.09	-75.25
4	SLU 5	142	-108	6515	1350.22	-2290.67	-70.29
4	SLU 6	142	-140	6453	1337.99	-2269.23	-82.7
4	SLU 7	142	-121	6490	1345.33	-2282.09	-75.25
4	SLU 8	142	-140	6453	1337.99	-2269.23	-82.7
4	SLU 9	142	-121	6490	1345.33	-2282.09	-75.25
4	SLU 10	153	-132	7832	1621.76	-2746.07	-81.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
4	SLU 11	153	-163	7770	1609.52	-2724.64	-94.09
4	SLU 12	153	-144	7807	1616.87	-2737.5	-86.64
4	SLU 13	153	-132	7832	1621.76	-2746.07	-81.68
4	SLU 14	153	-163	7770	1609.52	-2724.64	-94.09
4	SLU 15	153	-144	7807	1616.87	-2737.5	-86.64
4	SLU 16	153	-163	7770	1609.52	-2724.64	-94.09
4	SLU 17	153	-144	7807	1616.87	-2737.5	-86.64
4	SLU 18	157	-173	8335	1725.9	-2919.81	-98.97
4	SLU 19	158	-154	8372	1733.24	-2932.67	-91.52
4	SLU 20	157	-173	8335	1725.9	-2919.81	-98.97
4	SLU 21	158	-154	8372	1733.24	-2932.67	-91.52
4	SLU 22	152	-158	7390	1530.91	-2593.11	-92.05
4	SLU 23	153	-127	7452	1543.15	-2614.55	-79.64
4	SLU 24	152	-158	7390	1530.91	-2593.11	-92.05
4	SLU 25	153	-139	7427	1538.25	-2605.98	-84.6
4	SLU 26	153	-127	7452	1543.15	-2614.55	-79.64
4	SLU 27	152	-158	7390	1530.91	-2593.11	-92.05
4	SLU 28	153	-139	7427	1538.25	-2605.98	-84.6
4	SLU 29	152	-158	7390	1530.91	-2593.11	-92.05
4	SLU 30	153	-139	7427	1538.25	-2605.98	-84.6
4	SLU 31	164	-150	8769	1814.68	-3069.95	-91.03
4	SLU 32	163	-182	8707	1802.45	-3048.52	-103.44
4	SLU 33	164	-163	8744	1809.79	-3061.38	-95.99
4	SLU 34	164	-150	8769	1814.68	-3069.95	-91.03
4	SLU 35	163	-182	8707	1802.45	-3048.52	-103.44
4	SLU 36	164	-163	8744	1809.79	-3061.38	-95.99
4	SLU 37	163	-182	8707	1802.45	-3048.52	-103.44
4	SLU 38	164	-163	8744	1809.79	-3061.38	-95.99
4	SLU 39	168	-192	9272	1918.82	-3243.69	-108.32
4	SLU 40	168	-173	9309	1926.16	-3256.55	-100.87
4	SLU 41	168	-192	9272	1918.82	-3243.69	-108.32
4	SLU 42	168	-173	9309	1926.16	-3256.55	-100.87
4	SLU 43	180	-175	8068	1673.24	-2838.96	-104.31
4	SLU 44	181	-144	8130	1685.48	-2860.39	-91.89
4	SLU 45	180	-175	8068	1673.24	-2838.96	-104.31
4	SLU 46	181	-156	8105	1680.58	-2851.82	-96.86
4	SLU 47	181	-144	8130	1685.48	-2860.39	-91.89
4	SLU 48	180	-175	8068	1673.24	-2838.96	-104.31
4	SLU 49	181	-156	8105	1680.58	-2851.82	-96.86
4	SLU 50	180	-175	8068	1673.24	-2838.96	-104.31
4	SLU 51	181	-156	8105	1680.58	-2851.82	-96.86
4	SLU 52	192	-167	9447	1957.01	-3315.8	-103.28
4	SLU 53	191	-199	9385	1944.78	-3294.36	-115.7
4	SLU 54	192	-180	9422	1952.12	-3307.22	-108.25
4	SLU 55	192	-167	9447	1957.01	-3315.8	-103.28
4	SLU 56	191	-199	9385	1944.78	-3294.36	-115.7
4	SLU 57	192	-180	9422	1952.12	-3307.22	-108.25
4	SLU 58	191	-199	9385	1944.78	-3294.36	-115.7
4	SLU 59	192	-180	9422	1952.12	-3307.22	-108.25
4	SLU 60	196	-209	9950	2061.15	-3489.54	-120.58
4	SLU 61	196	-190	9987	2068.49	-3502.4	-113.13
4	SLU 62	196	-209	9950	2061.15	-3489.54	-120.58
4	SLU 63	196	-190	9987	2068.49	-3502.4	-113.13
4	SLU 64	191	-194	9005	1866.16	-3162.84	-113.66
4	SLU 65	191	-162	9066	1878.4	-3184.27	-101.24
4	SLU 66	191	-194	9005	1866.16	-3162.84	-113.66
4	SLU 67	191	-175	9042	1873.5	-3175.7	-106.21
4	SLU 68	191	-162	9066	1878.4	-3184.27	-101.24
4	SLU 69	191	-194	9005	1866.16	-3162.84	-113.66
4	SLU 70	191	-175	9042	1873.5	-3175.7	-106.21
4	SLU 71	191	-194	9005	1866.16	-3162.84	-113.66
4	SLU 72	191	-175	9042	1873.5	-3175.7	-106.21
4	SLU 73	203	-186	10384	2149.94	-3639.68	-112.63
4	SLU 74	202	-217	10322	2137.7	-3618.24	-125.05
4	SLU 75	202	-198	10359	2145.04	-3631.1	-117.6
4	SLU 76	203	-186	10384	2149.94	-3639.68	-112.63
4	SLU 77	202	-217	10322	2137.7	-3618.24	-125.05
4	SLU 78	202	-198	10359	2145.04	-3631.1	-117.6
4	SLU 79	202	-217	10322	2137.7	-3618.24	-125.05
4	SLU 80	202	-198	10359	2145.04	-3631.1	-117.6
4	SLU 81	207	-227	10887	2254.07	-3813.42	-129.93
4	SLU 82	207	-208	10924	2261.41	-3826.28	-122.48
4	SLU 83	207	-227	10887	2254.07	-3813.42	-129.93
4	SLU 84	207	-208	10924	2261.41	-3826.28	-122.48
4	SLE RA 1	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE RA 2	145	-124	6762	1401.27	-2376.06	-77.1
4	SLE RA 3	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE RA 4	145	-132	6745	1398	-2370.34	-80.41
4	SLE RA 5	145	-124	6762	1401.27	-2376.06	-77.1
4	SLE RA 6	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE RA 7	145	-132	6745	1398	-2370.34	-80.41
4	SLE RA 8	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE RA 9	145	-132	6745	1398	-2370.34	-80.41
4	SLE RA 10	152	-140	7640	1582.29	-2679.66	-84.69
4	SLE RA 11	152	-161	7599	1574.13	-2665.37	-92.97
4	SLE RA 12	152	-148	7624	1579.03	-2673.95	-88
4	SLE RA 13	152	-140	7640	1582.29	-2679.66	-84.69
4	SLE RA 14	152	-161	7599	1574.13	-2665.37	-92.97
4	SLE RA 15	152	-148	7624	1579.03	-2673.95	-88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
4	SLE RA 16	152	-161	7599	1574.13	-2665.37	-92.97
4	SLE RA 17	152	-148	7624	1579.03	-2673.95	-88
4	SLE RA 18	155	-167	7975	1651.71	-2795.49	-96.22
4	SLE RA 19	155	-155	8000	1656.61	-2804.06	-91.25
4	SLE RA 20	155	-167	7975	1651.71	-2795.49	-96.22
4	SLE RA 21	155	-155	8000	1656.61	-2804.06	-91.25
4	SLE FR 1	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE FR 2	145	-141	6729	1394.74	-2364.63	-83.72
4	SLE FR 3	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE FR 4	148	-147	7105	1472.32	-2494.74	-86.97
4	SLE FR 5	148	-152	7097	1470.69	-2491.89	-88.63
4	SLE FR 6	150	-156	7348	1522.41	-2578.63	-90.8
4	SLE QP 1	145	-145	6721	1393.11	-2361.77	-85.37
4	SLE QP 2	148	-152	7097	1470.69	-2491.89	-88.63
4	SLD 1	639	-66	8348	1726.35	-2925.34	-156.35
4	SLD 2	738	-162	8354	1727.67	-2927.59	-215.38
4	SLD 3	614	-337	7779	1613.67	-2727.59	-260.56
4	SLD 4	714	-433	7786	1615	-2729.84	-319.59
4	SLD 5	297	319	8333	1717.81	-2921.05	69.91
4	SLD 6	397	222	8340	1719.14	-2923.31	10.6
4	SLD 7	216	-585	6437	1342.23	-2261.89	-277.46
4	SLD 8	316	-681	6443	1343.56	-2264.15	-336.77
4	SLD 9	-20	378	7751	1597.82	-2719.62	159.52
4	SLD 10	80	281	7758	1599.15	-2721.89	100.2
4	SLD 11	-102	-526	5855	1222.24	-2060.46	-187.85
4	SLD 12	-1	-622	5862	1223.57	-2062.72	-247.17
4	SLD 13	-418	130	6409	1326.38	-2253.93	142.33
4	SLD 14	-319	34	6416	1327.7	-2256.18	83.3
4	SLD 15	-443	-141	5840	1213.71	-2056.18	38.12
4	SLD 16	-343	-237	5847	1215.03	-2058.43	-20.91
4	SLV 1	1262	42	9936	2051.12	-3475.96	-241.82
4	SLV 2	1488	-175	9951	2054.12	-3481.06	-375.63
4	SLV 3	1206	-574	8644	1795.21	-3026.84	-478.73
4	SLV 4	1432	-791	8659	1798.22	-3031.94	-612.54
4	SLV 5	488	918	9903	2031.88	-3466.49	271.85
4	SLV 6	715	699	9918	2034.9	-3471.61	137.47
4	SLV 7	300	-1136	5596	1178.87	-1969.4	-517.85
4	SLV 8	527	-1355	5612	1181.88	-1974.52	-652.23
4	SLV 9	-232	1051	8583	1759.5	-3009.25	474.98
4	SLV 10	-5	833	8598	1762.51	-3014.37	340.6
4	SLV 11	-419	-1002	4276	906.48	-1512.16	-314.72
4	SLV 12	-192	-1221	4292	909.5	-1517.29	-449.1
4	SLV 13	-1137	488	5535	1143.16	-1951.83	435.28
4	SLV 14	-911	270	5551	1146.16	-1956.93	301.48
4	SLV 15	-1193	-128	4243	887.26	-1502.71	198.37
4	SLV 16	-967	-346	4259	890.26	-1507.81	64.57
4	CRTFP Ux+	0	0	0	-0.01	0.02	0
4	CRTFP Ux-	0	0	0	0.01	-0.02	0
4	CRTFP Uy+	0	0	0	-0.01	0.02	-0.01
4	CRTFP Uy-	0	0	0	0.01	-0.02	0.01
4	CRTFP Rz+	0	0	0	0	0	0
4	CRTFP Rz-	0	0	0	0	0	0
22	SLU 1	42	61	3191	381.74	-58.99	-3.71
22	SLU 2	42	70	3220	385.22	-59.59	-3.74
22	SLU 3	42	61	3191	381.74	-58.99	-3.71
22	SLU 4	42	66	3208	383.83	-59.35	-3.73
22	SLU 5	42	70	3220	385.22	-59.59	-3.74
22	SLU 6	42	61	3191	381.74	-58.99	-3.71
22	SLU 7	42	66	3208	383.83	-59.35	-3.73
22	SLU 8	42	61	3191	381.74	-58.99	-3.71
22	SLU 9	42	66	3208	383.83	-59.35	-3.73
22	SLU 10	43	83	3843	459.93	-71.9	-3.89
22	SLU 11	43	74	3814	456.45	-71.29	-3.87
22	SLU 12	43	80	3832	458.54	-71.66	-3.88
22	SLU 13	43	83	3843	459.93	-71.9	-3.89
22	SLU 14	43	74	3814	456.45	-71.29	-3.87
22	SLU 15	43	80	3832	458.54	-71.66	-3.88
22	SLU 16	43	74	3814	456.45	-71.29	-3.87
22	SLU 17	43	80	3832	458.54	-71.66	-3.88
22	SLU 18	43	80	4081	488.46	-76.57	-3.94
22	SLU 19	43	85	4099	490.55	-76.93	-3.95
22	SLU 20	43	80	4081	488.46	-76.57	-3.94
22	SLU 21	43	85	4099	490.55	-76.93	-3.95
22	SLU 22	43	70	3660	437.9	-68.17	-3.86
22	SLU 23	44	79	3689	441.38	-68.77	-3.89
22	SLU 24	43	70	3660	437.9	-68.17	-3.86
22	SLU 25	43	76	3677	439.98	-68.53	-3.88
22	SLU 26	44	79	3689	441.38	-68.77	-3.89
22	SLU 27	43	70	3660	437.9	-68.17	-3.86
22	SLU 28	43	76	3677	439.98	-68.53	-3.88
22	SLU 29	43	70	3660	437.9	-68.17	-3.86
22	SLU 30	43	76	3677	439.98	-68.53	-3.88
22	SLU 31	44	93	4312	516.08	-81.08	-4.05
22	SLU 32	44	84	4283	512.6	-80.47	-4.02
22	SLU 33	44	89	4300	514.69	-80.84	-4.04
22	SLU 34	44	93	4312	516.08	-81.08	-4.05
22	SLU 35	44	84	4283	512.6	-80.47	-4.02
22	SLU 36	44	89	4300	514.69	-80.84	-4.04
22	SLU 37	44	84	4283	512.6	-80.47	-4.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLU 38	44	89	4300	514.69	-80.84	-4.04
22	SLU 39	44	89	4550	544.62	-85.75	-4.09
22	SLU 40	45	95	4567	546.71	-86.11	-4.1
22	SLU 41	44	89	4550	544.62	-85.75	-4.09
22	SLU 42	45	95	4567	546.71	-86.11	-4.1
22	SLU 43	54	76	3988	477.01	-73.54	-4.77
22	SLU 44	55	85	4017	480.49	-74.14	-4.8
22	SLU 45	54	76	3988	477.01	-73.54	-4.77
22	SLU 46	54	81	4005	479.1	-73.9	-4.79
22	SLU 47	55	85	4017	480.49	-74.14	-4.8
22	SLU 48	54	76	3988	477.01	-73.54	-4.77
22	SLU 49	54	81	4005	479.1	-73.9	-4.79
22	SLU 50	54	76	3988	477.01	-73.54	-4.77
22	SLU 51	54	81	4005	479.1	-73.9	-4.79
22	SLU 52	55	98	4640	555.2	-86.45	-4.96
22	SLU 53	55	89	4611	551.72	-85.84	-4.93
22	SLU 54	55	95	4628	553.81	-86.2	-4.95
22	SLU 55	55	98	4640	555.2	-86.45	-4.96
22	SLU 56	55	89	4611	551.72	-85.84	-4.93
22	SLU 57	55	95	4628	553.81	-86.2	-4.95
22	SLU 58	55	89	4611	551.72	-85.84	-4.93
22	SLU 59	55	95	4628	553.81	-86.2	-4.95
22	SLU 60	55	95	4878	583.73	-91.12	-5
22	SLU 61	56	100	4895	585.82	-91.48	-5.01
22	SLU 62	55	95	4878	583.73	-91.12	-5
22	SLU 63	56	100	4895	585.82	-91.48	-5.01
22	SLU 64	55	85	4456	533.17	-82.72	-4.92
22	SLU 65	56	94	4485	536.65	-83.32	-4.95
22	SLU 66	55	85	4456	533.17	-82.72	-4.92
22	SLU 67	56	91	4474	535.25	-83.08	-4.94
22	SLU 68	56	94	4485	536.65	-83.32	-4.95
22	SLU 69	55	85	4456	533.17	-82.72	-4.92
22	SLU 70	56	91	4474	535.25	-83.08	-4.94
22	SLU 71	55	85	4456	533.17	-82.72	-4.92
22	SLU 72	56	91	4474	535.25	-83.08	-4.94
22	SLU 73	57	108	5109	611.35	-95.63	-5.11
22	SLU 74	56	99	5080	607.87	-95.02	-5.08
22	SLU 75	56	104	5097	609.96	-95.38	-5.1
22	SLU 76	57	108	5109	611.35	-95.63	-5.11
22	SLU 77	56	99	5080	607.87	-95.02	-5.08
22	SLU 78	56	104	5097	609.96	-95.38	-5.1
22	SLU 79	56	99	5080	607.87	-95.02	-5.08
22	SLU 80	56	104	5097	609.96	-95.38	-5.1
22	SLU 81	56	104	5347	639.89	-100.3	-5.15
22	SLU 82	57	110	5364	641.98	-100.66	-5.17
22	SLU 83	56	104	5347	639.89	-100.3	-5.15
22	SLU 84	57	110	5364	641.98	-100.66	-5.17
22	SLE RA 1	42	64	3325	397.79	-61.61	-3.75
22	SLE RA 2	43	70	3344	400.11	-62.01	-3.77
22	SLE RA 3	42	64	3325	397.79	-61.61	-3.75
22	SLE RA 4	43	67	3337	399.18	-61.85	-3.76
22	SLE RA 5	43	70	3344	400.11	-62.01	-3.77
22	SLE RA 6	42	64	3325	397.79	-61.61	-3.75
22	SLE RA 7	43	67	3337	399.18	-61.85	-3.76
22	SLE RA 8	42	64	3325	397.79	-61.61	-3.75
22	SLE RA 9	43	67	3337	399.18	-61.85	-3.76
22	SLE RA 10	43	78	3760	449.91	-70.22	-3.88
22	SLE RA 11	43	72	3741	447.59	-69.81	-3.86
22	SLE RA 12	43	76	3752	448.98	-70.06	-3.87
22	SLE RA 13	43	78	3760	449.91	-70.22	-3.88
22	SLE RA 14	43	72	3741	447.59	-69.81	-3.86
22	SLE RA 15	43	76	3752	448.98	-70.06	-3.87
22	SLE RA 16	43	72	3741	447.59	-69.81	-3.86
22	SLE RA 17	43	76	3752	448.98	-70.06	-3.87
22	SLE RA 18	43	76	3919	468.93	-73.33	-3.91
22	SLE RA 19	43	80	3930	470.33	-73.57	-3.92
22	SLE RA 20	43	76	3919	468.93	-73.33	-3.91
22	SLE RA 21	43	80	3930	470.33	-73.57	-3.92
22	SLE FR 1	42	64	3325	397.79	-61.61	-3.75
22	SLE FR 2	42	65	3329	398.25	-61.69	-3.76
22	SLE FR 3	42	64	3325	397.79	-61.61	-3.75
22	SLE FR 4	43	69	3507	419.59	-65.21	-3.8
22	SLE FR 5	43	67	3503	419.13	-65.13	-3.8
22	SLE FR 6	43	70	3622	433.36	-67.47	-3.83
22	SLE QP 1	42	64	3325	397.79	-61.61	-3.75
22	SLE QP 2	43	67	3503	419.13	-65.13	-3.8
22	SLD 1	253	100	3504	419.2	-60.89	-27.71
22	SLD 2	297	112	3502	419	-60.76	-32.23
22	SLD 3	240	11	3218	384.83	-54.86	-26.55
22	SLD 4	284	23	3216	384.63	-54.74	-31.07
22	SLD 5	110	207	3937	471.34	-73.03	-11.14
22	SLD 6	154	219	3936	471.14	-72.9	-15.68
22	SLD 7	67	-88	2985	356.79	-52.96	-7.27
22	SLD 8	110	-76	2983	356.59	-52.83	-11.81
22	SLD 9	-25	211	4023	481.67	-77.42	4.21
22	SLD 10	18	223	4021	481.47	-77.29	-0.33
22	SLD 11	-69	-85	3071	367.12	-57.35	8.08
22	SLD 12	-25	-73	3069	366.92	-57.22	3.54
22	SLD 13	-198	112	3790	453.63	-75.52	23.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLD 14	-155	124	3788	453.43	-75.39	18.95
22	SLD 15	-212	23	3504	419.26	-69.5	24.63
22	SLD 16	-168	35	3502	419.06	-69.37	20.11
22	SLV 1	521	141	3506	419.34	-55.52	-58.08
22	SLV 2	619	168	3502	418.89	-55.23	-68.33
22	SLV 3	491	-61	2857	341.31	-41.84	-55.4
22	SLV 4	589	-33	2853	340.87	-41.55	-65.65
22	SLV 5	197	385	4489	537.69	-83.08	-20.53
22	SLV 6	296	412	4485	537.24	-82.79	-30.83
22	SLV 7	97	-286	2326	277.61	-37.51	-11.61
22	SLV 8	196	-259	2322	277.16	-37.21	-21.91
22	SLV 9	-111	393	4684	561.1	-93.04	14.31
22	SLV 10	-12	421	4680	560.65	-92.75	4.01
22	SLV 11	-211	-278	2521	301.02	-47.46	23.23
22	SLV 12	-112	-250	2517	300.57	-47.17	12.93
22	SLV 13	-504	168	4153	497.39	-88.7	58.05
22	SLV 14	-406	195	4149	496.95	-88.41	47.8
22	SLV 15	-534	-33	3505	419.37	-75.03	60.73
22	SLV 16	-436	-6	3501	418.92	-74.74	50.48
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
29	SLU 1	59	10	4331	722.63	819.38	-19.23
29	SLU 2	59	29	4370	728.23	826.78	-22.83
29	SLU 3	59	10	4331	722.63	819.38	-19.23
29	SLU 4	59	21	4355	725.99	823.82	-21.39
29	SLU 5	59	29	4370	728.23	826.78	-22.83
29	SLU 6	59	10	4331	722.63	819.38	-19.23
29	SLU 7	59	21	4355	725.99	823.82	-21.39
29	SLU 8	59	10	4331	722.63	819.38	-19.23
29	SLU 9	59	21	4355	725.99	823.82	-21.39
29	SLU 10	61	23	5198	860.58	984	-22.7
29	SLU 11	60	4	5159	854.99	976.6	-19.1
29	SLU 12	61	15	5182	858.35	981.04	-21.26
29	SLU 13	61	23	5198	860.58	984	-22.7
29	SLU 14	60	4	5159	854.99	976.6	-19.1
29	SLU 15	61	15	5182	858.35	981.04	-21.26
29	SLU 16	60	4	5159	854.99	976.6	-19.1
29	SLU 17	61	15	5182	858.35	981.04	-21.26
29	SLU 18	61	1	5514	911.71	1043.97	-19.05
29	SLU 19	61	13	5537	915.07	1048.41	-21.21
29	SLU 20	61	1	5514	911.71	1043.97	-19.05
29	SLU 21	61	13	5537	915.07	1048.41	-21.21
29	SLU 22	61	8	4958	822.08	938.23	-19.74
29	SLU 23	61	27	4997	827.68	945.64	-23.33
29	SLU 24	61	8	4958	822.08	938.23	-19.74
29	SLU 25	61	19	4981	825.44	942.68	-21.9
29	SLU 26	61	27	4997	827.68	945.64	-23.33
29	SLU 27	61	8	4958	822.08	938.23	-19.74
29	SLU 28	61	19	4981	825.44	942.68	-21.9
29	SLU 29	61	8	4958	822.08	938.23	-19.74
29	SLU 30	61	19	4981	825.44	942.68	-21.9
29	SLU 31	63	21	5825	960.03	1102.85	-23.2
29	SLU 32	62	2	5786	954.44	1095.45	-19.61
29	SLU 33	63	13	5809	957.8	1099.89	-21.77
29	SLU 34	63	21	5825	960.03	1102.85	-23.2
29	SLU 35	62	2	5786	954.44	1095.45	-19.61
29	SLU 36	63	13	5809	957.8	1099.89	-21.77
29	SLU 37	62	2	5786	954.44	1095.45	-19.61
29	SLU 38	63	13	5809	957.8	1099.89	-21.77
29	SLU 39	63	-1	6140	1011.16	1162.83	-19.56
29	SLU 40	63	10	6164	1014.52	1167.27	-21.71
29	SLU 41	63	-1	6140	1011.16	1162.83	-19.56
29	SLU 42	63	10	6164	1014.52	1167.27	-21.71
29	SLU 43	76	14	5416	905.33	1024.45	-24.83
29	SLU 44	76	33	5455	910.92	1031.85	-28.42
29	SLU 45	76	14	5416	905.33	1024.45	-24.83
29	SLU 46	76	25	5439	908.68	1028.89	-26.99
29	SLU 47	76	33	5455	910.92	1031.85	-28.42
29	SLU 48	76	14	5416	905.33	1024.45	-24.83
29	SLU 49	76	25	5439	908.68	1028.89	-26.99
29	SLU 50	76	14	5416	905.33	1024.45	-24.83
29	SLU 51	76	25	5439	908.68	1028.89	-26.99
29	SLU 52	78	27	6283	1043.28	1189.06	-28.29
29	SLU 53	77	8	6244	1037.68	1181.66	-24.7
29	SLU 54	78	19	6267	1041.04	1186.1	-26.86
29	SLU 55	78	27	6283	1043.28	1189.06	-28.29
29	SLU 56	77	8	6244	1037.68	1181.66	-24.7
29	SLU 57	78	19	6267	1041.04	1186.1	-26.86
29	SLU 58	77	8	6244	1037.68	1181.66	-24.7
29	SLU 59	78	19	6267	1041.04	1186.1	-26.86
29	SLU 60	78	5	6598	1094.41	1249.04	-24.65
29	SLU 61	78	16	6622	1097.76	1253.48	-26.8
29	SLU 62	78	5	6598	1094.41	1249.04	-24.65
29	SLU 63	78	16	6622	1097.76	1253.48	-26.8
29	SLU 64	77	12	6043	1004.78	1143.3	-25.34
29	SLU 65	78	31	6081	1010.37	1150.7	-28.93
29	SLU 66	77	12	6043	1004.78	1143.3	-25.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLU 67	78	23	6066	1008.13	1147.74	-27.49
29	SLU 68	78	31	6081	1010.37	1150.7	-28.93
29	SLU 69	77	12	6043	1004.78	1143.3	-25.34
29	SLU 70	78	23	6066	1008.13	1147.74	-27.49
29	SLU 71	77	12	6043	1004.78	1143.3	-25.34
29	SLU 72	78	23	6066	1008.13	1147.74	-27.49
29	SLU 73	80	24	6909	1142.73	1307.92	-28.8
29	SLU 74	79	5	6870	1137.13	1300.51	-25.21
29	SLU 75	79	17	6894	1140.49	1304.95	-27.36
29	SLU 76	80	24	6909	1142.73	1307.92	-28.8
29	SLU 77	79	5	6870	1137.13	1300.51	-25.21
29	SLU 78	79	17	6894	1140.49	1304.95	-27.36
29	SLU 79	79	5	6870	1137.13	1300.51	-25.21
29	SLU 80	79	17	6894	1140.49	1304.95	-27.36
29	SLU 81	80	3	7225	1193.86	1367.89	-25.15
29	SLU 82	80	14	7248	1197.21	1372.33	-27.31
29	SLU 83	80	3	7225	1193.86	1367.89	-25.15
29	SLU 84	80	14	7248	1197.21	1372.33	-27.31
29	SLE RA 1	59	9	4510	751.05	853.34	-19.38
29	SLE RA 2	60	22	4536	754.78	858.27	-21.77
29	SLE RA 3	59	9	4510	751.05	853.34	-19.38
29	SLE RA 4	59	17	4526	753.29	856.3	-20.82
29	SLE RA 5	60	22	4536	754.78	858.27	-21.77
29	SLE RA 6	59	9	4510	751.05	853.34	-19.38
29	SLE RA 7	59	17	4526	753.29	856.3	-20.82
29	SLE RA 8	59	9	4510	751.05	853.34	-19.38
29	SLE RA 9	59	17	4526	753.29	856.3	-20.82
29	SLE RA 10	61	18	5088	843.02	963.08	-21.69
29	SLE RA 11	60	5	5062	839.28	958.15	-19.29
29	SLE RA 12	60	13	5078	841.52	961.11	-20.73
29	SLE RA 13	61	18	5088	843.02	963.08	-21.69
29	SLE RA 14	60	5	5062	839.28	958.15	-19.29
29	SLE RA 15	60	13	5078	841.52	961.11	-20.73
29	SLE RA 16	60	5	5062	839.28	958.15	-19.29
29	SLE RA 17	60	13	5078	841.52	961.11	-20.73
29	SLE RA 18	61	4	5299	877.1	1003.07	-19.26
29	SLE RA 19	61	11	5314	879.34	1006.03	-20.69
29	SLE RA 20	61	4	5299	877.1	1003.07	-19.26
29	SLE RA 21	61	11	5314	879.34	1006.03	-20.69
29	SLE FR 1	59	9	4510	751.05	853.34	-19.38
29	SLE FR 2	59	12	4516	751.79	854.33	-19.86
29	SLE FR 3	59	9	4510	751.05	853.34	-19.38
29	SLE FR 4	60	10	4752	789.61	899.24	-19.82
29	SLE FR 5	60	8	4747	788.86	898.26	-19.34
29	SLE FR 6	60	7	4905	814.07	928.2	-19.32
29	SLE QP 1	59	9	4510	751.05	853.34	-19.38
29	SLE QP 2	60	8	4747	788.86	898.26	-19.34
29	SLD 1	361	146	4509	772.05	859.62	-118.33
29	SLD 2	422	205	4501	771.39	858.41	-143.71
29	SLD 3	342	-35	4118	716.19	785.55	-81.51
29	SLD 4	403	24	4111	715.53	784.33	-106.89
29	SLD 5	156	304	5271	868.77	999.44	-95.93
29	SLD 6	218	363	5264	868.1	998.22	-121.44
29	SLD 7	95	-301	3968	682.58	752.52	26.8
29	SLD 8	156	-242	3961	681.91	751.31	1.29
29	SLD 9	-37	257	5533	895.82	1045.21	-39.97
29	SLD 10	24	316	5526	895.15	1043.99	-65.48
29	SLD 11	-98	-347	4230	709.62	798.29	82.76
29	SLD 12	-37	-288	4223	708.96	797.08	57.25
29	SLD 13	-284	-8	5383	862.2	1012.18	68.21
29	SLD 14	-223	51	5376	861.53	1010.97	42.83
29	SLD 15	-302	-190	4992	806.34	938.11	105.03
29	SLD 16	-241	-131	4985	805.67	936.9	79.65
29	SLV 1	743	322	4207	750.84	810.74	-243.93
29	SLV 2	881	455	4191	749.33	808	-301.47
29	SLV 3	701	-90	3320	624.02	642.56	-160.36
29	SLV 4	839	43	3303	622.51	639.81	-217.9
29	SLV 5	280	680	5937	970.34	1128.05	-193.2
29	SLV 6	419	813	5920	968.82	1125.29	-250.99
29	SLV 7	139	-693	2978	547.59	567.44	85.36
29	SLV 8	278	-559	2962	546.07	564.68	27.57
29	SLV 9	-159	575	6532	1031.65	1231.84	-66.26
29	SLV 10	-20	708	6515	1030.14	1229.08	-124.04
29	SLV 11	-299	-798	3573	608.9	671.23	212.31
29	SLV 12	-161	-664	3557	607.39	668.47	154.52
29	SLV 13	-720	-28	6190	955.22	1156.7	179.22
29	SLV 14	-581	105	6174	953.71	1153.96	121.68
29	SLV 15	-762	-440	5303	828.4	988.52	262.79
29	SLV 16	-624	-307	5287	826.89	985.77	205.25
29	CRTFP Ux+	0	0	0	0	0	0
29	CRTFP Ux-	0	0	0	0	0	0
29	CRTFP Uy+	0	0	0	-0.01	-0.01	0
29	CRTFP Uy-	0	0	0	0.01	0.01	0
31	SLU 1	170	-68	3736	-13.99	422.6	12.91
31	SLU 2	171	-35	3767	-14.25	427.3	12.23
31	SLU 3	170	-68	3736	-13.99	422.6	12.91
31	SLU 4	170	-48	3755	-14.15	425.42	12.5
31	SLU 5	171	-35	3767	-14.25	427.3	12.23
31	SLU 6	170	-68	3736	-13.99	422.6	12.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLU 7	170	-48	3755	-14.15	425.42	12.5
31	SLU 8	170	-68	3736	-13.99	422.6	12.91
31	SLU 9	170	-48	3755	-14.15	425.42	12.5
31	SLU 10	182	-49	4418	-17.43	529.18	14.75
31	SLU 11	182	-82	4387	-17.17	524.49	15.43
31	SLU 12	182	-62	4405	-17.32	527.3	15.02
31	SLU 13	182	-49	4418	-17.43	529.18	14.75
31	SLU 14	182	-82	4387	-17.17	524.49	15.43
31	SLU 15	182	-62	4405	-17.32	527.3	15.02
31	SLU 16	182	-82	4387	-17.17	524.49	15.43
31	SLU 17	182	-62	4405	-17.32	527.3	15.02
31	SLU 18	187	-87	4666	-18.53	568.15	16.51
31	SLU 19	187	-68	4684	-18.69	570.97	16.1
31	SLU 20	187	-87	4666	-18.53	568.15	16.51
31	SLU 21	187	-68	4684	-18.69	570.97	16.1
31	SLU 22	181	-78	4200	-16.3	494.51	14.87
31	SLU 23	182	-45	4231	-16.55	499.2	14.19
31	SLU 24	181	-78	4200	-16.3	494.51	14.87
31	SLU 25	182	-58	4219	-16.45	497.32	14.46
31	SLU 26	182	-45	4231	-16.55	499.2	14.19
31	SLU 27	181	-78	4200	-16.3	494.51	14.87
31	SLU 28	182	-58	4219	-16.45	497.32	14.46
31	SLU 29	181	-78	4200	-16.3	494.51	14.87
31	SLU 30	182	-58	4219	-16.45	497.32	14.46
31	SLU 31	194	-59	4881	-19.73	601.09	16.71
31	SLU 32	193	-91	4850	-19.48	596.39	17.39
31	SLU 33	194	-72	4869	-19.63	599.21	16.98
31	SLU 34	194	-59	4881	-19.73	601.09	16.71
31	SLU 35	193	-91	4850	-19.48	596.39	17.39
31	SLU 36	194	-72	4869	-19.63	599.21	16.98
31	SLU 37	193	-91	4850	-19.48	596.39	17.39
31	SLU 38	194	-72	4869	-19.63	599.21	16.98
31	SLU 39	198	-97	5129	-20.84	640.06	18.47
31	SLU 40	199	-78	5148	-20.99	642.87	18.06
31	SLU 41	198	-97	5129	-20.84	640.06	18.47
31	SLU 42	199	-78	5148	-20.99	642.87	18.06
31	SLU 43	217	-85	4698	-17.4	524.73	16.11
31	SLU 44	218	-52	4729	-17.65	529.42	15.43
31	SLU 45	217	-85	4698	-17.4	524.73	16.11
31	SLU 46	217	-65	4717	-17.55	527.55	15.7
31	SLU 47	218	-52	4729	-17.65	529.42	15.43
31	SLU 48	217	-85	4698	-17.4	524.73	16.11
31	SLU 49	217	-65	4717	-17.55	527.55	15.7
31	SLU 50	217	-85	4698	-17.4	524.73	16.11
31	SLU 51	217	-65	4717	-17.55	527.55	15.7
31	SLU 52	229	-66	5380	-20.83	631.31	17.95
31	SLU 53	228	-99	5349	-20.58	626.61	18.63
31	SLU 54	229	-79	5367	-20.73	629.43	18.22
31	SLU 55	229	-66	5380	-20.83	631.31	17.95
31	SLU 56	228	-99	5349	-20.58	626.61	18.63
31	SLU 57	229	-79	5367	-20.73	629.43	18.22
31	SLU 58	228	-99	5349	-20.58	626.61	18.63
31	SLU 59	229	-79	5367	-20.73	629.43	18.22
31	SLU 60	234	-104	5628	-21.94	670.28	19.71
31	SLU 61	234	-85	5646	-22.09	673.1	19.3
31	SLU 62	234	-104	5628	-21.94	670.28	19.71
31	SLU 63	234	-85	5646	-22.09	673.1	19.3
31	SLU 64	228	-95	5162	-19.71	596.63	18.07
31	SLU 65	229	-62	5193	-19.96	601.33	17.39
31	SLU 66	228	-95	5162	-19.71	596.63	18.07
31	SLU 67	229	-75	5180	-19.86	599.45	17.66
31	SLU 68	229	-62	5193	-19.96	601.33	17.39
31	SLU 69	228	-95	5162	-19.71	596.63	18.07
31	SLU 70	229	-75	5180	-19.86	599.45	17.66
31	SLU 71	228	-95	5162	-19.71	596.63	18.07
31	SLU 72	229	-75	5180	-19.86	599.45	17.66
31	SLU 73	241	-76	5843	-23.14	703.21	19.91
31	SLU 74	240	-108	5812	-22.89	698.52	20.59
31	SLU 75	241	-89	5831	-23.04	701.34	20.18
31	SLU 76	241	-76	5843	-23.14	703.21	19.91
31	SLU 77	240	-108	5812	-22.89	698.52	20.59
31	SLU 78	241	-89	5831	-23.04	701.34	20.18
31	SLU 79	240	-108	5812	-22.89	698.52	20.59
31	SLU 80	241	-89	5831	-23.04	701.34	20.18
31	SLU 81	245	-114	6091	-24.25	742.18	21.67
31	SLU 82	246	-95	6110	-24.4	745	21.26
31	SLU 83	245	-114	6091	-24.25	742.18	21.67
31	SLU 84	246	-95	6110	-24.4	745	21.26
31	SLE RA 1	173	-71	3869	-14.65	443.15	13.47
31	SLE RA 2	174	-49	3889	-14.82	446.28	13.01
31	SLE RA 3	173	-71	3869	-14.65	443.15	13.47
31	SLE RA 4	173	-58	3881	-14.75	445.02	13.2
31	SLE RA 5	174	-49	3889	-14.82	446.28	13.01
31	SLE RA 6	173	-71	3869	-14.65	443.15	13.47
31	SLE RA 7	173	-58	3881	-14.75	445.02	13.2
31	SLE RA 8	173	-71	3869	-14.65	443.15	13.47
31	SLE RA 9	173	-58	3881	-14.75	445.02	13.2
31	SLE RA 10	181	-58	4323	-16.94	514.2	14.69
31	SLE RA 11	181	-80	4302	-16.77	511.07	15.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLE RA 12	181	-67	4315	-16.87	512.95	14.88
31	SLE RA 13	181	-58	4323	-16.94	514.2	14.69
31	SLE RA 14	181	-80	4302	-16.77	511.07	15.15
31	SLE RA 15	181	-67	4315	-16.87	512.95	14.88
31	SLE RA 16	181	-80	4302	-16.77	511.07	15.15
31	SLE RA 17	181	-67	4315	-16.87	512.95	14.88
31	SLE RA 18	184	-84	4488	-17.68	540.18	15.87
31	SLE RA 19	185	-71	4501	-17.78	542.06	15.6
31	SLE RA 20	184	-84	4488	-17.68	540.18	15.87
31	SLE RA 21	185	-71	4501	-17.78	542.06	15.6
31	SLE FR 1	173	-71	3869	-14.65	443.15	13.47
31	SLE FR 2	173	-66	3873	-14.69	443.77	13.38
31	SLE FR 3	173	-71	3869	-14.65	443.15	13.47
31	SLE FR 4	177	-70	4059	-15.6	472.88	14.1
31	SLE FR 5	176	-75	4055	-15.56	472.26	14.19
31	SLE FR 6	179	-77	4179	-16.17	491.66	14.67
31	SLE QP 1	173	-71	3869	-14.65	443.15	13.47
31	SLE QP 2	176	-75	4055	-15.56	472.26	14.19
31	SLD 1	821	49	4654	-19.04	579.08	14.48
31	SLD 2	952	-31	4656	-19.07	579.74	19.22
31	SLD 3	788	-239	4368	-16.65	536.09	19.55
31	SLD 4	918	-319	4370	-16.68	536.74	24.29
31	SLD 5	375	427	4668	-20.21	569.28	4.92
31	SLD 6	506	347	4671	-20.25	569.94	9.68
31	SLD 7	263	-533	3713	-12.26	425.96	21.81
31	SLD 8	394	-613	3715	-12.29	426.62	26.58
31	SLD 9	-41	463	4394	-18.83	517.89	1.8
31	SLD 10	90	383	4396	-18.87	518.55	6.56
31	SLD 11	-153	-497	3439	-10.88	374.57	18.69
31	SLD 12	-22	-576	3441	-10.91	375.23	23.45
31	SLD 13	-565	169	3740	-14.44	407.77	4.08
31	SLD 14	-435	90	3742	-14.47	408.42	8.82
31	SLD 15	-599	-119	3453	-12.05	364.77	9.15
31	SLD 16	-468	-198	3455	-12.09	365.43	13.89
31	SLV 1	1640	205	5416	-23.45	714.76	14.83
31	SLV 2	1936	25	5421	-23.53	716.25	25.57
31	SLV 3	1563	-449	4765	-18.03	617.09	26.38
31	SLV 4	1859	-629	4770	-18.1	618.58	37.12
31	SLV 5	628	1065	5448	-26.13	692.62	-6.92
31	SLV 6	925	884	5453	-26.2	694.11	3.87
31	SLV 7	372	-1116	3279	-8.05	367.05	31.58
31	SLV 8	668	-1297	3284	-8.13	368.54	42.37
31	SLV 9	-316	1147	4825	-23	575.97	-13.99
31	SLV 10	-19	966	4830	-23.07	577.46	-3.2
31	SLV 11	-572	-1033	2656	-4.92	250.4	24.51
31	SLV 12	-276	-1214	2661	-5	251.89	35.29
31	SLV 13	-1506	480	3339	-13.02	325.93	-8.75
31	SLV 14	-1211	300	3344	-13.1	327.42	1.99
31	SLV 15	-1583	-174	2688	-7.6	228.26	2.8
31	SLV 16	-1288	-355	2693	-7.67	229.75	13.54
31	CRTFP Ux+	0	0	0	0	-0.01	0
31	CRTFP Ux-	0	0	0	0	0.01	0
31	CRTFP Uy+	0	0	0	0	0	0
31	CRTFP Uy-	0	0	0	0	0	0
32	SLU 1	159	25	2343	-2.41	-163.26	9.83
32	SLU 2	160	49	2358	-2.43	-164.79	9.14
32	SLU 3	159	25	2343	-2.41	-163.26	9.83
32	SLU 4	160	39	2352	-2.43	-164.18	9.41
32	SLU 5	160	49	2358	-2.43	-164.79	9.14
32	SLU 6	159	25	2343	-2.41	-163.26	9.83
32	SLU 7	160	39	2352	-2.43	-164.18	9.41
32	SLU 8	159	25	2343	-2.41	-163.26	9.83
32	SLU 9	160	39	2352	-2.43	-164.18	9.41
32	SLU 10	169	60	2673	-2.89	-198.97	12.37
32	SLU 11	168	36	2658	-2.86	-197.43	13.06
32	SLU 12	169	50	2667	-2.88	-198.35	12.65
32	SLU 13	169	60	2673	-2.89	-198.97	12.37
32	SLU 14	168	36	2658	-2.86	-197.43	13.06
32	SLU 15	169	50	2667	-2.88	-198.35	12.65
32	SLU 16	168	36	2658	-2.86	-197.43	13.06
32	SLU 17	169	50	2667	-2.88	-198.35	12.65
32	SLU 18	172	40	2793	-3.06	-212.08	14.45
32	SLU 19	173	55	2802	-3.07	-213	14.03
32	SLU 20	172	40	2793	-3.06	-212.08	14.45
32	SLU 21	173	55	2802	-3.07	-213	14.03
32	SLU 22	169	33	2581	-2.75	-190.38	12
32	SLU 23	170	56	2596	-2.77	-191.92	11.31
32	SLU 24	169	33	2581	-2.75	-190.38	12
32	SLU 25	169	47	2590	-2.76	-191.3	11.59
32	SLU 26	170	56	2596	-2.77	-191.92	11.31
32	SLU 27	169	33	2581	-2.75	-190.38	12
32	SLU 28	169	47	2590	-2.76	-191.3	11.59
32	SLU 29	169	33	2581	-2.75	-190.38	12
32	SLU 30	169	47	2590	-2.76	-191.3	11.59
32	SLU 31	179	67	2911	-3.22	-226.09	14.54
32	SLU 32	178	43	2896	-3.2	-224.56	15.24
32	SLU 33	178	58	2905	-3.22	-225.48	14.82
32	SLU 34	179	67	2911	-3.22	-226.09	14.54
32	SLU 35	178	43	2896	-3.2	-224.56	15.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLU 36	178	58	2905	-3.22	-225.48	14.82
32	SLU 37	178	43	2896	-3.2	-224.56	15.24
32	SLU 38	178	58	2905	-3.22	-225.48	14.82
32	SLU 39	182	48	3031	-3.39	-239.2	16.62
32	SLU 40	182	62	3040	-3.41	-240.13	16.2
32	SLU 41	182	48	3031	-3.39	-239.2	16.62
32	SLU 42	182	62	3040	-3.41	-240.13	16.2
32	SLU 43	204	30	2965	-3.02	-202.93	12.03
32	SLU 44	205	54	2980	-3.04	-204.47	11.34
32	SLU 45	204	30	2965	-3.02	-202.93	12.03
32	SLU 46	204	44	2974	-3.03	-203.85	11.62
32	SLU 47	205	54	2980	-3.04	-204.47	11.34
32	SLU 48	204	30	2965	-3.02	-202.93	12.03
32	SLU 49	204	44	2974	-3.03	-203.85	11.62
32	SLU 50	204	30	2965	-3.02	-202.93	12.03
32	SLU 51	204	44	2974	-3.03	-203.85	11.62
32	SLU 52	214	65	3295	-3.49	-238.64	14.57
32	SLU 53	213	41	3280	-3.47	-237.11	15.27
32	SLU 54	214	55	3289	-3.48	-238.03	14.85
32	SLU 55	214	65	3295	-3.49	-238.64	14.57
32	SLU 56	213	41	3280	-3.47	-237.11	15.27
32	SLU 57	214	55	3289	-3.48	-238.03	14.85
32	SLU 58	213	41	3280	-3.47	-237.11	15.27
32	SLU 59	214	55	3289	-3.48	-238.03	14.85
32	SLU 60	217	45	3415	-3.66	-251.75	16.65
32	SLU 61	217	60	3424	-3.68	-252.67	16.24
32	SLU 62	217	45	3415	-3.66	-251.75	16.65
32	SLU 63	217	60	3424	-3.68	-252.67	16.24
32	SLU 64	213	38	3202	-3.36	-230.06	14.21
32	SLU 65	214	61	3217	-3.38	-231.59	13.51
32	SLU 66	213	38	3202	-3.36	-230.06	14.21
32	SLU 67	214	52	3211	-3.37	-230.98	13.79
32	SLU 68	214	61	3217	-3.38	-231.59	13.51
32	SLU 69	213	38	3202	-3.36	-230.06	14.21
32	SLU 70	214	52	3211	-3.37	-230.98	13.79
32	SLU 71	213	38	3202	-3.36	-230.06	14.21
32	SLU 72	214	52	3211	-3.37	-230.98	13.79
32	SLU 73	223	72	3532	-3.83	-265.77	16.74
32	SLU 74	222	48	3517	-3.81	-264.23	17.44
32	SLU 75	223	63	3526	-3.82	-265.16	17.02
32	SLU 76	223	72	3532	-3.83	-265.77	16.74
32	SLU 77	222	48	3517	-3.81	-264.23	17.44
32	SLU 78	223	63	3526	-3.82	-265.16	17.02
32	SLU 79	222	48	3517	-3.81	-264.23	17.44
32	SLU 80	223	63	3526	-3.82	-265.16	17.02
32	SLU 81	226	53	3652	-4	-278.88	18.82
32	SLU 82	227	67	3661	-4.02	-279.8	18.41
32	SLU 83	226	53	3652	-4	-278.88	18.82
32	SLU 84	227	67	3661	-4.02	-279.8	18.41
32	SLE RA 1	162	27	2411	-2.51	-171.01	10.45
32	SLE RA 2	163	43	2421	-2.52	-172.03	9.99
32	SLE RA 3	162	27	2411	-2.51	-171.01	10.45
32	SLE RA 4	162	37	2417	-2.52	-171.62	10.17
32	SLE RA 5	163	43	2421	-2.52	-172.03	9.99
32	SLE RA 6	162	27	2411	-2.51	-171.01	10.45
32	SLE RA 7	162	37	2417	-2.52	-171.62	10.17
32	SLE RA 8	162	27	2411	-2.51	-171.01	10.45
32	SLE RA 9	162	37	2417	-2.52	-171.62	10.17
32	SLE RA 10	169	50	2631	-2.82	-194.81	12.14
32	SLE RA 11	168	34	2621	-2.81	-193.79	12.61
32	SLE RA 12	168	44	2627	-2.82	-194.4	12.33
32	SLE RA 13	169	50	2631	-2.82	-194.81	12.14
32	SLE RA 14	168	34	2621	-2.81	-193.79	12.61
32	SLE RA 15	168	44	2627	-2.82	-194.4	12.33
32	SLE RA 16	168	34	2621	-2.81	-193.79	12.61
32	SLE RA 17	168	44	2627	-2.82	-194.4	12.33
32	SLE RA 18	171	37	2711	-2.94	-203.55	13.53
32	SLE RA 19	171	47	2717	-2.95	-204.17	13.25
32	SLE RA 20	171	37	2711	-2.94	-203.55	13.53
32	SLE RA 21	171	47	2717	-2.95	-204.17	13.25
32	SLE FR 1	162	27	2411	-2.51	-171.01	10.45
32	SLE FR 2	162	30	2413	-2.51	-171.21	10.36
32	SLE FR 3	162	27	2411	-2.51	-171.01	10.45
32	SLE FR 4	165	33	2503	-2.64	-180.98	11.28
32	SLE FR 5	165	30	2501	-2.64	-180.77	11.37
32	SLE FR 6	166	32	2561	-2.72	-187.28	11.99
32	SLE QP 1	162	27	2411	-2.51	-171.01	10.45
32	SLE QP 2	165	30	2501	-2.64	-180.77	11.37
32	SLD 1	832	114	2523	-2.84	-151.94	3.5
32	SLD 2	967	79	2522	-2.84	-151.8	8.28
32	SLD 3	795	-104	2373	-2.62	-135.75	8.59
32	SLD 4	930	-139	2372	-2.61	-135.61	13.38
32	SLD 5	372	398	2734	-3.05	-196.72	-0.4
32	SLD 6	508	363	2733	-3.04	-196.59	4.41
32	SLD 7	251	-328	2236	-2.28	-142.76	16.58
32	SLD 8	387	-363	2235	-2.28	-142.62	21.39
32	SLD 9	-58	424	2766	-2.99	-218.92	1.36
32	SLD 10	78	388	2765	-2.99	-218.78	6.17
32	SLD 11	-179	-302	2269	-2.23	-164.96	18.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLD 12	-43	-338	2268	-2.23	-164.82	23.15
32	SLD 13	-601	199	2630	-2.66	-225.93	9.37
32	SLD 14	-466	164	2629	-2.66	-225.8	14.16
32	SLD 15	-638	-18	2480	-2.43	-209.74	14.47
32	SLD 16	-503	-54	2479	-2.43	-209.61	19.25
32	SLV 1	1679	221	2550	-3.11	-115.37	-6.65
32	SLV 2	1985	141	2548	-3.1	-115.06	4.2
32	SLV 3	1596	-274	2211	-2.59	-78.61	4.95
32	SLV 4	1902	-354	2209	-2.58	-78.3	15.8
32	SLV 5	638	866	3031	-3.57	-217.01	-15.45
32	SLV 6	945	785	3029	-3.56	-216.7	-4.55
32	SLV 7	360	-783	1901	-1.84	-94.48	23.22
32	SLV 8	667	-863	1898	-1.83	-94.17	34.12
32	SLV 9	-338	924	3104	-3.45	-267.37	-11.37
32	SLV 10	-31	843	3101	-3.44	-267.06	-0.47
32	SLV 11	-616	-725	1973	-1.71	-144.84	27.3
32	SLV 12	-309	-805	1971	-1.7	-144.54	38.2
32	SLV 13	-1573	414	2793	-2.69	-283.24	6.95
32	SLV 14	-1267	334	2791	-2.69	-282.94	17.8
32	SLV 15	-1656	-80	2454	-2.17	-246.48	18.55
32	SLV 16	-1350	-160	2451	-2.16	-246.18	29.4
32	CRTFP Ux+	0	0	0	0	0	0
32	CRTFP Ux-	0	0	0	0	0	0
32	CRTFP Uy+	0	0	0	0	0	0
32	CRTFP Uy-	0	0	0	0	0	0
33	SLU 1	140	98	5484	-30.11	-485.73	8.18
33	SLU 2	141	122	5531	-30.28	-490.81	8.37
33	SLU 3	140	98	5484	-30.11	-485.73	8.18
33	SLU 4	141	112	5512	-30.21	-488.78	8.29
33	SLU 5	141	122	5531	-30.28	-490.81	8.37
33	SLU 6	140	98	5484	-30.11	-485.73	8.18
33	SLU 7	141	112	5512	-30.21	-488.78	8.29
33	SLU 8	140	98	5484	-30.11	-485.73	8.18
33	SLU 9	141	112	5512	-30.21	-488.78	8.29
33	SLU 10	147	154	6530	-35.32	-599.88	10.1
33	SLU 11	146	131	6483	-35.16	-594.8	9.91
33	SLU 12	147	145	6511	-35.26	-597.85	10.03
33	SLU 13	147	154	6530	-35.32	-599.88	10.1
33	SLU 14	146	131	6483	-35.16	-594.8	9.91
33	SLU 15	147	145	6511	-35.26	-597.85	10.03
33	SLU 16	146	131	6483	-35.16	-594.8	9.91
33	SLU 17	147	145	6511	-35.26	-597.85	10.03
33	SLU 18	148	145	6912	-37.32	-641.55	10.66
33	SLU 19	149	159	6940	-37.42	-644.6	10.77
33	SLU 20	148	145	6912	-37.32	-641.55	10.66
33	SLU 21	149	159	6940	-37.42	-644.6	10.77
33	SLU 22	146	120	6238	-34.01	-567.2	9.39
33	SLU 23	148	144	6285	-34.17	-572.28	9.57
33	SLU 24	146	120	6238	-34.01	-567.2	9.39
33	SLU 25	147	134	6266	-34.11	-570.25	9.5
33	SLU 26	148	144	6285	-34.17	-572.28	9.57
33	SLU 27	146	120	6238	-34.01	-567.2	9.39
33	SLU 28	147	134	6266	-34.11	-570.25	9.5
33	SLU 29	146	120	6238	-34.01	-567.2	9.39
33	SLU 30	147	134	6266	-34.11	-570.25	9.5
33	SLU 31	153	176	7284	-39.22	-681.36	11.31
33	SLU 32	152	153	7237	-39.05	-676.28	11.12
33	SLU 33	153	167	7265	-39.15	-679.32	11.23
33	SLU 34	153	176	7284	-39.22	-681.36	11.31
33	SLU 35	152	153	7237	-39.05	-676.28	11.12
33	SLU 36	153	167	7265	-39.15	-679.32	11.23
33	SLU 37	152	153	7237	-39.05	-676.28	11.12
33	SLU 38	153	167	7265	-39.15	-679.32	11.23
33	SLU 39	155	167	7665	-41.21	-723.02	11.86
33	SLU 40	155	181	7694	-41.31	-726.07	11.97
33	SLU 41	155	167	7665	-41.21	-723.02	11.86
33	SLU 42	155	181	7694	-41.31	-726.07	11.97
33	SLU 43	180	120	6871	-37.81	-603.51	10.22
33	SLU 44	181	144	6918	-37.98	-608.59	10.41
33	SLU 45	180	120	6871	-37.81	-603.51	10.22
33	SLU 46	180	134	6899	-37.91	-606.56	10.33
33	SLU 47	181	144	6918	-37.98	-608.59	10.41
33	SLU 48	180	120	6871	-37.81	-603.51	10.22
33	SLU 49	180	134	6899	-37.91	-606.56	10.33
33	SLU 50	180	120	6871	-37.81	-603.51	10.22
33	SLU 51	180	134	6899	-37.91	-606.56	10.33
33	SLU 52	187	176	7917	-43.02	-717.67	12.14
33	SLU 53	186	153	7870	-42.86	-712.59	11.96
33	SLU 54	186	167	7898	-42.96	-715.64	12.07
33	SLU 55	187	176	7917	-43.02	-717.67	12.14
33	SLU 56	186	153	7870	-42.86	-712.59	11.96
33	SLU 57	186	167	7898	-42.96	-715.64	12.07
33	SLU 58	186	153	7870	-42.86	-712.59	11.96
33	SLU 59	186	167	7898	-42.96	-715.64	12.07
33	SLU 60	188	167	8298	-45.02	-759.33	12.7
33	SLU 61	189	181	8326	-45.12	-762.38	12.81
33	SLU 62	188	167	8298	-45.02	-759.33	12.7
33	SLU 63	189	181	8326	-45.12	-762.38	12.81
33	SLU 64	186	142	7625	-41.7	-684.99	11.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLU 65	187	166	7672	-41.87	-690.07	11.61
33	SLU 66	186	142	7625	-41.7	-684.99	11.43
33	SLU 67	187	156	7653	-41.8	-688.03	11.54
33	SLU 68	187	166	7672	-41.87	-690.07	11.61
33	SLU 69	186	142	7625	-41.7	-684.99	11.43
33	SLU 70	187	156	7653	-41.8	-688.03	11.54
33	SLU 71	186	142	7625	-41.7	-684.99	11.43
33	SLU 72	187	156	7653	-41.8	-688.03	11.54
33	SLU 73	193	198	8671	-46.92	-799.14	13.35
33	SLU 74	192	175	8624	-46.75	-794.06	13.16
33	SLU 75	193	189	8652	-46.85	-797.11	13.27
33	SLU 76	193	198	8671	-46.92	-799.14	13.35
33	SLU 77	192	175	8624	-46.75	-794.06	13.16
33	SLU 78	193	189	8652	-46.85	-797.11	13.27
33	SLU 79	192	175	8624	-46.75	-794.06	13.16
33	SLU 80	193	189	8652	-46.85	-797.11	13.27
33	SLU 81	195	189	9052	-48.91	-840.81	13.9
33	SLU 82	195	203	9080	-49.01	-843.85	14.02
33	SLU 83	195	189	9052	-48.91	-840.81	13.9
33	SLU 84	195	203	9080	-49.01	-843.85	14.02
33	SLE RA 1	142	105	5700	-31.22	-509.01	8.52
33	SLE RA 2	143	120	5731	-31.34	-512.39	8.65
33	SLE RA 3	142	105	5700	-31.22	-509.01	8.52
33	SLE RA 4	142	114	5718	-31.29	-511.04	8.6
33	SLE RA 5	143	120	5731	-31.34	-512.39	8.65
33	SLE RA 6	142	105	5700	-31.22	-509.01	8.52
33	SLE RA 7	142	114	5718	-31.29	-511.04	8.6
33	SLE RA 8	142	105	5700	-31.22	-509.01	8.52
33	SLE RA 9	142	114	5718	-31.29	-511.04	8.6
33	SLE RA 10	147	142	6397	-34.7	-585.11	9.81
33	SLE RA 11	146	126	6366	-34.59	-581.72	9.68
33	SLE RA 12	146	136	6384	-34.65	-583.75	9.76
33	SLE RA 13	147	142	6397	-34.7	-585.11	9.81
33	SLE RA 14	146	126	6366	-34.59	-581.72	9.68
33	SLE RA 15	146	136	6384	-34.65	-583.75	9.76
33	SLE RA 16	146	126	6366	-34.59	-581.72	9.68
33	SLE RA 17	146	136	6384	-34.65	-583.75	9.76
33	SLE RA 18	147	135	6651	-36.03	-612.89	10.18
33	SLE RA 19	148	145	6670	-36.1	-614.92	10.25
33	SLE RA 20	147	135	6651	-36.03	-612.89	10.18
33	SLE RA 21	148	145	6670	-36.1	-614.92	10.25
33	SLE FR 1	142	105	5700	-31.22	-509.01	8.52
33	SLE FR 2	142	108	5706	-31.25	-509.68	8.55
33	SLE FR 3	142	105	5700	-31.22	-509.01	8.52
33	SLE FR 4	144	117	5991	-32.69	-540.85	9.05
33	SLE FR 5	143	114	5985	-32.67	-540.17	9.02
33	SLE FR 6	145	120	6175	-33.63	-560.95	9.35
33	SLE QP 1	142	105	5700	-31.22	-509.01	8.52
33	SLE QP 2	143	114	5985	-32.67	-540.17	9.02
33	SLD 1	797	175	5972	-32.87	-549.81	6.65
33	SLD 2	930	172	5971	-32.77	-549.71	10.55
33	SLD 3	760	-49	5510	-31.1	-500.01	4
33	SLD 4	892	-52	5508	-31	-499.91	7.91
33	SLD 5	349	473	6684	-35.44	-618.63	10.95
33	SLD 6	482	470	6682	-35.34	-618.53	14.87
33	SLD 7	225	-274	5141	-29.55	-452.62	2.13
33	SLD 8	358	-277	5140	-29.45	-452.52	6.05
33	SLD 9	-71	505	6831	-35.88	-627.82	11.99
33	SLD 10	62	502	6829	-35.78	-627.72	15.91
33	SLD 11	-195	-242	5288	-29.99	-461.81	3.17
33	SLD 12	-62	-245	5287	-29.89	-461.71	7.09
33	SLD 13	-605	280	6462	-34.33	-580.43	10.13
33	SLD 14	-473	277	6461	-34.23	-580.34	14.04
33	SLD 15	-643	56	6000	-32.56	-530.63	7.49
33	SLD 16	-510	53	5998	-32.46	-530.53	11.39
33	SLV 1	1628	252	5957	-33.13	-562.1	3.61
33	SLV 2	1928	245	5953	-32.9	-561.87	12.46
33	SLV 3	1542	-257	4906	-29.11	-449.01	-2.39
33	SLV 4	1842	-264	4902	-28.89	-448.79	6.45
33	SLV 5	613	929	7572	-38.97	-718.34	13.39
33	SLV 6	914	923	7568	-38.74	-718.12	22.27
33	SLV 7	328	-767	4069	-25.59	-341.39	-6.62
33	SLV 8	629	-773	4065	-25.37	-341.16	2.26
33	SLV 9	-342	1001	7905	-39.96	-739.18	15.78
33	SLV 10	-41	994	7901	-39.74	-738.95	24.66
33	SLV 11	-627	-695	4403	-26.59	-362.23	-4.23
33	SLV 12	-326	-702	4399	-26.37	-362	4.65
33	SLV 13	-1555	491	7068	-36.44	-631.55	11.59
33	SLV 14	-1255	484	7064	-36.22	-631.33	20.43
33	SLV 15	-1641	-18	6017	-32.43	-518.47	5.58
33	SLV 16	-1341	-24	6014	-32.21	-518.24	14.43
33	CRTFP Ux+	0	0	0	0	0	0
33	CRTFP Ux-	0	0	0	0	0	0
33	CRTFP Uy+	0	0	0	0	0	0
33	CRTFP Uy-	0	0	0	0	0	0
35	SLU 1	99	115	7542	-154.66	101.23	-11.06
35	SLU 2	100	142	7611	-156.22	102.31	-10.72
35	SLU 3	99	115	7542	-154.66	101.23	-11.06
35	SLU 4	99	131	7584	-155.59	101.88	-10.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLU 5	100	142	7611	-156.22	102.31	-10.72
35	SLU 6	99	115	7542	-154.66	101.23	-11.06
35	SLU 7	99	131	7584	-155.59	101.88	-10.85
35	SLU 8	99	115	7542	-154.66	101.23	-11.06
35	SLU 9	99	131	7584	-155.59	101.88	-10.85
35	SLU 10	102	156	9078	-186.79	125.03	-13.58
35	SLU 11	101	130	9009	-185.23	123.95	-13.92
35	SLU 12	102	145	9051	-186.17	124.6	-13.72
35	SLU 13	102	156	9078	-186.79	125.03	-13.58
35	SLU 14	101	130	9009	-185.23	123.95	-13.92
35	SLU 15	102	145	9051	-186.17	124.6	-13.72
35	SLU 16	101	130	9009	-185.23	123.95	-13.92
35	SLU 17	102	145	9051	-186.17	124.6	-13.72
35	SLU 18	102	136	9638	-198.33	133.69	-15.15
35	SLU 19	103	152	9680	-199.27	134.33	-14.95
35	SLU 20	102	136	9638	-198.33	133.69	-15.15
35	SLU 21	103	152	9680	-199.27	134.33	-14.95
35	SLU 22	102	128	8647	-178.14	117.77	-12.92
35	SLU 23	103	154	8716	-179.7	118.84	-12.58
35	SLU 24	102	128	8647	-178.14	117.77	-12.92
35	SLU 25	103	143	8688	-179.08	118.41	-12.72
35	SLU 26	103	154	8716	-179.7	118.84	-12.58
35	SLU 27	102	128	8647	-178.14	117.77	-12.92
35	SLU 28	103	143	8688	-179.08	118.41	-12.72
35	SLU 29	102	128	8647	-178.14	117.77	-12.92
35	SLU 30	103	143	8688	-179.08	118.41	-12.72
35	SLU 31	106	168	10183	-210.27	141.56	-15.45
35	SLU 32	104	142	10114	-208.71	140.48	-15.78
35	SLU 33	105	158	10156	-209.65	141.13	-15.58
35	SLU 34	106	168	10183	-210.27	141.56	-15.45
35	SLU 35	104	142	10114	-208.71	140.48	-15.78
35	SLU 36	105	158	10156	-209.65	141.13	-15.58
35	SLU 37	104	142	10114	-208.71	140.48	-15.78
35	SLU 38	105	158	10156	-209.65	141.13	-15.58
35	SLU 39	105	148	10743	-221.82	150.22	-17.01
35	SLU 40	106	164	10785	-222.75	150.86	-16.81
35	SLU 41	105	148	10743	-221.82	150.22	-17.01
35	SLU 42	106	164	10785	-222.75	150.86	-16.81
35	SLU 43	127	145	9426	-193	125.94	-13.73
35	SLU 44	128	172	9495	-194.56	127.01	-13.4
35	SLU 45	127	145	9426	-193	125.94	-13.73
35	SLU 46	128	161	9467	-193.94	126.58	-13.53
35	SLU 47	128	172	9495	-194.56	127.01	-13.4
35	SLU 48	127	145	9426	-193	125.94	-13.73
35	SLU 49	128	161	9467	-193.94	126.58	-13.53
35	SLU 50	127	145	9426	-193	125.94	-13.73
35	SLU 51	128	161	9467	-193.94	126.58	-13.53
35	SLU 52	131	186	10962	-225.13	149.73	-16.26
35	SLU 53	130	160	10893	-223.57	148.66	-16.6
35	SLU 54	130	176	10935	-224.51	149.3	-16.4
35	SLU 55	131	186	10962	-225.13	149.73	-16.26
35	SLU 56	130	160	10893	-223.57	148.66	-16.6
35	SLU 57	130	176	10935	-224.51	149.3	-16.4
35	SLU 58	130	160	10893	-223.57	148.66	-16.6
35	SLU 59	130	176	10935	-224.51	149.3	-16.4
35	SLU 60	131	166	11522	-236.68	158.39	-17.83
35	SLU 61	131	182	11563	-237.61	159.04	-17.62
35	SLU 62	131	166	11522	-236.68	158.39	-17.83
35	SLU 63	131	182	11563	-237.61	159.04	-17.62
35	SLU 64	130	158	10531	-216.48	142.47	-15.6
35	SLU 65	132	184	10600	-218.04	143.54	-15.26
35	SLU 66	130	158	10531	-216.48	142.47	-15.6
35	SLU 67	131	174	10572	-217.42	143.11	-15.4
35	SLU 68	132	184	10600	-218.04	143.54	-15.26
35	SLU 69	130	158	10531	-216.48	142.47	-15.6
35	SLU 70	131	174	10572	-217.42	143.11	-15.4
35	SLU 71	130	158	10531	-216.48	142.47	-15.6
35	SLU 72	131	174	10572	-217.42	143.11	-15.4
35	SLU 73	134	199	12067	-248.62	166.26	-18.13
35	SLU 74	133	172	11998	-247.06	165.19	-18.46
35	SLU 75	134	188	12039	-247.99	165.83	-18.26
35	SLU 76	134	199	12067	-248.62	166.26	-18.13
35	SLU 77	133	172	11998	-247.06	165.19	-18.46
35	SLU 78	134	188	12039	-247.99	165.83	-18.26
35	SLU 79	133	172	11998	-247.06	165.19	-18.46
35	SLU 80	134	188	12039	-247.99	165.83	-18.26
35	SLU 81	134	178	12627	-260.16	174.92	-19.69
35	SLU 82	135	194	12668	-261.1	175.57	-19.49
35	SLU 83	134	178	12627	-260.16	174.92	-19.69
35	SLU 84	135	194	12668	-261.1	175.57	-19.49
35	SLE RA 1	100	119	7858	-161.37	105.96	-11.59
35	SLE RA 2	100	136	7904	-162.41	106.67	-11.36
35	SLE RA 3	100	119	7858	-161.37	105.96	-11.59
35	SLE RA 4	100	129	7885	-161.99	106.39	-11.45
35	SLE RA 5	100	136	7904	-162.41	106.67	-11.36
35	SLE RA 6	100	119	7858	-161.37	105.96	-11.59
35	SLE RA 7	100	129	7885	-161.99	106.39	-11.45
35	SLE RA 8	100	119	7858	-161.37	105.96	-11.59
35	SLE RA 9	100	129	7885	-161.99	106.39	-11.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLE RA 10	102	146	8882	-182.79	121.82	-13.27
35	SLE RA 11	101	128	8836	-181.75	121.1	-13.5
35	SLE RA 12	102	139	8864	-182.37	121.53	-13.36
35	SLE RA 13	102	146	8882	-182.79	121.82	-13.27
35	SLE RA 14	101	128	8836	-181.75	121.1	-13.5
35	SLE RA 15	102	139	8864	-182.37	121.53	-13.36
35	SLE RA 16	101	128	8836	-181.75	121.1	-13.5
35	SLE RA 17	102	139	8864	-182.37	121.53	-13.36
35	SLE RA 18	102	132	9255	-190.48	127.59	-14.32
35	SLE RA 19	102	143	9283	-191.11	128.02	-14.18
35	SLE RA 20	102	132	9255	-190.48	127.59	-14.32
35	SLE RA 21	102	143	9283	-191.11	128.02	-14.18
35	SLE FR 1	100	119	7858	-161.37	105.96	-11.59
35	SLE FR 2	100	122	7867	-161.57	106.1	-11.54
35	SLE FR 3	100	119	7858	-161.37	105.96	-11.59
35	SLE FR 4	100	126	8286	-170.31	112.59	-12.36
35	SLE FR 5	100	123	8277	-170.1	112.45	-12.41
35	SLE FR 6	101	126	8556	-175.92	116.78	-12.95
35	SLE QP 1	100	119	7858	-161.37	105.96	-11.59
35	SLE QP 2	100	123	8277	-170.1	112.45	-12.41
35	SLD 1	612	295	8100	-156.32	134.93	-7.23
35	SLD 2	716	361	8093	-155.83	135.38	-4.12
35	SLD 3	581	39	7413	-140.46	125	-10.15
35	SLD 4	685	105	7406	-139.97	125.45	-7.03
35	SLD 5	264	539	9267	-190.2	134.09	-7.53
35	SLD 6	368	606	9260	-189.71	134.54	-4.41
35	SLD 7	161	-314	6979	-137.32	101	-17.24
35	SLD 8	265	-247	6972	-136.83	101.46	-14.11
35	SLD 9	-65	493	9582	-203.37	123.44	-10.7
35	SLD 10	39	560	9575	-202.88	123.9	-7.57
35	SLD 11	-168	-360	7294	-150.49	90.36	-20.41
35	SLD 12	-64	-294	7286	-150	90.81	-17.28
35	SLD 13	-484	141	9148	-200.23	99.44	-17.78
35	SLD 14	-381	207	9141	-199.74	99.9	-14.67
35	SLD 15	-515	-115	8461	-184.37	89.52	-20.7
35	SLD 16	-412	-49	8454	-183.88	89.97	-17.58
35	SLV 1	1262	513	7876	-138.87	163.47	-0.68
35	SLV 2	1497	663	7860	-137.77	164.49	6.38
35	SLV 3	1192	-68	6318	-102.86	140.92	-7.29
35	SLV 4	1427	82	6301	-101.75	141.95	-0.23
35	SLV 5	474	1068	10526	-215.74	161.58	-1.35
35	SLV 6	709	1219	10510	-214.63	162.61	5.74
35	SLV 7	238	-869	5331	-95.7	86.44	-23.38
35	SLV 8	474	-718	5315	-94.59	87.47	-16.29
35	SLV 9	-273	963	11239	-245.61	137.42	-8.52
35	SLV 10	-37	1114	11223	-244.5	138.46	-1.43
35	SLV 11	-509	-973	6044	-125.57	62.29	-30.55
35	SLV 12	-273	-822	6028	-124.46	63.32	-23.46
35	SLV 13	-1226	163	10252	-238.45	82.94	-24.59
35	SLV 14	-991	314	10236	-237.34	83.97	-17.53
35	SLV 15	-1297	-417	8694	-202.44	60.4	-31.2
35	SLV 16	-1062	-267	8678	-201.33	61.43	-24.14
35	CRTFP Ux+	0	0	0	0	0	0
35	CRTFP Ux-	0	0	0	0	0	0
35	CRTFP Uy+	0	0	0	0	0	0
35	CRTFP Uy-	0	0	0	0	0	0
38	SLU 1	226	391	17879	908.17	267.37	-6.97
38	SLU 2	228	450	18050	920.1	269.37	-8.45
38	SLU 3	226	391	17879	908.17	267.37	-6.97
38	SLU 4	227	426	17982	915.33	268.57	-7.86
38	SLU 5	228	450	18050	920.1	269.37	-8.45
38	SLU 6	226	391	17879	908.17	267.37	-6.97
38	SLU 7	227	426	17982	915.33	268.57	-7.86
38	SLU 8	226	391	17879	908.17	267.37	-6.97
38	SLU 9	227	426	17982	915.33	268.57	-7.86
38	SLU 10	235	536	21611	1128.23	316.45	-12.85
38	SLU 11	233	477	21440	1116.29	314.44	-11.37
38	SLU 12	234	512	21543	1123.45	315.64	-12.26
38	SLU 13	235	536	21611	1128.23	316.45	-12.85
38	SLU 14	233	477	21440	1116.29	314.44	-11.37
38	SLU 15	234	512	21543	1123.45	315.64	-12.26
38	SLU 16	233	477	21440	1116.29	314.44	-11.37
38	SLU 17	234	512	21543	1123.45	315.64	-12.26
38	SLU 18	236	513	22967	1205.49	334.62	-13.26
38	SLU 19	237	549	23069	1212.65	335.82	-14.15
38	SLU 20	236	513	22967	1205.49	334.62	-13.26
38	SLU 21	237	549	23069	1212.65	335.82	-14.15
38	SLU 22	234	452	20548	1061.13	303.3	-9.54
38	SLU 23	236	512	20719	1073.07	305.31	-11.02
38	SLU 24	234	452	20548	1061.13	303.3	-9.54
38	SLU 25	235	488	20651	1068.29	304.5	-10.43
38	SLU 26	236	512	20719	1073.07	305.31	-11.02
38	SLU 27	234	452	20548	1061.13	303.3	-9.54
38	SLU 28	235	488	20651	1068.29	304.5	-10.43
38	SLU 29	234	452	20548	1061.13	303.3	-9.54
38	SLU 30	235	488	20651	1068.29	304.5	-10.43
38	SLU 31	243	598	24281	1281.19	352.38	-15.42
38	SLU 32	241	538	24110	1269.26	350.37	-13.94
38	SLU 33	242	574	24212	1276.42	351.58	-14.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 34	243	598	24281	1281.19	352.38	-15.42
38	SLU 35	241	538	24110	1269.26	350.37	-13.94
38	SLU 36	242	574	24212	1276.42	351.58	-14.82
38	SLU 37	241	538	24110	1269.26	350.37	-13.94
38	SLU 38	242	574	24212	1276.42	351.58	-14.82
38	SLU 39	244	575	25636	1358.45	370.55	-15.82
38	SLU 40	245	611	25739	1365.61	371.75	-16.71
38	SLU 41	244	575	25636	1358.45	370.55	-15.82
38	SLU 42	245	611	25739	1365.61	371.75	-16.71
38	SLU 43	291	487	22327	1128.17	335.26	-8.19
38	SLU 44	293	546	22498	1140.11	337.26	-9.67
38	SLU 45	291	487	22327	1128.17	335.26	-8.19
38	SLU 46	292	522	22430	1135.33	336.46	-9.08
38	SLU 47	293	546	22498	1140.11	337.26	-9.67
38	SLU 48	291	487	22327	1128.17	335.26	-8.19
38	SLU 49	292	522	22430	1135.33	336.46	-9.08
38	SLU 50	291	487	22327	1128.17	335.26	-8.19
38	SLU 51	292	522	22430	1135.33	336.46	-9.08
38	SLU 52	300	632	26060	1348.23	384.34	-14.07
38	SLU 53	298	573	25889	1336.3	382.33	-12.59
38	SLU 54	299	608	25991	1343.46	383.54	-13.47
38	SLU 55	300	632	26060	1348.23	384.34	-14.07
38	SLU 56	298	573	25889	1336.3	382.33	-12.59
38	SLU 57	299	608	25991	1343.46	383.54	-13.47
38	SLU 58	298	573	25889	1336.3	382.33	-12.59
38	SLU 59	299	608	25991	1343.46	383.54	-13.47
38	SLU 60	301	610	27415	1425.5	402.51	-14.47
38	SLU 61	302	645	27518	1432.66	403.71	-15.36
38	SLU 62	301	610	27415	1425.5	402.51	-14.47
38	SLU 63	302	645	27518	1432.66	403.71	-15.36
38	SLU 64	299	548	24997	1281.14	371.19	-10.75
38	SLU 65	301	608	25168	1293.07	373.2	-12.23
38	SLU 66	299	548	24997	1281.14	371.19	-10.75
38	SLU 67	300	584	25099	1288.3	372.39	-11.64
38	SLU 68	301	608	25168	1293.07	373.2	-12.23
38	SLU 69	299	548	24997	1281.14	371.19	-10.75
38	SLU 70	300	584	25099	1288.3	372.39	-11.64
38	SLU 71	299	548	24997	1281.14	371.19	-10.75
38	SLU 72	300	584	25099	1288.3	372.39	-11.64
38	SLU 73	308	694	28729	1501.2	420.27	-16.63
38	SLU 74	306	634	28558	1489.26	418.26	-15.15
38	SLU 75	307	670	28661	1496.42	419.47	-16.04
38	SLU 76	308	694	28729	1501.2	420.27	-16.63
38	SLU 77	306	634	28558	1489.26	418.26	-15.15
38	SLU 78	307	670	28661	1496.42	419.47	-16.04
38	SLU 79	306	634	28558	1489.26	418.26	-15.15
38	SLU 80	307	670	28661	1496.42	419.47	-16.04
38	SLU 81	309	671	30084	1578.46	438.44	-17.03
38	SLU 82	310	707	30187	1585.62	439.64	-17.92
38	SLU 83	309	671	30084	1578.46	438.44	-17.03
38	SLU 84	310	707	30187	1585.62	439.64	-17.92
38	SLE RA 1	228	408	18641	951.87	277.63	-7.71
38	SLE RA 2	230	448	18756	959.83	278.97	-8.69
38	SLE RA 3	228	408	18641	951.87	277.63	-7.71
38	SLE RA 4	229	432	18710	956.65	278.44	-8.3
38	SLE RA 5	230	448	18756	959.83	278.97	-8.69
38	SLE RA 6	228	408	18641	951.87	277.63	-7.71
38	SLE RA 7	229	432	18710	956.65	278.44	-8.3
38	SLE RA 8	228	408	18641	951.87	277.63	-7.71
38	SLE RA 9	229	432	18710	956.65	278.44	-8.3
38	SLE RA 10	234	505	21130	1098.58	310.35	-11.63
38	SLE RA 11	233	465	21016	1090.62	309.02	-10.64
38	SLE RA 12	234	489	21084	1095.4	309.82	-11.23
38	SLE RA 13	234	505	21130	1098.58	310.35	-11.63
38	SLE RA 14	233	465	21016	1090.62	309.02	-10.64
38	SLE RA 15	234	489	21084	1095.4	309.82	-11.23
38	SLE RA 16	233	465	21016	1090.62	309.02	-10.64
38	SLE RA 17	234	489	21084	1095.4	309.82	-11.23
38	SLE RA 18	235	490	22033	1150.09	322.47	-11.9
38	SLE RA 19	236	514	22102	1154.86	323.27	-12.49
38	SLE RA 20	235	490	22033	1150.09	322.47	-11.9
38	SLE RA 21	236	514	22102	1154.86	323.27	-12.49
38	SLE FR 1	228	408	18641	951.87	277.63	-7.71
38	SLE FR 2	228	416	18664	953.46	277.9	-7.9
38	SLE FR 3	228	408	18641	951.87	277.63	-7.71
38	SLE FR 4	230	441	19682	1012.93	291.35	-9.16
38	SLE FR 5	230	433	19659	1011.34	291.08	-8.96
38	SLE FR 6	231	449	20337	1050.98	300.05	-9.8
38	SLE QP 1	228	408	18641	951.87	277.63	-7.71
38	SLE QP 2	230	433	19659	1011.34	291.08	-8.96
38	SLD 1	1551	645	19640	1006.21	316.92	-107.06
38	SLD 2	1810	722	19637	1008.5	317.34	-119.44
38	SLD 3	1478	68	17959	892.33	297.47	-90.31
38	SLD 4	1737	145	17956	894.63	297.89	-102.69
38	SLD 5	646	1346	22204	1181.7	328.19	-59.43
38	SLD 6	906	1423	22202	1184	328.61	-71.87
38	SLD 7	403	-580	16600	802.12	263.35	-3.6
38	SLD 8	663	-503	16597	804.42	263.78	-16.04
38	SLD 9	-202	1368	22721	1218.25	318.39	-1.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLD 10	58	1445	22718	1220.56	318.82	-14.33
38	SLD 11	-446	-557	17116	838.67	253.56	53.95
38	SLD 12	-185	-480	17114	840.98	253.98	41.51
38	SLD 13	-1276	721	21362	1128.05	284.28	84.76
38	SLD 14	-1017	798	21359	1130.34	284.7	72.38
38	SLD 15	-1349	143	19681	1014.17	264.83	101.51
38	SLD 16	-1090	220	19678	1016.47	265.25	89.13
38	SLV 1	3228	914	19619	999.82	349.75	-231.62
38	SLV 2	3815	1088	19613	1005.02	350.71	-259.68
38	SLV 3	3060	-397	15802	741.23	305.59	-193.58
38	SLV 4	3647	-223	15795	746.43	306.55	-221.65
38	SLV 5	1177	2505	25439	1398.24	375.32	-123.57
38	SLV 6	1766	2680	25433	1403.46	376.28	-151.75
38	SLV 7	619	-1866	12714	536.28	228.12	3.22
38	SLV 8	1208	-1692	12707	541.51	229.08	-24.96
38	SLV 9	-748	2557	26611	1481.17	353.08	7.03
38	SLV 10	-158	2732	26604	1486.39	354.05	-21.15
38	SLV 11	-1306	-1814	13885	619.21	205.89	133.83
38	SLV 12	-717	-1640	13879	624.43	206.85	105.64
38	SLV 13	-3187	1088	23523	1276.25	275.62	203.72
38	SLV 14	-2600	1262	23517	1281.44	276.58	175.66
38	SLV 15	-3354	-223	19705	1017.66	231.46	241.76
38	SLV 16	-2768	-49	19699	1022.86	232.42	213.7
38	CRTFP Ux+	0	0	0	0	0	0
38	CRTFP Ux-	0	0	0	0	0	0
38	CRTFP Uy+	0	0	0	-0.01	0	0
38	CRTFP Uy-	0	0	0	0.01	0	0
41	SLU 1	43	-51	2259	59.12	-511.95	-18.69
41	SLU 2	44	-40	2280	59.63	-516.62	-14.75
41	SLU 3	43	-51	2259	59.12	-511.95	-18.69
41	SLU 4	44	-44	2271	59.42	-514.75	-16.33
41	SLU 5	44	-40	2280	59.63	-516.62	-14.75
41	SLU 6	43	-51	2259	59.12	-511.95	-18.69
41	SLU 7	44	-44	2271	59.42	-514.75	-16.33
41	SLU 8	43	-51	2259	59.12	-511.95	-18.69
41	SLU 9	44	-44	2271	59.42	-514.75	-16.33
41	SLU 10	47	-48	2740	71.58	-614.1	-17.82
41	SLU 11	47	-59	2719	71.08	-609.43	-21.76
41	SLU 12	47	-53	2732	71.38	-612.23	-19.4
41	SLU 13	47	-48	2740	71.58	-614.1	-17.82
41	SLU 14	47	-59	2719	71.08	-609.43	-21.76
41	SLU 15	47	-53	2732	71.38	-612.23	-19.4
41	SLU 16	47	-59	2719	71.08	-609.43	-21.76
41	SLU 17	47	-53	2732	71.38	-612.23	-19.4
41	SLU 18	48	-63	2916	76.2	-651.2	-23.08
41	SLU 19	48	-56	2929	76.51	-654.01	-20.71
41	SLU 20	48	-63	2916	76.2	-651.2	-23.08
41	SLU 21	48	-56	2929	76.51	-654.01	-20.71
41	SLU 22	47	-58	2586	67.6	-581.45	-21.13
41	SLU 23	47	-46	2607	68.11	-586.13	-17.18
41	SLU 24	47	-58	2586	67.6	-581.45	-21.13
41	SLU 25	47	-51	2598	67.91	-584.26	-18.76
41	SLU 26	47	-46	2607	68.11	-586.13	-17.18
41	SLU 27	47	-58	2586	67.6	-581.45	-21.13
41	SLU 28	47	-51	2598	67.91	-584.26	-18.76
41	SLU 29	47	-58	2586	67.6	-581.45	-21.13
41	SLU 30	47	-51	2598	67.91	-584.26	-18.76
41	SLU 31	50	-55	3067	80.07	-683.6	-20.25
41	SLU 32	50	-66	3046	79.56	-678.93	-24.2
41	SLU 33	50	-59	3059	79.86	-681.73	-21.83
41	SLU 34	50	-55	3067	80.07	-683.6	-20.25
41	SLU 35	50	-66	3046	79.56	-678.93	-24.2
41	SLU 36	50	-59	3059	79.86	-681.73	-21.83
41	SLU 37	50	-66	3046	79.56	-678.93	-24.2
41	SLU 38	50	-59	3059	79.86	-681.73	-21.83
41	SLU 39	52	-70	3244	84.69	-720.71	-25.51
41	SLU 40	52	-63	3256	84.99	-723.51	-23.14
41	SLU 41	52	-70	3244	84.69	-720.71	-25.51
41	SLU 42	52	-63	3256	84.99	-723.51	-23.14
41	SLU 43	55	-64	2824	73.95	-641.7	-23.47
41	SLU 44	56	-53	2845	74.45	-646.38	-19.52
41	SLU 45	55	-64	2824	73.95	-641.7	-23.47
41	SLU 46	55	-57	2837	74.25	-644.51	-21.1
41	SLU 47	56	-53	2845	74.45	-646.38	-19.52
41	SLU 48	55	-64	2824	73.95	-641.7	-23.47
41	SLU 49	55	-57	2837	74.25	-644.51	-21.1
41	SLU 50	55	-64	2824	73.95	-641.7	-23.47
41	SLU 51	55	-57	2837	74.25	-644.51	-21.1
41	SLU 52	59	-61	3305	86.41	-743.85	-22.59
41	SLU 53	59	-72	3285	85.91	-739.18	-26.54
41	SLU 54	59	-66	3297	86.21	-741.99	-24.17
41	SLU 55	59	-61	3305	86.41	-743.85	-22.59
41	SLU 56	59	-72	3285	85.91	-739.18	-26.54
41	SLU 57	59	-66	3297	86.21	-741.99	-24.17
41	SLU 58	59	-72	3285	85.91	-739.18	-26.54
41	SLU 59	59	-66	3297	86.21	-741.99	-24.17
41	SLU 60	60	-76	3482	91.03	-780.96	-27.85
41	SLU 61	60	-69	3494	91.33	-783.76	-25.48
41	SLU 62	60	-76	3482	91.03	-780.96	-27.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLU 63	60	-69	3494	91.33	-783.76	-25.48
41	SLU 64	59	-71	3151	82.43	-711.21	-25.9
41	SLU 65	59	-59	3172	82.94	-715.88	-21.95
41	SLU 66	59	-71	3151	82.43	-711.21	-25.9
41	SLU 67	59	-64	3164	82.73	-714.01	-23.53
41	SLU 68	59	-59	3172	82.94	-715.88	-21.95
41	SLU 69	59	-71	3151	82.43	-711.21	-25.9
41	SLU 70	59	-64	3164	82.73	-714.01	-23.53
41	SLU 71	59	-71	3151	82.43	-711.21	-25.9
41	SLU 72	59	-64	3164	82.73	-714.01	-23.53
41	SLU 73	62	-68	3633	94.89	-813.36	-25.02
41	SLU 74	62	-79	3612	94.39	-808.68	-28.97
41	SLU 75	62	-72	3624	94.69	-811.49	-26.6
41	SLU 76	62	-68	3633	94.89	-813.36	-25.02
41	SLU 77	62	-79	3612	94.39	-808.68	-28.97
41	SLU 78	62	-72	3624	94.69	-811.49	-26.6
41	SLU 79	62	-79	3612	94.39	-808.68	-28.97
41	SLU 80	62	-72	3624	94.69	-811.49	-26.6
41	SLU 81	63	-83	3809	99.51	-850.46	-30.29
41	SLU 82	64	-76	3822	99.82	-853.26	-27.92
41	SLU 83	63	-83	3809	99.51	-850.46	-30.29
41	SLU 84	64	-76	3822	99.82	-853.26	-27.92
41	SLE RA 1	44	-53	2352	61.54	-531.81	-19.39
41	SLE RA 2	44	-45	2366	61.88	-534.92	-16.76
41	SLE RA 3	44	-53	2352	61.54	-531.81	-19.39
41	SLE RA 4	44	-48	2361	61.75	-533.68	-17.81
41	SLE RA 5	44	-45	2366	61.88	-534.92	-16.76
41	SLE RA 6	44	-53	2352	61.54	-531.81	-19.39
41	SLE RA 7	44	-48	2361	61.75	-533.68	-17.81
41	SLE RA 8	44	-53	2352	61.54	-531.81	-19.39
41	SLE RA 9	44	-48	2361	61.75	-533.68	-17.81
41	SLE RA 10	47	-51	2673	69.85	-599.91	-18.8
41	SLE RA 11	47	-59	2659	69.52	-596.79	-21.43
41	SLE RA 12	47	-54	2668	69.72	-598.66	-19.86
41	SLE RA 13	47	-51	2673	69.85	-599.91	-18.8
41	SLE RA 14	47	-59	2659	69.52	-596.79	-21.43
41	SLE RA 15	47	-54	2668	69.72	-598.66	-19.86
41	SLE RA 16	47	-59	2659	69.52	-596.79	-21.43
41	SLE RA 17	47	-54	2668	69.72	-598.66	-19.86
41	SLE RA 18	48	-61	2791	72.93	-624.64	-22.31
41	SLE RA 19	48	-56	2799	73.13	-626.51	-20.73
41	SLE RA 20	48	-61	2791	72.93	-624.64	-22.31
41	SLE RA 21	48	-56	2799	73.13	-626.51	-20.73
41	SLE FR 1	44	-53	2352	61.54	-531.81	-19.39
41	SLE FR 2	44	-51	2355	61.61	-532.43	-18.86
41	SLE FR 3	44	-53	2352	61.54	-531.81	-19.39
41	SLE FR 4	45	-54	2487	65.03	-560.28	-19.74
41	SLE FR 5	45	-55	2484	64.96	-559.66	-20.26
41	SLE FR 6	46	-57	2571	67.24	-578.22	-20.85
41	SLE QP 1	44	-53	2352	61.54	-531.81	-19.39
41	SLE QP 2	45	-55	2484	64.96	-559.66	-20.26
41	SLD 1	214	-25	2917	76.06	-655.03	-13.78
41	SLD 2	247	-59	2920	76.11	-655.68	-26.76
41	SLD 3	206	-122	2726	71.42	-611.92	-47.73
41	SLD 4	239	-157	2728	71.47	-612.57	-60.71
41	SLD 5	97	114	2904	75.31	-653.43	37.74
41	SLD 6	130	79	2906	75.36	-654.08	24.71
41	SLD 7	69	-211	2265	59.84	-509.72	-75.42
41	SLD 8	102	-246	2267	59.89	-510.37	-88.46
41	SLD 9	-12	135	2701	70.03	-608.94	47.93
41	SLD 10	22	100	2703	70.08	-609.6	34.89
41	SLD 11	-40	-190	2061	54.56	-465.23	-65.23
41	SLD 12	-6	-225	2064	54.61	-465.89	-78.27
41	SLD 13	-148	46	2240	58.45	-506.75	20.18
41	SLD 14	-115	12	2242	58.5	-507.4	7.2
41	SLD 15	-157	-51	2048	53.81	-463.63	-13.77
41	SLD 16	-123	-86	2050	53.86	-464.28	-26.75
41	SLV 1	429	14	3468	90.17	-776.26	-5.47
41	SLV 2	504	-64	3473	90.29	-777.73	-34.88
41	SLV 3	409	-207	3032	79.62	-678.37	-82.62
41	SLV 4	485	-286	3038	79.75	-679.84	-112.03
41	SLV 5	163	329	3438	88.47	-772.59	111.55
41	SLV 6	239	250	3443	88.59	-774.07	82.01
41	SLV 7	99	-409	1986	53.33	-446.28	-145.63
41	SLV 8	175	-488	1991	53.45	-447.76	-175.16
41	SLV 9	-84	378	2976	76.47	-671.55	134.63
41	SLV 10	-8	299	2981	76.59	-673.03	105.1
41	SLV 11	-148	-361	1525	41.33	-345.25	-122.54
41	SLV 12	-72	-440	1530	41.45	-346.73	-152.08
41	SLV 13	-394	175	1930	50.17	-439.48	71.5
41	SLV 14	-319	97	1935	50.3	-440.95	42.09
41	SLV 15	-413	-46	1495	39.63	-341.58	-5.65
41	SLV 16	-338	-125	1500	39.75	-343.06	-35.06
41	CRTFP Ux+	0	0	0	0	0	0
41	CRTFP Ux-	0	0	0	0	0	0
41	CRTFP Uy+	0	0	0	0	0	0
41	CRTFP Uy-	0	0	0	0	0	0
44	SLU 1	36	-59	2465	-5.16	-493.76	-20.27
44	SLU 2	36	-46	2486	-5.27	-497.91	-15.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLU 3	36	-59	2465	-5.16	-493.76	-20.27
44	SLU 4	36	-52	2478	-5.22	-496.25	-17.5
44	SLU 5	36	-46	2486	-5.27	-497.91	-15.66
44	SLU 6	36	-59	2465	-5.16	-493.76	-20.27
44	SLU 7	36	-52	2478	-5.22	-496.25	-17.5
44	SLU 8	36	-59	2465	-5.16	-493.76	-20.27
44	SLU 9	36	-52	2478	-5.22	-496.25	-17.5
44	SLU 10	39	-56	2985	-6.43	-588.23	-19.13
44	SLU 11	38	-69	2964	-6.33	-584.09	-23.74
44	SLU 12	38	-62	2976	-6.39	-586.57	-20.98
44	SLU 13	39	-56	2985	-6.43	-588.23	-19.13
44	SLU 14	38	-69	2964	-6.33	-584.09	-23.74
44	SLU 15	38	-62	2976	-6.39	-586.57	-20.98
44	SLU 16	38	-69	2964	-6.33	-584.09	-23.74
44	SLU 17	38	-62	2976	-6.39	-586.57	-20.98
44	SLU 18	40	-74	3178	-6.83	-622.79	-25.22
44	SLU 19	40	-66	3190	-6.89	-625.28	-22.46
44	SLU 20	40	-74	3178	-6.83	-622.79	-25.22
44	SLU 21	40	-66	3190	-6.89	-625.28	-22.46
44	SLU 22	38	-67	2819	-6.01	-558.27	-22.99
44	SLU 23	38	-54	2840	-6.12	-562.42	-18.39
44	SLU 24	38	-67	2819	-6.01	-558.27	-22.99
44	SLU 25	38	-59	2831	-6.07	-560.76	-20.23
44	SLU 26	38	-54	2840	-6.12	-562.42	-18.39
44	SLU 27	38	-67	2819	-6.01	-558.27	-22.99
44	SLU 28	38	-59	2831	-6.07	-560.76	-20.23
44	SLU 29	38	-67	2819	-6.01	-558.27	-22.99
44	SLU 30	38	-59	2831	-6.07	-560.76	-20.23
44	SLU 31	41	-64	3339	-7.28	-652.74	-21.86
44	SLU 32	41	-77	3318	-7.18	-648.59	-26.47
44	SLU 33	41	-69	3330	-7.24	-651.08	-23.7
44	SLU 34	41	-64	3339	-7.28	-652.74	-21.86
44	SLU 35	41	-77	3318	-7.18	-648.59	-26.47
44	SLU 36	41	-69	3330	-7.24	-651.08	-23.7
44	SLU 37	41	-77	3318	-7.18	-648.59	-26.47
44	SLU 38	41	-69	3330	-7.24	-651.08	-23.7
44	SLU 39	42	-82	3531	-7.68	-687.3	-27.95
44	SLU 40	42	-74	3544	-7.74	-689.79	-25.19
44	SLU 41	42	-82	3531	-7.68	-687.3	-27.95
44	SLU 42	42	-74	3544	-7.74	-689.79	-25.19
44	SLU 43	45	-75	3083	-6.42	-619.78	-25.41
44	SLU 44	46	-61	3104	-6.52	-623.92	-20.81
44	SLU 45	45	-75	3083	-6.42	-619.78	-25.41
44	SLU 46	45	-67	3096	-6.48	-622.26	-22.65
44	SLU 47	46	-61	3104	-6.52	-623.92	-20.81
44	SLU 48	45	-75	3083	-6.42	-619.78	-25.41
44	SLU 49	45	-67	3096	-6.48	-622.26	-22.65
44	SLU 50	45	-75	3083	-6.42	-619.78	-25.41
44	SLU 51	45	-67	3096	-6.48	-622.26	-22.65
44	SLU 52	48	-71	3603	-7.69	-714.24	-24.28
44	SLU 53	48	-85	3582	-7.58	-710.1	-28.88
44	SLU 54	48	-77	3595	-7.65	-712.59	-26.12
44	SLU 55	48	-71	3603	-7.69	-714.24	-24.28
44	SLU 56	48	-85	3582	-7.58	-710.1	-28.88
44	SLU 57	48	-77	3595	-7.65	-712.59	-26.12
44	SLU 58	48	-85	3582	-7.58	-710.1	-28.88
44	SLU 59	48	-77	3595	-7.65	-712.59	-26.12
44	SLU 60	49	-89	3796	-8.08	-748.81	-30.37
44	SLU 61	49	-81	3808	-8.15	-751.3	-27.61
44	SLU 62	49	-89	3796	-8.08	-748.81	-30.37
44	SLU 63	49	-81	3808	-8.15	-751.3	-27.61
44	SLU 64	48	-82	3437	-7.26	-684.28	-28.14
44	SLU 65	48	-69	3458	-7.37	-688.43	-23.54
44	SLU 66	48	-82	3437	-7.26	-684.28	-28.14
44	SLU 67	48	-75	3450	-7.33	-686.77	-25.38
44	SLU 68	48	-69	3458	-7.37	-688.43	-23.54
44	SLU 69	48	-82	3437	-7.26	-684.28	-28.14
44	SLU 70	48	-75	3450	-7.33	-686.77	-25.38
44	SLU 71	48	-82	3437	-7.26	-684.28	-28.14
44	SLU 72	48	-75	3450	-7.33	-686.77	-25.38
44	SLU 73	51	-79	3957	-8.54	-778.75	-27.01
44	SLU 74	51	-92	3936	-8.43	-774.6	-31.61
44	SLU 75	51	-85	3948	-8.5	-777.09	-28.85
44	SLU 76	51	-79	3957	-8.54	-778.75	-27.01
44	SLU 77	51	-92	3936	-8.43	-774.6	-31.61
44	SLU 78	51	-85	3948	-8.5	-777.09	-28.85
44	SLU 79	51	-92	3936	-8.43	-774.6	-31.61
44	SLU 80	51	-85	3948	-8.5	-777.09	-28.85
44	SLU 81	52	-97	4150	-8.93	-813.31	-33.1
44	SLU 82	52	-89	4162	-9	-815.8	-30.34
44	SLU 83	52	-97	4150	-8.93	-813.31	-33.1
44	SLU 84	52	-89	4162	-9	-815.8	-30.34
44	SLE RA 1	36	-62	2566	-5.4	-512.19	-21.05
44	SLE RA 2	36	-53	2580	-5.47	-514.96	-17.98
44	SLE RA 3	36	-62	2566	-5.4	-512.19	-21.05
44	SLE RA 4	36	-56	2575	-5.44	-513.85	-19.2
44	SLE RA 5	36	-53	2580	-5.47	-514.96	-17.98
44	SLE RA 6	36	-62	2566	-5.4	-512.19	-21.05
44	SLE RA 7	36	-56	2575	-5.44	-513.85	-19.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLE RA 8	36	-62	2566	-5.4	-512.19	-21.05
44	SLE RA 9	36	-56	2575	-5.44	-513.85	-19.2
44	SLE RA 10	38	-60	2913	-6.25	-575.17	-20.29
44	SLE RA 11	38	-68	2899	-6.18	-572.41	-23.36
44	SLE RA 12	38	-63	2907	-6.22	-574.07	-21.52
44	SLE RA 13	38	-60	2913	-6.25	-575.17	-20.29
44	SLE RA 14	38	-68	2899	-6.18	-572.41	-23.36
44	SLE RA 15	38	-63	2907	-6.22	-574.07	-21.52
44	SLE RA 16	38	-68	2899	-6.18	-572.41	-23.36
44	SLE RA 17	38	-63	2907	-6.22	-574.07	-21.52
44	SLE RA 18	39	-71	3041	-6.51	-598.21	-24.35
44	SLE RA 19	39	-66	3050	-6.56	-599.87	-22.51
44	SLE RA 20	39	-71	3041	-6.51	-598.21	-24.35
44	SLE RA 21	39	-66	3050	-6.56	-599.87	-22.51
44	SLE FR 1	36	-62	2566	-5.4	-512.19	-21.05
44	SLE FR 2	36	-60	2569	-5.42	-512.75	-20.43
44	SLE FR 3	36	-62	2566	-5.4	-512.19	-21.05
44	SLE FR 4	37	-63	2711	-5.75	-538.55	-21.42
44	SLE FR 5	37	-65	2709	-5.74	-538	-22.04
44	SLE FR 6	38	-66	2804	-5.96	-555.2	-22.7
44	SLE QP 1	36	-62	2566	-5.4	-512.19	-21.05
44	SLE QP 2	37	-65	2709	-5.74	-538	-22.04
44	SLD 1	223	-29	3171	-7.07	-626.42	-9.25
44	SLD 2	257	-69	3174	-7.08	-626.92	-23.24
44	SLD 3	214	-142	2979	-6.05	-588.28	-49.03
44	SLD 4	249	-183	2981	-6.06	-588.78	-63.03
44	SLD 5	94	133	3139	-7.68	-622.19	47.08
44	SLD 6	129	92	3141	-7.69	-622.7	33.01
44	SLD 7	65	-246	2497	-4.28	-495.07	-85.55
44	SLD 8	99	-286	2499	-4.29	-495.57	-99.61
44	SLD 9	-25	157	2918	-7.18	-580.43	55.54
44	SLD 10	9	117	2920	-7.19	-580.94	41.47
44	SLD 11	-54	-221	2276	-3.78	-453.3	-77.09
44	SLD 12	-20	-262	2279	-3.79	-453.81	-91.15
44	SLD 13	-175	54	2436	-5.41	-487.22	18.96
44	SLD 14	-140	13	2439	-5.42	-487.72	4.96
44	SLD 15	-183	-60	2244	-4.39	-449.08	-20.83
44	SLD 16	-149	-100	2246	-4.4	-449.58	-34.83
44	SLV 1	459	16	3759	-8.77	-738.92	7.06
44	SLV 2	537	-75	3764	-8.79	-740.06	-24.67
44	SLV 3	439	-242	3322	-6.45	-652.34	-83.36
44	SLV 4	517	-333	3327	-6.47	-653.48	-115.08
44	SLV 5	166	383	3685	-10.15	-729.19	134.99
44	SLV 6	245	291	3690	-10.18	-730.33	103.13
44	SLV 7	100	-477	2228	-2.42	-440.58	-166.39
44	SLV 8	178	-569	2233	-2.45	-441.73	-198.25
44	SLV 9	-104	440	3185	-9.02	-634.27	154.18
44	SLV 10	-26	348	3190	-9.05	-635.42	122.32
44	SLV 11	-171	-421	1727	-1.29	-345.67	-147.2
44	SLV 12	-92	-512	1732	-1.32	-346.81	-179.07
44	SLV 13	-443	204	2090	-5	-422.52	71.01
44	SLV 14	-365	113	2095	-5.02	-423.66	39.28
44	SLV 15	-463	-54	1653	-2.68	-335.94	-19.41
44	SLV 16	-385	-146	1658	-2.7	-337.08	-51.13
44	CRTFP Ux+	0	0	0	0	0	0
44	CRTFP Ux-	0	0	0	0	0	0
44	CRTFP Uy+	0	0	0	0	0	0
44	CRTFP Uy-	0	0	0	0	0	0
48	SLU 1	20	-59	2325	-3.97	-415.31	-20.3
48	SLU 2	20	-46	2343	-4.07	-418.35	-15.68
48	SLU 3	20	-59	2325	-3.97	-415.31	-20.3
48	SLU 4	20	-52	2336	-4.03	-417.13	-17.53
48	SLU 5	20	-46	2343	-4.07	-418.35	-15.68
48	SLU 6	20	-59	2325	-3.97	-415.31	-20.3
48	SLU 7	20	-52	2336	-4.03	-417.13	-17.53
48	SLU 8	20	-59	2325	-3.97	-415.31	-20.3
48	SLU 9	20	-52	2336	-4.03	-417.13	-17.53
48	SLU 10	21	-56	2811	-4.96	-491.11	-19.17
48	SLU 11	21	-70	2793	-4.86	-488.07	-23.78
48	SLU 12	21	-62	2804	-4.92	-489.89	-21.01
48	SLU 13	21	-56	2811	-4.96	-491.11	-19.17
48	SLU 14	21	-70	2793	-4.86	-488.07	-23.78
48	SLU 15	21	-62	2804	-4.92	-489.89	-21.01
48	SLU 16	21	-70	2793	-4.86	-488.07	-23.78
48	SLU 17	21	-62	2804	-4.92	-489.89	-21.01
48	SLU 18	22	-74	2993	-5.24	-519.25	-25.27
48	SLU 19	22	-66	3004	-5.3	-521.07	-22.51
48	SLU 20	22	-74	2993	-5.24	-519.25	-25.27
48	SLU 21	22	-66	3004	-5.3	-521.07	-22.51
48	SLU 22	21	-67	2656	-4.62	-467.37	-23.03
48	SLU 23	21	-54	2674	-4.72	-470.41	-18.42
48	SLU 24	21	-67	2656	-4.62	-467.37	-23.03
48	SLU 25	21	-59	2667	-4.68	-469.2	-20.26
48	SLU 26	21	-54	2674	-4.72	-470.41	-18.42
48	SLU 27	21	-67	2656	-4.62	-467.37	-23.03
48	SLU 28	21	-59	2667	-4.68	-469.2	-20.26
48	SLU 29	21	-67	2656	-4.62	-467.37	-23.03
48	SLU 30	21	-59	2667	-4.68	-469.2	-20.26
48	SLU 31	23	-64	3142	-5.61	-543.17	-21.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLU 32	23	-77	3124	-5.51	-540.13	-26.52
48	SLU 33	23	-70	3135	-5.57	-541.96	-23.75
48	SLU 34	23	-64	3142	-5.61	-543.17	-21.9
48	SLU 35	23	-77	3124	-5.51	-540.13	-26.52
48	SLU 36	23	-70	3135	-5.57	-541.96	-23.75
48	SLU 37	23	-77	3124	-5.51	-540.13	-26.52
48	SLU 38	23	-70	3135	-5.57	-541.96	-23.75
48	SLU 39	23	-82	3324	-5.89	-571.32	-28.01
48	SLU 40	23	-74	3335	-5.95	-573.14	-25.24
48	SLU 41	23	-82	3324	-5.89	-571.32	-28.01
48	SLU 42	23	-74	3335	-5.95	-573.14	-25.24
48	SLU 43	25	-75	2910	-4.94	-522.05	-25.45
48	SLU 44	25	-61	2928	-5.04	-525.09	-20.83
48	SLU 45	25	-75	2910	-4.94	-522.05	-25.45
48	SLU 46	25	-67	2920	-5	-523.87	-22.68
48	SLU 47	25	-61	2928	-5.04	-525.09	-20.83
48	SLU 48	25	-75	2910	-4.94	-522.05	-25.45
48	SLU 49	25	-67	2920	-5	-523.87	-22.68
48	SLU 50	25	-75	2910	-4.94	-522.05	-25.45
48	SLU 51	25	-67	2920	-5	-523.87	-22.68
48	SLU 52	27	-71	3395	-5.93	-597.85	-24.32
48	SLU 53	27	-85	3377	-5.83	-594.81	-28.93
48	SLU 54	27	-77	3388	-5.89	-596.63	-26.16
48	SLU 55	27	-71	3395	-5.93	-597.85	-24.32
48	SLU 56	27	-85	3377	-5.83	-594.81	-28.93
48	SLU 57	27	-77	3388	-5.89	-596.63	-26.16
48	SLU 58	27	-85	3377	-5.83	-594.81	-28.93
48	SLU 59	27	-77	3388	-5.89	-596.63	-26.16
48	SLU 60	27	-89	3577	-6.21	-625.99	-30.43
48	SLU 61	28	-81	3588	-6.27	-627.81	-27.66
48	SLU 62	27	-89	3577	-6.21	-625.99	-30.43
48	SLU 63	28	-81	3588	-6.27	-627.81	-27.66
48	SLU 64	26	-83	3241	-5.59	-574.11	-28.18
48	SLU 65	27	-69	3258	-5.69	-577.15	-23.57
48	SLU 66	26	-83	3241	-5.59	-574.11	-28.18
48	SLU 67	26	-75	3251	-5.65	-575.94	-25.41
48	SLU 68	27	-69	3258	-5.69	-577.15	-23.57
48	SLU 69	26	-83	3241	-5.59	-574.11	-28.18
48	SLU 70	26	-75	3251	-5.65	-575.94	-25.41
48	SLU 71	26	-83	3241	-5.59	-574.11	-28.18
48	SLU 72	26	-75	3251	-5.65	-575.94	-25.41
48	SLU 73	28	-79	3726	-6.58	-649.91	-27.05
48	SLU 74	28	-93	3708	-6.48	-646.87	-31.67
48	SLU 75	28	-85	3719	-6.54	-648.7	-28.9
48	SLU 76	28	-79	3726	-6.58	-649.91	-27.05
48	SLU 77	28	-93	3708	-6.48	-646.87	-31.67
48	SLU 78	28	-85	3719	-6.54	-648.7	-28.9
48	SLU 79	28	-93	3708	-6.48	-646.87	-31.67
48	SLU 80	28	-85	3719	-6.54	-648.7	-28.9
48	SLU 81	29	-97	3908	-6.86	-678.06	-33.16
48	SLU 82	29	-89	3919	-6.92	-679.88	-30.39
48	SLU 83	29	-97	3908	-6.86	-678.06	-33.16
48	SLU 84	29	-89	3919	-6.92	-679.88	-30.39
48	SLE RA 1	20	-62	2420	-4.16	-430.18	-21.08
48	SLE RA 2	20	-53	2432	-4.22	-432.21	-18
48	SLE RA 3	20	-62	2420	-4.16	-430.18	-21.08
48	SLE RA 4	20	-56	2427	-4.2	-431.4	-19.23
48	SLE RA 5	20	-53	2432	-4.22	-432.21	-18
48	SLE RA 6	20	-62	2420	-4.16	-430.18	-21.08
48	SLE RA 7	20	-56	2427	-4.2	-431.4	-19.23
48	SLE RA 8	20	-62	2420	-4.16	-430.18	-21.08
48	SLE RA 9	20	-56	2427	-4.2	-431.4	-19.23
48	SLE RA 10	21	-60	2744	-4.82	-480.72	-20.33
48	SLE RA 11	21	-68	2732	-4.75	-478.69	-23.4
48	SLE RA 12	21	-63	2739	-4.79	-479.91	-21.56
48	SLE RA 13	21	-60	2744	-4.82	-480.72	-20.33
48	SLE RA 14	21	-68	2732	-4.75	-478.69	-23.4
48	SLE RA 15	21	-63	2739	-4.79	-479.91	-21.56
48	SLE RA 16	21	-68	2732	-4.75	-478.69	-23.4
48	SLE RA 17	21	-63	2739	-4.79	-479.91	-21.56
48	SLE RA 18	22	-71	2865	-5	-499.48	-24.4
48	SLE RA 19	22	-66	2872	-5.04	-500.69	-22.55
48	SLE RA 20	22	-71	2865	-5	-499.48	-24.4
48	SLE RA 21	22	-66	2872	-5.04	-500.69	-22.55
48	SLE FR 1	20	-62	2420	-4.16	-430.18	-21.08
48	SLE FR 2	20	-60	2422	-4.17	-430.59	-20.46
48	SLE FR 3	20	-62	2420	-4.16	-430.18	-21.08
48	SLE FR 4	20	-63	2556	-4.43	-451.38	-21.46
48	SLE FR 5	20	-65	2554	-4.41	-450.97	-22.07
48	SLE FR 6	21	-67	2643	-4.58	-464.83	-22.74
48	SLE QP 1	20	-62	2420	-4.16	-430.18	-21.08
48	SLE QP 2	20	-65	2554	-4.41	-450.97	-22.07
48	SLD 1	196	-29	2980	-5.46	-521.22	-9.27
48	SLD 2	227	-69	2982	-5.47	-521.41	-23.3
48	SLD 3	189	-143	2817	-4.55	-493.39	-49.15
48	SLD 4	220	-183	2819	-4.56	-493.58	-63.18
48	SLD 5	73	133	2928	-6.11	-514.19	47.2
48	SLD 6	104	92	2930	-6.12	-514.37	33.11
48	SLD 7	50	-246	2385	-3.07	-421.43	-85.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLD 8	80	-287	2387	-3.07	-421.61	-99.84
48	SLD 9	-39	158	2721	-5.75	-480.33	55.7
48	SLD 10	-9	117	2723	-5.76	-480.52	41.6
48	SLD 11	-63	-221	2177	-2.71	-387.57	-77.25
48	SLD 12	-32	-262	2179	-2.72	-387.76	-91.35
48	SLD 13	-179	54	2288	-4.27	-408.36	19.04
48	SLD 14	-148	13	2290	-4.28	-408.55	5.01
48	SLD 15	-186	-60	2125	-3.35	-380.54	-20.85
48	SLD 16	-155	-100	2127	-3.36	-380.72	-34.88
48	SLV 1	419	17	3522	-6.8	-610.78	7.05
48	SLV 2	488	-75	3526	-6.82	-611.19	-24.75
48	SLV 3	403	-242	3151	-4.72	-547.6	-83.59
48	SLV 4	472	-334	3156	-4.74	-548.02	-115.39
48	SLV 5	141	384	3404	-8.27	-594.58	135.33
48	SLV 6	210	292	3408	-8.29	-595	103.39
48	SLV 7	86	-478	2170	-1.35	-384	-166.79
48	SLV 8	155	-570	2174	-1.37	-384.41	-198.73
48	SLV 9	-115	441	2933	-7.45	-517.53	154.59
48	SLV 10	-45	348	2937	-7.47	-517.95	122.65
48	SLV 11	-169	-421	1699	-0.54	-306.94	-147.54
48	SLV 12	-100	-513	1703	-0.56	-307.36	-179.48
48	SLV 13	-431	204	1951	-4.08	-353.93	71.24
48	SLV 14	-362	113	1956	-4.1	-354.34	39.44
48	SLV 15	-447	-54	1581	-2.01	-290.75	-19.4
48	SLV 16	-379	-146	1586	-2.03	-291.17	-51.2
48	CRTFP Ux+	0	0	0	0	0	0
48	CRTFP Ux-	0	0	0	0	0	0
48	CRTFP Uy+	0	0	0	0	0	0
48	CRTFP Uy-	0	0	0	0	0	0
50	SLU 1	183	-101	2577	-427.2	249.21	56.47
50	SLU 2	185	-87	2596	-430.53	251.48	53.34
50	SLU 3	183	-101	2577	-427.2	249.21	56.47
50	SLU 4	184	-92	2589	-429.2	250.57	54.6
50	SLU 5	185	-87	2596	-430.53	251.48	53.34
50	SLU 6	183	-101	2577	-427.2	249.21	56.47
50	SLU 7	184	-92	2589	-429.2	250.57	54.6
50	SLU 8	183	-101	2577	-427.2	249.21	56.47
50	SLU 9	184	-92	2589	-429.2	250.57	54.6
50	SLU 10	212	-109	3072	-509.55	290.46	63.38
50	SLU 11	210	-122	3052	-506.22	288.2	66.51
50	SLU 12	211	-114	3064	-508.22	289.56	64.63
50	SLU 13	212	-109	3072	-509.55	290.46	63.38
50	SLU 14	210	-122	3052	-506.22	288.2	66.51
50	SLU 15	211	-114	3064	-508.22	289.56	64.63
50	SLU 16	210	-122	3052	-506.22	288.2	66.51
50	SLU 17	211	-114	3064	-508.22	289.56	64.63
50	SLU 18	221	-132	3256	-540.09	304.91	70.81
50	SLU 19	223	-123	3268	-542.08	306.26	68.93
50	SLU 20	221	-132	3256	-540.09	304.91	70.81
50	SLU 21	223	-123	3268	-542.08	306.26	68.93
50	SLU 22	206	-116	2941	-487.7	278.92	64.22
50	SLU 23	207	-102	2961	-491.04	281.18	61.09
50	SLU 24	206	-116	2941	-487.7	278.92	64.22
50	SLU 25	207	-108	2953	-489.7	280.28	62.34
50	SLU 26	207	-102	2961	-491.04	281.18	61.09
50	SLU 27	206	-116	2941	-487.7	278.92	64.22
50	SLU 28	207	-108	2953	-489.7	280.28	62.34
50	SLU 29	206	-116	2941	-487.7	278.92	64.22
50	SLU 30	207	-108	2953	-489.7	280.28	62.34
50	SLU 31	234	-124	3436	-570.06	320.17	71.12
50	SLU 32	233	-138	3417	-566.73	317.9	74.25
50	SLU 33	234	-130	3428	-568.72	319.26	72.38
50	SLU 34	234	-124	3436	-570.06	320.17	71.12
50	SLU 35	233	-138	3417	-566.73	317.9	74.25
50	SLU 36	234	-130	3428	-568.72	319.26	72.38
50	SLU 37	233	-138	3417	-566.73	317.9	74.25
50	SLU 38	234	-130	3428	-568.72	319.26	72.38
50	SLU 39	244	-147	3621	-600.59	334.61	78.55
50	SLU 40	245	-139	3632	-602.59	335.97	76.68
50	SLU 41	244	-147	3621	-600.59	334.61	78.55
50	SLU 42	245	-139	3632	-602.59	335.97	76.68
50	SLU 43	230	-126	3225	-534.61	313.79	70.76
50	SLU 44	232	-112	3245	-537.94	316.05	67.63
50	SLU 45	230	-126	3225	-534.61	313.79	70.76
50	SLU 46	231	-117	3237	-536.61	315.15	68.88
50	SLU 47	232	-112	3245	-537.94	316.05	67.63
50	SLU 48	230	-126	3225	-534.61	313.79	70.76
50	SLU 49	231	-117	3237	-536.61	315.15	68.88
50	SLU 50	230	-126	3225	-534.61	313.79	70.76
50	SLU 51	231	-117	3237	-536.61	315.15	68.88
50	SLU 52	259	-134	3720	-616.97	355.04	77.66
50	SLU 53	257	-147	3701	-613.63	352.78	80.8
50	SLU 54	258	-139	3712	-615.63	354.13	78.92
50	SLU 55	259	-134	3720	-616.97	355.04	77.66
50	SLU 56	257	-147	3701	-613.63	352.78	80.8
50	SLU 57	258	-139	3712	-615.63	354.13	78.92
50	SLU 58	257	-147	3701	-613.63	352.78	80.8
50	SLU 59	258	-139	3712	-615.63	354.13	78.92
50	SLU 60	269	-157	3904	-647.5	369.48	85.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 61	270	-148	3916	-649.5	370.84	83.22
50	SLU 62	269	-157	3904	-647.5	369.48	85.1
50	SLU 63	270	-148	3916	-649.5	370.84	83.22
50	SLU 64	253	-141	3589	-595.12	343.5	78.51
50	SLU 65	254	-127	3609	-598.45	345.76	75.38
50	SLU 66	253	-141	3589	-595.12	343.5	78.51
50	SLU 67	254	-133	3601	-597.12	344.86	76.63
50	SLU 68	254	-127	3609	-598.45	345.76	75.38
50	SLU 69	253	-141	3589	-595.12	343.5	78.51
50	SLU 70	254	-133	3601	-597.12	344.86	76.63
50	SLU 71	253	-141	3589	-595.12	343.5	78.51
50	SLU 72	254	-133	3601	-597.12	344.86	76.63
50	SLU 73	281	-149	4084	-677.47	384.75	85.41
50	SLU 74	280	-163	4065	-674.14	382.48	88.54
50	SLU 75	281	-155	4077	-676.14	383.84	86.66
50	SLU 76	281	-149	4084	-677.47	384.75	85.41
50	SLU 77	280	-163	4065	-674.14	382.48	88.54
50	SLU 78	281	-155	4077	-676.14	383.84	86.66
50	SLU 79	280	-163	4065	-674.14	382.48	88.54
50	SLU 80	281	-155	4077	-676.14	383.84	86.66
50	SLU 81	291	-172	4269	-708.01	399.19	92.84
50	SLU 82	292	-164	4280	-710.01	400.55	90.96
50	SLU 83	291	-172	4269	-708.01	399.19	92.84
50	SLU 84	292	-164	4280	-710.01	400.55	90.96
50	SLE RA 1	189	-105	2681	-444.49	257.7	58.69
50	SLE RA 2	191	-96	2694	-446.71	259.21	56.6
50	SLE RA 3	189	-105	2681	-444.49	257.7	58.69
50	SLE RA 4	190	-100	2689	-445.82	258.61	57.43
50	SLE RA 5	191	-96	2694	-446.71	259.21	56.6
50	SLE RA 6	189	-105	2681	-444.49	257.7	58.69
50	SLE RA 7	190	-100	2689	-445.82	258.61	57.43
50	SLE RA 8	189	-105	2681	-444.49	257.7	58.69
50	SLE RA 9	190	-100	2689	-445.82	258.61	57.43
50	SLE RA 10	209	-110	3011	-499.39	285.2	63.29
50	SLE RA 11	207	-120	2998	-497.17	283.69	65.38
50	SLE RA 12	208	-114	3006	-498.5	284.6	64.12
50	SLE RA 13	209	-110	3011	-499.39	285.2	63.29
50	SLE RA 14	207	-120	2998	-497.17	283.69	65.38
50	SLE RA 15	208	-114	3006	-498.5	284.6	64.12
50	SLE RA 16	207	-120	2998	-497.17	283.69	65.38
50	SLE RA 17	208	-114	3006	-498.5	284.6	64.12
50	SLE RA 18	215	-126	3134	-519.74	294.83	68.24
50	SLE RA 19	216	-120	3142	-521.08	295.73	66.99
50	SLE RA 20	215	-126	3134	-519.74	294.83	68.24
50	SLE RA 21	216	-120	3142	-521.08	295.73	66.99
50	SLE FR 1	189	-105	2681	-444.49	257.7	58.69
50	SLE FR 2	190	-103	2683	-444.93	258	58.27
50	SLE FR 3	189	-105	2681	-444.49	257.7	58.69
50	SLE FR 4	197	-109	2819	-467.51	269.14	61.14
50	SLE FR 5	197	-111	2817	-467.06	268.84	61.55
50	SLE FR 6	202	-115	2907	-482.12	276.26	63.47
50	SLE QP 1	189	-105	2681	-444.49	257.7	58.69
50	SLE QP 2	197	-111	2817	-467.06	268.84	61.55
50	SLD 1	354	-25	2565	-425.57	259.83	67.61
50	SLD 2	384	21	2560	-424.71	260.05	61.3
50	SLD 3	333	-154	2364	-391.56	236.92	96.44
50	SLD 4	363	-108	2359	-390.7	237.14	90.13
50	SLD 5	267	95	3048	-506.5	300.8	21.88
50	SLD 6	297	141	3043	-505.63	301.03	15.54
50	SLD 7	194	-337	2378	-393.14	224.43	117.96
50	SLD 8	224	-291	2373	-392.27	224.66	111.62
50	SLD 9	170	68	3260	-541.85	313.01	11.49
50	SLD 10	200	114	3255	-540.99	313.24	5.15
50	SLD 11	98	-364	2591	-428.5	236.65	107.57
50	SLD 12	128	-318	2586	-427.63	236.87	101.23
50	SLD 13	32	-114	3274	-543.43	300.53	32.98
50	SLD 14	62	-68	3269	-542.57	300.76	26.67
50	SLD 15	10	-244	3073	-509.42	277.62	61.81
50	SLD 16	40	-198	3068	-508.56	277.85	55.5
50	SLV 1	553	86	2246	-372.96	248.14	75.33
50	SLV 2	621	189	2235	-371	248.65	61.02
50	SLV 3	504	-209	1791	-295.75	196.12	140.79
50	SLV 4	572	-105	1779	-293.8	196.64	126.48
50	SLV 5	355	358	3341	-556.61	341.34	-28.55
50	SLV 6	423	462	3329	-554.65	341.85	-42.92
50	SLV 7	191	-623	1822	-299.27	167.95	189.64
50	SLV 8	259	-519	1810	-297.31	168.47	175.27
50	SLV 9	135	297	3823	-636.82	369.21	-52.17
50	SLV 10	204	401	3812	-634.86	369.72	-66.53
50	SLV 11	-29	-684	2304	-379.48	195.82	166.03
50	SLV 12	40	-580	2292	-377.52	196.34	151.66
50	SLV 13	-178	-118	3854	-640.33	341.04	-3.37
50	SLV 14	-110	-14	3843	-638.37	341.55	-17.68
50	SLV 15	-227	-412	3399	-563.12	289.02	62.08
50	SLV 16	-159	-308	3387	-561.17	289.54	47.78
50	CRTFP Ux+	0	0	0	0	0	0
50	CRTFP Ux-	0	0	0	0	0	0
50	CRTFP Uy+	0	0	0	0	0	0
50	CRTFP Uy-	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 1	4	-59	2222	-2.78	-366.81	-20.25
51	SLU 2	4	-46	2238	-2.86	-368.98	-15.63
51	SLU 3	4	-59	2222	-2.78	-366.81	-20.25
51	SLU 4	4	-51	2231	-2.83	-368.11	-17.48
51	SLU 5	4	-46	2238	-2.86	-368.98	-15.63
51	SLU 6	4	-59	2222	-2.78	-366.81	-20.25
51	SLU 7	4	-51	2231	-2.83	-368.11	-17.48
51	SLU 8	4	-59	2222	-2.78	-366.81	-20.25
51	SLU 9	4	-51	2231	-2.83	-368.11	-17.48
51	SLU 10	5	-56	2682	-3.47	-431.19	-19.11
51	SLU 11	5	-69	2667	-3.38	-429.01	-23.74
51	SLU 12	5	-61	2676	-3.43	-430.32	-20.96
51	SLU 13	5	-56	2682	-3.47	-431.19	-19.11
51	SLU 14	5	-69	2667	-3.38	-429.01	-23.74
51	SLU 15	5	-61	2676	-3.43	-430.32	-20.96
51	SLU 16	5	-69	2667	-3.38	-429.01	-23.74
51	SLU 17	5	-61	2676	-3.43	-430.32	-20.96
51	SLU 18	5	-74	2858	-3.64	-455.67	-25.23
51	SLU 19	5	-66	2867	-3.69	-456.97	-22.45
51	SLU 20	5	-74	2858	-3.64	-455.67	-25.23
51	SLU 21	5	-66	2867	-3.69	-456.97	-22.45
51	SLU 22	4	-67	2537	-3.22	-411.43	-22.98
51	SLU 23	4	-54	2552	-3.31	-413.61	-18.36
51	SLU 24	4	-67	2537	-3.22	-411.43	-22.98
51	SLU 25	4	-59	2546	-3.27	-412.73	-20.21
51	SLU 26	4	-54	2552	-3.31	-413.61	-18.36
51	SLU 27	4	-67	2537	-3.22	-411.43	-22.98
51	SLU 28	4	-59	2546	-3.27	-412.73	-20.21
51	SLU 29	4	-67	2537	-3.22	-411.43	-22.98
51	SLU 30	4	-59	2546	-3.27	-412.73	-20.21
51	SLU 31	5	-64	2996	-3.91	-475.81	-21.84
51	SLU 32	5	-77	2981	-3.83	-473.63	-26.47
51	SLU 33	5	-69	2990	-3.88	-474.94	-23.69
51	SLU 34	5	-64	2996	-3.91	-475.81	-21.84
51	SLU 35	5	-77	2981	-3.83	-473.63	-26.47
51	SLU 36	5	-69	2990	-3.88	-474.94	-23.69
51	SLU 37	5	-77	2981	-3.83	-473.63	-26.47
51	SLU 38	5	-69	2990	-3.88	-474.94	-23.69
51	SLU 39	5	-82	3172	-4.09	-500.29	-27.96
51	SLU 40	5	-74	3181	-4.14	-501.6	-25.19
51	SLU 41	5	-82	3172	-4.09	-500.29	-27.96
51	SLU 42	5	-74	3181	-4.14	-501.6	-25.19
51	SLU 43	5	-74	2781	-3.46	-461.55	-25.39
51	SLU 44	5	-61	2796	-3.55	-463.73	-20.77
51	SLU 45	5	-74	2781	-3.46	-461.55	-25.39
51	SLU 46	5	-66	2790	-3.51	-462.85	-22.62
51	SLU 47	5	-61	2796	-3.55	-463.73	-20.77
51	SLU 48	5	-74	2781	-3.46	-461.55	-25.39
51	SLU 49	5	-66	2790	-3.51	-462.85	-22.62
51	SLU 50	5	-74	2781	-3.46	-461.55	-25.39
51	SLU 51	5	-66	2790	-3.51	-462.85	-22.62
51	SLU 52	6	-71	3241	-4.15	-525.93	-24.25
51	SLU 53	6	-84	3226	-4.07	-523.75	-28.87
51	SLU 54	6	-77	3235	-4.12	-525.06	-26.1
51	SLU 55	6	-71	3241	-4.15	-525.93	-24.25
51	SLU 56	6	-84	3226	-4.07	-523.75	-28.87
51	SLU 57	6	-77	3235	-4.12	-525.06	-26.1
51	SLU 58	6	-84	3226	-4.07	-523.75	-28.87
51	SLU 59	6	-77	3235	-4.12	-525.06	-26.1
51	SLU 60	6	-89	3416	-4.32	-550.41	-30.37
51	SLU 61	6	-81	3426	-4.38	-551.72	-27.59
51	SLU 62	6	-89	3416	-4.32	-550.41	-30.37
51	SLU 63	6	-81	3426	-4.38	-551.72	-27.59
51	SLU 64	5	-82	3096	-3.9	-506.17	-28.12
51	SLU 65	5	-69	3111	-3.99	-508.35	-23.5
51	SLU 66	5	-82	3096	-3.9	-506.17	-28.12
51	SLU 67	5	-74	3105	-3.96	-507.48	-25.35
51	SLU 68	5	-69	3111	-3.99	-508.35	-23.5
51	SLU 69	5	-82	3096	-3.9	-506.17	-28.12
51	SLU 70	5	-74	3105	-3.96	-507.48	-25.35
51	SLU 71	5	-82	3096	-3.9	-506.17	-28.12
51	SLU 72	5	-74	3105	-3.96	-507.48	-25.35
51	SLU 73	6	-79	3555	-4.59	-570.55	-26.98
51	SLU 74	6	-92	3540	-4.51	-568.37	-31.61
51	SLU 75	6	-84	3549	-4.56	-569.68	-28.83
51	SLU 76	6	-79	3555	-4.59	-570.55	-26.98
51	SLU 77	6	-92	3540	-4.51	-568.37	-31.61
51	SLU 78	6	-84	3549	-4.56	-569.68	-28.83
51	SLU 79	6	-92	3540	-4.51	-568.37	-31.61
51	SLU 80	6	-84	3549	-4.56	-569.68	-28.83
51	SLU 81	6	-97	3731	-4.77	-595.03	-33.1
51	SLU 82	6	-89	3740	-4.82	-596.34	-30.33
51	SLU 83	6	-97	3731	-4.77	-595.03	-33.1
51	SLU 84	6	-89	3740	-4.82	-596.34	-30.33
51	SLE RA 1	4	-62	2312	-2.91	-379.56	-21.03
51	SLE RA 2	4	-53	2322	-2.96	-381.01	-17.95
51	SLE RA 3	4	-62	2312	-2.91	-379.56	-21.03
51	SLE RA 4	4	-56	2318	-2.94	-380.43	-19.18
51	SLE RA 5	4	-53	2322	-2.96	-381.01	-17.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLE RA 6	4	-62	2312	-2.91	-379.56	-21.03
51	SLE RA 7	4	-56	2318	-2.94	-380.43	-19.18
51	SLE RA 8	4	-62	2312	-2.91	-379.56	-21.03
51	SLE RA 9	4	-56	2318	-2.94	-380.43	-19.18
51	SLE RA 10	4	-59	2619	-3.37	-422.48	-20.27
51	SLE RA 11	4	-68	2609	-3.31	-421.02	-23.35
51	SLE RA 12	4	-63	2615	-3.34	-421.89	-21.51
51	SLE RA 13	4	-59	2619	-3.37	-422.48	-20.27
51	SLE RA 14	4	-68	2609	-3.31	-421.02	-23.35
51	SLE RA 15	4	-63	2615	-3.34	-421.89	-21.51
51	SLE RA 16	4	-68	2609	-3.31	-421.02	-23.35
51	SLE RA 17	4	-63	2615	-3.34	-421.89	-21.51
51	SLE RA 18	5	-71	2736	-3.48	-438.8	-24.35
51	SLE RA 19	5	-66	2742	-3.52	-439.67	-22.5
51	SLE RA 20	5	-71	2736	-3.48	-438.8	-24.35
51	SLE RA 21	5	-66	2742	-3.52	-439.67	-22.5
51	SLE FR 1	4	-62	2312	-2.91	-379.56	-21.03
51	SLE FR 2	4	-60	2314	-2.92	-379.85	-20.42
51	SLE FR 3	4	-62	2312	-2.91	-379.56	-21.03
51	SLE FR 4	4	-63	2441	-3.09	-397.62	-21.41
51	SLE FR 5	4	-64	2439	-3.08	-397.33	-22.03
51	SLE FR 6	4	-66	2524	-3.19	-409.18	-22.69
51	SLE QP 1	4	-62	2312	-2.91	-379.56	-21.03
51	SLE QP 2	4	-64	2439	-3.08	-397.33	-22.03
51	SLD 1	172	-29	2838	-3.84	-455.78	-9.22
51	SLD 2	198	-69	2840	-3.84	-455.7	-23.28
51	SLD 3	166	-143	2701	-3.03	-435.98	-49.18
51	SLD 4	193	-183	2703	-3.04	-435.9	-63.25
51	SLD 5	53	133	2766	-4.53	-444.93	47.39
51	SLD 6	80	93	2767	-4.54	-444.85	33.26
51	SLD 7	35	-246	2310	-1.84	-378.91	-85.84
51	SLD 8	62	-287	2311	-1.84	-378.84	-99.97
51	SLD 9	-54	158	2567	-4.32	-415.82	55.91
51	SLD 10	-27	118	2569	-4.32	-415.74	41.78
51	SLD 11	-71	-222	2111	-1.62	-349.81	-77.32
51	SLD 12	-45	-262	2113	-1.63	-349.73	-91.45
51	SLD 13	-184	54	2175	-3.12	-358.75	19.19
51	SLD 14	-158	14	2177	-3.13	-358.68	5.13
51	SLD 15	-190	-60	2039	-2.31	-338.95	-20.78
51	SLD 16	-163	-100	2040	-2.32	-338.88	-34.84
51	SLV 1	384	17	3345	-4.8	-530.47	7.11
51	SLV 2	444	-75	3349	-4.82	-530.3	-24.76
51	SLV 3	372	-242	3034	-2.97	-485.5	-83.71
51	SLV 4	432	-334	3038	-2.98	-485.33	-115.59
51	SLV 5	115	385	3181	-6.37	-505.54	135.7
51	SLV 6	176	293	3185	-6.39	-505.37	103.68
51	SLV 7	75	-478	2145	-0.26	-355.63	-167.06
51	SLV 8	135	-570	2149	-0.27	-355.46	-199.08
51	SLV 9	-127	442	2729	-5.89	-439.2	155.02
51	SLV 10	-66	349	2733	-5.9	-439.03	123.01
51	SLV 11	-167	-422	1694	0.23	-289.29	-147.74
51	SLV 12	-107	-514	1698	0.22	-289.12	-179.75
51	SLV 13	-424	205	1840	-3.18	-309.33	71.53
51	SLV 14	-363	113	1844	-3.19	-309.16	39.66
51	SLV 15	-436	-54	1530	-1.34	-264.35	-19.29
51	SLV 16	-376	-146	1534	-1.36	-264.18	-51.17
51	CRTFP Ux+	0	0	0	0	0	0
51	CRTFP Ux-	0	0	0	0	0	0
51	CRTFP Uy+	0	0	0	0	0	0
51	CRTFP Uy-	0	0	0	0	0	0
54	SLU 1	176	-120	2975	-208.11	272.37	44.06
54	SLU 2	178	-104	2996	-209.64	274.51	40.12
54	SLU 3	176	-120	2975	-208.11	272.37	44.06
54	SLU 4	177	-110	2988	-209.03	273.65	41.7
54	SLU 5	178	-104	2996	-209.64	274.51	40.12
54	SLU 6	176	-120	2975	-208.11	272.37	44.06
54	SLU 7	177	-110	2988	-209.03	273.65	41.7
54	SLU 8	176	-120	2975	-208.11	272.37	44.06
54	SLU 9	177	-110	2988	-209.03	273.65	41.7
54	SLU 10	204	-130	3539	-247.92	315.42	48.66
54	SLU 11	202	-146	3519	-246.39	313.28	52.6
54	SLU 12	203	-136	3531	-247.31	314.57	50.23
54	SLU 13	204	-130	3539	-247.92	315.42	48.66
54	SLU 14	202	-146	3519	-246.39	313.28	52.6
54	SLU 15	203	-136	3531	-247.31	314.57	50.23
54	SLU 16	202	-146	3519	-246.39	313.28	52.6
54	SLU 17	203	-136	3531	-247.31	314.57	50.23
54	SLU 18	213	-157	3751	-262.8	330.82	56.26
54	SLU 19	214	-147	3764	-263.72	332.1	53.89
54	SLU 20	213	-157	3751	-262.8	330.82	56.26
54	SLU 21	214	-147	3764	-263.72	332.1	53.89
54	SLU 22	198	-139	3392	-237.44	303.59	50.41
54	SLU 23	200	-122	3412	-238.97	305.72	46.47
54	SLU 24	198	-139	3392	-237.44	303.59	50.41
54	SLU 25	199	-129	3404	-238.36	304.87	48.05
54	SLU 26	200	-122	3412	-238.97	305.72	46.47
54	SLU 27	198	-139	3392	-237.44	303.59	50.41
54	SLU 28	199	-129	3404	-238.36	304.87	48.05
54	SLU 29	198	-139	3392	-237.44	303.59	50.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLU 30	199	-129	3404	-238.36	304.87	48.05
54	SLU 31	226	-148	3955	-277.25	346.63	55.01
54	SLU 32	224	-164	3935	-275.72	344.5	58.95
54	SLU 33	225	-155	3947	-276.64	345.78	56.58
54	SLU 34	226	-148	3955	-277.25	346.63	55.01
54	SLU 35	224	-164	3935	-275.72	344.5	58.95
54	SLU 36	225	-155	3947	-276.64	345.78	56.58
54	SLU 37	224	-164	3935	-275.72	344.5	58.95
54	SLU 38	225	-155	3947	-276.64	345.78	56.58
54	SLU 39	235	-175	4168	-292.13	362.03	62.61
54	SLU 40	236	-166	4180	-293.05	363.31	60.24
54	SLU 41	235	-175	4168	-292.13	362.03	62.61
54	SLU 42	236	-166	4180	-293.05	363.31	60.24
54	SLU 43	221	-150	3725	-260.48	343.38	55.1
54	SLU 44	223	-134	3745	-262.02	345.52	51.16
54	SLU 45	221	-150	3725	-260.48	343.38	55.1
54	SLU 46	223	-140	3737	-261.4	344.66	52.74
54	SLU 47	223	-134	3745	-262.02	345.52	51.16
54	SLU 48	221	-150	3725	-260.48	343.38	55.1
54	SLU 49	223	-140	3737	-261.4	344.66	52.74
54	SLU 50	221	-150	3725	-260.48	343.38	55.1
54	SLU 51	223	-140	3737	-261.4	344.66	52.74
54	SLU 52	249	-159	4289	-300.3	386.43	59.7
54	SLU 53	247	-176	4268	-298.77	384.29	63.64
54	SLU 54	249	-166	4281	-299.69	385.57	61.28
54	SLU 55	249	-159	4289	-300.3	386.43	59.7
54	SLU 56	247	-176	4268	-298.77	384.29	63.64
54	SLU 57	249	-166	4281	-299.69	385.57	61.28
54	SLU 58	247	-176	4268	-298.77	384.29	63.64
54	SLU 59	249	-166	4281	-299.69	385.57	61.28
54	SLU 60	259	-187	4501	-315.17	401.83	67.3
54	SLU 61	260	-177	4513	-316.09	403.11	64.93
54	SLU 62	259	-187	4501	-315.17	401.83	67.3
54	SLU 63	260	-177	4513	-316.09	403.11	64.93
54	SLU 64	243	-168	4142	-289.81	374.6	61.45
54	SLU 65	245	-152	4162	-291.35	376.73	57.52
54	SLU 66	243	-168	4142	-289.81	374.6	61.45
54	SLU 67	244	-158	4154	-290.73	375.88	59.09
54	SLU 68	245	-152	4162	-291.35	376.73	57.52
54	SLU 69	243	-168	4142	-289.81	374.6	61.45
54	SLU 70	244	-158	4154	-290.73	375.88	59.09
54	SLU 71	243	-168	4142	-289.81	374.6	61.45
54	SLU 72	244	-158	4154	-290.73	375.88	59.09
54	SLU 73	271	-178	4705	-329.63	417.64	66.05
54	SLU 74	269	-194	4685	-328.1	415.51	69.99
54	SLU 75	270	-184	4697	-329.02	416.79	67.63
54	SLU 76	271	-178	4705	-329.63	417.64	66.05
54	SLU 77	269	-194	4685	-328.1	415.51	69.99
54	SLU 78	270	-184	4697	-329.02	416.79	67.63
54	SLU 79	269	-194	4685	-328.1	415.51	69.99
54	SLU 80	270	-184	4697	-329.02	416.79	67.63
54	SLU 81	280	-205	4918	-344.5	433.04	73.65
54	SLU 82	282	-195	4930	-345.42	434.32	71.28
54	SLU 83	280	-205	4918	-344.5	433.04	73.65
54	SLU 84	282	-195	4930	-345.42	434.32	71.28
54	SLE RA 1	182	-125	3094	-216.49	281.29	45.88
54	SLE RA 2	184	-114	3108	-217.51	282.71	43.25
54	SLE RA 3	182	-125	3094	-216.49	281.29	45.88
54	SLE RA 4	183	-119	3103	-217.1	282.15	44.3
54	SLE RA 5	184	-114	3108	-217.51	282.71	43.25
54	SLE RA 6	182	-125	3094	-216.49	281.29	45.88
54	SLE RA 7	183	-119	3103	-217.1	282.15	44.3
54	SLE RA 8	182	-125	3094	-216.49	281.29	45.88
54	SLE RA 9	183	-119	3103	-217.1	282.15	44.3
54	SLE RA 10	201	-132	3470	-243.03	309.99	48.94
54	SLE RA 11	200	-143	3457	-242.01	308.57	51.57
54	SLE RA 12	200	-136	3465	-242.62	309.42	49.99
54	SLE RA 13	201	-132	3470	-243.03	309.99	48.94
54	SLE RA 14	200	-143	3457	-242.01	308.57	51.57
54	SLE RA 15	200	-136	3465	-242.62	309.42	49.99
54	SLE RA 16	200	-143	3457	-242.01	308.57	51.57
54	SLE RA 17	200	-136	3465	-242.62	309.42	49.99
54	SLE RA 18	207	-150	3612	-252.95	320.26	54.01
54	SLE RA 19	208	-143	3620	-253.56	321.11	52.43
54	SLE RA 20	207	-150	3612	-252.95	320.26	54.01
54	SLE RA 21	208	-143	3620	-253.56	321.11	52.43
54	SLE FR 1	182	-125	3094	-216.49	281.29	45.88
54	SLE FR 2	183	-123	3097	-216.69	281.58	45.35
54	SLE FR 3	182	-125	3094	-216.49	281.29	45.88
54	SLE FR 4	190	-131	3252	-227.63	293.27	47.79
54	SLE FR 5	190	-133	3250	-227.43	292.98	48.32
54	SLE FR 6	195	-138	3353	-234.72	300.77	49.94
54	SLE QP 1	182	-125	3094	-216.49	281.29	45.88
54	SLE QP 2	190	-133	3250	-227.43	292.98	48.32
54	SLD 1	338	-30	2952	-206.97	280.54	39.38
54	SLD 2	368	25	2947	-206.57	280.7	28.06
54	SLD 3	315	-184	2746	-191.3	259.06	76.34
54	SLD 4	345	-130	2741	-190.9	259.22	65.03
54	SLD 5	258	113	3475	-245.19	321.77	-6.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLD 6	288	168	3470	-244.79	321.93	-17.81
54	SLD 7	182	-402	2788	-192.97	250.17	116.78
54	SLD 8	212	-347	2782	-192.57	250.33	105.41
54	SLD 9	167	82	3717	-262.28	335.63	-8.78
54	SLD 10	197	136	3712	-261.88	335.79	-20.15
54	SLD 11	91	-434	3030	-210.06	264.03	114.44
54	SLD 12	121	-379	3024	-209.67	264.19	103.08
54	SLD 13	35	-136	3759	-263.95	326.74	31.6
54	SLD 14	64	-81	3753	-263.55	326.9	20.29
54	SLD 15	12	-290	3552	-248.28	305.26	68.57
54	SLD 16	41	-236	3547	-247.89	305.42	57.25
54	SLV 1	526	101	2575	-181.01	264.11	28.17
54	SLV 2	593	225	2563	-180.12	264.46	2.53
54	SLV 3	475	-250	2106	-145.45	215.34	112.1
54	SLV 4	542	-126	2095	-144.55	215.69	86.46
54	SLV 5	346	426	3761	-267.75	358.17	-75.99
54	SLV 6	413	550	3749	-266.85	358.52	-101.74
54	SLV 7	173	-744	2201	-149.21	195.59	203.77
54	SLV 8	240	-620	2189	-148.31	195.94	178.02
54	SLV 9	139	354	4310	-306.54	390.02	-81.39
54	SLV 10	206	478	4298	-305.64	390.37	-107.14
54	SLV 11	-33	-816	2750	-188	227.44	198.37
54	SLV 12	34	-692	2738	-187.1	227.79	172.62
54	SLV 13	-162	-139	4405	-310.3	370.27	10.17
54	SLV 14	-95	-16	4393	-309.4	370.63	-15.47
54	SLV 15	-214	-490	3937	-274.74	321.5	94.1
54	SLV 16	-147	-367	3925	-273.84	321.85	68.46
54	CRTFP Ux+	0	0	0	0	0	0
54	CRTFP Ux-	0	0	0	0	0	0
54	CRTFP Uy+	0	0	0	0	0	0
54	CRTFP Uy-	0	0	0	0	0	0
55	SLU 1	11	231	6633	-1852.33	-52.86	16.88
55	SLU 2	11	264	6712	-1873.55	-53.83	17.05
55	SLU 3	11	231	6633	-1852.33	-52.86	16.88
55	SLU 4	11	251	6681	-1865.06	-53.44	16.98
55	SLU 5	11	264	6712	-1873.55	-53.83	17.05
55	SLU 6	11	231	6633	-1852.33	-52.86	16.88
55	SLU 7	11	251	6681	-1865.06	-53.44	16.98
55	SLU 8	11	231	6633	-1852.33	-52.86	16.88
55	SLU 9	11	251	6681	-1865.06	-53.44	16.98
55	SLU 10	15	314	8197	-2275.32	-64.11	18.22
55	SLU 11	14	281	8118	-2254.1	-63.13	18.06
55	SLU 12	15	301	8166	-2266.83	-63.72	18.15
55	SLU 13	15	314	8197	-2275.32	-64.11	18.22
55	SLU 14	14	281	8118	-2254.1	-63.13	18.06
55	SLU 15	15	301	8166	-2266.83	-63.72	18.15
55	SLU 16	14	281	8118	-2254.1	-63.13	18.06
55	SLU 17	15	301	8166	-2266.83	-63.72	18.15
55	SLU 18	16	302	8755	-2426.29	-67.54	18.56
55	SLU 19	16	322	8802	-2439.02	-68.12	18.65
55	SLU 20	16	302	8755	-2426.29	-67.54	18.56
55	SLU 21	16	322	8802	-2439.02	-68.12	18.65
55	SLU 22	12	266	7729	-2150.04	-59.12	17.7
55	SLU 23	12	300	7808	-2171.26	-60.1	17.86
55	SLU 24	12	266	7729	-2150.04	-59.12	17.7
55	SLU 25	12	287	7777	-2162.77	-59.71	17.79
55	SLU 26	12	300	7808	-2171.26	-60.1	17.86
55	SLU 27	12	266	7729	-2150.04	-59.12	17.7
55	SLU 28	12	287	7777	-2162.77	-59.71	17.79
55	SLU 29	12	266	7729	-2150.04	-59.12	17.7
55	SLU 30	12	287	7777	-2162.77	-59.71	17.79
55	SLU 31	16	350	9293	-2573.04	-70.38	19.03
55	SLU 32	15	317	9215	-2551.81	-69.4	18.87
55	SLU 33	16	337	9262	-2564.54	-69.99	18.97
55	SLU 34	16	350	9293	-2573.04	-70.38	19.03
55	SLU 35	15	317	9215	-2551.81	-69.4	18.87
55	SLU 36	16	337	9262	-2564.54	-69.99	18.97
55	SLU 37	15	317	9215	-2551.81	-69.4	18.87
55	SLU 38	16	337	9262	-2564.54	-69.99	18.97
55	SLU 39	17	338	9851	-2724	-73.8	19.37
55	SLU 40	17	358	9898	-2736.73	-74.39	19.47
55	SLU 41	17	338	9851	-2724	-73.8	19.37
55	SLU 42	17	358	9898	-2736.73	-74.39	19.47
55	SLU 43	14	288	8248	-2305.95	-66.56	21.67
55	SLU 44	14	321	8326	-2327.18	-67.54	21.83
55	SLU 45	14	288	8248	-2305.95	-66.56	21.67
55	SLU 46	14	308	8295	-2318.69	-67.15	21.77
55	SLU 47	14	321	8326	-2327.18	-67.54	21.83
55	SLU 48	14	288	8248	-2305.95	-66.56	21.67
55	SLU 49	14	308	8295	-2318.69	-67.15	21.77
55	SLU 50	14	288	8248	-2305.95	-66.56	21.67
55	SLU 51	14	308	8295	-2318.69	-67.15	21.77
55	SLU 52	18	371	9811	-2728.95	-77.82	23
55	SLU 53	17	338	9733	-2707.72	-76.84	22.84
55	SLU 54	18	358	9780	-2720.46	-77.43	22.94
55	SLU 55	18	371	9811	-2728.95	-77.82	23
55	SLU 56	17	338	9733	-2707.72	-76.84	22.84
55	SLU 57	18	358	9780	-2720.46	-77.43	22.94
55	SLU 58	17	338	9733	-2707.72	-76.84	22.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLU 59	18	358	9780	-2720.46	-77.43	22.94
55	SLU 60	19	359	10369	-2879.91	-81.24	23.34
55	SLU 61	19	379	10416	-2892.65	-81.83	23.44
55	SLU 62	19	359	10369	-2879.91	-81.24	23.34
55	SLU 63	19	379	10416	-2892.65	-81.83	23.44
55	SLU 64	15	323	9344	-2603.66	-72.83	22.48
55	SLU 65	15	357	9422	-2624.89	-73.81	22.65
55	SLU 66	15	323	9344	-2603.66	-72.83	22.48
55	SLU 67	15	344	9391	-2616.4	-73.42	22.58
55	SLU 68	15	357	9422	-2624.89	-73.81	22.65
55	SLU 69	15	323	9344	-2603.66	-72.83	22.48
55	SLU 70	15	344	9391	-2616.4	-73.42	22.58
55	SLU 71	15	323	9344	-2603.66	-72.83	22.48
55	SLU 72	15	344	9391	-2616.4	-73.42	22.58
55	SLU 73	19	407	10908	-3026.66	-84.09	23.82
55	SLU 74	18	373	10829	-3005.43	-83.11	23.66
55	SLU 75	19	394	10876	-3018.17	-83.7	23.75
55	SLU 76	19	407	10908	-3026.66	-84.09	23.82
55	SLU 77	18	373	10829	-3005.43	-83.11	23.66
55	SLU 78	19	394	10876	-3018.17	-83.7	23.75
55	SLU 79	18	373	10829	-3005.43	-83.11	23.66
55	SLU 80	19	394	10876	-3018.17	-83.7	23.75
55	SLU 81	20	395	11465	-3177.62	-87.51	24.16
55	SLU 82	20	415	11512	-3190.36	-88.1	24.25
55	SLU 83	20	395	11465	-3177.62	-87.51	24.16
55	SLU 84	20	415	11512	-3190.36	-88.1	24.25
55	SLE RA 1	11	241	6947	-1937.39	-54.65	17.12
55	SLE RA 2	11	263	6999	-1951.54	-55.3	17.22
55	SLE RA 3	11	241	6947	-1937.39	-54.65	17.12
55	SLE RA 4	11	254	6978	-1945.88	-55.04	17.18
55	SLE RA 5	11	263	6999	-1951.54	-55.3	17.22
55	SLE RA 6	11	241	6947	-1937.39	-54.65	17.12
55	SLE RA 7	11	254	6978	-1945.88	-55.04	17.18
55	SLE RA 8	11	241	6947	-1937.39	-54.65	17.12
55	SLE RA 9	11	254	6978	-1945.88	-55.04	17.18
55	SLE RA 10	14	297	7989	-2219.39	-62.15	18.01
55	SLE RA 11	14	274	7937	-2205.23	-61.5	17.9
55	SLE RA 12	14	288	7968	-2213.72	-61.89	17.96
55	SLE RA 13	14	297	7989	-2219.39	-62.15	18.01
55	SLE RA 14	14	274	7937	-2205.23	-61.5	17.9
55	SLE RA 15	14	288	7968	-2213.72	-61.89	17.96
55	SLE RA 16	14	274	7937	-2205.23	-61.5	17.9
55	SLE RA 17	14	288	7968	-2213.72	-61.89	17.96
55	SLE RA 18	15	289	8361	-2320.03	-64.43	18.23
55	SLE RA 19	15	302	8392	-2328.52	-64.83	18.3
55	SLE RA 20	15	289	8361	-2320.03	-64.43	18.23
55	SLE RA 21	15	302	8392	-2328.52	-64.83	18.3
55	SLE FR 1	11	241	6947	-1937.39	-54.65	17.12
55	SLE FR 2	11	245	6957	-1940.22	-54.78	17.14
55	SLE FR 3	11	241	6947	-1937.39	-54.65	17.12
55	SLE FR 4	12	260	7381	-2055.01	-57.71	17.47
55	SLE FR 5	12	255	7371	-2052.18	-57.58	17.45
55	SLE FR 6	13	265	7654	-2128.71	-59.54	17.67
55	SLE QP 1	11	241	6947	-1937.39	-54.65	17.12
55	SLE QP 2	12	255	7371	-2052.18	-57.58	17.45
55	SLD 1	660	374	7317	-2042.84	-39.24	192.63
55	SLD 2	763	418	7328	-2045.19	-39.54	223.77
55	SLD 3	634	48	6560	-1837.96	-29.87	184.42
55	SLD 4	737	92	6571	-1840.31	-30.17	215.56
55	SLD 5	209	770	8499	-2359.29	-66.18	71.49
55	SLD 6	313	814	8510	-2361.64	-66.48	102.78
55	SLD 7	123	-317	5975	-1676.35	-34.96	44.11
55	SLD 8	227	-272	5986	-1678.71	-35.26	75.4
55	SLD 9	-202	783	8755	-2425.65	-79.91	-40.5
55	SLD 10	-99	827	8767	-2428	-80.21	-9.21
55	SLD 11	-288	-303	6231	-1742.72	-48.68	-67.88
55	SLD 12	-185	-259	6242	-1745.07	-48.98	-36.59
55	SLD 13	-712	418	8171	-2264.05	-84.99	-180.66
55	SLD 14	-609	462	8182	-2266.39	-85.29	-149.52
55	SLD 15	-738	92	7414	-2059.17	-75.63	-188.87
55	SLD 16	-635	136	7425	-2061.51	-75.93	-157.73
55	SLV 1	1482	525	7250	-2031.26	-15.98	415.15
55	SLV 2	1715	624	7275	-2036.58	-16.66	485.74
55	SLV 3	1423	-215	5530	-1566.06	5.29	396.23
55	SLV 4	1656	-115	5555	-1571.37	4.61	466.82
55	SLV 5	462	1423	9934	-2749.59	-77.12	140.6
55	SLV 6	696	1523	9959	-2754.92	-77.8	211.49
55	SLV 7	263	-1043	4202	-1198.92	-6.23	77.53
55	SLV 8	497	-943	4227	-1204.25	-6.91	148.42
55	SLV 9	-472	1453	10515	-2900.1	-108.25	-113.52
55	SLV 10	-238	1553	10540	-2905.44	-108.94	-42.63
55	SLV 11	-671	-1013	4783	-1349.43	-37.37	-176.59
55	SLV 12	-437	-913	4808	-1354.77	-38.05	-105.7
55	SLV 13	-1631	626	9186	-2532.98	-119.77	-431.91
55	SLV 14	-1398	725	9211	-2538.29	-120.45	-361.33
55	SLV 15	-1691	-114	7467	-2067.78	-98.51	-450.83
55	SLV 16	-1458	-14	7492	-2073.09	-99.19	-380.25
55	CRTFP Ux+	0	0	0	-0.01	0	-0.01
55	CRTFP Ux-	0	0	0	0.01	0	0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	CRTFP Uy+	0	0	0	0.02	0	0
55	CRTFP Uy-	0	0	0	-0.02	0	0
55	CRTFP Rz+	0	0	0	0	0	0
55	CRTFP Rz-	0	0	0	0	0	0
58	SLU 1	-11	-59	2155	-1.63	-346.74	-20.13
58	SLU 2	-11	-46	2168	-1.71	-348.26	-15.5
58	SLU 3	-11	-59	2155	-1.63	-346.74	-20.13
58	SLU 4	-11	-51	2163	-1.68	-347.65	-17.35
58	SLU 5	-11	-46	2168	-1.71	-348.26	-15.5
58	SLU 6	-11	-59	2155	-1.63	-346.74	-20.13
58	SLU 7	-11	-51	2163	-1.68	-347.65	-17.35
58	SLU 8	-11	-59	2155	-1.63	-346.74	-20.13
58	SLU 9	-11	-51	2163	-1.68	-347.65	-17.35
58	SLU 10	-12	-56	2598	-2.03	-406.54	-18.96
58	SLU 11	-12	-69	2586	-1.96	-405.02	-23.59
58	SLU 12	-12	-61	2593	-2	-405.93	-20.82
58	SLU 13	-12	-56	2598	-2.03	-406.54	-18.96
58	SLU 14	-12	-69	2586	-1.96	-405.02	-23.59
58	SLU 15	-12	-61	2593	-2	-405.93	-20.82
58	SLU 16	-12	-69	2586	-1.96	-405.02	-23.59
58	SLU 17	-12	-61	2593	-2	-405.93	-20.82
58	SLU 18	-12	-73	2770	-2.1	-430	-25.08
58	SLU 19	-12	-65	2778	-2.15	-430.91	-22.3
58	SLU 20	-12	-73	2770	-2.1	-430	-25.08
58	SLU 21	-12	-65	2778	-2.15	-430.91	-22.3
58	SLU 22	-12	-67	2459	-1.88	-388.66	-22.84
58	SLU 23	-12	-54	2472	-1.95	-390.18	-18.21
58	SLU 24	-12	-67	2459	-1.88	-388.66	-22.84
58	SLU 25	-12	-59	2467	-1.92	-389.57	-20.06
58	SLU 26	-12	-54	2472	-1.95	-390.18	-18.21
58	SLU 27	-12	-67	2459	-1.88	-388.66	-22.84
58	SLU 28	-12	-59	2467	-1.92	-389.57	-20.06
58	SLU 29	-12	-67	2459	-1.88	-388.66	-22.84
58	SLU 30	-12	-59	2467	-1.92	-389.57	-20.06
58	SLU 31	-13	-64	2902	-2.28	-448.46	-21.68
58	SLU 32	-13	-77	2889	-2.2	-446.94	-26.31
58	SLU 33	-13	-69	2897	-2.25	-447.86	-23.53
58	SLU 34	-13	-64	2902	-2.28	-448.46	-21.68
58	SLU 35	-13	-77	2889	-2.2	-446.94	-26.31
58	SLU 36	-13	-69	2897	-2.25	-447.86	-23.53
58	SLU 37	-13	-77	2889	-2.2	-446.94	-26.31
58	SLU 38	-13	-69	2897	-2.25	-447.86	-23.53
58	SLU 39	-13	-81	3074	-2.35	-471.92	-27.79
58	SLU 40	-13	-73	3081	-2.39	-472.84	-25.01
58	SLU 41	-13	-81	3074	-2.35	-471.92	-27.79
58	SLU 42	-13	-73	3081	-2.39	-472.84	-25.01
58	SLU 43	-14	-74	2698	-2.04	-436.38	-25.24
58	SLU 44	-14	-61	2710	-2.11	-437.9	-20.61
58	SLU 45	-14	-74	2698	-2.04	-436.38	-25.24
58	SLU 46	-14	-66	2705	-2.08	-437.3	-22.46
58	SLU 47	-14	-61	2710	-2.11	-437.9	-20.61
58	SLU 48	-14	-74	2698	-2.04	-436.38	-25.24
58	SLU 49	-14	-66	2705	-2.08	-437.3	-22.46
58	SLU 50	-14	-74	2698	-2.04	-436.38	-25.24
58	SLU 51	-14	-66	2705	-2.08	-437.3	-22.46
58	SLU 52	-15	-71	3141	-2.44	-496.19	-24.07
58	SLU 53	-15	-84	3128	-2.37	-494.67	-28.7
58	SLU 54	-15	-76	3136	-2.41	-495.58	-25.92
58	SLU 55	-15	-71	3141	-2.44	-496.19	-24.07
58	SLU 56	-15	-84	3128	-2.37	-494.67	-28.7
58	SLU 57	-15	-76	3136	-2.41	-495.58	-25.92
58	SLU 58	-15	-84	3128	-2.37	-494.67	-28.7
58	SLU 59	-15	-76	3136	-2.41	-495.58	-25.92
58	SLU 60	-15	-88	3312	-2.51	-519.65	-30.19
58	SLU 61	-15	-80	3320	-2.55	-520.56	-27.41
58	SLU 62	-15	-88	3312	-2.51	-519.65	-30.19
58	SLU 63	-15	-80	3320	-2.55	-520.56	-27.41
58	SLU 64	-15	-82	3001	-2.28	-478.3	-27.95
58	SLU 65	-15	-69	3014	-2.35	-479.82	-23.32
58	SLU 66	-15	-82	3001	-2.28	-478.3	-27.95
58	SLU 67	-15	-74	3009	-2.33	-479.22	-25.17
58	SLU 68	-15	-69	3014	-2.35	-479.82	-23.32
58	SLU 69	-15	-82	3001	-2.28	-478.3	-27.95
58	SLU 70	-15	-74	3009	-2.33	-479.22	-25.17
58	SLU 71	-15	-82	3001	-2.28	-478.3	-27.95
58	SLU 72	-15	-74	3009	-2.33	-479.22	-25.17
58	SLU 73	-16	-79	3444	-2.68	-538.11	-26.79
58	SLU 74	-16	-92	3432	-2.61	-536.59	-31.41
58	SLU 75	-16	-84	3439	-2.65	-537.5	-28.64
58	SLU 76	-16	-79	3444	-2.68	-538.11	-26.79
58	SLU 77	-16	-92	3432	-2.61	-536.59	-31.41
58	SLU 78	-16	-84	3439	-2.65	-537.5	-28.64
58	SLU 79	-16	-92	3432	-2.61	-536.59	-31.41
58	SLU 80	-16	-84	3439	-2.65	-537.5	-28.64
58	SLU 81	-16	-96	3616	-2.75	-561.57	-32.9
58	SLU 82	-16	-88	3624	-2.8	-562.48	-30.12
58	SLU 83	-16	-96	3616	-2.75	-561.57	-32.9
58	SLU 84	-16	-88	3624	-2.8	-562.48	-30.12
58	SLE RA 1	-12	-61	2242	-1.7	-358.71	-20.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLE RA 2	-12	-52	2250	-1.75	-359.73	-17.82
58	SLE RA 3	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE RA 4	-12	-56	2247	-1.73	-359.32	-19.05
58	SLE RA 5	-12	-52	2250	-1.75	-359.73	-17.82
58	SLE RA 6	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE RA 7	-12	-56	2247	-1.73	-359.32	-19.05
58	SLE RA 8	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE RA 9	-12	-56	2247	-1.73	-359.32	-19.05
58	SLE RA 10	-12	-59	2537	-1.97	-398.58	-20.13
58	SLE RA 11	-12	-68	2529	-1.92	-397.57	-23.21
58	SLE RA 12	-12	-63	2534	-1.95	-398.18	-21.36
58	SLE RA 13	-12	-59	2537	-1.97	-398.58	-20.13
58	SLE RA 14	-12	-68	2529	-1.92	-397.57	-23.21
58	SLE RA 15	-12	-63	2534	-1.95	-398.18	-21.36
58	SLE RA 16	-12	-68	2529	-1.92	-397.57	-23.21
58	SLE RA 17	-12	-63	2534	-1.95	-398.18	-21.36
58	SLE RA 18	-12	-71	2652	-2.01	-414.22	-24.2
58	SLE RA 19	-12	-65	2657	-2.04	-414.83	-22.35
58	SLE RA 20	-12	-71	2652	-2.01	-414.22	-24.2
58	SLE RA 21	-12	-65	2657	-2.04	-414.83	-22.35
58	SLE FR 1	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE FR 2	-12	-59	2244	-1.71	-358.92	-20.29
58	SLE FR 3	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE FR 4	-12	-62	2367	-1.8	-375.57	-21.28
58	SLE FR 5	-12	-64	2365	-1.79	-375.37	-21.89
58	SLE FR 6	-12	-66	2447	-1.86	-386.47	-22.55
58	SLE QP 1	-12	-61	2242	-1.7	-358.71	-20.9
58	SLE QP 2	-12	-64	2365	-1.79	-375.37	-21.89
58	SLD 1	149	-28	2745	-2.28	-428.1	-9.07
58	SLD 2	173	-68	2747	-2.28	-427.86	-23.17
58	SLD 3	145	-142	2631	-1.56	-414.41	-49.11
58	SLD 4	169	-183	2633	-1.57	-414.17	-63.2
58	SLD 5	34	134	2651	-3.02	-412.03	47.64
58	SLD 6	58	94	2652	-3.02	-411.79	33.48
58	SLD 7	21	-246	2272	-0.64	-366.4	-85.81
58	SLD 8	45	-287	2274	-0.65	-366.16	-99.98
58	SLD 9	-68	159	2456	-2.94	-384.57	56.19
58	SLD 10	-45	118	2458	-2.95	-384.33	42.03
58	SLD 11	-81	-222	2078	-0.57	-338.94	-77.27
58	SLD 12	-58	-262	2079	-0.57	-338.7	-91.43
58	SLD 13	-192	55	2097	-2.02	-336.56	19.42
58	SLD 14	-169	14	2098	-2.03	-336.32	5.32
58	SLD 15	-196	-60	1983	-1.31	-322.87	-20.62
58	SLD 16	-173	-100	1985	-1.31	-322.63	-34.72
58	SLV 1	354	18	3228	-2.89	-495.62	7.27
58	SLV 2	406	-74	3232	-2.9	-495.08	-24.68
58	SLV 3	345	-241	2970	-1.27	-464.49	-83.71
58	SLV 4	397	-333	2974	-1.28	-463.95	-115.66
58	SLV 5	93	387	3014	-4.57	-458.83	136.1
58	SLV 6	146	294	3018	-4.58	-458.29	104.01
58	SLV 7	63	-478	2154	0.82	-355.09	-167.17
58	SLV 8	116	-571	2157	0.81	-354.55	-199.26
58	SLV 9	-139	443	2573	-4.4	-396.18	155.47
58	SLV 10	-86	350	2576	-4.41	-395.64	123.39
58	SLV 11	-169	-422	1712	0.99	-292.44	-147.8
58	SLV 12	-117	-515	1716	0.98	-291.9	-179.88
58	SLV 13	-421	205	1756	-2.31	-286.78	71.87
58	SLV 14	-368	113	1760	-2.32	-286.24	39.92
58	SLV 15	-430	-54	1498	-0.69	-255.66	-19.11
58	SLV 16	-377	-146	1502	-0.7	-255.12	-51.06
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
61	SLU 1	102	-89	2145	-1.69	160.04	23.13
61	SLU 2	103	-77	2158	-1.75	161.16	20.1
61	SLU 3	102	-89	2145	-1.69	160.04	23.13
61	SLU 4	103	-82	2152	-1.73	160.71	21.31
61	SLU 5	103	-77	2158	-1.75	161.16	20.1
61	SLU 6	102	-89	2145	-1.69	160.04	23.13
61	SLU 7	103	-82	2152	-1.73	160.71	21.31
61	SLU 8	102	-89	2145	-1.69	160.04	23.13
61	SLU 9	103	-82	2152	-1.73	160.71	21.31
61	SLU 10	118	-96	2545	-2.18	182.74	25.02
61	SLU 11	117	-109	2532	-2.11	181.61	28.05
61	SLU 12	117	-101	2540	-2.15	182.29	26.23
61	SLU 13	118	-96	2545	-2.18	182.74	25.02
61	SLU 14	117	-109	2532	-2.11	181.61	28.05
61	SLU 15	117	-101	2540	-2.15	182.29	26.23
61	SLU 16	117	-109	2532	-2.11	181.61	28.05
61	SLU 17	117	-101	2540	-2.15	182.29	26.23
61	SLU 18	123	-117	2698	-2.3	190.86	30.16
61	SLU 19	124	-110	2706	-2.33	191.53	28.34
61	SLU 20	123	-117	2698	-2.3	190.86	30.16
61	SLU 21	124	-110	2706	-2.33	191.53	28.34
61	SLU 22	114	-103	2442	-2.01	176.5	26.65
61	SLU 23	116	-91	2455	-2.07	177.62	23.63
61	SLU 24	114	-103	2442	-2.01	176.5	26.65
61	SLU 25	115	-96	2450	-2.04	177.17	24.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLU 26	116	-91	2455	-2.07	177.62	23.63
61	SLU 27	114	-103	2442	-2.01	176.5	26.65
61	SLU 28	115	-96	2450	-2.04	177.17	24.84
61	SLU 29	114	-103	2442	-2.01	176.5	26.65
61	SLU 30	115	-96	2450	-2.04	177.17	24.84
61	SLU 31	131	-110	2842	-2.49	199.2	28.55
61	SLU 32	129	-122	2830	-2.43	198.07	31.58
61	SLU 33	130	-115	2837	-2.47	198.75	29.76
61	SLU 34	131	-110	2842	-2.49	199.2	28.55
61	SLU 35	129	-122	2830	-2.43	198.07	31.58
61	SLU 36	130	-115	2837	-2.47	198.75	29.76
61	SLU 37	129	-122	2830	-2.43	198.07	31.58
61	SLU 38	130	-115	2837	-2.47	198.75	29.76
61	SLU 39	136	-131	2996	-2.61	207.32	33.69
61	SLU 40	136	-123	3003	-2.65	207.99	31.87
61	SLU 41	136	-131	2996	-2.61	207.32	33.69
61	SLU 42	136	-123	3003	-2.65	207.99	31.87
61	SLU 43	128	-112	2686	-2.09	202.41	28.85
61	SLU 44	129	-99	2699	-2.15	203.53	25.83
61	SLU 45	128	-112	2686	-2.09	202.41	28.85
61	SLU 46	129	-104	2694	-2.13	203.08	27.04
61	SLU 47	129	-99	2699	-2.15	203.53	25.83
61	SLU 48	128	-112	2686	-2.09	202.41	28.85
61	SLU 49	129	-104	2694	-2.13	203.08	27.04
61	SLU 50	128	-112	2686	-2.09	202.41	28.85
61	SLU 51	129	-104	2694	-2.13	203.08	27.04
61	SLU 52	144	-119	3086	-2.58	225.11	30.75
61	SLU 53	143	-131	3074	-2.51	223.98	33.78
61	SLU 54	144	-123	3081	-2.55	224.66	31.96
61	SLU 55	144	-119	3086	-2.58	225.11	30.75
61	SLU 56	143	-131	3074	-2.51	223.98	33.78
61	SLU 57	144	-123	3081	-2.55	224.66	31.96
61	SLU 58	143	-131	3074	-2.51	223.98	33.78
61	SLU 59	144	-123	3081	-2.55	224.66	31.96
61	SLU 60	149	-139	3240	-2.7	233.23	35.89
61	SLU 61	150	-132	3247	-2.73	233.9	34.07
61	SLU 62	149	-139	3240	-2.7	233.23	35.89
61	SLU 63	150	-132	3247	-2.73	233.9	34.07
61	SLU 64	141	-125	2984	-2.41	218.87	32.38
61	SLU 65	142	-113	2996	-2.47	219.99	29.36
61	SLU 66	141	-125	2984	-2.41	218.87	32.38
61	SLU 67	141	-118	2991	-2.44	219.54	30.57
61	SLU 68	142	-113	2996	-2.47	219.99	29.36
61	SLU 69	141	-125	2984	-2.41	218.87	32.38
61	SLU 70	141	-118	2991	-2.44	219.54	30.57
61	SLU 71	141	-125	2984	-2.41	218.87	32.38
61	SLU 72	141	-118	2991	-2.44	219.54	30.57
61	SLU 73	157	-132	3384	-2.89	241.56	34.28
61	SLU 74	155	-144	3371	-2.83	240.44	37.3
61	SLU 75	156	-137	3379	-2.87	241.12	35.49
61	SLU 76	157	-132	3384	-2.89	241.56	34.28
61	SLU 77	155	-144	3371	-2.83	240.44	37.3
61	SLU 78	156	-137	3379	-2.87	241.12	35.49
61	SLU 79	155	-144	3371	-2.83	240.44	37.3
61	SLU 80	156	-137	3379	-2.87	241.12	35.49
61	SLU 81	162	-153	3537	-3.01	249.69	39.41
61	SLU 82	163	-145	3545	-3.05	250.36	37.6
61	SLU 83	162	-153	3537	-3.01	249.69	39.41
61	SLU 84	163	-145	3545	-3.05	250.36	37.6
61	SLE RA 1	105	-93	2230	-1.78	164.74	24.13
61	SLE RA 2	106	-85	2238	-1.82	165.49	22.12
61	SLE RA 3	105	-93	2230	-1.78	164.74	24.13
61	SLE RA 4	106	-88	2235	-1.81	165.19	22.92
61	SLE RA 5	106	-85	2238	-1.82	165.49	22.12
61	SLE RA 6	105	-93	2230	-1.78	164.74	24.13
61	SLE RA 7	106	-88	2235	-1.81	165.19	22.92
61	SLE RA 8	105	-93	2230	-1.78	164.74	24.13
61	SLE RA 9	106	-88	2235	-1.81	165.19	22.92
61	SLE RA 10	116	-98	2496	-2.1	179.87	25.4
61	SLE RA 11	115	-106	2488	-2.06	179.12	27.42
61	SLE RA 12	116	-101	2493	-2.09	179.57	26.21
61	SLE RA 13	116	-98	2496	-2.1	179.87	25.4
61	SLE RA 14	115	-106	2488	-2.06	179.12	27.42
61	SLE RA 15	116	-101	2493	-2.09	179.57	26.21
61	SLE RA 16	115	-106	2488	-2.06	179.12	27.42
61	SLE RA 17	116	-101	2493	-2.09	179.57	26.21
61	SLE RA 18	120	-112	2599	-2.18	185.29	28.82
61	SLE RA 19	120	-107	2604	-2.21	185.74	27.61
61	SLE RA 20	120	-112	2599	-2.18	185.29	28.82
61	SLE RA 21	120	-107	2604	-2.21	185.74	27.61
61	SLE FR 1	105	-93	2230	-1.78	164.74	24.13
61	SLE FR 2	105	-92	2232	-1.79	164.89	23.73
61	SLE FR 3	105	-93	2230	-1.78	164.74	24.13
61	SLE FR 4	110	-97	2342	-1.91	171.05	25.14
61	SLE FR 5	110	-99	2340	-1.9	170.91	25.54
61	SLE FR 6	112	-102	2414	-1.98	175.01	26.48
61	SLE QP 1	105	-93	2230	-1.78	164.74	24.13
61	SLE QP 2	110	-99	2340	-1.9	170.91	25.54
61	SLD 1	195	-23	2121	-1.87	163.68	7.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLD 2	213	18	2117	-1.86	163.8	-2.93
61	SLD 3	180	-137	1990	-1.26	152.53	35.72
61	SLD 4	198	-97	1987	-1.24	152.65	25.72
61	SLD 5	151	84	2473	-2.83	185.6	-19.92
61	SLD 6	169	125	2470	-2.82	185.73	-29.97
61	SLD 7	102	-299	2039	-0.78	148.43	75.56
61	SLD 8	120	-258	2036	-0.77	148.56	65.51
61	SLD 9	99	61	2645	-3.04	193.25	-14.43
61	SLD 10	117	101	2642	-3.02	193.38	-24.48
61	SLD 11	50	-322	2211	-0.99	156.08	81.05
61	SLD 12	68	-282	2208	-0.97	156.21	71
61	SLD 13	21	-101	2694	-2.56	189.16	25.36
61	SLD 14	39	-60	2691	-2.55	189.29	15.36
61	SLD 15	6	-216	2564	-1.95	178.01	54.01
61	SLD 16	24	-175	2560	-1.93	178.13	44.01
61	SLV 1	304	74	1841	-1.84	153.35	-16.39
61	SLV 2	344	166	1834	-1.8	153.64	-39.06
61	SLV 3	270	-186	1545	-0.44	128.02	48.64
61	SLV 4	311	-95	1538	-0.41	128.31	25.97
61	SLV 5	205	316	2642	-4.01	203.95	-77.69
61	SLV 6	245	408	2635	-3.98	204.24	-100.45
61	SLV 7	93	-553	1656	0.64	119.53	139.08
61	SLV 8	133	-461	1648	0.68	119.82	116.31
61	SLV 9	86	263	3033	-4.48	221.99	-65.23
61	SLV 10	127	355	3025	-4.45	222.28	-88
61	SLV 11	-26	-606	2046	0.17	137.57	151.53
61	SLV 12	15	-514	2039	0.21	137.86	128.77
61	SLV 13	-91	-103	3143	-3.4	213.5	25.11
61	SLV 14	-51	-11	3136	-3.36	213.79	2.44
61	SLV 15	-125	-364	2847	-2	188.17	90.14
61	SLV 16	-84	-272	2840	-1.97	188.46	67.47
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
62	SLU 1	-25	98	2329	-4.23	-15.04	3.44
62	SLU 2	-25	112	2357	-4.31	-15.45	3.46
62	SLU 3	-25	98	2329	-4.23	-15.04	3.44
62	SLU 4	-25	106	2346	-4.28	-15.28	3.46
62	SLU 5	-25	112	2357	-4.31	-15.45	3.46
62	SLU 6	-25	98	2329	-4.23	-15.04	3.44
62	SLU 7	-25	106	2346	-4.28	-15.28	3.46
62	SLU 8	-25	98	2329	-4.23	-15.04	3.44
62	SLU 9	-25	106	2346	-4.28	-15.28	3.46
62	SLU 10	-24	133	2924	-4.63	-18.17	3.6
62	SLU 11	-24	119	2896	-4.55	-17.76	3.58
62	SLU 12	-24	127	2913	-4.6	-18	3.59
62	SLU 13	-24	133	2924	-4.63	-18.17	3.6
62	SLU 14	-24	119	2896	-4.55	-17.76	3.58
62	SLU 15	-24	127	2913	-4.6	-18	3.59
62	SLU 16	-24	119	2896	-4.55	-17.76	3.58
62	SLU 17	-24	127	2913	-4.6	-18	3.59
62	SLU 18	-24	128	3139	-4.68	-18.93	3.64
62	SLU 19	-24	137	3156	-4.73	-19.17	3.65
62	SLU 20	-24	128	3139	-4.68	-18.93	3.64
62	SLU 21	-24	137	3156	-4.73	-19.17	3.65
62	SLU 22	-26	113	2743	-4.53	-16.26	3.62
62	SLU 23	-26	127	2772	-4.62	-16.67	3.64
62	SLU 24	-26	113	2743	-4.53	-16.26	3.62
62	SLU 25	-26	121	2760	-4.58	-16.51	3.63
62	SLU 26	-26	127	2772	-4.62	-16.67	3.64
62	SLU 27	-26	113	2743	-4.53	-16.26	3.62
62	SLU 28	-26	121	2760	-4.58	-16.51	3.63
62	SLU 29	-26	113	2743	-4.53	-16.26	3.62
62	SLU 30	-26	121	2760	-4.58	-16.51	3.63
62	SLU 31	-25	148	3339	-4.93	-19.39	3.77
62	SLU 32	-25	134	3310	-4.85	-18.99	3.76
62	SLU 33	-25	143	3327	-4.9	-19.23	3.77
62	SLU 34	-25	148	3339	-4.93	-19.39	3.77
62	SLU 35	-25	134	3310	-4.85	-18.99	3.76
62	SLU 36	-25	143	3327	-4.9	-19.23	3.77
62	SLU 37	-25	134	3310	-4.85	-18.99	3.76
62	SLU 38	-25	143	3327	-4.9	-19.23	3.77
62	SLU 39	-25	143	3553	-4.99	-20.15	3.81
62	SLU 40	-25	152	3570	-5.04	-20.4	3.82
62	SLU 41	-25	143	3553	-4.99	-20.15	3.81
62	SLU 42	-25	152	3570	-5.04	-20.4	3.82
62	SLU 43	-32	122	2885	-5.4	-19.13	4.42
62	SLU 44	-32	136	2914	-5.48	-19.54	4.44
62	SLU 45	-32	122	2885	-5.4	-19.13	4.42
62	SLU 46	-32	131	2903	-5.45	-19.38	4.43
62	SLU 47	-32	136	2914	-5.48	-19.54	4.44
62	SLU 48	-32	122	2885	-5.4	-19.13	4.42
62	SLU 49	-32	131	2903	-5.45	-19.38	4.43
62	SLU 50	-32	122	2885	-5.4	-19.13	4.42
62	SLU 51	-32	131	2903	-5.45	-19.38	4.43
62	SLU 52	-31	157	3481	-5.8	-22.26	4.57
62	SLU 53	-31	143	3452	-5.71	-21.85	4.55
62	SLU 54	-31	152	3470	-5.76	-22.1	4.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLU 55	-31	157	3481	-5.8	-22.26	4.57
62	SLU 56	-31	143	3452	-5.71	-21.85	4.55
62	SLU 57	-31	152	3470	-5.76	-22.1	4.56
62	SLU 58	-31	143	3452	-5.71	-21.85	4.55
62	SLU 59	-31	152	3470	-5.76	-22.1	4.56
62	SLU 60	-31	152	3695	-5.85	-23.02	4.61
62	SLU 61	-31	161	3713	-5.9	-23.26	4.62
62	SLU 62	-31	152	3695	-5.85	-23.02	4.61
62	SLU 63	-31	161	3713	-5.9	-23.26	4.62
62	SLU 64	-33	137	3299	-5.7	-20.36	4.59
62	SLU 65	-33	151	3328	-5.78	-20.76	4.61
62	SLU 66	-33	137	3299	-5.7	-20.36	4.59
62	SLU 67	-33	146	3317	-5.75	-20.6	4.61
62	SLU 68	-33	151	3328	-5.78	-20.76	4.61
62	SLU 69	-33	137	3299	-5.7	-20.36	4.59
62	SLU 70	-33	146	3317	-5.75	-20.6	4.61
62	SLU 71	-33	137	3299	-5.7	-20.36	4.59
62	SLU 72	-33	146	3317	-5.75	-20.6	4.61
62	SLU 73	-32	172	3895	-6.1	-23.48	4.75
62	SLU 74	-32	158	3867	-6.02	-23.08	4.73
62	SLU 75	-32	167	3884	-6.07	-23.32	4.74
62	SLU 76	-32	172	3895	-6.1	-23.48	4.75
62	SLU 77	-32	158	3867	-6.02	-23.08	4.73
62	SLU 78	-32	167	3884	-6.07	-23.32	4.74
62	SLU 79	-32	158	3867	-6.02	-23.08	4.73
62	SLU 80	-32	167	3884	-6.07	-23.32	4.74
62	SLU 81	-32	168	4110	-6.15	-24.24	4.79
62	SLU 82	-32	176	4127	-6.2	-24.49	4.8
62	SLU 83	-32	168	4110	-6.15	-24.24	4.79
62	SLU 84	-32	176	4127	-6.2	-24.49	4.8
62	SLE RA 1	-25	102	2447	-4.32	-15.39	3.49
62	SLE RA 2	-25	112	2466	-4.37	-15.66	3.51
62	SLE RA 3	-25	102	2447	-4.32	-15.39	3.49
62	SLE RA 4	-25	108	2459	-4.35	-15.55	3.5
62	SLE RA 5	-25	112	2466	-4.37	-15.66	3.51
62	SLE RA 6	-25	102	2447	-4.32	-15.39	3.49
62	SLE RA 7	-25	108	2459	-4.35	-15.55	3.5
62	SLE RA 8	-25	102	2447	-4.32	-15.39	3.49
62	SLE RA 9	-25	108	2459	-4.35	-15.55	3.5
62	SLE RA 10	-25	126	2844	-4.58	-17.47	3.6
62	SLE RA 11	-25	116	2825	-4.53	-17.2	3.58
62	SLE RA 12	-25	122	2837	-4.56	-17.37	3.59
62	SLE RA 13	-25	126	2844	-4.58	-17.47	3.6
62	SLE RA 14	-25	116	2825	-4.53	-17.2	3.58
62	SLE RA 15	-25	122	2837	-4.56	-17.37	3.59
62	SLE RA 16	-25	116	2825	-4.53	-17.2	3.58
62	SLE RA 17	-25	122	2837	-4.56	-17.37	3.59
62	SLE RA 18	-25	122	2987	-4.62	-17.98	3.62
62	SLE RA 19	-25	128	2999	-4.65	-18.14	3.63
62	SLE RA 20	-25	122	2987	-4.62	-17.98	3.62
62	SLE RA 21	-25	128	2999	-4.65	-18.14	3.63
62	SLE FR 1	-25	102	2447	-4.32	-15.39	3.49
62	SLE FR 2	-25	104	2451	-4.33	-15.44	3.5
62	SLE FR 3	-25	102	2447	-4.32	-15.39	3.49
62	SLE FR 4	-25	110	2613	-4.42	-16.22	3.54
62	SLE FR 5	-25	108	2609	-4.41	-16.17	3.53
62	SLE FR 6	-25	112	2717	-4.47	-16.69	3.56
62	SLE QP 1	-25	102	2447	-4.32	-15.39	3.49
62	SLE QP 2	-25	108	2609	-4.41	-16.17	3.53
62	SLD 1	230	158	2562	-5.01	-6.68	4.77
62	SLD 2	263	176	2568	-5.02	-6.89	5.79
62	SLD 3	221	22	2288	-4.21	-2.87	4.41
62	SLD 4	255	40	2294	-4.21	-3.07	5.42
62	SLD 5	52	323	3009	-5.81	-19.03	4.1
62	SLD 6	86	341	3014	-5.81	-19.24	5.12
62	SLD 7	24	-130	2095	-3.13	-6.32	2.88
62	SLD 8	58	-111	2101	-3.13	-6.53	3.9
62	SLD 9	-108	328	3117	-5.68	-25.81	3.17
62	SLD 10	-74	347	3123	-5.69	-26.01	4.18
62	SLD 11	-136	-124	2204	-3.01	-13.1	1.94
62	SLD 12	-102	-106	2210	-3.01	-13.3	2.96
62	SLD 13	-305	176	2924	-4.6	-29.26	1.65
62	SLD 14	-271	194	2930	-4.61	-29.47	2.66
62	SLD 15	-313	40	2650	-3.8	-25.45	1.28
62	SLD 16	-280	59	2656	-3.8	-25.65	2.29
62	SLV 1	553	221	2503	-5.79	5.35	6.35
62	SLV 2	629	262	2516	-5.79	4.88	8.64
62	SLV 3	534	-88	1881	-3.96	14	5.51
62	SLV 4	610	-46	1894	-3.97	13.54	7.81
62	SLV 5	151	595	3516	-7.58	-22.68	4.83
62	SLV 6	228	637	3529	-7.59	-23.14	7.14
62	SLV 7	86	-432	1442	-1.51	6.17	2.05
62	SLV 8	163	-391	1455	-1.52	5.71	4.36
62	SLV 9	-213	607	3763	-7.3	-38.04	2.71
62	SLV 10	-136	649	3776	-7.31	-38.51	5.01
62	SLV 11	-278	-420	1689	-1.23	-9.19	-0.07
62	SLV 12	-201	-378	1702	-1.23	-9.66	2.23
62	SLV 13	-660	263	3325	-4.85	-45.87	-0.74
62	SLV 14	-584	304	3337	-4.85	-46.34	1.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLV 15	-679	-45	2702	-3.02	-37.22	-1.58
62	SLV 16	-603	-4	2715	-3.03	-37.68	0.72
62	CRTFP Ux+	0	0	0	0	0	0
62	CRTFP Ux-	0	0	0	0	0	0
62	CRTFP Uy+	0	0	0	0	0	0
62	CRTFP Uy-	0	0	0	0	0	0
65	SLU 1	-26	-58	2122	-0.57	-353.06	-19.92
65	SLU 2	-26	-45	2132	-0.63	-354.1	-15.29
65	SLU 3	-26	-58	2122	-0.57	-353.06	-19.92
65	SLU 4	-26	-50	2128	-0.6	-353.69	-17.14
65	SLU 5	-26	-45	2132	-0.63	-354.1	-15.29
65	SLU 6	-26	-58	2122	-0.57	-353.06	-19.92
65	SLU 7	-26	-50	2128	-0.6	-353.69	-17.14
65	SLU 8	-26	-58	2122	-0.57	-353.06	-19.92
65	SLU 9	-26	-50	2128	-0.6	-353.69	-17.14
65	SLU 10	-28	-55	2557	-0.71	-414.64	-18.71
65	SLU 11	-28	-68	2546	-0.64	-413.6	-23.35
65	SLU 12	-28	-60	2552	-0.68	-414.22	-20.57
65	SLU 13	-28	-55	2557	-0.71	-414.64	-18.71
65	SLU 14	-28	-68	2546	-0.64	-413.6	-23.35
65	SLU 15	-28	-60	2552	-0.68	-414.22	-20.57
65	SLU 16	-28	-68	2546	-0.64	-413.6	-23.35
65	SLU 17	-28	-60	2552	-0.68	-414.22	-20.57
65	SLU 18	-28	-72	2728	-0.67	-439.54	-24.82
65	SLU 19	-29	-64	2734	-0.71	-440.17	-22.04
65	SLU 20	-28	-72	2728	-0.67	-439.54	-24.82
65	SLU 21	-29	-64	2734	-0.71	-440.17	-22.04
65	SLU 22	-28	-66	2421	-0.63	-396.69	-22.6
65	SLU 23	-28	-53	2432	-0.69	-397.73	-17.97
65	SLU 24	-28	-66	2421	-0.63	-396.69	-22.6
65	SLU 25	-28	-58	2427	-0.66	-397.31	-19.82
65	SLU 26	-28	-53	2432	-0.69	-397.73	-17.97
65	SLU 27	-28	-66	2421	-0.63	-396.69	-22.6
65	SLU 28	-28	-58	2427	-0.66	-397.31	-19.82
65	SLU 29	-28	-66	2421	-0.63	-396.69	-22.6
65	SLU 30	-28	-58	2427	-0.66	-397.31	-19.82
65	SLU 31	-30	-63	2856	-0.77	-458.26	-21.4
65	SLU 32	-30	-76	2845	-0.7	-457.22	-26.03
65	SLU 33	-30	-68	2852	-0.74	-457.85	-23.25
65	SLU 34	-30	-63	2856	-0.77	-458.26	-21.4
65	SLU 35	-30	-76	2845	-0.7	-457.22	-26.03
65	SLU 36	-30	-68	2852	-0.74	-457.85	-23.25
65	SLU 37	-30	-76	2845	-0.7	-457.22	-26.03
65	SLU 38	-30	-68	2852	-0.74	-457.85	-23.25
65	SLU 39	-30	-80	3027	-0.73	-483.17	-27.5
65	SLU 40	-30	-72	3034	-0.77	-483.79	-24.72
65	SLU 41	-30	-80	3027	-0.73	-483.17	-27.5
65	SLU 42	-30	-72	3034	-0.77	-483.79	-24.72
65	SLU 43	-33	-73	2656	-0.71	-444.02	-24.98
65	SLU 44	-34	-60	2666	-0.78	-445.06	-20.34
65	SLU 45	-33	-73	2656	-0.71	-444.02	-24.98
65	SLU 46	-33	-65	2662	-0.75	-444.65	-22.2
65	SLU 47	-34	-60	2666	-0.78	-445.06	-20.34
65	SLU 48	-33	-73	2656	-0.71	-444.02	-24.98
65	SLU 49	-33	-65	2662	-0.75	-444.65	-22.2
65	SLU 50	-33	-73	2656	-0.71	-444.02	-24.98
65	SLU 51	-33	-65	2662	-0.75	-444.65	-22.2
65	SLU 52	-35	-70	3091	-0.85	-505.6	-23.77
65	SLU 53	-35	-83	3080	-0.79	-504.56	-28.4
65	SLU 54	-35	-75	3086	-0.83	-505.18	-25.62
65	SLU 55	-35	-70	3091	-0.85	-505.6	-23.77
65	SLU 56	-35	-83	3080	-0.79	-504.56	-28.4
65	SLU 57	-35	-75	3086	-0.83	-505.18	-25.62
65	SLU 58	-35	-83	3080	-0.79	-504.56	-28.4
65	SLU 59	-35	-75	3086	-0.83	-505.18	-25.62
65	SLU 60	-36	-87	3262	-0.82	-530.51	-29.87
65	SLU 61	-36	-79	3268	-0.86	-531.13	-27.09
65	SLU 62	-36	-87	3262	-0.82	-530.51	-29.87
65	SLU 63	-36	-79	3268	-0.86	-531.13	-27.09
65	SLU 64	-35	-81	2955	-0.77	-487.65	-27.66
65	SLU 65	-36	-68	2966	-0.84	-488.69	-23.03
65	SLU 66	-35	-81	2955	-0.77	-487.65	-27.66
65	SLU 67	-35	-73	2961	-0.81	-488.27	-24.88
65	SLU 68	-36	-68	2966	-0.84	-488.69	-23.03
65	SLU 69	-35	-81	2955	-0.77	-487.65	-27.66
65	SLU 70	-35	-73	2961	-0.81	-488.27	-24.88
65	SLU 71	-35	-81	2955	-0.77	-487.65	-27.66
65	SLU 72	-35	-73	2961	-0.81	-488.27	-24.88
65	SLU 73	-37	-78	3390	-0.91	-549.22	-26.45
65	SLU 74	-37	-91	3379	-0.85	-548.19	-31.09
65	SLU 75	-37	-83	3386	-0.89	-548.81	-28.31
65	SLU 76	-37	-78	3390	-0.91	-549.22	-26.45
65	SLU 77	-37	-91	3379	-0.85	-548.19	-31.09
65	SLU 78	-37	-83	3386	-0.89	-548.81	-28.31
65	SLU 79	-37	-91	3379	-0.85	-548.19	-31.09
65	SLU 80	-37	-83	3386	-0.89	-548.81	-28.31
65	SLU 81	-37	-95	3561	-0.88	-574.13	-32.56
65	SLU 82	-38	-87	3567	-0.92	-574.75	-29.78
65	SLU 83	-37	-95	3561	-0.88	-574.13	-32.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
65	SLU 84	-38	-87	3567	-0.92	-574.75	-29.78
65	SLE RA 1	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE RA 2	-27	-52	2214	-0.63	-366.22	-17.6
65	SLE RA 3	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE RA 4	-27	-55	2212	-0.61	-365.94	-18.83
65	SLE RA 5	-27	-52	2214	-0.63	-366.22	-17.6
65	SLE RA 6	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE RA 7	-27	-55	2212	-0.61	-365.94	-18.83
65	SLE RA 8	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE RA 9	-27	-55	2212	-0.61	-365.94	-18.83
65	SLE RA 10	-28	-58	2497	-0.68	-406.58	-19.88
65	SLE RA 11	-28	-67	2490	-0.63	-405.88	-22.97
65	SLE RA 12	-28	-62	2494	-0.66	-406.3	-21.12
65	SLE RA 13	-28	-58	2497	-0.68	-406.58	-19.88
65	SLE RA 14	-28	-67	2490	-0.63	-405.88	-22.97
65	SLE RA 15	-28	-62	2494	-0.66	-406.3	-21.12
65	SLE RA 16	-28	-67	2490	-0.63	-405.88	-22.97
65	SLE RA 17	-28	-62	2494	-0.66	-406.3	-21.12
65	SLE RA 18	-28	-70	2611	-0.65	-423.18	-23.95
65	SLE RA 19	-28	-65	2616	-0.68	-423.6	-22.1
65	SLE RA 20	-28	-70	2611	-0.65	-423.18	-23.95
65	SLE RA 21	-28	-65	2616	-0.68	-423.6	-22.1
65	SLE FR 1	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE FR 2	-27	-59	2209	-0.59	-365.66	-20.07
65	SLE FR 3	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE FR 4	-27	-62	2330	-0.61	-382.96	-21.05
65	SLE FR 5	-27	-63	2329	-0.6	-382.82	-21.67
65	SLE FR 6	-27	-65	2409	-0.62	-394.35	-22.32
65	SLE QP 1	-27	-60	2207	-0.58	-365.53	-20.69
65	SLE QP 2	-27	-63	2329	-0.6	-382.82	-21.67
65	SLD 1	127	-27	2698	-0.81	-435.39	-8.82
65	SLD 2	147	-68	2700	-0.81	-435.08	-22.95
65	SLD 3	130	-141	2605	-0.18	-426.2	-48.91
65	SLD 4	150	-182	2606	-0.18	-425.89	-63.03
65	SLD 5	6	135	2581	-1.61	-412.65	47.96
65	SLD 6	26	94	2582	-1.62	-412.34	33.77
65	SLD 7	19	-246	2270	0.48	-382	-85.66
65	SLD 8	39	-287	2271	0.47	-381.69	-99.85
65	SLD 9	-93	160	2386	-1.68	-383.96	56.51
65	SLD 10	-73	119	2388	-1.68	-383.65	42.32
65	SLD 11	-80	-221	2075	0.41	-353.31	-77.1
65	SLD 12	-60	-262	2077	0.41	-352.99	-91.29
65	SLD 13	-205	55	2051	-1.02	-339.76	19.7
65	SLD 14	-185	15	2052	-1.03	-339.45	5.58
65	SLD 15	-201	-59	1957	-0.4	-330.56	-20.38
65	SLD 16	-181	-100	1959	-0.4	-330.25	-34.51
65	SLV 1	322	19	3168	-1.06	-502.73	7.54
65	SLV 2	367	-73	3172	-1.07	-502.03	-24.47
65	SLV 3	330	-240	2956	0.36	-481.77	-83.54
65	SLV 4	376	-333	2960	0.35	-481.07	-115.56
65	SLV 5	48	388	2901	-2.9	-450.83	136.52
65	SLV 6	94	295	2904	-2.91	-450.12	104.37
65	SLV 7	78	-478	2194	1.85	-380.97	-167.11
65	SLV 8	123	-571	2198	1.84	-380.26	-199.26
65	SLV 9	-177	444	2460	-3.04	-385.38	155.93
65	SLV 10	-132	351	2463	-3.05	-384.68	123.78
65	SLV 11	-148	-422	1753	1.7	-315.52	-147.7
65	SLV 12	-103	-515	1756	1.69	-314.81	-179.85
65	SLV 13	-430	206	1698	-1.56	-284.58	72.22
65	SLV 14	-385	114	1701	-1.57	-283.87	40.21
65	SLV 15	-421	-54	1486	-0.13	-263.62	-18.86
65	SLV 16	-376	-146	1489	-0.14	-262.91	-50.88
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
68	SLU 1	79	-90	2095	-1.55	140.55	23.15
68	SLU 2	80	-78	2106	-1.61	141.43	20.12
68	SLU 3	79	-90	2095	-1.55	140.55	23.15
68	SLU 4	79	-82	2101	-1.58	141.08	21.33
68	SLU 5	80	-78	2106	-1.61	141.43	20.12
68	SLU 6	79	-90	2095	-1.55	140.55	23.15
68	SLU 7	79	-82	2101	-1.58	141.08	21.33
68	SLU 8	79	-90	2095	-1.55	140.55	23.15
68	SLU 9	79	-82	2101	-1.58	141.08	21.33
68	SLU 10	91	-97	2480	-2	158.87	25.05
68	SLU 11	90	-109	2470	-1.94	158	28.08
68	SLU 12	91	-102	2476	-1.97	158.52	26.26
68	SLU 13	91	-97	2480	-2	158.87	25.05
68	SLU 14	90	-109	2470	-1.94	158	28.08
68	SLU 15	91	-102	2476	-1.97	158.52	26.26
68	SLU 16	90	-109	2470	-1.94	158	28.08
68	SLU 17	91	-102	2476	-1.97	158.52	26.26
68	SLU 18	95	-117	2630	-2.11	165.47	30.19
68	SLU 19	96	-110	2637	-2.14	166	28.38
68	SLU 20	95	-117	2630	-2.11	165.47	30.19
68	SLU 21	96	-110	2637	-2.14	166	28.38
68	SLU 22	88	-103	2383	-1.84	153.87	26.68
68	SLU 23	89	-91	2394	-1.9	154.75	23.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLU 24	88	-103	2383	-1.84	153.87	26.68
68	SLU 25	89	-96	2389	-1.87	154.4	24.87
68	SLU 26	89	-91	2394	-1.9	154.75	23.66
68	SLU 27	88	-103	2383	-1.84	153.87	26.68
68	SLU 28	89	-96	2389	-1.87	154.4	24.87
68	SLU 29	88	-103	2383	-1.84	153.87	26.68
68	SLU 30	89	-96	2389	-1.87	154.4	24.87
68	SLU 31	101	-111	2768	-2.29	172.19	28.59
68	SLU 32	99	-123	2758	-2.23	171.31	31.61
68	SLU 33	100	-115	2764	-2.27	171.84	29.8
68	SLU 34	101	-111	2768	-2.29	172.19	28.59
68	SLU 35	99	-123	2758	-2.23	171.31	31.61
68	SLU 36	100	-115	2764	-2.27	171.84	29.8
68	SLU 37	99	-123	2758	-2.23	171.31	31.61
68	SLU 38	100	-115	2764	-2.27	171.84	29.8
68	SLU 39	104	-131	2918	-2.4	178.78	33.72
68	SLU 40	105	-124	2925	-2.43	179.31	31.91
68	SLU 41	104	-131	2918	-2.4	178.78	33.72
68	SLU 42	105	-124	2925	-2.43	179.31	31.91
68	SLU 43	99	-112	2624	-1.91	178.16	28.88
68	SLU 44	100	-100	2635	-1.97	179.04	25.86
68	SLU 45	99	-112	2624	-1.91	178.16	28.88
68	SLU 46	100	-105	2631	-1.95	178.68	27.07
68	SLU 47	100	-100	2635	-1.97	179.04	25.86
68	SLU 48	99	-112	2624	-1.91	178.16	28.88
68	SLU 49	100	-105	2631	-1.95	178.68	27.07
68	SLU 50	99	-112	2624	-1.91	178.16	28.88
68	SLU 51	100	-105	2631	-1.95	178.68	27.07
68	SLU 52	111	-119	3010	-2.36	196.48	30.79
68	SLU 53	110	-131	2999	-2.3	195.6	33.81
68	SLU 54	111	-124	3006	-2.34	196.12	32
68	SLU 55	111	-119	3010	-2.36	196.48	30.79
68	SLU 56	110	-131	2999	-2.3	195.6	33.81
68	SLU 57	111	-124	3006	-2.34	196.12	32
68	SLU 58	110	-131	2999	-2.3	195.6	33.81
68	SLU 59	111	-124	3006	-2.34	196.12	32
68	SLU 60	115	-139	3160	-2.47	203.07	35.92
68	SLU 61	116	-132	3166	-2.51	203.6	34.11
68	SLU 62	115	-139	3160	-2.47	203.07	35.92
68	SLU 63	116	-132	3166	-2.51	203.6	34.11
68	SLU 64	108	-126	2912	-2.2	191.47	32.42
68	SLU 65	110	-114	2923	-2.26	192.35	29.39
68	SLU 66	108	-126	2912	-2.2	191.47	32.42
68	SLU 67	109	-118	2919	-2.24	192	30.6
68	SLU 68	110	-114	2923	-2.26	192.35	29.39
68	SLU 69	108	-126	2912	-2.2	191.47	32.42
68	SLU 70	109	-118	2919	-2.24	192	30.6
68	SLU 71	108	-126	2912	-2.2	191.47	32.42
68	SLU 72	109	-118	2919	-2.24	192	30.6
68	SLU 73	121	-133	3298	-2.65	209.79	34.32
68	SLU 74	120	-145	3287	-2.59	208.91	37.35
68	SLU 75	120	-138	3294	-2.63	209.44	35.53
68	SLU 76	121	-133	3298	-2.65	209.79	34.32
68	SLU 77	120	-145	3287	-2.59	208.91	37.35
68	SLU 78	120	-138	3294	-2.63	209.44	35.53
68	SLU 79	120	-145	3287	-2.59	208.91	37.35
68	SLU 80	120	-138	3294	-2.63	209.44	35.53
68	SLU 81	125	-153	3448	-2.76	216.39	39.46
68	SLU 82	125	-146	3454	-2.8	216.91	37.64
68	SLU 83	125	-153	3448	-2.76	216.39	39.46
68	SLU 84	125	-146	3454	-2.8	216.91	37.64
68	SLE RA 1	81	-94	2177	-1.63	144.36	24.16
68	SLE RA 2	82	-86	2184	-1.67	144.94	22.14
68	SLE RA 3	81	-94	2177	-1.63	144.36	24.16
68	SLE RA 4	82	-89	2181	-1.65	144.71	22.95
68	SLE RA 5	82	-86	2184	-1.67	144.94	22.14
68	SLE RA 6	81	-94	2177	-1.63	144.36	24.16
68	SLE RA 7	82	-89	2181	-1.65	144.71	22.95
68	SLE RA 8	81	-94	2177	-1.63	144.36	24.16
68	SLE RA 9	82	-89	2181	-1.65	144.71	22.95
68	SLE RA 10	90	-98	2434	-1.93	156.57	25.43
68	SLE RA 11	89	-106	2427	-1.89	155.99	27.45
68	SLE RA 12	89	-102	2431	-1.92	156.34	26.23
68	SLE RA 13	90	-98	2434	-1.93	156.57	25.43
68	SLE RA 14	89	-106	2427	-1.89	155.99	27.45
68	SLE RA 15	89	-102	2431	-1.92	156.34	26.23
68	SLE RA 16	89	-106	2427	-1.89	155.99	27.45
68	SLE RA 17	89	-102	2431	-1.92	156.34	26.23
68	SLE RA 18	92	-112	2534	-2	160.97	28.85
68	SLE RA 19	93	-107	2538	-2.03	161.32	27.64
68	SLE RA 20	92	-112	2534	-2	160.97	28.85
68	SLE RA 21	93	-107	2538	-2.03	161.32	27.64
68	SLE FR 1	81	-94	2177	-1.63	144.36	24.16
68	SLE FR 2	81	-92	2178	-1.64	144.48	23.76
68	SLE FR 3	81	-94	2177	-1.63	144.36	24.16
68	SLE FR 4	85	-98	2286	-1.75	149.46	25.16
68	SLE FR 5	85	-99	2284	-1.74	149.34	25.57
68	SLE FR 6	87	-103	2356	-1.82	152.66	26.51
68	SLE QP 1	81	-94	2177	-1.63	144.36	24.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLE QP 2	85	-99	2284	-1.74	149.34	25.57
68	SLD 1	152	-23	2064	-1.74	141.71	7.06
68	SLD 2	167	17	2062	-1.73	141.83	-2.95
68	SLD 3	139	-138	1953	-1.15	133.12	35.72
68	SLD 4	154	-97	1950	-1.13	133.23	25.71
68	SLD 5	120	84	2389	-2.64	160.05	-19.93
68	SLD 6	134	124	2386	-2.63	160.17	-29.98
68	SLD 7	76	-299	2016	-0.67	131.4	75.61
68	SLD 8	91	-259	2013	-0.66	131.51	65.55
68	SLD 9	78	60	2555	-2.83	167.17	-14.41
68	SLD 10	93	101	2552	-2.81	167.29	-24.47
68	SLD 11	35	-323	2182	-0.86	138.52	81.12
68	SLD 12	50	-282	2179	-0.84	138.63	71.06
68	SLD 13	15	-101	2619	-2.35	165.45	25.43
68	SLD 14	30	-60	2616	-2.34	165.57	15.42
68	SLD 15	2	-216	2507	-1.76	156.85	54.09
68	SLD 16	17	-175	2504	-1.75	156.97	44.08
68	SLV 1	238	74	1785	-1.73	130.15	-16.46
68	SLV 2	271	165	1779	-1.7	130.4	-39.15
68	SLV 3	208	-187	1531	-0.39	110.62	48.6
68	SLV 4	242	-95	1525	-0.36	110.87	25.91
68	SLV 5	164	316	2522	-3.78	173.11	-77.73
68	SLV 6	197	408	2515	-3.75	173.37	-100.51
68	SLV 7	65	-553	1676	0.69	108.01	139.14
68	SLV 8	98	-461	1669	0.72	108.27	116.36
68	SLV 9	71	263	2899	-4.2	190.41	-65.22
68	SLV 10	104	355	2892	-4.17	190.67	-88.01
68	SLV 11	-28	-606	2053	0.27	125.31	151.65
68	SLV 12	5	-514	2047	0.3	125.57	128.86
68	SLV 13	-72	-103	3043	-3.13	187.81	25.22
68	SLV 14	-39	-11	3037	-3.1	188.07	2.53
68	SLV 15	-102	-364	2790	-1.79	168.28	90.28
68	SLV 16	-69	-272	2783	-1.76	168.54	67.6
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
69	SLU 1	-42	100	2227	-1.86	-13.84	3.38
69	SLU 2	-42	114	2253	-1.96	-14.23	3.4
69	SLU 3	-42	100	2227	-1.86	-13.84	3.38
69	SLU 4	-42	108	2243	-1.92	-14.08	3.39
69	SLU 5	-42	114	2253	-1.96	-14.23	3.4
69	SLU 6	-42	100	2227	-1.86	-13.84	3.38
69	SLU 7	-42	108	2243	-1.92	-14.08	3.39
69	SLU 8	-42	100	2227	-1.86	-13.84	3.38
69	SLU 9	-42	108	2243	-1.92	-14.08	3.39
69	SLU 10	-42	135	2815	-1.92	-16.71	3.56
69	SLU 11	-42	121	2790	-1.82	-16.31	3.55
69	SLU 12	-42	129	2805	-1.88	-16.55	3.56
69	SLU 13	-42	135	2815	-1.92	-16.71	3.56
69	SLU 14	-42	121	2790	-1.82	-16.31	3.55
69	SLU 15	-42	129	2805	-1.88	-16.55	3.56
69	SLU 16	-42	121	2790	-1.82	-16.31	3.55
69	SLU 17	-42	129	2805	-1.88	-16.55	3.56
69	SLU 18	-42	130	3031	-1.8	-17.38	3.62
69	SLU 19	-42	138	3046	-1.86	-17.61	3.63
69	SLU 20	-42	130	3031	-1.8	-17.38	3.62
69	SLU 21	-42	138	3046	-1.86	-17.61	3.63
69	SLU 22	-44	115	2636	-1.89	-14.86	3.58
69	SLU 23	-44	129	2661	-1.99	-15.26	3.59
69	SLU 24	-44	115	2636	-1.89	-14.86	3.58
69	SLU 25	-44	123	2651	-1.95	-15.1	3.58
69	SLU 26	-44	129	2661	-1.99	-15.26	3.59
69	SLU 27	-44	115	2636	-1.89	-14.86	3.58
69	SLU 28	-44	123	2651	-1.95	-15.1	3.58
69	SLU 29	-44	115	2636	-1.89	-14.86	3.58
69	SLU 30	-44	123	2651	-1.95	-15.1	3.58
69	SLU 31	-44	150	3224	-1.95	-17.73	3.75
69	SLU 32	-44	136	3198	-1.85	-17.34	3.74
69	SLU 33	-44	145	3214	-1.91	-17.58	3.75
69	SLU 34	-44	150	3224	-1.95	-17.73	3.75
69	SLU 35	-44	136	3198	-1.85	-17.34	3.74
69	SLU 36	-44	145	3214	-1.91	-17.58	3.75
69	SLU 37	-44	136	3198	-1.85	-17.34	3.74
69	SLU 38	-44	145	3214	-1.91	-17.58	3.75
69	SLU 39	-44	145	3439	-1.83	-18.4	3.81
69	SLU 40	-44	154	3455	-1.89	-18.64	3.82
69	SLU 41	-44	145	3439	-1.83	-18.4	3.81
69	SLU 42	-44	154	3455	-1.89	-18.64	3.82
69	SLU 43	-54	124	2755	-2.41	-17.64	4.33
69	SLU 44	-54	138	2781	-2.51	-18.04	4.34
69	SLU 45	-54	124	2755	-2.41	-17.64	4.33
69	SLU 46	-54	133	2771	-2.47	-17.88	4.34
69	SLU 47	-54	138	2781	-2.51	-18.04	4.34
69	SLU 48	-54	124	2755	-2.41	-17.64	4.33
69	SLU 49	-54	133	2771	-2.47	-17.88	4.34
69	SLU 50	-54	124	2755	-2.41	-17.64	4.33
69	SLU 51	-54	133	2771	-2.47	-17.88	4.34
69	SLU 52	-54	160	3343	-2.47	-20.51	4.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLU 53	-54	146	3318	-2.37	-20.12	4.5
69	SLU 54	-54	154	3333	-2.43	-20.35	4.5
69	SLU 55	-54	160	3343	-2.47	-20.51	4.51
69	SLU 56	-54	146	3318	-2.37	-20.12	4.5
69	SLU 57	-54	154	3333	-2.43	-20.35	4.5
69	SLU 58	-54	146	3318	-2.37	-20.12	4.5
69	SLU 59	-54	154	3333	-2.43	-20.35	4.5
69	SLU 60	-54	155	3559	-2.35	-21.18	4.57
69	SLU 61	-54	163	3574	-2.41	-21.41	4.57
69	SLU 62	-54	155	3559	-2.35	-21.18	4.57
69	SLU 63	-54	163	3574	-2.41	-21.41	4.57
69	SLU 64	-56	140	3164	-2.44	-18.66	4.52
69	SLU 65	-56	153	3190	-2.54	-19.06	4.54
69	SLU 66	-56	140	3164	-2.44	-18.66	4.52
69	SLU 67	-56	148	3179	-2.5	-18.9	4.53
69	SLU 68	-56	153	3190	-2.54	-19.06	4.54
69	SLU 69	-56	140	3164	-2.44	-18.66	4.52
69	SLU 70	-56	148	3179	-2.5	-18.9	4.53
69	SLU 71	-56	140	3164	-2.44	-18.66	4.52
69	SLU 72	-56	148	3179	-2.5	-18.9	4.53
69	SLU 73	-56	175	3752	-2.5	-21.53	4.7
69	SLU 74	-56	161	3726	-2.4	-21.14	4.69
69	SLU 75	-56	169	3742	-2.46	-21.38	4.7
69	SLU 76	-56	175	3752	-2.5	-21.53	4.7
69	SLU 77	-56	161	3726	-2.4	-21.14	4.69
69	SLU 78	-56	169	3742	-2.46	-21.38	4.7
69	SLU 79	-56	161	3726	-2.4	-21.14	4.69
69	SLU 80	-56	169	3742	-2.46	-21.38	4.7
69	SLU 81	-56	170	3967	-2.38	-22.2	4.76
69	SLU 82	-56	178	3983	-2.44	-22.44	4.77
69	SLU 83	-56	170	3967	-2.38	-22.2	4.76
69	SLU 84	-56	178	3983	-2.44	-22.44	4.77
69	SLE RA 1	-42	104	2344	-1.87	-14.13	3.44
69	SLE RA 2	-42	113	2361	-1.94	-14.4	3.45
69	SLE RA 3	-42	104	2344	-1.87	-14.13	3.44
69	SLE RA 4	-42	110	2354	-1.91	-14.29	3.44
69	SLE RA 5	-42	113	2361	-1.94	-14.4	3.45
69	SLE RA 6	-42	104	2344	-1.87	-14.13	3.44
69	SLE RA 7	-42	110	2354	-1.91	-14.29	3.44
69	SLE RA 8	-42	104	2344	-1.87	-14.13	3.44
69	SLE RA 9	-42	110	2354	-1.91	-14.29	3.44
69	SLE RA 10	-42	127	2736	-1.91	-16.05	3.56
69	SLE RA 11	-42	118	2719	-1.84	-15.78	3.55
69	SLE RA 12	-42	124	2729	-1.88	-15.94	3.55
69	SLE RA 13	-42	127	2736	-1.91	-16.05	3.56
69	SLE RA 14	-42	118	2719	-1.84	-15.78	3.55
69	SLE RA 15	-42	124	2729	-1.88	-15.94	3.55
69	SLE RA 16	-42	118	2719	-1.84	-15.78	3.55
69	SLE RA 17	-42	124	2729	-1.88	-15.94	3.55
69	SLE RA 18	-42	124	2880	-1.83	-16.49	3.59
69	SLE RA 19	-42	130	2890	-1.87	-16.65	3.6
69	SLE RA 20	-42	124	2880	-1.83	-16.49	3.59
69	SLE RA 21	-42	130	2890	-1.87	-16.65	3.6
69	SLE FR 1	-42	104	2344	-1.87	-14.13	3.44
69	SLE FR 2	-42	106	2347	-1.88	-14.18	3.44
69	SLE FR 3	-42	104	2344	-1.87	-14.13	3.44
69	SLE FR 4	-42	112	2508	-1.87	-14.89	3.49
69	SLE FR 5	-42	110	2505	-1.86	-14.84	3.48
69	SLE FR 6	-42	114	2612	-1.85	-15.31	3.52
69	SLE QP 1	-42	104	2344	-1.87	-14.13	3.44
69	SLE QP 2	-42	110	2505	-1.86	-14.84	3.48
69	SLD 1	208	160	2436	-2.61	-5.25	4.34
69	SLD 2	236	178	2441	-2.63	-5.47	5.3
69	SLD 3	200	24	2191	-1.65	-1.53	4.01
69	SLD 4	229	42	2196	-1.68	-1.74	4.97
69	SLD 5	34	325	2853	-3.52	-17.54	3.9
69	SLD 6	63	343	2858	-3.54	-17.75	4.87
69	SLD 7	9	-129	2038	-0.34	-5.12	2.8
69	SLD 8	38	-110	2043	-0.37	-5.33	3.77
69	SLD 9	-123	330	2966	-3.35	-24.34	3.2
69	SLD 10	-94	349	2971	-3.37	-24.56	4.17
69	SLD 11	-147	-123	2151	-0.17	-11.93	2.1
69	SLD 12	-118	-105	2156	-0.2	-12.14	3.07
69	SLD 13	-314	178	2813	-2.04	-27.94	2
69	SLD 14	-285	196	2818	-2.06	-28.15	2.96
69	SLD 15	-321	42	2569	-1.08	-24.21	1.67
69	SLD 16	-292	60	2574	-1.11	-24.42	2.63
69	SLV 1	525	223	2348	-3.56	6.9	5.42
69	SLV 2	590	264	2360	-3.62	6.42	7.59
69	SLV 3	508	-86	1793	-1.39	15.36	4.67
69	SLV 4	573	-45	1805	-1.45	14.88	6.84
69	SLV 5	131	598	3296	-5.63	-20.97	4.44
69	SLV 6	197	639	3307	-5.69	-21.45	6.62
69	SLV 7	74	-432	1445	1.58	7.22	1.94
69	SLV 8	139	-390	1457	1.53	6.73	4.12
69	SLV 9	-224	610	3553	-5.25	-36.41	2.85
69	SLV 10	-158	652	3564	-5.3	-36.89	5.03
69	SLV 11	-281	-419	1702	1.97	-8.22	0.35
69	SLV 12	-216	-377	1714	1.92	-8.7	2.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLV 13	-658	265	3205	-2.27	-44.55	0.13
69	SLV 14	-593	306	3216	-2.32	-45.03	2.3
69	SLV 15	-675	-44	2650	-0.1	-36.1	-0.62
69	SLV 16	-610	-2	2661	-0.16	-36.58	1.55
69	CRTFP Ux+	0	0	0	0	0	0
69	CRTFP Ux-	0	0	0	0	0	0
69	CRTFP Uy+	0	0	0	0	0	0
69	CRTFP Uy-	0	0	0	0	0	0
72	SLU 1	-40	-57	2119	0.38	-383.05	-19.62
72	SLU 2	-41	-44	2128	0.32	-383.76	-14.99
72	SLU 3	-40	-57	2119	0.38	-383.05	-19.62
72	SLU 4	-41	-49	2125	0.34	-383.48	-16.84
72	SLU 5	-41	-44	2128	0.32	-383.76	-14.99
72	SLU 6	-40	-57	2119	0.38	-383.05	-19.62
72	SLU 7	-41	-49	2125	0.34	-383.48	-16.84
72	SLU 8	-40	-57	2119	0.38	-383.05	-19.62
72	SLU 9	-41	-49	2125	0.34	-383.48	-16.84
72	SLU 10	-43	-54	2554	0.47	-452.08	-18.36
72	SLU 11	-43	-67	2545	0.52	-451.37	-23
72	SLU 12	-43	-59	2550	0.49	-451.8	-20.22
72	SLU 13	-43	-54	2554	0.47	-452.08	-18.36
72	SLU 14	-43	-67	2545	0.52	-451.37	-23
72	SLU 15	-43	-59	2550	0.49	-451.8	-20.22
72	SLU 16	-43	-67	2545	0.52	-451.37	-23
72	SLU 17	-43	-59	2550	0.49	-451.8	-20.22
72	SLU 18	-44	-71	2727	0.59	-480.65	-24.45
72	SLU 19	-44	-63	2732	0.55	-481.08	-21.66
72	SLU 20	-44	-71	2727	0.59	-480.65	-24.45
72	SLU 21	-44	-63	2732	0.55	-481.08	-21.66
72	SLU 22	-43	-65	2419	0.48	-432.32	-22.26
72	SLU 23	-44	-52	2428	0.42	-433.03	-17.63
72	SLU 24	-43	-65	2419	0.48	-432.32	-22.26
72	SLU 25	-43	-57	2425	0.44	-432.75	-19.48
72	SLU 26	-44	-52	2428	0.42	-433.03	-17.63
72	SLU 27	-43	-65	2419	0.48	-432.32	-22.26
72	SLU 28	-43	-57	2425	0.44	-432.75	-19.48
72	SLU 29	-43	-65	2419	0.48	-432.32	-22.26
72	SLU 30	-43	-57	2425	0.44	-432.75	-19.48
72	SLU 31	-46	-61	2853	0.57	-501.35	-21
72	SLU 32	-46	-75	2845	0.63	-500.64	-25.64
72	SLU 33	-46	-67	2850	0.59	-501.07	-22.86
72	SLU 34	-46	-61	2853	0.57	-501.35	-21
72	SLU 35	-46	-75	2845	0.63	-500.64	-25.64
72	SLU 36	-46	-67	2850	0.59	-501.07	-22.86
72	SLU 37	-46	-75	2845	0.63	-500.64	-25.64
72	SLU 38	-46	-67	2850	0.59	-501.07	-22.86
72	SLU 39	-47	-79	3027	0.69	-529.92	-27.09
72	SLU 40	-47	-71	3032	0.66	-530.34	-24.3
72	SLU 41	-47	-79	3027	0.69	-529.92	-27.09
72	SLU 42	-47	-71	3032	0.66	-530.34	-24.3
72	SLU 43	-51	-72	2652	0.46	-481.08	-24.61
72	SLU 44	-52	-59	2661	0.4	-481.79	-19.97
72	SLU 45	-51	-72	2652	0.46	-481.08	-24.61
72	SLU 46	-52	-64	2658	0.42	-481.5	-21.82
72	SLU 47	-52	-59	2661	0.4	-481.79	-19.97
72	SLU 48	-51	-72	2652	0.46	-481.08	-24.61
72	SLU 49	-52	-64	2658	0.42	-481.5	-21.82
72	SLU 50	-51	-72	2652	0.46	-481.08	-24.61
72	SLU 51	-52	-64	2658	0.42	-481.5	-21.82
72	SLU 52	-55	-68	3087	0.55	-550.1	-23.35
72	SLU 53	-54	-82	3078	0.6	-549.39	-27.98
72	SLU 54	-54	-74	3083	0.57	-549.82	-25.2
72	SLU 55	-55	-68	3087	0.55	-550.1	-23.35
72	SLU 56	-54	-82	3078	0.6	-549.39	-27.98
72	SLU 57	-54	-74	3083	0.57	-549.82	-25.2
72	SLU 58	-54	-82	3078	0.6	-549.39	-27.98
72	SLU 59	-54	-74	3083	0.57	-549.82	-25.2
72	SLU 60	-55	-86	3260	0.67	-578.67	-29.43
72	SLU 61	-55	-78	3265	0.63	-579.1	-26.65
72	SLU 62	-55	-86	3260	0.67	-578.67	-29.43
72	SLU 63	-55	-78	3265	0.63	-579.1	-26.65
72	SLU 64	-54	-80	2952	0.56	-530.35	-27.25
72	SLU 65	-55	-66	2961	0.5	-531.06	-22.61
72	SLU 66	-54	-80	2952	0.56	-530.35	-27.25
72	SLU 67	-55	-72	2958	0.52	-530.77	-24.46
72	SLU 68	-55	-66	2961	0.5	-531.06	-22.61
72	SLU 69	-54	-80	2952	0.56	-530.35	-27.25
72	SLU 70	-55	-72	2958	0.52	-530.77	-24.46
72	SLU 71	-54	-80	2952	0.56	-530.35	-27.25
72	SLU 72	-55	-72	2958	0.52	-530.77	-24.46
72	SLU 73	-57	-76	3386	0.65	-599.37	-25.99
72	SLU 74	-57	-89	3378	0.7	-598.66	-30.62
72	SLU 75	-57	-81	3383	0.67	-599.09	-27.84
72	SLU 76	-57	-76	3386	0.65	-599.37	-25.99
72	SLU 77	-57	-89	3378	0.7	-598.66	-30.62
72	SLU 78	-57	-81	3383	0.67	-599.09	-27.84
72	SLU 79	-57	-89	3378	0.7	-598.66	-30.62
72	SLU 80	-57	-81	3383	0.67	-599.09	-27.84
72	SLU 81	-58	-93	3560	0.77	-627.94	-32.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
72	SLU 82	-58	-86	3565	0.73	-628.37	-29.29
72	SLU 83	-58	-93	3560	0.77	-627.94	-32.07
72	SLU 84	-58	-86	3565	0.73	-628.37	-29.29
72	SLE RA 1	-41	-60	2205	0.41	-397.13	-20.38
72	SLE RA 2	-41	-51	2211	0.37	-397.6	-17.29
72	SLE RA 3	-41	-60	2205	0.41	-397.13	-20.38
72	SLE RA 4	-41	-54	2209	0.38	-397.41	-18.52
72	SLE RA 5	-41	-51	2211	0.37	-397.6	-17.29
72	SLE RA 6	-41	-60	2205	0.41	-397.13	-20.38
72	SLE RA 7	-41	-54	2209	0.38	-397.41	-18.52
72	SLE RA 8	-41	-60	2205	0.41	-397.13	-20.38
72	SLE RA 9	-41	-54	2209	0.38	-397.41	-18.52
72	SLE RA 10	-43	-57	2495	0.47	-443.15	-19.54
72	SLE RA 11	-43	-66	2489	0.5	-442.68	-22.63
72	SLE RA 12	-43	-61	2492	0.48	-442.96	-20.77
72	SLE RA 13	-43	-57	2495	0.47	-443.15	-19.54
72	SLE RA 14	-43	-66	2489	0.5	-442.68	-22.63
72	SLE RA 15	-43	-61	2492	0.48	-442.96	-20.77
72	SLE RA 16	-43	-66	2489	0.5	-442.68	-22.63
72	SLE RA 17	-43	-61	2492	0.48	-442.96	-20.77
72	SLE RA 18	-44	-69	2610	0.55	-462.19	-23.59
72	SLE RA 19	-44	-64	2614	0.52	-462.48	-21.74
72	SLE RA 20	-44	-69	2610	0.55	-462.19	-23.59
72	SLE RA 21	-44	-64	2614	0.52	-462.48	-21.74
72	SLE FR 1	-41	-60	2205	0.41	-397.13	-20.38
72	SLE FR 2	-41	-58	2206	0.4	-397.23	-19.76
72	SLE FR 3	-41	-60	2205	0.41	-397.13	-20.38
72	SLE FR 4	-42	-61	2328	0.44	-416.74	-20.72
72	SLE FR 5	-42	-62	2327	0.45	-416.65	-21.34
72	SLE FR 6	-42	-64	2408	0.48	-429.66	-21.99
72	SLE QP 1	-41	-60	2205	0.41	-397.13	-20.38
72	SLE QP 2	-42	-62	2327	0.45	-416.65	-21.34
72	SLD 1	110	-26	2694	0.47	-473.94	-8.47
72	SLD 2	127	-66	2695	0.46	-473.62	-22.61
72	SLD 3	115	-140	2618	1.02	-467.85	-48.57
72	SLD 4	132	-181	2619	1.02	-467.53	-62.72
72	SLD 5	-9	137	2551	-0.39	-443.19	48.34
72	SLD 6	8	96	2552	-0.39	-442.87	34.12
72	SLD 7	6	-245	2299	1.46	-422.88	-85.36
72	SLD 8	23	-286	2301	1.46	-422.56	-99.57
72	SLD 9	-107	161	2353	-0.56	-410.74	56.88
72	SLD 10	-90	120	2354	-0.57	-410.42	42.67
72	SLD 11	-91	-220	2101	1.29	-390.43	-76.81
72	SLD 12	-74	-261	2103	1.28	-390.11	-91.02
72	SLD 13	-215	56	2034	-0.12	-365.77	20.03
72	SLD 14	-198	15	2035	-0.13	-365.45	5.89
72	SLD 15	-211	-58	1958	0.43	-359.68	-20.08
72	SLD 16	-194	-99	1960	0.43	-359.36	-34.22
72	SLV 1	303	21	3160	0.49	-547.22	7.95
72	SLV 2	341	-71	3163	0.48	-546.5	-24.11
72	SLV 3	313	-239	2989	1.75	-533.26	-83.2
72	SLV 4	352	-331	2991	1.74	-532.54	-115.26
72	SLV 5	32	390	2835	-1.44	-477.25	136.97
72	SLV 6	70	297	2838	-1.45	-476.53	104.77
72	SLV 7	68	-477	2264	2.75	-430.71	-166.84
72	SLV 8	106	-570	2267	2.74	-429.99	-199.04
72	SLV 9	-190	445	2386	-1.85	-403.31	156.36
72	SLV 10	-151	353	2389	-1.86	-402.59	124.16
72	SLV 11	-154	-422	1815	2.35	-356.77	-147.46
72	SLV 12	-115	-514	1818	2.34	-356.05	-179.66
72	SLV 13	-435	207	1662	-0.85	-300.76	72.57
72	SLV 14	-397	114	1665	-0.86	-300.04	40.51
72	SLV 15	-425	-53	1490	0.41	-286.8	-18.57
72	SLV 16	-386	-146	1493	0.4	-286.08	-50.63
72	CRTFP Ux+	0	0	0	0	0	0
72	CRTFP Ux-	0	0	0	0	0	0
72	CRTFP Uy+	0	0	0	0	0	0
72	CRTFP Uy-	0	0	0	0	0	0
75	SLU 1	57	-90	2049	-1.4	124.27	23.18
75	SLU 2	59	-78	2058	-1.46	124.96	20.15
75	SLU 3	57	-90	2049	-1.4	124.27	23.18
75	SLU 4	58	-83	2055	-1.43	124.68	21.36
75	SLU 5	59	-78	2058	-1.46	124.96	20.15
75	SLU 6	57	-90	2049	-1.4	124.27	23.18
75	SLU 7	58	-83	2055	-1.43	124.68	21.36
75	SLU 8	57	-90	2049	-1.4	124.27	23.18
75	SLU 9	58	-83	2055	-1.43	124.68	21.36
75	SLU 10	67	-97	2421	-1.81	138.93	25.09
75	SLU 11	65	-109	2412	-1.76	138.25	28.12
75	SLU 12	66	-102	2418	-1.79	138.66	26.3
75	SLU 13	67	-97	2421	-1.81	138.93	25.09
75	SLU 14	65	-109	2412	-1.76	138.25	28.12
75	SLU 15	66	-102	2418	-1.79	138.66	26.3
75	SLU 16	65	-109	2412	-1.76	138.25	28.12
75	SLU 17	66	-102	2418	-1.79	138.66	26.3
75	SLU 18	69	-118	2568	-1.91	144.24	30.23
75	SLU 19	70	-110	2573	-1.95	144.65	28.42
75	SLU 20	69	-118	2568	-1.91	144.24	30.23
75	SLU 21	70	-110	2573	-1.95	144.65	28.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
75	SLU 22	64	-104	2329	-1.67	134.96	26.72
75	SLU 23	65	-92	2338	-1.72	135.64	23.69
75	SLU 24	64	-104	2329	-1.67	134.96	26.72
75	SLU 25	65	-97	2334	-1.7	135.37	24.9
75	SLU 26	65	-92	2338	-1.72	135.64	23.69
75	SLU 27	64	-104	2329	-1.67	134.96	26.72
75	SLU 28	65	-97	2334	-1.7	135.37	24.9
75	SLU 29	64	-104	2329	-1.67	134.96	26.72
75	SLU 30	65	-97	2334	-1.7	135.37	24.9
75	SLU 31	73	-111	2701	-2.08	149.62	28.63
75	SLU 32	72	-123	2692	-2.02	148.94	31.66
75	SLU 33	73	-116	2697	-2.06	149.35	29.84
75	SLU 34	73	-111	2701	-2.08	149.62	28.63
75	SLU 35	72	-123	2692	-2.02	148.94	31.66
75	SLU 36	73	-116	2697	-2.06	149.35	29.84
75	SLU 37	72	-123	2692	-2.02	148.94	31.66
75	SLU 38	73	-116	2697	-2.06	149.35	29.84
75	SLU 39	76	-132	2847	-2.18	154.93	33.77
75	SLU 40	76	-124	2853	-2.21	155.34	31.96
75	SLU 41	76	-132	2847	-2.18	154.93	33.77
75	SLU 42	76	-124	2853	-2.21	155.34	31.96
75	SLU 43	72	-112	2568	-1.73	157.89	28.92
75	SLU 44	73	-100	2577	-1.79	158.57	25.89
75	SLU 45	72	-112	2568	-1.73	157.89	28.92
75	SLU 46	73	-105	2574	-1.76	158.3	27.1
75	SLU 47	73	-100	2577	-1.79	158.57	25.89
75	SLU 48	72	-112	2568	-1.73	157.89	28.92
75	SLU 49	73	-105	2574	-1.76	158.3	27.1
75	SLU 50	72	-112	2568	-1.73	157.89	28.92
75	SLU 51	73	-105	2574	-1.76	158.3	27.1
75	SLU 52	81	-120	2940	-2.14	172.55	30.83
75	SLU 53	80	-132	2931	-2.09	171.87	33.86
75	SLU 54	81	-124	2937	-2.12	172.28	32.04
75	SLU 55	81	-120	2940	-2.14	172.55	30.83
75	SLU 56	80	-132	2931	-2.09	171.87	33.86
75	SLU 57	81	-124	2937	-2.12	172.28	32.04
75	SLU 58	80	-132	2931	-2.09	171.87	33.86
75	SLU 59	81	-124	2937	-2.12	172.28	32.04
75	SLU 60	84	-140	3087	-2.24	177.86	35.97
75	SLU 61	84	-133	3092	-2.28	178.27	34.16
75	SLU 62	84	-140	3087	-2.24	177.86	35.97
75	SLU 63	84	-133	3092	-2.28	178.27	34.16
75	SLU 64	79	-126	2848	-2	168.58	32.46
75	SLU 65	80	-114	2857	-2.05	169.26	29.43
75	SLU 66	79	-126	2848	-2	168.58	32.46
75	SLU 67	80	-119	2853	-2.03	168.99	30.64
75	SLU 68	80	-114	2857	-2.05	169.26	29.43
75	SLU 69	79	-126	2848	-2	168.58	32.46
75	SLU 70	80	-119	2853	-2.03	168.99	30.64
75	SLU 71	79	-126	2848	-2	168.58	32.46
75	SLU 72	80	-119	2853	-2.03	168.99	30.64
75	SLU 73	88	-133	3220	-2.41	183.24	34.37
75	SLU 74	87	-146	3211	-2.35	182.55	37.4
75	SLU 75	88	-138	3216	-2.39	182.96	35.58
75	SLU 76	88	-133	3220	-2.41	183.24	34.37
75	SLU 77	87	-146	3211	-2.35	182.55	37.4
75	SLU 78	88	-138	3216	-2.39	182.96	35.58
75	SLU 79	87	-146	3211	-2.35	182.55	37.4
75	SLU 80	88	-138	3216	-2.39	182.96	35.58
75	SLU 81	91	-154	3366	-2.51	188.55	39.51
75	SLU 82	91	-147	3372	-2.54	188.96	37.7
75	SLU 83	91	-154	3366	-2.51	188.55	39.51
75	SLU 84	91	-147	3372	-2.54	188.96	37.7
75	SLE RA 1	59	-94	2129	-1.48	127.33	24.19
75	SLE RA 2	60	-86	2135	-1.51	127.78	22.17
75	SLE RA 3	59	-94	2129	-1.48	127.33	24.19
75	SLE RA 4	60	-89	2133	-1.5	127.6	22.98
75	SLE RA 5	60	-86	2135	-1.51	127.78	22.17
75	SLE RA 6	59	-94	2129	-1.48	127.33	24.19
75	SLE RA 7	60	-89	2133	-1.5	127.6	22.98
75	SLE RA 8	59	-94	2129	-1.48	127.33	24.19
75	SLE RA 9	60	-89	2133	-1.5	127.6	22.98
75	SLE RA 10	65	-99	2377	-1.75	137.1	25.46
75	SLE RA 11	65	-107	2371	-1.72	136.64	27.48
75	SLE RA 12	65	-102	2375	-1.74	136.92	26.27
75	SLE RA 13	65	-99	2377	-1.75	137.1	25.46
75	SLE RA 14	65	-107	2371	-1.72	136.64	27.48
75	SLE RA 15	65	-102	2375	-1.74	136.92	26.27
75	SLE RA 16	65	-107	2371	-1.72	136.64	27.48
75	SLE RA 17	65	-102	2375	-1.74	136.92	26.27
75	SLE RA 18	67	-112	2475	-1.82	140.64	28.89
75	SLE RA 19	67	-108	2479	-1.84	140.91	27.68
75	SLE RA 20	67	-112	2475	-1.82	140.64	28.89
75	SLE RA 21	67	-108	2479	-1.84	140.91	27.68
75	SLE FR 1	59	-94	2129	-1.48	127.33	24.19
75	SLE FR 2	59	-92	2130	-1.48	127.42	23.79
75	SLE FR 3	59	-94	2129	-1.48	127.33	24.19
75	SLE FR 4	62	-98	2234	-1.59	131.41	25.2
75	SLE FR 5	62	-100	2233	-1.58	131.32	25.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
75	SLE FR 6	63	-103	2302	-1.65	133.98	26.54
75	SLE QP 1	59	-94	2129	-1.48	127.33	24.19
75	SLE QP 2	62	-100	2233	-1.58	131.32	25.6
75	SLD 1	114	-24	2012	-1.6	122.63	7.04
75	SLD 2	126	17	2010	-1.59	122.74	-2.98
75	SLD 3	103	-139	1918	-1.04	116.13	35.71
75	SLD 4	115	-98	1916	-1.02	116.24	25.69
75	SLD 5	91	83	2310	-2.45	138.54	-19.93
75	SLD 6	103	124	2308	-2.43	138.64	-29.99
75	SLD 7	52	-300	1997	-0.56	116.86	75.65
75	SLD 8	64	-259	1994	-0.55	116.97	65.59
75	SLD 9	59	60	2471	-2.61	145.67	-14.38
75	SLD 10	71	101	2469	-2.59	145.77	-24.45
75	SLD 11	21	-323	2158	-0.72	123.99	81.19
75	SLD 12	32	-282	2156	-0.71	124.1	71.13
75	SLD 13	9	-101	2550	-2.13	146.4	25.51
75	SLD 14	20	-61	2547	-2.12	146.51	15.49
75	SLD 15	-3	-216	2456	-1.57	139.9	54.18
75	SLD 16	9	-176	2453	-1.56	140.01	44.16
75	SLV 1	182	73	1732	-1.62	108.94	-16.55
75	SLV 2	209	164	1726	-1.6	109.19	-39.26
75	SLV 3	156	-188	1519	-0.34	94.16	48.54
75	SLV 4	182	-96	1513	-0.32	94.41	25.84
75	SLV 5	128	315	2408	-3.55	146.93	-77.77
75	SLV 6	155	407	2402	-3.52	147.18	-100.58
75	SLV 7	41	-554	1697	0.73	97.67	139.2
75	SLV 8	68	-462	1691	0.75	97.92	116.4
75	SLV 9	56	263	2774	-3.91	164.72	-65.2
75	SLV 10	83	355	2769	-3.89	164.97	-88
75	SLV 11	-32	-607	2063	0.36	115.46	151.78
75	SLV 12	-5	-515	2058	0.39	115.7	128.97
75	SLV 13	-59	-103	2953	-2.84	168.23	25.36
75	SLV 14	-32	-11	2947	-2.82	168.47	2.66
75	SLV 15	-85	-364	2739	-1.56	153.45	90.46
75	SLV 16	-58	-272	2734	-1.53	153.7	67.75
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	-58	101	2191	-0.32	-12.69	3.22
76	SLU 2	-58	115	2213	-0.43	-13.08	3.23
76	SLU 3	-58	101	2191	-0.32	-12.69	3.22
76	SLU 4	-58	110	2204	-0.38	-12.93	3.22
76	SLU 5	-58	115	2213	-0.43	-13.08	3.23
76	SLU 6	-58	101	2191	-0.32	-12.69	3.22
76	SLU 7	-58	110	2204	-0.38	-12.93	3.22
76	SLU 8	-58	101	2191	-0.32	-12.69	3.22
76	SLU 9	-58	110	2204	-0.38	-12.93	3.22
76	SLU 10	-59	137	2780	-0.17	-15.32	3.42
76	SLU 11	-59	123	2758	-0.06	-14.93	3.41
76	SLU 12	-59	131	2771	-0.13	-15.17	3.41
76	SLU 13	-59	137	2780	-0.17	-15.32	3.42
76	SLU 14	-59	123	2758	-0.06	-14.93	3.41
76	SLU 15	-59	131	2771	-0.13	-15.17	3.41
76	SLU 16	-59	123	2758	-0.06	-14.93	3.41
76	SLU 17	-59	131	2771	-0.13	-15.17	3.41
76	SLU 18	-59	132	3001	0.05	-15.89	3.49
76	SLU 19	-59	140	3014	-0.02	-16.13	3.5
76	SLU 20	-59	132	3001	0.05	-15.89	3.49
76	SLU 21	-59	140	3014	-0.02	-16.13	3.5
76	SLU 22	-61	117	2601	-0.18	-13.52	3.42
76	SLU 23	-61	131	2623	-0.3	-13.91	3.43
76	SLU 24	-61	117	2601	-0.18	-13.52	3.42
76	SLU 25	-61	125	2614	-0.25	-13.75	3.43
76	SLU 26	-61	131	2623	-0.3	-13.91	3.43
76	SLU 27	-61	117	2601	-0.18	-13.52	3.42
76	SLU 28	-61	125	2614	-0.25	-13.75	3.43
76	SLU 29	-61	117	2601	-0.18	-13.52	3.42
76	SLU 30	-61	125	2614	-0.25	-13.75	3.43
76	SLU 31	-62	152	3190	-0.04	-16.15	3.62
76	SLU 32	-62	138	3168	0.07	-15.76	3.61
76	SLU 33	-62	147	3181	0	-15.99	3.62
76	SLU 34	-62	152	3190	-0.04	-16.15	3.62
76	SLU 35	-62	138	3168	0.07	-15.76	3.61
76	SLU 36	-62	147	3181	0	-15.99	3.62
76	SLU 37	-62	138	3168	0.07	-15.76	3.61
76	SLU 38	-62	147	3181	0	-15.99	3.62
76	SLU 39	-62	147	3411	0.18	-16.72	3.69
76	SLU 40	-62	156	3424	0.11	-16.95	3.7
76	SLU 41	-62	147	3411	0.18	-16.72	3.69
76	SLU 42	-62	156	3424	0.11	-16.95	3.7
76	SLU 43	-75	126	2708	-0.45	-16.22	4.11
76	SLU 44	-75	140	2730	-0.57	-16.61	4.12
76	SLU 45	-75	126	2708	-0.45	-16.22	4.11
76	SLU 46	-75	135	2721	-0.52	-16.45	4.12
76	SLU 47	-75	140	2730	-0.57	-16.61	4.12
76	SLU 48	-75	126	2708	-0.45	-16.22	4.11
76	SLU 49	-75	135	2721	-0.52	-16.45	4.12
76	SLU 50	-75	126	2708	-0.45	-16.22	4.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
76	SLU 51	-75	135	2721	-0.52	-16.45	4.12
76	SLU 52	-76	162	3297	-0.31	-18.85	4.31
76	SLU 53	-76	148	3275	-0.2	-18.46	4.3
76	SLU 54	-76	156	3288	-0.27	-18.69	4.31
76	SLU 55	-76	162	3297	-0.31	-18.85	4.31
76	SLU 56	-76	148	3275	-0.2	-18.46	4.3
76	SLU 57	-76	156	3288	-0.27	-18.69	4.31
76	SLU 58	-76	148	3275	-0.2	-18.46	4.3
76	SLU 59	-76	156	3288	-0.27	-18.69	4.31
76	SLU 60	-76	157	3518	-0.09	-19.42	4.39
76	SLU 61	-76	165	3531	-0.16	-19.65	4.39
76	SLU 62	-76	157	3518	-0.09	-19.42	4.39
76	SLU 63	-76	165	3531	-0.16	-19.65	4.39
76	SLU 64	-77	142	3118	-0.32	-17.05	4.32
76	SLU 65	-77	156	3140	-0.44	-17.43	4.33
76	SLU 66	-77	142	3118	-0.32	-17.05	4.32
76	SLU 67	-77	150	3131	-0.39	-17.28	4.32
76	SLU 68	-77	156	3140	-0.44	-17.43	4.33
76	SLU 69	-77	142	3118	-0.32	-17.05	4.32
76	SLU 70	-77	150	3131	-0.39	-17.28	4.32
76	SLU 71	-77	142	3118	-0.32	-17.05	4.32
76	SLU 72	-77	150	3131	-0.39	-17.28	4.32
76	SLU 73	-78	177	3707	-0.18	-19.67	4.52
76	SLU 74	-78	163	3685	-0.07	-19.29	4.51
76	SLU 75	-78	172	3698	-0.14	-19.52	4.51
76	SLU 76	-78	177	3707	-0.18	-19.67	4.52
76	SLU 77	-78	163	3685	-0.07	-19.29	4.51
76	SLU 78	-78	172	3698	-0.14	-19.52	4.51
76	SLU 79	-78	163	3685	-0.07	-19.29	4.51
76	SLU 80	-78	172	3698	-0.14	-19.52	4.51
76	SLU 81	-79	172	3928	0.04	-20.25	4.59
76	SLU 82	-79	181	3941	-0.03	-20.48	4.6
76	SLU 83	-79	172	3928	0.04	-20.25	4.59
76	SLU 84	-79	181	3941	-0.03	-20.48	4.6
76	SLE RA 1	-59	106	2308	-0.28	-12.93	3.28
76	SLE RA 2	-59	115	2323	-0.35	-13.19	3.28
76	SLE RA 3	-59	106	2308	-0.28	-12.93	3.28
76	SLE RA 4	-59	111	2317	-0.32	-13.09	3.28
76	SLE RA 5	-59	115	2323	-0.35	-13.19	3.28
76	SLE RA 6	-59	106	2308	-0.28	-12.93	3.28
76	SLE RA 7	-59	111	2317	-0.32	-13.09	3.28
76	SLE RA 8	-59	106	2308	-0.28	-12.93	3.28
76	SLE RA 9	-59	111	2317	-0.32	-13.09	3.28
76	SLE RA 10	-60	129	2701	-0.18	-14.68	3.41
76	SLE RA 11	-60	120	2686	-0.11	-14.42	3.4
76	SLE RA 12	-60	126	2695	-0.15	-14.58	3.41
76	SLE RA 13	-60	129	2701	-0.18	-14.68	3.41
76	SLE RA 14	-60	120	2686	-0.11	-14.42	3.4
76	SLE RA 15	-60	126	2695	-0.15	-14.58	3.41
76	SLE RA 16	-60	120	2686	-0.11	-14.42	3.4
76	SLE RA 17	-60	126	2695	-0.15	-14.58	3.41
76	SLE RA 18	-60	126	2848	-0.03	-15.06	3.46
76	SLE RA 19	-60	132	2857	-0.08	-15.22	3.46
76	SLE RA 20	-60	126	2848	-0.03	-15.06	3.46
76	SLE RA 21	-60	132	2857	-0.08	-15.22	3.46
76	SLE FR 1	-59	106	2308	-0.28	-12.93	3.28
76	SLE FR 2	-59	108	2311	-0.29	-12.98	3.28
76	SLE FR 3	-59	106	2308	-0.28	-12.93	3.28
76	SLE FR 4	-59	114	2473	-0.22	-13.62	3.33
76	SLE FR 5	-59	112	2470	-0.2	-13.57	3.33
76	SLE FR 6	-59	116	2578	-0.16	-14	3.37
76	SLE QP 1	-59	106	2308	-0.28	-12.93	3.28
76	SLE QP 2	-59	112	2470	-0.2	-13.57	3.33
76	SLD 1	188	162	2375	-1.06	-3.87	3.83
76	SLD 2	212	180	2379	-1.09	-4.09	4.74
76	SLD 3	181	25	2164	0.01	-0.24	3.52
76	SLD 4	205	44	2168	-0.03	-0.46	4.43
76	SLD 5	17	327	2760	-2.06	-16.1	3.63
76	SLD 6	41	345	2764	-2.1	-16.32	4.54
76	SLD 7	-6	-127	2057	1.49	-3.98	2.6
76	SLD 8	19	-109	2061	1.45	-4.2	3.52
76	SLD 9	-137	332	2879	-1.86	-22.94	3.15
76	SLD 10	-113	351	2883	-1.9	-23.16	4.06
76	SLD 11	-159	-122	2176	1.69	-10.82	2.12
76	SLD 12	-135	-103	2181	1.65	-11.04	3.03
76	SLD 13	-324	180	2772	-0.38	-26.68	2.23
76	SLD 14	-300	198	2776	-0.42	-26.9	3.14
76	SLD 15	-330	44	2561	0.68	-23.05	1.92
76	SLD 16	-306	62	2565	0.65	-23.27	2.83
76	SLV 1	502	224	2254	-2.14	8.42	4.47
76	SLV 2	557	266	2263	-2.22	7.93	6.53
76	SLV 3	487	-85	1775	0.28	16.68	3.76
76	SLV 4	541	-43	1785	0.19	16.18	5.83
76	SLV 5	114	600	3127	-4.42	-19.32	4.01
76	SLV 6	168	642	3137	-4.5	-19.81	6.09
76	SLV 7	62	-431	1533	3.63	8.2	1.66
76	SLV 8	117	-389	1542	3.55	7.7	3.74
76	SLV 9	-235	613	3398	-3.96	-34.84	2.92
76	SLV 10	-180	655	3407	-4.04	-35.34	5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
76	SLV 11	-287	-418	1803	4.09	-7.33	0.57
76	SLV 12	-232	-376	1813	4.01	-7.82	2.65
76	SLV 13	-659	267	3155	-0.6	-43.32	0.83
76	SLV 14	-605	308	3165	-0.69	-43.82	2.9
76	SLV 15	-675	-42	2677	1.81	-35.07	0.13
76	SLV 16	-620	-1	2686	1.73	-35.56	2.2
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
79	SLU 1	-54	-56	2143	1.13	-433.19	-19.24
79	SLU 2	-54	-43	2150	1.08	-433.7	-14.61
79	SLU 3	-54	-56	2143	1.13	-433.19	-19.24
79	SLU 4	-54	-48	2147	1.1	-433.5	-16.46
79	SLU 5	-54	-43	2150	1.08	-433.7	-14.61
79	SLU 6	-54	-56	2143	1.13	-433.19	-19.24
79	SLU 7	-54	-48	2147	1.1	-433.5	-16.46
79	SLU 8	-54	-56	2143	1.13	-433.19	-19.24
79	SLU 9	-54	-48	2147	1.1	-433.5	-16.46
79	SLU 10	-58	-52	2583	1.4	-514.48	-17.91
79	SLU 11	-57	-66	2576	1.45	-513.97	-22.55
79	SLU 12	-58	-58	2580	1.42	-514.28	-19.77
79	SLU 13	-58	-52	2583	1.4	-514.48	-17.91
79	SLU 14	-57	-66	2576	1.45	-513.97	-22.55
79	SLU 15	-58	-58	2580	1.42	-514.28	-19.77
79	SLU 16	-57	-66	2576	1.45	-513.97	-22.55
79	SLU 17	-58	-58	2580	1.42	-514.28	-19.77
79	SLU 18	-59	-70	2761	1.59	-548.59	-23.96
79	SLU 19	-59	-62	2765	1.56	-548.9	-21.18
79	SLU 20	-59	-70	2761	1.59	-548.59	-23.96
79	SLU 21	-59	-62	2765	1.56	-548.9	-21.18
79	SLU 22	-57	-64	2448	1.36	-491.42	-21.83
79	SLU 23	-58	-50	2455	1.31	-491.94	-17.19
79	SLU 24	-57	-64	2448	1.36	-491.42	-21.83
79	SLU 25	-58	-56	2452	1.33	-491.73	-19.05
79	SLU 26	-58	-50	2455	1.31	-491.94	-17.19
79	SLU 27	-57	-64	2448	1.36	-491.42	-21.83
79	SLU 28	-58	-56	2452	1.33	-491.73	-19.05
79	SLU 29	-57	-64	2448	1.36	-491.42	-21.83
79	SLU 30	-58	-56	2452	1.33	-491.73	-19.05
79	SLU 31	-61	-60	2888	1.63	-572.72	-20.5
79	SLU 32	-61	-73	2881	1.68	-572.21	-25.13
79	SLU 33	-61	-65	2885	1.65	-572.51	-22.35
79	SLU 34	-61	-60	2888	1.63	-572.72	-20.5
79	SLU 35	-61	-73	2881	1.68	-572.21	-25.13
79	SLU 36	-61	-65	2885	1.65	-572.51	-22.35
79	SLU 37	-61	-73	2881	1.68	-572.21	-25.13
79	SLU 38	-61	-65	2885	1.65	-572.51	-22.35
79	SLU 39	-62	-77	3066	1.82	-606.83	-26.55
79	SLU 40	-63	-69	3071	1.79	-607.13	-23.77
79	SLU 41	-62	-77	3066	1.82	-606.83	-26.55
79	SLU 42	-63	-69	3071	1.79	-607.13	-23.77
79	SLU 43	-69	-70	2681	1.39	-543.18	-24.13
79	SLU 44	-69	-57	2688	1.34	-543.69	-19.49
79	SLU 45	-69	-70	2681	1.39	-543.18	-24.13
79	SLU 46	-69	-63	2686	1.36	-543.49	-21.35
79	SLU 47	-69	-57	2688	1.34	-543.69	-19.49
79	SLU 48	-69	-70	2681	1.39	-543.18	-24.13
79	SLU 49	-69	-63	2686	1.36	-543.49	-21.35
79	SLU 50	-69	-70	2681	1.39	-543.18	-24.13
79	SLU 51	-69	-63	2686	1.36	-543.49	-21.35
79	SLU 52	-73	-67	3121	1.67	-624.48	-22.8
79	SLU 53	-72	-80	3114	1.72	-623.96	-27.43
79	SLU 54	-72	-72	3118	1.69	-624.27	-24.65
79	SLU 55	-73	-67	3121	1.67	-624.48	-22.8
79	SLU 56	-72	-80	3114	1.72	-623.96	-27.43
79	SLU 57	-72	-72	3118	1.69	-624.27	-24.65
79	SLU 58	-72	-80	3114	1.72	-623.96	-27.43
79	SLU 59	-72	-72	3118	1.69	-624.27	-24.65
79	SLU 60	-74	-84	3299	1.85	-658.59	-28.85
79	SLU 61	-74	-76	3304	1.82	-658.89	-26.07
79	SLU 62	-74	-84	3299	1.85	-658.59	-28.85
79	SLU 63	-74	-76	3304	1.82	-658.89	-26.07
79	SLU 64	-72	-78	2986	1.62	-601.42	-26.71
79	SLU 65	-73	-65	2993	1.57	-601.93	-22.08
79	SLU 66	-72	-78	2986	1.62	-601.42	-26.71
79	SLU 67	-72	-70	2991	1.59	-601.72	-23.93
79	SLU 68	-73	-65	2993	1.57	-601.93	-22.08
79	SLU 69	-72	-78	2986	1.62	-601.42	-26.71
79	SLU 70	-72	-70	2991	1.59	-601.72	-23.93
79	SLU 71	-72	-78	2986	1.62	-601.42	-26.71
79	SLU 72	-72	-70	2991	1.59	-601.72	-23.93
79	SLU 73	-76	-74	3426	1.89	-682.71	-25.38
79	SLU 74	-76	-87	3419	1.94	-682.2	-30.02
79	SLU 75	-76	-80	3423	1.91	-682.5	-27.24
79	SLU 76	-76	-74	3426	1.89	-682.71	-25.38
79	SLU 77	-76	-87	3419	1.94	-682.2	-30.02
79	SLU 78	-76	-80	3423	1.91	-682.5	-27.24
79	SLU 79	-76	-87	3419	1.94	-682.2	-30.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
79	SLU 80	-76	-80	3423	1.91	-682.5	-27.24
79	SLU 81	-77	-92	3605	2.08	-716.82	-31.43
79	SLU 82	-78	-84	3609	2.05	-717.13	-28.65
79	SLU 83	-77	-92	3605	2.08	-716.82	-31.43
79	SLU 84	-78	-84	3609	2.05	-717.13	-28.65
79	SLE RA 1	-55	-58	2230	1.2	-449.83	-19.98
79	SLE RA 2	-55	-49	2235	1.16	-450.17	-16.89
79	SLE RA 3	-55	-58	2230	1.2	-449.83	-19.98
79	SLE RA 4	-55	-53	2233	1.18	-450.03	-18.13
79	SLE RA 5	-55	-49	2235	1.16	-450.17	-16.89
79	SLE RA 6	-55	-58	2230	1.2	-449.83	-19.98
79	SLE RA 7	-55	-53	2233	1.18	-450.03	-18.13
79	SLE RA 8	-55	-58	2230	1.2	-449.83	-19.98
79	SLE RA 9	-55	-53	2233	1.18	-450.03	-18.13
79	SLE RA 10	-57	-56	2523	1.38	-504.02	-19.09
79	SLE RA 11	-57	-65	2519	1.41	-503.68	-22.18
79	SLE RA 12	-57	-59	2521	1.39	-503.89	-20.33
79	SLE RA 13	-57	-56	2523	1.38	-504.02	-19.09
79	SLE RA 14	-57	-65	2519	1.41	-503.68	-22.18
79	SLE RA 15	-57	-59	2521	1.39	-503.89	-20.33
79	SLE RA 16	-57	-65	2519	1.41	-503.68	-22.18
79	SLE RA 17	-57	-59	2521	1.39	-503.89	-20.33
79	SLE RA 18	-58	-67	2642	1.5	-526.76	-23.13
79	SLE RA 19	-58	-62	2645	1.48	-526.97	-21.27
79	SLE RA 20	-58	-67	2642	1.5	-526.76	-23.13
79	SLE RA 21	-58	-62	2645	1.48	-526.97	-21.27
79	SLE FR 1	-55	-58	2230	1.2	-449.83	-19.98
79	SLE FR 2	-55	-57	2231	1.19	-449.9	-19.36
79	SLE FR 3	-55	-58	2230	1.2	-449.83	-19.98
79	SLE FR 4	-56	-59	2355	1.28	-472.98	-20.31
79	SLE FR 5	-56	-61	2354	1.29	-472.91	-20.92
79	SLE FR 6	-56	-63	2436	1.35	-488.3	-21.55
79	SLE QP 1	-55	-58	2230	1.2	-449.83	-19.98
79	SLE QP 2	-56	-61	2354	1.29	-472.91	-20.92
79	SLD 1	96	-24	2724	1.49	-538.93	-7.99
79	SLD 2	110	-65	2725	1.48	-538.65	-22.15
79	SLD 3	102	-139	2665	1.98	-534.74	-48.1
79	SLD 4	116	-179	2666	1.98	-534.46	-62.26
79	SLD 5	-24	138	2555	0.6	-499.17	48.78
79	SLD 6	-10	97	2556	0.59	-498.88	34.55
79	SLD 7	-5	-244	2356	2.25	-485.21	-84.92
79	SLD 8	9	-285	2357	2.25	-484.92	-99.14
79	SLD 9	-121	162	2350	0.33	-460.9	57.3
79	SLD 10	-107	122	2351	0.33	-460.61	43.07
79	SLD 11	-102	-219	2152	1.98	-446.94	-76.4
79	SLD 12	-88	-260	2153	1.98	-446.65	-90.62
79	SLD 13	-227	57	2042	0.6	-411.36	20.41
79	SLD 14	-213	17	2043	0.6	-411.07	6.25
79	SLD 15	-221	-57	1982	1.1	-407.17	-19.7
79	SLD 16	-207	-98	1983	1.09	-406.89	-33.86
79	SLV 1	288	23	3195	1.74	-623.21	8.5
79	SLV 2	320	-69	3197	1.72	-622.56	-23.59
79	SLV 3	301	-237	3059	2.86	-613.54	-82.65
79	SLV 4	333	-329	3062	2.85	-612.89	-114.74
79	SLV 5	17	391	2810	-0.28	-532.89	137.44
79	SLV 6	48	299	2813	-0.29	-532.24	105.21
79	SLV 7	60	-476	2359	3.47	-500.66	-166.38
79	SLV 8	92	-569	2362	3.46	-500.01	-198.61
79	SLV 9	-203	447	2346	-0.88	-445.81	156.76
79	SLV 10	-171	354	2348	-0.89	-445.16	124.53
79	SLV 11	-160	-421	1895	2.87	-413.58	-147.06
79	SLV 12	-128	-513	1897	2.86	-412.93	-179.29
79	SLV 13	-444	207	1646	-0.27	-332.93	72.89
79	SLV 14	-413	115	1648	-0.28	-332.28	40.8
79	SLV 15	-431	-53	1510	0.85	-323.26	-18.25
79	SLV 16	-400	-145	1513	0.84	-322.61	-50.34
79	CRTFP Ux+	0	0	0	0	0	0
79	CRTFP Ux-	0	0	0	0	0	0
79	CRTFP Uy+	0	0	0	0	0	0
79	CRTFP Uy-	0	0	0	0	0	0
82	SLU 1	39	-91	2008	-1.27	111.13	23.21
82	SLU 2	40	-78	2015	-1.32	111.67	20.19
82	SLU 3	39	-91	2008	-1.27	111.13	23.21
82	SLU 4	39	-83	2012	-1.3	111.46	21.4
82	SLU 5	40	-78	2015	-1.32	111.67	20.19
82	SLU 6	39	-91	2008	-1.27	111.13	23.21
82	SLU 7	39	-83	2012	-1.3	111.46	21.4
82	SLU 8	39	-91	2008	-1.27	111.13	23.21
82	SLU 9	39	-83	2012	-1.3	111.46	21.4
82	SLU 10	45	-98	2368	-1.65	122.86	25.14
82	SLU 11	44	-110	2361	-1.6	122.32	28.16
82	SLU 12	44	-103	2365	-1.63	122.64	26.35
82	SLU 13	45	-98	2368	-1.65	122.86	25.14
82	SLU 14	44	-110	2361	-1.6	122.32	28.16
82	SLU 15	44	-103	2365	-1.63	122.64	26.35
82	SLU 16	44	-110	2361	-1.6	122.32	28.16
82	SLU 17	44	-103	2365	-1.63	122.64	26.35
82	SLU 18	46	-118	2512	-1.74	127.12	30.28
82	SLU 19	46	-111	2516	-1.77	127.44	28.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLU 20	46	-118	2512	-1.74	127.12	30.28
82	SLU 21	46	-111	2516	-1.77	127.44	28.47
82	SLU 22	43	-104	2280	-1.51	119.7	26.76
82	SLU 23	44	-92	2287	-1.56	120.24	23.74
82	SLU 24	43	-104	2280	-1.51	119.7	26.76
82	SLU 25	44	-97	2284	-1.54	120.02	24.95
82	SLU 26	44	-92	2287	-1.56	120.24	23.74
82	SLU 27	43	-104	2280	-1.51	119.7	26.76
82	SLU 28	44	-97	2284	-1.54	120.02	24.95
82	SLU 29	43	-104	2280	-1.51	119.7	26.76
82	SLU 30	44	-97	2284	-1.54	120.02	24.95
82	SLU 31	49	-112	2640	-1.89	131.42	28.68
82	SLU 32	48	-124	2632	-1.84	130.89	31.71
82	SLU 33	49	-117	2637	-1.87	131.21	29.89
82	SLU 34	49	-112	2640	-1.89	131.42	28.68
82	SLU 35	48	-124	2632	-1.84	130.89	31.71
82	SLU 36	49	-117	2637	-1.87	131.21	29.89
82	SLU 37	48	-124	2632	-1.84	130.89	31.71
82	SLU 38	49	-117	2637	-1.87	131.21	29.89
82	SLU 39	50	-132	2783	-1.98	135.68	33.83
82	SLU 40	51	-125	2788	-2.01	136	32.02
82	SLU 41	50	-132	2783	-1.98	135.68	33.83
82	SLU 42	51	-125	2788	-2.01	136	32.02
82	SLU 43	49	-113	2517	-1.56	141.54	28.96
82	SLU 44	50	-101	2525	-1.62	142.07	25.93
82	SLU 45	49	-113	2517	-1.56	141.54	28.96
82	SLU 46	49	-106	2522	-1.6	141.86	27.15
82	SLU 47	50	-101	2525	-1.62	142.07	25.93
82	SLU 48	49	-113	2517	-1.56	141.54	28.96
82	SLU 49	49	-106	2522	-1.6	141.86	27.15
82	SLU 50	49	-113	2517	-1.56	141.54	28.96
82	SLU 51	49	-106	2522	-1.6	141.86	27.15
82	SLU 52	55	-120	2877	-1.95	153.26	30.88
82	SLU 53	54	-132	2870	-1.89	152.73	33.91
82	SLU 54	54	-125	2874	-1.93	153.05	32.09
82	SLU 55	55	-120	2877	-1.95	153.26	30.88
82	SLU 56	54	-132	2870	-1.89	152.73	33.91
82	SLU 57	54	-125	2874	-1.93	153.05	32.09
82	SLU 58	54	-132	2870	-1.89	152.73	33.91
82	SLU 59	54	-125	2874	-1.93	153.05	32.09
82	SLU 60	56	-141	3021	-2.03	157.52	36.03
82	SLU 61	57	-133	3025	-2.07	157.84	34.21
82	SLU 62	56	-141	3021	-2.03	157.52	36.03
82	SLU 63	57	-133	3025	-2.07	157.84	34.21
82	SLU 64	53	-127	2789	-1.81	150.1	32.51
82	SLU 65	54	-115	2796	-1.86	150.64	29.48
82	SLU 66	53	-127	2789	-1.81	150.1	32.51
82	SLU 67	54	-120	2793	-1.84	150.43	30.69
82	SLU 68	54	-115	2796	-1.86	150.64	29.48
82	SLU 69	53	-127	2789	-1.81	150.1	32.51
82	SLU 70	54	-120	2793	-1.84	150.43	30.69
82	SLU 71	53	-127	2789	-1.81	150.1	32.51
82	SLU 72	54	-120	2793	-1.84	150.43	30.69
82	SLU 73	59	-134	3149	-2.19	161.83	34.43
82	SLU 74	58	-146	3141	-2.14	161.29	37.46
82	SLU 75	59	-139	3146	-2.17	161.61	35.64
82	SLU 76	59	-134	3149	-2.19	161.83	34.43
82	SLU 77	58	-146	3141	-2.14	161.29	37.46
82	SLU 78	59	-139	3146	-2.17	161.61	35.64
82	SLU 79	58	-146	3141	-2.14	161.29	37.46
82	SLU 80	59	-139	3146	-2.17	161.61	35.64
82	SLU 81	60	-155	3293	-2.28	166.09	39.58
82	SLU 82	61	-147	3297	-2.31	166.41	37.76
82	SLU 83	60	-155	3293	-2.28	166.09	39.58
82	SLU 84	61	-147	3297	-2.31	166.41	37.76
82	SLE RA 1	40	-95	2086	-1.34	113.58	24.23
82	SLE RA 2	41	-86	2091	-1.37	113.94	22.21
82	SLE RA 3	40	-95	2086	-1.34	113.58	24.23
82	SLE RA 4	40	-90	2089	-1.36	113.8	23.02
82	SLE RA 5	41	-86	2091	-1.37	113.94	22.21
82	SLE RA 6	40	-95	2086	-1.34	113.58	24.23
82	SLE RA 7	40	-90	2089	-1.36	113.8	23.02
82	SLE RA 8	40	-95	2086	-1.34	113.58	24.23
82	SLE RA 9	40	-90	2089	-1.36	113.8	23.02
82	SLE RA 10	44	-99	2326	-1.59	121.4	25.51
82	SLE RA 11	43	-108	2321	-1.56	121.04	27.53
82	SLE RA 12	44	-103	2324	-1.58	121.25	26.32
82	SLE RA 13	44	-99	2326	-1.59	121.4	25.51
82	SLE RA 14	43	-108	2321	-1.56	121.04	27.53
82	SLE RA 15	44	-103	2324	-1.58	121.25	26.32
82	SLE RA 16	43	-108	2321	-1.56	121.04	27.53
82	SLE RA 17	44	-103	2324	-1.58	121.25	26.32
82	SLE RA 18	45	-113	2421	-1.65	124.24	28.94
82	SLE RA 19	45	-108	2424	-1.67	124.45	27.73
82	SLE RA 20	45	-113	2421	-1.65	124.24	28.94
82	SLE RA 21	45	-108	2424	-1.67	124.45	27.73
82	SLE FR 1	40	-95	2086	-1.34	113.58	24.23
82	SLE FR 2	40	-93	2087	-1.34	113.65	23.83
82	SLE FR 3	40	-95	2086	-1.34	113.58	24.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLE FR 4	41	-98	2187	-1.44	116.85	25.24
82	SLE FR 5	41	-100	2186	-1.43	116.78	25.64
82	SLE FR 6	42	-104	2253	-1.49	118.91	26.59
82	SLE QP 1	40	-95	2086	-1.34	113.58	24.23
82	SLE QP 2	41	-100	2186	-1.43	116.78	25.64
82	SLD 1	83	-24	1964	-1.48	106.54	7.02
82	SLD 2	92	16	1962	-1.47	106.64	-3.01
82	SLD 3	73	-139	1887	-0.94	101.68	35.7
82	SLD 4	82	-99	1885	-0.93	101.78	25.68
82	SLD 5	66	83	2237	-2.27	121.04	-19.92
82	SLD 6	75	123	2235	-2.26	121.14	-29.99
82	SLD 7	32	-300	1981	-0.47	104.84	75.7
82	SLD 8	41	-260	1979	-0.46	104.95	65.63
82	SLD 9	41	60	2394	-2.41	128.61	-14.34
82	SLD 10	51	100	2392	-2.4	128.71	-24.41
82	SLD 11	7	-323	2138	-0.6	112.42	81.28
82	SLD 12	17	-283	2135	-0.59	112.52	71.2
82	SLD 13	1	-101	2488	-1.93	131.78	25.61
82	SLD 14	10	-61	2485	-1.92	131.88	15.58
82	SLD 15	-10	-216	2411	-1.39	126.92	54.29
82	SLD 16	0	-176	2408	-1.38	127.02	44.27
82	SLV 1	136	72	1682	-1.54	90.19	-16.65
82	SLV 2	157	164	1677	-1.51	90.42	-39.37
82	SLV 3	113	-189	1507	-0.31	79.14	48.47
82	SLV 4	134	-97	1502	-0.29	79.37	25.75
82	SLV 5	97	315	2302	-3.33	125.49	-77.81
82	SLV 6	119	407	2297	-3.31	125.72	-100.63
82	SLV 7	20	-555	1719	0.76	88.64	139.26
82	SLV 8	42	-463	1714	0.78	88.87	116.44
82	SLV 9	41	262	2658	-3.64	144.69	-65.15
82	SLV 10	62	354	2653	-3.62	144.91	-87.97
82	SLV 11	-36	-607	2076	0.45	107.84	151.91
82	SLV 12	-15	-515	2071	0.47	108.07	129.09
82	SLV 13	-52	-103	2871	-2.58	154.19	25.53
82	SLV 14	-31	-11	2866	-2.55	154.42	2.81
82	SLV 15	-75	-364	2696	-1.35	143.14	90.65
82	SLV 16	-54	-272	2691	-1.33	143.36	67.93
82	CRTFP Ux+	0	0	0	0	0	0
82	CRTFP Ux-	0	0	0	0	0	0
82	CRTFP Uy+	0	0	0	0	0	0
82	CRTFP Uy-	0	0	0	0	0	0
83	SLU 1	-73	103	2195	0.58	-11.59	2.95
83	SLU 2	-73	117	2213	0.46	-11.97	2.96
83	SLU 3	-73	103	2195	0.58	-11.59	2.95
83	SLU 4	-73	111	2205	0.51	-11.82	2.95
83	SLU 5	-73	117	2213	0.46	-11.97	2.96
83	SLU 6	-73	103	2195	0.58	-11.59	2.95
83	SLU 7	-73	111	2205	0.51	-11.82	2.95
83	SLU 8	-73	103	2195	0.58	-11.59	2.95
83	SLU 9	-73	111	2205	0.51	-11.82	2.95
83	SLU 10	-75	138	2790	0.82	-13.98	3.17
83	SLU 11	-75	124	2772	0.94	-13.6	3.16
83	SLU 12	-75	133	2782	0.86	-13.83	3.16
83	SLU 13	-75	138	2790	0.82	-13.98	3.17
83	SLU 14	-75	124	2772	0.94	-13.6	3.16
83	SLU 15	-75	133	2782	0.86	-13.83	3.16
83	SLU 16	-75	124	2772	0.94	-13.6	3.16
83	SLU 17	-75	133	2782	0.86	-13.83	3.16
83	SLU 18	-76	134	3019	1.09	-14.47	3.25
83	SLU 19	-76	142	3030	1.02	-14.69	3.25
83	SLU 20	-76	134	3019	1.09	-14.47	3.25
83	SLU 21	-76	142	3030	1.02	-14.69	3.25
83	SLU 22	-77	118	2610	0.79	-12.23	3.16
83	SLU 23	-77	132	2628	0.67	-12.61	3.16
83	SLU 24	-77	118	2610	0.79	-12.23	3.16
83	SLU 25	-77	127	2621	0.72	-12.46	3.16
83	SLU 26	-77	132	2628	0.67	-12.61	3.16
83	SLU 27	-77	118	2610	0.79	-12.23	3.16
83	SLU 28	-77	127	2621	0.72	-12.46	3.16
83	SLU 29	-77	118	2610	0.79	-12.23	3.16
83	SLU 30	-77	127	2621	0.72	-12.46	3.16
83	SLU 31	-79	154	3205	1.02	-14.62	3.38
83	SLU 32	-79	140	3187	1.14	-14.24	3.37
83	SLU 33	-79	148	3198	1.07	-14.47	3.37
83	SLU 34	-79	154	3205	1.02	-14.62	3.38
83	SLU 35	-79	140	3187	1.14	-14.24	3.37
83	SLU 36	-79	148	3198	1.07	-14.47	3.37
83	SLU 37	-79	140	3187	1.14	-14.24	3.37
83	SLU 38	-79	148	3198	1.07	-14.47	3.37
83	SLU 39	-80	149	3434	1.29	-15.1	3.46
83	SLU 40	-80	158	3445	1.22	-15.33	3.46
83	SLU 41	-80	149	3434	1.29	-15.1	3.46
83	SLU 42	-80	158	3445	1.22	-15.33	3.46
83	SLU 43	-94	129	2711	0.69	-14.85	3.76
83	SLU 44	-94	143	2729	0.57	-15.23	3.77
83	SLU 45	-94	129	2711	0.69	-14.85	3.76
83	SLU 46	-94	137	2721	0.61	-15.08	3.76
83	SLU 47	-94	143	2729	0.57	-15.23	3.77
83	SLU 48	-94	129	2711	0.69	-14.85	3.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLU 49	-94	137	2721	0.61	-15.08	3.76
83	SLU 50	-94	129	2711	0.69	-14.85	3.76
83	SLU 51	-94	137	2721	0.61	-15.08	3.76
83	SLU 52	-96	164	3306	0.92	-17.24	3.98
83	SLU 53	-96	150	3288	1.04	-16.86	3.97
83	SLU 54	-96	158	3298	0.97	-17.09	3.98
83	SLU 55	-96	164	3306	0.92	-17.24	3.98
83	SLU 56	-96	150	3288	1.04	-16.86	3.97
83	SLU 57	-96	158	3298	0.97	-17.09	3.98
83	SLU 58	-96	150	3288	1.04	-16.86	3.97
83	SLU 59	-96	158	3298	0.97	-17.09	3.98
83	SLU 60	-97	159	3535	1.19	-17.73	4.06
83	SLU 61	-97	168	3546	1.12	-17.95	4.07
83	SLU 62	-97	159	3535	1.19	-17.73	4.06
83	SLU 63	-97	168	3546	1.12	-17.95	4.07
83	SLU 64	-98	144	3126	0.89	-15.49	3.97
83	SLU 65	-98	158	3144	0.77	-15.87	3.98
83	SLU 66	-98	144	3126	0.89	-15.49	3.97
83	SLU 67	-98	152	3137	0.82	-15.72	3.97
83	SLU 68	-98	158	3144	0.77	-15.87	3.98
83	SLU 69	-98	144	3126	0.89	-15.49	3.97
83	SLU 70	-98	152	3137	0.82	-15.72	3.97
83	SLU 71	-98	144	3126	0.89	-15.49	3.97
83	SLU 72	-98	152	3137	0.82	-15.72	3.97
83	SLU 73	-100	180	3721	1.13	-17.88	4.19
83	SLU 74	-100	166	3703	1.25	-17.5	4.18
83	SLU 75	-100	174	3714	1.17	-17.73	4.18
83	SLU 76	-100	180	3721	1.13	-17.88	4.19
83	SLU 77	-100	166	3703	1.25	-17.5	4.18
83	SLU 78	-100	174	3714	1.17	-17.73	4.18
83	SLU 79	-100	166	3703	1.25	-17.5	4.18
83	SLU 80	-100	174	3714	1.17	-17.73	4.18
83	SLU 81	-100	175	3950	1.4	-18.36	4.27
83	SLU 82	-100	183	3961	1.33	-18.59	4.27
83	SLU 83	-100	175	3950	1.4	-18.36	4.27
83	SLU 84	-100	183	3961	1.33	-18.59	4.27
83	SLE RA 1	-74	107	2313	0.64	-11.77	3.01
83	SLE RA 2	-74	117	2325	0.56	-12.03	3.01
83	SLE RA 3	-74	107	2313	0.64	-11.77	3.01
83	SLE RA 4	-74	113	2321	0.59	-11.93	3.01
83	SLE RA 5	-74	117	2325	0.56	-12.03	3.01
83	SLE RA 6	-74	107	2313	0.64	-11.77	3.01
83	SLE RA 7	-74	113	2321	0.59	-11.93	3.01
83	SLE RA 8	-74	107	2313	0.64	-11.77	3.01
83	SLE RA 9	-74	113	2321	0.59	-11.93	3.01
83	SLE RA 10	-76	131	2710	0.8	-13.37	3.15
83	SLE RA 11	-76	122	2698	0.88	-13.12	3.15
83	SLE RA 12	-76	127	2705	0.83	-13.27	3.15
83	SLE RA 13	-76	131	2710	0.8	-13.37	3.15
83	SLE RA 14	-76	122	2698	0.88	-13.12	3.15
83	SLE RA 15	-76	127	2705	0.83	-13.27	3.15
83	SLE RA 16	-76	122	2698	0.88	-13.12	3.15
83	SLE RA 17	-76	127	2705	0.83	-13.27	3.15
83	SLE RA 18	-76	128	2863	0.98	-13.69	3.21
83	SLE RA 19	-76	133	2870	0.93	-13.84	3.21
83	SLE RA 20	-76	128	2863	0.98	-13.69	3.21
83	SLE RA 21	-76	133	2870	0.93	-13.84	3.21
83	SLE FR 1	-74	107	2313	0.64	-11.77	3.01
83	SLE FR 2	-74	109	2316	0.63	-11.83	3.01
83	SLE FR 3	-74	107	2313	0.64	-11.77	3.01
83	SLE FR 4	-75	115	2481	0.73	-12.4	3.07
83	SLE FR 5	-75	114	2478	0.74	-12.35	3.07
83	SLE FR 6	-75	118	2588	0.81	-12.73	3.11
83	SLE QP 1	-74	107	2313	0.64	-11.77	3.01
83	SLE QP 2	-75	114	2478	0.74	-12.35	3.07
83	SLD 1	171	163	2354	-0.16	-2.53	2.28
83	SLD 2	191	182	2357	-0.2	-2.76	3.15
83	SLD 3	165	27	2180	0.96	1.02	1.97
83	SLD 4	185	45	2183	0.91	0.79	2.85
83	SLD 5	1	329	2704	-1.2	-14.7	2.99
83	SLD 6	21	347	2707	-1.24	-14.93	3.86
83	SLD 7	-19	-126	2124	2.51	-2.88	1.97
83	SLD 8	1	-107	2126	2.47	-3.11	2.85
83	SLD 9	-151	334	2830	-0.98	-21.59	3.29
83	SLD 10	-131	353	2833	-1.03	-21.82	4.17
83	SLD 11	-171	-120	2250	2.73	-9.77	2.27
83	SLD 12	-151	-102	2252	2.69	-10	3.15
83	SLD 13	-335	182	2774	0.57	-25.49	3.29
83	SLD 14	-315	200	2777	0.53	-25.72	4.16
83	SLD 15	-341	45	2600	1.69	-21.94	2.98
83	SLD 16	-321	64	2602	1.64	-22.17	3.85
83	SLV 1	484	226	2196	-1.3	9.93	1.28
83	SLV 2	529	268	2203	-1.4	9.41	3.26
83	SLV 3	470	-83	1801	1.23	17.98	0.59
83	SLV 4	515	-42	1807	1.13	17.46	2.57
83	SLV 5	99	602	2991	-3.67	-17.7	2.89
83	SLV 6	143	644	2997	-3.77	-18.21	4.88
83	SLV 7	51	-430	1673	4.76	9.14	0.57
83	SLV 8	96	-388	1679	4.66	8.62	2.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLV 9	-246	615	3277	-3.17	-33.32	3.58
83	SLV 10	-201	657	3283	-3.27	-33.84	5.56
83	SLV 11	-293	-417	1959	5.26	-6.49	1.25
83	SLV 12	-249	-375	1965	5.16	-7	3.24
83	SLV 13	-664	269	3149	0.36	-42.16	3.57
83	SLV 14	-620	310	3155	0.26	-42.68	5.55
83	SLV 15	-679	-41	2754	2.89	-34.11	2.87
83	SLV 16	-634	1	2760	2.79	-34.63	4.85
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
86	SLU 1	-66	-55	2185	1.6	-498.59	-18.77
86	SLU 2	-66	-41	2191	1.55	-499.02	-14.14
86	SLU 3	-66	-55	2185	1.6	-498.59	-18.77
86	SLU 4	-66	-47	2189	1.57	-498.85	-15.99
86	SLU 5	-66	-41	2191	1.55	-499.02	-14.14
86	SLU 6	-66	-55	2185	1.6	-498.59	-18.77
86	SLU 7	-66	-47	2189	1.57	-498.85	-15.99
86	SLU 8	-66	-55	2185	1.6	-498.59	-18.77
86	SLU 9	-66	-47	2189	1.57	-498.85	-15.99
86	SLU 10	-71	-51	2635	1.97	-595.74	-17.36
86	SLU 11	-70	-64	2630	2.02	-595.31	-21.99
86	SLU 12	-71	-56	2633	1.99	-595.56	-19.21
86	SLU 13	-71	-51	2635	1.97	-595.74	-17.36
86	SLU 14	-70	-64	2630	2.02	-595.31	-21.99
86	SLU 15	-71	-56	2633	1.99	-595.56	-19.21
86	SLU 16	-70	-64	2630	2.02	-595.31	-21.99
86	SLU 17	-71	-56	2633	1.99	-595.56	-19.21
86	SLU 18	-72	-68	2820	2.2	-636.76	-23.37
86	SLU 19	-73	-60	2824	2.17	-637.01	-20.59
86	SLU 20	-72	-68	2820	2.2	-636.76	-23.37
86	SLU 21	-73	-60	2824	2.17	-637.01	-20.59
86	SLU 22	-70	-62	2499	1.9	-568.21	-21.29
86	SLU 23	-71	-49	2504	1.85	-568.64	-16.66
86	SLU 24	-70	-62	2499	1.9	-568.21	-21.29
86	SLU 25	-70	-54	2502	1.87	-568.47	-18.51
86	SLU 26	-71	-49	2504	1.85	-568.64	-16.66
86	SLU 27	-70	-62	2499	1.9	-568.21	-21.29
86	SLU 28	-70	-54	2502	1.87	-568.47	-18.51
86	SLU 29	-70	-62	2499	1.9	-568.21	-21.29
86	SLU 30	-70	-54	2502	1.87	-568.47	-18.51
86	SLU 31	-75	-58	2949	2.27	-665.35	-19.88
86	SLU 32	-75	-71	2943	2.32	-664.92	-24.51
86	SLU 33	-75	-63	2946	2.29	-665.18	-21.73
86	SLU 34	-75	-58	2949	2.27	-665.35	-19.88
86	SLU 35	-75	-71	2943	2.32	-664.92	-24.51
86	SLU 36	-75	-63	2946	2.29	-665.18	-21.73
86	SLU 37	-75	-71	2943	2.32	-664.92	-24.51
86	SLU 38	-75	-63	2946	2.29	-665.18	-21.73
86	SLU 39	-77	-75	3133	2.5	-706.37	-25.89
86	SLU 40	-77	-67	3137	2.47	-706.63	-23.11
86	SLU 41	-77	-75	3133	2.5	-706.37	-25.89
86	SLU 42	-77	-67	3137	2.47	-706.63	-23.11
86	SLU 43	-84	-69	2734	1.97	-624.3	-23.53
86	SLU 44	-85	-55	2739	1.93	-624.73	-18.91
86	SLU 45	-84	-69	2734	1.97	-624.3	-23.53
86	SLU 46	-84	-61	2737	1.95	-624.56	-20.76
86	SLU 47	-85	-55	2739	1.93	-624.73	-18.91
86	SLU 48	-84	-69	2734	1.97	-624.3	-23.53
86	SLU 49	-84	-61	2737	1.95	-624.56	-20.76
86	SLU 50	-84	-69	2734	1.97	-624.3	-23.53
86	SLU 51	-84	-61	2737	1.95	-624.56	-20.76
86	SLU 52	-89	-65	3184	2.35	-721.44	-22.12
86	SLU 53	-89	-78	3178	2.39	-721.01	-26.75
86	SLU 54	-89	-70	3181	2.37	-721.27	-23.98
86	SLU 55	-89	-65	3184	2.35	-721.44	-22.12
86	SLU 56	-89	-78	3178	2.39	-721.01	-26.75
86	SLU 57	-89	-70	3181	2.37	-721.27	-23.98
86	SLU 58	-89	-78	3178	2.39	-721.01	-26.75
86	SLU 59	-89	-70	3181	2.37	-721.27	-23.98
86	SLU 60	-91	-82	3368	2.57	-762.46	-28.13
86	SLU 61	-91	-74	3372	2.55	-762.72	-25.35
86	SLU 62	-91	-82	3368	2.57	-762.46	-28.13
86	SLU 63	-91	-74	3372	2.55	-762.72	-25.35
86	SLU 64	-88	-76	3047	2.27	-693.92	-26.05
86	SLU 65	-89	-63	3053	2.23	-694.35	-21.43
86	SLU 66	-88	-76	3047	2.27	-693.92	-26.05
86	SLU 67	-89	-68	3050	2.25	-694.17	-23.28
86	SLU 68	-89	-63	3053	2.23	-694.35	-21.43
86	SLU 69	-88	-76	3047	2.27	-693.92	-26.05
86	SLU 70	-89	-68	3050	2.25	-694.17	-23.28
86	SLU 71	-88	-76	3047	2.27	-693.92	-26.05
86	SLU 72	-89	-68	3050	2.25	-694.17	-23.28
86	SLU 73	-94	-72	3497	2.65	-791.06	-24.64
86	SLU 74	-93	-85	3491	2.69	-790.63	-29.27
86	SLU 75	-93	-77	3495	2.67	-790.89	-26.5
86	SLU 76	-94	-72	3497	2.65	-791.06	-24.64
86	SLU 77	-93	-85	3491	2.69	-790.63	-29.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
86	SLU 78	-93	-77	3495	2.67	-790.89	-26.5
86	SLU 79	-93	-85	3491	2.69	-790.63	-29.27
86	SLU 80	-93	-77	3495	2.67	-790.89	-26.5
86	SLU 81	-95	-89	3682	2.87	-832.08	-30.65
86	SLU 82	-95	-81	3685	2.85	-832.34	-27.87
86	SLU 83	-95	-89	3682	2.87	-832.08	-30.65
86	SLU 84	-95	-81	3685	2.85	-832.34	-27.87
86	SLE RA 1	-67	-57	2275	1.68	-518.48	-19.49
86	SLE RA 2	-67	-48	2279	1.65	-518.77	-16.4
86	SLE RA 3	-67	-57	2275	1.68	-518.48	-19.49
86	SLE RA 4	-67	-51	2277	1.66	-518.65	-17.64
86	SLE RA 5	-67	-48	2279	1.65	-518.77	-16.4
86	SLE RA 6	-67	-57	2275	1.68	-518.48	-19.49
86	SLE RA 7	-67	-51	2277	1.66	-518.65	-17.64
86	SLE RA 8	-67	-57	2275	1.68	-518.48	-19.49
86	SLE RA 9	-67	-51	2277	1.66	-518.65	-17.64
86	SLE RA 10	-70	-54	2575	1.93	-583.24	-18.55
86	SLE RA 11	-70	-63	2571	1.96	-582.96	-21.63
86	SLE RA 12	-70	-58	2573	1.94	-583.13	-19.78
86	SLE RA 13	-70	-54	2575	1.93	-583.24	-18.55
86	SLE RA 14	-70	-63	2571	1.96	-582.96	-21.63
86	SLE RA 15	-70	-58	2573	1.94	-583.13	-19.78
86	SLE RA 16	-70	-63	2571	1.96	-582.96	-21.63
86	SLE RA 17	-70	-58	2573	1.94	-583.13	-19.78
86	SLE RA 18	-71	-66	2698	2.08	-610.59	-22.55
86	SLE RA 19	-72	-60	2700	2.06	-610.76	-20.7
86	SLE RA 20	-71	-66	2698	2.08	-610.59	-22.55
86	SLE RA 21	-72	-60	2700	2.06	-610.76	-20.7
86	SLE FR 1	-67	-57	2275	1.68	-518.48	-19.49
86	SLE FR 2	-67	-55	2276	1.68	-518.54	-18.87
86	SLE FR 3	-67	-57	2275	1.68	-518.48	-19.49
86	SLE FR 4	-68	-58	2403	1.8	-546.17	-19.79
86	SLE FR 5	-68	-59	2402	1.8	-546.11	-20.41
86	SLE FR 6	-69	-61	2487	1.88	-564.54	-21.02
86	SLE QP 1	-67	-57	2275	1.68	-518.48	-19.49
86	SLE QP 2	-68	-59	2402	1.8	-546.11	-20.41
86	SLD 1	84	-22	2780	2.1	-623.67	-7.39
86	SLD 2	95	-63	2781	2.1	-623.44	-21.55
86	SLD 3	91	-137	2735	2.55	-620.4	-47.47
86	SLD 4	102	-177	2736	2.55	-620.17	-61.64
86	SLD 5	-36	140	2584	1.21	-574.43	49.28
86	SLD 6	-25	99	2585	1.21	-574.19	35.05
86	SLD 7	-15	-242	2433	2.71	-563.52	-84.33
86	SLD 8	-4	-283	2434	2.7	-563.29	-98.56
86	SLD 9	-133	164	2370	0.9	-528.94	57.74
86	SLD 10	-122	123	2371	0.9	-528.7	43.51
86	SLD 11	-112	-218	2219	2.4	-518.04	-75.87
86	SLD 12	-101	-259	2220	2.39	-517.8	-90.1
86	SLD 13	-239	58	2068	1.06	-472.06	20.82
86	SLD 14	-227	18	2069	1.05	-471.82	6.66
86	SLD 15	-232	-56	2023	1.51	-468.79	-19.26
86	SLD 16	-221	-97	2024	1.5	-468.55	-33.43
86	SLV 1	278	25	3260	2.48	-722.48	9.2
86	SLV 2	303	-67	3263	2.47	-721.94	-22.9
86	SLV 3	293	-235	3157	3.5	-714.9	-81.89
86	SLV 4	318	-327	3160	3.49	-714.36	-113.99
86	SLV 5	5	393	2815	0.47	-610.72	137.93
86	SLV 6	30	300	2817	0.46	-610.18	105.69
86	SLV 7	53	-474	2471	3.86	-585.43	-165.7
86	SLV 8	78	-567	2474	3.85	-584.89	-197.94
86	SLV 9	-215	448	2330	-0.24	-507.34	157.12
86	SLV 10	-190	355	2333	-0.26	-506.8	124.88
86	SLV 11	-167	-419	1986	3.15	-482.05	-146.51
86	SLV 12	-142	-512	1989	3.14	-481.51	-178.75
86	SLV 13	-454	208	1644	0.11	-377.87	73.17
86	SLV 14	-429	116	1647	0.1	-377.33	41.07
86	SLV 15	-440	-52	1541	1.13	-370.28	-17.92
86	SLV 16	-415	-144	1543	1.12	-369.74	-50.02
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
89	SLU 1	22	-91	1971	-1.16	100.76	23.26
89	SLU 2	23	-79	1976	-1.21	101.19	20.23
89	SLU 3	22	-91	1971	-1.16	100.76	23.26
89	SLU 4	23	-84	1974	-1.19	101.02	21.44
89	SLU 5	23	-79	1976	-1.21	101.19	20.23
89	SLU 6	22	-91	1971	-1.16	100.76	23.26
89	SLU 7	23	-84	1974	-1.19	101.02	21.44
89	SLU 8	22	-91	1971	-1.16	100.76	23.26
89	SLU 9	23	-84	1974	-1.19	101.02	21.44
89	SLU 10	26	-98	2319	-1.51	110.18	25.19
89	SLU 11	25	-111	2313	-1.46	109.75	28.22
89	SLU 12	25	-103	2317	-1.49	110.01	26.41
89	SLU 13	26	-98	2319	-1.51	110.18	25.19
89	SLU 14	25	-111	2313	-1.46	109.75	28.22
89	SLU 15	25	-103	2317	-1.49	110.01	26.41
89	SLU 16	25	-111	2313	-1.46	109.75	28.22
89	SLU 17	25	-103	2317	-1.49	110.01	26.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
89	SLU 18	26	-119	2460	-1.59	113.6	30.35
89	SLU 19	26	-112	2464	-1.62	113.86	28.53
89	SLU 20	26	-119	2460	-1.59	113.6	30.35
89	SLU 21	26	-112	2464	-1.62	113.86	28.53
89	SLU 22	24	-105	2235	-1.38	107.66	26.82
89	SLU 23	25	-93	2241	-1.43	108.09	23.79
89	SLU 24	24	-105	2235	-1.38	107.66	26.82
89	SLU 25	25	-98	2238	-1.41	107.92	25
89	SLU 26	25	-93	2241	-1.43	108.09	23.79
89	SLU 27	24	-105	2235	-1.38	107.66	26.82
89	SLU 28	25	-98	2238	-1.41	107.92	25
89	SLU 29	24	-105	2235	-1.38	107.66	26.82
89	SLU 30	25	-98	2238	-1.41	107.92	25
89	SLU 31	28	-112	2583	-1.74	117.08	28.75
89	SLU 32	27	-125	2578	-1.69	116.65	31.78
89	SLU 33	27	-117	2581	-1.72	116.91	29.96
89	SLU 34	28	-112	2583	-1.74	117.08	28.75
89	SLU 35	27	-125	2578	-1.69	116.65	31.78
89	SLU 36	27	-117	2581	-1.72	116.91	29.96
89	SLU 37	27	-125	2578	-1.69	116.65	31.78
89	SLU 38	27	-117	2581	-1.72	116.91	29.96
89	SLU 39	28	-133	2725	-1.82	120.5	33.91
89	SLU 40	28	-126	2728	-1.85	120.76	32.09
89	SLU 41	28	-133	2725	-1.82	120.5	33.91
89	SLU 42	28	-126	2728	-1.85	120.76	32.09
89	SLU 43	28	-114	2471	-1.43	128.62	29.02
89	SLU 44	29	-102	2477	-1.48	129.06	25.99
89	SLU 45	28	-114	2471	-1.43	128.62	29.02
89	SLU 46	29	-106	2475	-1.46	128.88	27.2
89	SLU 47	29	-102	2477	-1.48	129.06	25.99
89	SLU 48	28	-114	2471	-1.43	128.62	29.02
89	SLU 49	29	-106	2475	-1.46	128.88	27.2
89	SLU 50	28	-114	2471	-1.43	128.62	29.02
89	SLU 51	29	-106	2475	-1.46	128.88	27.2
89	SLU 52	32	-121	2820	-1.78	138.05	30.95
89	SLU 53	31	-133	2814	-1.73	137.61	33.98
89	SLU 54	31	-126	2817	-1.76	137.87	32.16
89	SLU 55	32	-121	2820	-1.78	138.05	30.95
89	SLU 56	31	-133	2814	-1.73	137.61	33.98
89	SLU 57	31	-126	2817	-1.76	137.87	32.16
89	SLU 58	31	-133	2814	-1.73	137.61	33.98
89	SLU 59	31	-126	2817	-1.76	137.87	32.16
89	SLU 60	32	-142	2961	-1.86	141.47	36.11
89	SLU 61	32	-134	2964	-1.89	141.73	34.29
89	SLU 62	32	-142	2961	-1.86	141.47	36.11
89	SLU 63	32	-134	2964	-1.89	141.73	34.29
89	SLU 64	30	-128	2735	-1.65	135.52	32.58
89	SLU 65	31	-115	2741	-1.7	135.96	29.55
89	SLU 66	30	-128	2735	-1.65	135.52	32.58
89	SLU 67	31	-120	2739	-1.68	135.78	30.76
89	SLU 68	31	-115	2741	-1.7	135.96	29.55
89	SLU 69	30	-128	2735	-1.65	135.52	32.58
89	SLU 70	31	-120	2739	-1.68	135.78	30.76
89	SLU 71	30	-128	2735	-1.65	135.52	32.58
89	SLU 72	31	-120	2739	-1.68	135.78	30.76
89	SLU 73	34	-135	3084	-2.01	144.94	34.51
89	SLU 74	33	-147	3078	-1.96	144.51	37.54
89	SLU 75	33	-140	3082	-1.99	144.77	35.72
89	SLU 76	34	-135	3084	-2.01	144.94	34.51
89	SLU 77	33	-147	3078	-1.96	144.51	37.54
89	SLU 78	33	-140	3082	-1.99	144.77	35.72
89	SLU 79	33	-147	3078	-1.96	144.51	37.54
89	SLU 80	33	-140	3082	-1.99	144.77	35.72
89	SLU 81	34	-155	3225	-2.09	148.36	39.67
89	SLU 82	34	-148	3229	-2.12	148.62	37.85
89	SLU 83	34	-155	3225	-2.09	148.36	39.67
89	SLU 84	34	-148	3229	-2.12	148.62	37.85
89	SLE RA 1	23	-95	2046	-1.22	102.73	24.28
89	SLE RA 2	24	-87	2050	-1.26	103.02	22.26
89	SLE RA 3	23	-95	2046	-1.22	102.73	24.28
89	SLE RA 4	23	-90	2048	-1.24	102.91	23.07
89	SLE RA 5	24	-87	2050	-1.26	103.02	22.26
89	SLE RA 6	23	-95	2046	-1.22	102.73	24.28
89	SLE RA 7	23	-90	2048	-1.24	102.91	23.07
89	SLE RA 8	23	-95	2046	-1.22	102.73	24.28
89	SLE RA 9	23	-90	2048	-1.24	102.91	23.07
89	SLE RA 10	25	-100	2278	-1.46	109.01	25.57
89	SLE RA 11	24	-108	2275	-1.43	108.73	27.59
89	SLE RA 12	25	-103	2277	-1.45	108.9	26.37
89	SLE RA 13	25	-100	2278	-1.46	109.01	25.57
89	SLE RA 14	24	-108	2275	-1.43	108.73	27.59
89	SLE RA 15	25	-103	2277	-1.45	108.9	26.37
89	SLE RA 16	24	-108	2275	-1.43	108.73	27.59
89	SLE RA 17	25	-103	2277	-1.45	108.9	26.37
89	SLE RA 18	25	-114	2373	-1.51	111.29	29
89	SLE RA 19	26	-109	2375	-1.53	111.47	27.79
89	SLE RA 20	25	-114	2373	-1.51	111.29	29
89	SLE RA 21	26	-109	2375	-1.53	111.47	27.79
89	SLE FR 1	23	-95	2046	-1.22	102.73	24.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
89	SLE FR 2	23	-93	2047	-1.23	102.79	23.87
89	SLE FR 3	23	-95	2046	-1.22	102.73	24.28
89	SLE FR 4	24	-99	2145	-1.32	105.36	25.29
89	SLE FR 5	24	-101	2144	-1.31	105.3	25.7
89	SLE FR 6	24	-104	2209	-1.37	107.01	26.64
89	SLE QP 1	23	-95	2046	-1.22	102.73	24.28
89	SLE QP 2	24	-101	2144	-1.31	105.3	25.7
89	SLD 1	57	-25	1920	-1.38	93.33	7.01
89	SLD 2	64	15	1918	-1.37	93.42	-3.02
89	SLD 3	48	-140	1859	-0.86	89.72	35.7
89	SLD 4	55	-100	1857	-0.86	89.81	25.67
89	SLD 5	45	82	2169	-2.12	107.16	-19.9
89	SLD 6	52	123	2167	-2.11	107.25	-29.97
89	SLD 7	15	-301	1967	-0.39	95.11	75.75
89	SLD 8	22	-260	1965	-0.38	95.2	65.67
89	SLD 9	25	59	2323	-2.24	115.4	-14.28
89	SLD 10	32	100	2321	-2.23	115.49	-24.36
89	SLD 11	-5	-324	2121	-0.51	103.35	81.37
89	SLD 12	2	-283	2119	-0.5	103.44	71.29
89	SLD 13	-8	-102	2431	-1.76	120.79	25.72
89	SLD 14	-1	-61	2429	-1.76	120.88	15.69
89	SLD 15	-17	-217	2370	-1.24	117.18	54.41
89	SLD 16	-10	-176	2369	-1.24	117.27	44.38
89	SLV 1	102	71	1634	-1.47	74.25	-16.73
89	SLV 2	118	163	1629	-1.45	74.45	-39.47
89	SLV 3	82	-190	1496	-0.29	66.02	48.41
89	SLV 4	98	-98	1492	-0.27	66.22	25.67
89	SLV 5	72	314	2201	-3.15	108.41	-77.82
89	SLV 6	88	406	2197	-3.13	108.61	-100.66
89	SLV 7	4	-555	1742	0.78	80.95	139.31
89	SLV 8	21	-463	1738	0.8	81.15	116.48
89	SLV 9	27	262	2550	-3.42	129.45	-65.09
89	SLV 10	43	354	2546	-3.4	129.65	-87.92
89	SLV 11	-41	-608	2091	0.52	101.99	152.05
89	SLV 12	-25	-516	2087	0.53	102.19	129.21
89	SLV 13	-51	-103	2796	-2.35	144.39	25.72
89	SLV 14	-34	-12	2792	-2.33	144.59	2.98
89	SLV 15	-71	-364	2659	-1.17	136.15	90.86
89	SLV 16	-55	-273	2655	-1.15	136.35	68.12
89	CRTFP Ux+	0	0	0	0	0	0
89	CRTFP Ux-	0	0	0	0	0	0
89	CRTFP Uy+	0	0	0	0	0	0
89	CRTFP Uy-	0	0	0	0	0	0
90	SLU 1	-87	105	2220	1.03	-10.52	2.56
90	SLU 2	-87	119	2234	0.91	-10.89	2.57
90	SLU 3	-87	105	2220	1.03	-10.52	2.56
90	SLU 4	-87	113	2229	0.96	-10.75	2.57
90	SLU 5	-87	119	2234	0.91	-10.89	2.57
90	SLU 6	-87	105	2220	1.03	-10.52	2.56
90	SLU 7	-87	113	2229	0.96	-10.75	2.57
90	SLU 8	-87	105	2220	1.03	-10.52	2.56
90	SLU 9	-87	113	2229	0.96	-10.75	2.57
90	SLU 10	-90	140	2823	1.27	-12.68	2.8
90	SLU 11	-90	126	2809	1.39	-12.31	2.79
90	SLU 12	-90	134	2817	1.32	-12.53	2.79
90	SLU 13	-90	140	2823	1.27	-12.68	2.8
90	SLU 14	-90	126	2809	1.39	-12.31	2.79
90	SLU 15	-90	134	2817	1.32	-12.53	2.79
90	SLU 16	-90	126	2809	1.39	-12.31	2.79
90	SLU 17	-90	134	2817	1.32	-12.53	2.79
90	SLU 18	-91	135	3061	1.54	-13.08	2.88
90	SLU 19	-91	144	3070	1.47	-13.3	2.89
90	SLU 20	-91	135	3061	1.54	-13.08	2.88
90	SLU 21	-91	144	3070	1.47	-13.3	2.89
90	SLU 22	-92	120	2643	1.25	-10.97	2.77
90	SLU 23	-92	134	2657	1.13	-11.34	2.78
90	SLU 24	-92	120	2643	1.25	-10.97	2.77
90	SLU 25	-92	128	2651	1.18	-11.19	2.77
90	SLU 26	-92	134	2657	1.13	-11.34	2.78
90	SLU 27	-92	120	2643	1.25	-10.97	2.77
90	SLU 28	-92	128	2651	1.18	-11.19	2.77
90	SLU 29	-92	120	2643	1.25	-10.97	2.77
90	SLU 30	-92	128	2651	1.18	-11.19	2.77
90	SLU 31	-95	155	3245	1.49	-13.13	3
90	SLU 32	-94	141	3231	1.61	-12.76	2.99
90	SLU 33	-94	150	3240	1.54	-12.98	3
90	SLU 34	-95	155	3245	1.49	-13.13	3
90	SLU 35	-94	141	3231	1.61	-12.76	2.99
90	SLU 36	-94	150	3240	1.54	-12.98	3
90	SLU 37	-94	141	3231	1.61	-12.76	2.99
90	SLU 38	-94	150	3240	1.54	-12.98	3
90	SLU 39	-96	151	3483	1.76	-13.53	3.09
90	SLU 40	-96	159	3492	1.69	-13.75	3.09
90	SLU 41	-96	151	3483	1.76	-13.53	3.09
90	SLU 42	-96	159	3492	1.69	-13.75	3.09
90	SLU 43	-111	131	2742	1.27	-13.53	3.26
90	SLU 44	-111	145	2756	1.15	-13.9	3.27
90	SLU 45	-111	131	2742	1.27	-13.53	3.26
90	SLU 46	-111	139	2750	1.2	-13.75	3.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
90	SLU 47	-111	145	2756	1.15	-13.9	3.27
90	SLU 48	-111	131	2742	1.27	-13.53	3.26
90	SLU 49	-111	139	2750	1.2	-13.75	3.27
90	SLU 50	-111	131	2742	1.27	-13.53	3.26
90	SLU 51	-111	139	2750	1.2	-13.75	3.27
90	SLU 52	-114	166	3344	1.51	-15.69	3.49
90	SLU 53	-114	152	3330	1.63	-15.32	3.48
90	SLU 54	-114	160	3339	1.55	-15.54	3.49
90	SLU 55	-114	166	3344	1.51	-15.69	3.49
90	SLU 56	-114	152	3330	1.63	-15.32	3.48
90	SLU 57	-114	160	3339	1.55	-15.54	3.49
90	SLU 58	-114	152	3330	1.63	-15.32	3.48
90	SLU 59	-114	160	3339	1.55	-15.54	3.49
90	SLU 60	-115	161	3582	1.78	-16.08	3.58
90	SLU 61	-115	170	3591	1.71	-16.3	3.59
90	SLU 62	-115	161	3582	1.78	-16.08	3.58
90	SLU 63	-115	170	3591	1.71	-16.3	3.59
90	SLU 64	-116	146	3164	1.49	-13.98	3.47
90	SLU 65	-116	160	3178	1.37	-14.35	3.48
90	SLU 66	-116	146	3164	1.49	-13.98	3.47
90	SLU 67	-116	155	3172	1.41	-14.2	3.47
90	SLU 68	-116	160	3178	1.37	-14.35	3.48
90	SLU 69	-116	146	3164	1.49	-13.98	3.47
90	SLU 70	-116	155	3172	1.41	-14.2	3.47
90	SLU 71	-116	146	3164	1.49	-13.98	3.47
90	SLU 72	-116	155	3172	1.41	-14.2	3.47
90	SLU 73	-119	182	3767	1.73	-16.13	3.7
90	SLU 74	-119	168	3753	1.84	-15.76	3.69
90	SLU 75	-119	176	3761	1.77	-15.99	3.7
90	SLU 76	-119	182	3767	1.73	-16.13	3.7
90	SLU 77	-119	168	3753	1.84	-15.76	3.69
90	SLU 78	-119	176	3761	1.77	-15.99	3.7
90	SLU 79	-119	168	3753	1.84	-15.76	3.69
90	SLU 80	-119	176	3761	1.77	-15.99	3.7
90	SLU 81	-120	177	4005	2	-16.53	3.79
90	SLU 82	-120	185	4013	1.93	-16.75	3.79
90	SLU 83	-120	177	4005	2	-16.53	3.79
90	SLU 84	-120	185	4013	1.93	-16.75	3.79
90	SLE RA 1	-88	109	2341	1.09	-10.65	2.62
90	SLE RA 2	-88	118	2350	1.02	-10.9	2.63
90	SLE RA 3	-88	109	2341	1.09	-10.65	2.62
90	SLE RA 4	-88	115	2347	1.05	-10.8	2.62
90	SLE RA 5	-88	118	2350	1.02	-10.9	2.63
90	SLE RA 6	-88	109	2341	1.09	-10.65	2.62
90	SLE RA 7	-88	115	2347	1.05	-10.8	2.62
90	SLE RA 8	-88	109	2341	1.09	-10.65	2.62
90	SLE RA 9	-88	115	2347	1.05	-10.8	2.62
90	SLE RA 10	-90	133	2743	1.25	-12.09	2.78
90	SLE RA 11	-90	123	2733	1.33	-11.84	2.77
90	SLE RA 12	-90	129	2739	1.29	-11.99	2.77
90	SLE RA 13	-90	133	2743	1.25	-12.09	2.78
90	SLE RA 14	-90	123	2733	1.33	-11.84	2.77
90	SLE RA 15	-90	129	2739	1.29	-11.99	2.77
90	SLE RA 16	-90	123	2733	1.33	-11.84	2.77
90	SLE RA 17	-90	129	2739	1.29	-11.99	2.77
90	SLE RA 18	-91	129	2902	1.44	-12.35	2.83
90	SLE RA 19	-91	135	2907	1.39	-12.5	2.84
90	SLE RA 20	-91	129	2902	1.44	-12.35	2.83
90	SLE RA 21	-91	135	2907	1.39	-12.5	2.84
90	SLE FR 1	-88	109	2341	1.09	-10.65	2.62
90	SLE FR 2	-88	111	2343	1.08	-10.7	2.62
90	SLE FR 3	-88	109	2341	1.09	-10.65	2.62
90	SLE FR 4	-89	117	2511	1.18	-11.21	2.69
90	SLE FR 5	-89	115	2509	1.2	-11.16	2.68
90	SLE FR 6	-90	119	2621	1.27	-11.5	2.73
90	SLE QP 1	-88	109	2341	1.09	-10.65	2.62
90	SLE QP 2	-89	115	2509	1.2	-11.16	2.68
90	SLD 1	158	165	2356	0.31	-1.21	2.1
90	SLD 2	173	183	2357	0.27	-1.44	2.95
90	SLD 3	152	28	2218	1.41	2.25	1.78
90	SLD 4	168	47	2220	1.37	2.02	2.63
90	SLD 5	-12	330	2671	-0.72	-13.34	2.7
90	SLD 6	4	349	2672	-0.76	-13.57	3.55
90	SLD 7	-31	-124	2214	2.94	-1.81	1.63
90	SLD 8	-15	-106	2215	2.9	-2.05	2.48
90	SLD 9	-163	336	2804	-0.5	-20.28	2.89
90	SLD 10	-147	355	2805	-0.55	-20.51	3.74
90	SLD 11	-182	-119	2347	3.15	-8.75	1.82
90	SLD 12	-166	-100	2348	3.11	-8.99	2.67
90	SLD 13	-346	183	2799	1.03	-24.34	2.74
90	SLD 14	-330	202	2800	0.98	-24.58	3.59
90	SLD 15	-351	47	2662	2.12	-20.89	2.42
90	SLD 16	-336	65	2663	2.08	-21.12	3.27
90	SLV 1	471	228	2161	-0.81	11.42	1.36
90	SLV 2	506	269	2163	-0.91	10.89	3.28
90	SLV 3	458	-82	1849	1.68	19.27	0.64
90	SLV 4	493	-40	1852	1.58	18.74	2.55
90	SLV 5	87	604	2876	-3.15	-16.1	2.72
90	SLV 6	122	646	2879	-3.25	-16.63	4.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
90	SLV 7	43	-429	1838	5.15	10.05	0.29
90	SLV 8	78	-387	1841	5.06	9.52	2.21
90	SLV 9	-256	617	3178	-2.66	-31.85	3.16
90	SLV 10	-221	659	3180	-2.76	-32.38	5.08
90	SLV 11	-300	-416	2140	5.64	-5.69	0.73
90	SLV 12	-265	-374	2143	5.54	-6.22	2.65
90	SLV 13	-671	270	3166	0.81	-41.07	2.82
90	SLV 14	-636	312	3169	0.72	-41.6	4.73
90	SLV 15	-685	-39	2855	3.3	-33.22	2.09
90	SLV 16	-650	3	2858	3.21	-33.75	4
90	CRTFP Ux+	0	0	0	0	0	0
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
93	SLU 1	-98	106	2256	1.21	-9.48	2.05
93	SLU 2	-98	120	2266	1.1	-9.84	2.07
93	SLU 3	-98	106	2256	1.21	-9.48	2.05
93	SLU 4	-98	114	2262	1.14	-9.7	2.06
93	SLU 5	-98	120	2266	1.1	-9.84	2.07
93	SLU 6	-98	106	2256	1.21	-9.48	2.05
93	SLU 7	-98	114	2262	1.14	-9.7	2.06
93	SLU 8	-98	106	2256	1.21	-9.48	2.05
93	SLU 9	-98	114	2262	1.14	-9.7	2.06
93	SLU 10	-102	141	2865	1.39	-11.41	2.3
93	SLU 11	-102	127	2855	1.5	-11.04	2.29
93	SLU 12	-102	136	2861	1.44	-11.26	2.29
93	SLU 13	-102	141	2865	1.39	-11.41	2.3
93	SLU 14	-102	127	2855	1.5	-11.04	2.29
93	SLU 15	-102	136	2861	1.44	-11.26	2.29
93	SLU 16	-102	127	2855	1.5	-11.04	2.29
93	SLU 17	-102	136	2861	1.44	-11.26	2.29
93	SLU 18	-104	136	3112	1.63	-11.72	2.39
93	SLU 19	-104	145	3118	1.56	-11.93	2.39
93	SLU 20	-104	136	3112	1.63	-11.72	2.39
93	SLU 21	-104	145	3118	1.56	-11.93	2.39
93	SLU 22	-104	121	2685	1.39	-9.74	2.25
93	SLU 23	-104	135	2695	1.28	-10.1	2.26
93	SLU 24	-104	121	2685	1.39	-9.74	2.25
93	SLU 25	-104	130	2691	1.32	-9.96	2.26
93	SLU 26	-104	135	2695	1.28	-10.1	2.26
93	SLU 27	-104	121	2685	1.39	-9.74	2.25
93	SLU 28	-104	130	2691	1.32	-9.96	2.26
93	SLU 29	-104	121	2685	1.39	-9.74	2.25
93	SLU 30	-104	130	2691	1.32	-9.96	2.26
93	SLU 31	-108	157	3294	1.57	-11.67	2.49
93	SLU 32	-108	143	3284	1.68	-11.3	2.48
93	SLU 33	-108	151	3290	1.62	-11.52	2.49
93	SLU 34	-108	157	3294	1.57	-11.67	2.49
93	SLU 35	-108	143	3284	1.68	-11.3	2.48
93	SLU 36	-108	151	3290	1.62	-11.52	2.49
93	SLU 37	-108	143	3284	1.68	-11.3	2.48
93	SLU 38	-108	151	3290	1.62	-11.52	2.49
93	SLU 39	-109	152	3541	1.81	-11.98	2.58
93	SLU 40	-110	160	3547	1.74	-12.19	2.59
93	SLU 41	-109	152	3541	1.81	-11.98	2.58
93	SLU 42	-110	160	3547	1.74	-12.19	2.59
93	SLU 43	-126	133	2786	1.51	-12.23	2.6
93	SLU 44	-126	147	2796	1.4	-12.6	2.61
93	SLU 45	-126	133	2786	1.51	-12.23	2.6
93	SLU 46	-126	141	2792	1.44	-12.45	2.61
93	SLU 47	-126	147	2796	1.4	-12.6	2.61
93	SLU 48	-126	133	2786	1.51	-12.23	2.6
93	SLU 49	-126	141	2792	1.44	-12.45	2.61
93	SLU 50	-126	133	2786	1.51	-12.23	2.6
93	SLU 51	-126	141	2792	1.44	-12.45	2.61
93	SLU 52	-130	168	3395	1.69	-14.16	2.85
93	SLU 53	-130	154	3385	1.8	-13.8	2.84
93	SLU 54	-130	162	3391	1.74	-14.02	2.84
93	SLU 55	-130	168	3395	1.69	-14.16	2.85
93	SLU 56	-130	154	3385	1.8	-13.8	2.84
93	SLU 57	-130	162	3391	1.74	-14.02	2.84
93	SLU 58	-130	154	3385	1.8	-13.8	2.84
93	SLU 59	-130	162	3391	1.74	-14.02	2.84
93	SLU 60	-131	163	3642	1.93	-14.47	2.94
93	SLU 61	-131	171	3648	1.86	-14.69	2.94
93	SLU 62	-131	163	3642	1.93	-14.47	2.94
93	SLU 63	-131	171	3648	1.86	-14.69	2.94
93	SLU 64	-131	148	3215	1.69	-12.49	2.8
93	SLU 65	-132	162	3225	1.58	-12.86	2.81
93	SLU 66	-131	148	3215	1.69	-12.49	2.8
93	SLU 67	-132	156	3221	1.62	-12.71	2.81
93	SLU 68	-132	162	3225	1.58	-12.86	2.81
93	SLU 69	-131	148	3215	1.69	-12.49	2.8
93	SLU 70	-132	156	3221	1.62	-12.71	2.81
93	SLU 71	-131	148	3215	1.69	-12.49	2.8
93	SLU 72	-132	156	3221	1.62	-12.71	2.81
93	SLU 73	-135	183	3824	1.87	-14.42	3.04
93	SLU 74	-135	169	3814	1.98	-14.06	3.03
93	SLU 75	-135	178	3820	1.92	-14.28	3.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
93	SLU 76	-135	183	3824	1.87	-14.42	3.04
93	SLU 77	-135	169	3814	1.98	-14.06	3.03
93	SLU 78	-135	178	3820	1.92	-14.28	3.04
93	SLU 79	-135	169	3814	1.98	-14.06	3.03
93	SLU 80	-135	178	3820	1.92	-14.28	3.04
93	SLU 81	-137	178	4070	2.11	-14.73	3.13
93	SLU 82	-137	187	4077	2.04	-14.95	3.14
93	SLU 83	-137	178	4070	2.11	-14.73	3.13
93	SLU 84	-137	187	4077	2.04	-14.95	3.14
93	SLE RA 1	-100	110	2379	1.26	-9.55	2.11
93	SLE RA 2	-100	120	2386	1.19	-9.79	2.12
93	SLE RA 3	-100	110	2379	1.26	-9.55	2.11
93	SLE RA 4	-100	116	2383	1.22	-9.7	2.11
93	SLE RA 5	-100	120	2386	1.19	-9.79	2.12
93	SLE RA 6	-100	110	2379	1.26	-9.55	2.11
93	SLE RA 7	-100	116	2383	1.22	-9.7	2.11
93	SLE RA 8	-100	110	2379	1.26	-9.55	2.11
93	SLE RA 9	-100	116	2383	1.22	-9.7	2.11
93	SLE RA 10	-103	134	2785	1.38	-10.84	2.27
93	SLE RA 11	-102	125	2778	1.45	-10.6	2.27
93	SLE RA 12	-103	130	2782	1.41	-10.74	2.27
93	SLE RA 13	-103	134	2785	1.38	-10.84	2.27
93	SLE RA 14	-102	125	2778	1.45	-10.6	2.27
93	SLE RA 15	-103	130	2782	1.41	-10.74	2.27
93	SLE RA 16	-102	125	2778	1.45	-10.6	2.27
93	SLE RA 17	-103	130	2782	1.41	-10.74	2.27
93	SLE RA 18	-104	131	2949	1.54	-11.04	2.33
93	SLE RA 19	-104	136	2953	1.5	-11.19	2.34
93	SLE RA 20	-104	131	2949	1.54	-11.04	2.33
93	SLE RA 21	-104	136	2953	1.5	-11.19	2.34
93	SLE FR 1	-100	110	2379	1.26	-9.55	2.11
93	SLE FR 2	-100	112	2380	1.24	-9.6	2.11
93	SLE FR 3	-100	110	2379	1.26	-9.55	2.11
93	SLE FR 4	-101	118	2551	1.33	-10.05	2.18
93	SLE FR 5	-101	116	2550	1.34	-10	2.18
93	SLE FR 6	-102	121	2664	1.4	-10.3	2.22
93	SLE QP 1	-100	110	2379	1.26	-9.55	2.11
93	SLE QP 2	-101	116	2550	1.34	-10	2.18
93	SLD 1	147	166	2369	0.56	0.1	1.67
93	SLD 2	159	185	2369	0.52	-0.14	2.5
93	SLD 3	142	30	2267	1.57	3.47	1.32
93	SLD 4	153	48	2267	1.53	3.23	2.14
93	SLD 5	-22	332	2650	-0.41	-12	2.27
93	SLD 6	-11	350	2650	-0.45	-12.24	3.1
93	SLD 7	-40	-123	2310	2.95	-0.76	1.09
93	SLD 8	-29	-104	2310	2.92	-1	1.92
93	SLD 9	-173	337	2789	-0.23	-19	2.43
93	SLD 10	-162	356	2789	-0.27	-19.24	3.26
93	SLD 11	-191	-117	2450	3.13	-7.76	1.25
93	SLD 12	-180	-99	2450	3.1	-8	2.09
93	SLD 13	-355	185	2833	1.15	-23.23	2.21
93	SLD 14	-344	203	2833	1.12	-23.47	3.04
93	SLD 15	-361	48	2731	2.16	-19.86	1.86
93	SLD 16	-350	67	2731	2.13	-20.1	2.68
93	SLV 1	463	229	2138	-0.45	12.92	1.02
93	SLV 2	489	271	2138	-0.52	12.37	2.89
93	SLV 3	450	-81	1907	1.85	20.57	0.22
93	SLV 4	476	-39	1907	1.77	20.02	2.09
93	SLV 5	78	605	2777	-2.64	-14.54	2.39
93	SLV 6	104	647	2777	-2.72	-15.08	4.27
93	SLV 7	36	-427	2006	5	10.96	-0.29
93	SLV 8	62	-385	2006	4.92	10.42	1.59
93	SLV 9	-264	618	3093	-2.24	-30.42	2.76
93	SLV 10	-238	660	3093	-2.31	-30.97	4.64
93	SLV 11	-306	-414	2323	5.41	-4.92	0.08
93	SLV 12	-280	-372	2322	5.33	-5.46	1.97
93	SLV 13	-678	272	3193	0.91	-40.02	2.26
93	SLV 14	-652	314	3193	0.84	-40.57	4.14
93	SLV 15	-691	-38	2961	3.21	-32.37	1.46
93	SLV 16	-665	4	2961	3.13	-32.92	3.33
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
97	SLU 1	8	-92	1936	-1.07	92.73	23.32
97	SLU 2	9	-80	1940	-1.12	93.09	20.29
97	SLU 3	8	-92	1936	-1.07	92.73	23.32
97	SLU 4	9	-84	1939	-1.1	92.95	21.5
97	SLU 5	9	-80	1940	-1.12	93.09	20.29
97	SLU 6	8	-92	1936	-1.07	92.73	23.32
97	SLU 7	9	-84	1939	-1.1	92.95	21.5
97	SLU 8	8	-92	1936	-1.07	92.73	23.32
97	SLU 9	9	-84	1939	-1.1	92.95	21.5
97	SLU 10	10	-99	2274	-1.41	100.39	25.26
97	SLU 11	9	-111	2270	-1.36	100.02	28.29
97	SLU 12	9	-104	2272	-1.39	100.24	26.48
97	SLU 13	10	-99	2274	-1.41	100.39	25.26
97	SLU 14	9	-111	2270	-1.36	100.02	28.29
97	SLU 15	9	-104	2272	-1.39	100.24	26.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
97	SLU 16	9	-111	2270	-1.36	100.02	28.29
97	SLU 17	9	-104	2272	-1.39	100.24	26.48
97	SLU 18	9	-120	2413	-1.48	103.15	30.43
97	SLU 19	9	-112	2415	-1.51	103.37	28.61
97	SLU 20	9	-120	2413	-1.48	103.15	30.43
97	SLU 21	9	-112	2415	-1.51	103.37	28.61
97	SLU 22	9	-106	2194	-1.28	98.34	26.89
97	SLU 23	10	-94	2198	-1.33	98.71	23.86
97	SLU 24	9	-106	2194	-1.28	98.34	26.89
97	SLU 25	9	-98	2196	-1.31	98.56	25.07
97	SLU 26	10	-94	2198	-1.33	98.71	23.86
97	SLU 27	9	-106	2194	-1.28	98.34	26.89
97	SLU 28	9	-98	2196	-1.31	98.56	25.07
97	SLU 29	9	-106	2194	-1.28	98.34	26.89
97	SLU 30	9	-98	2196	-1.31	98.56	25.07
97	SLU 31	10	-113	2532	-1.62	106	28.84
97	SLU 32	9	-125	2527	-1.57	105.63	31.86
97	SLU 33	9	-118	2530	-1.6	105.85	30.05
97	SLU 34	10	-113	2532	-1.62	106	28.84
97	SLU 35	9	-125	2527	-1.57	105.63	31.86
97	SLU 36	9	-118	2530	-1.6	105.85	30.05
97	SLU 37	9	-125	2527	-1.57	105.63	31.86
97	SLU 38	9	-118	2530	-1.6	105.85	30.05
97	SLU 39	9	-134	2671	-1.69	108.76	34
97	SLU 40	9	-126	2673	-1.72	108.98	32.18
97	SLU 41	9	-134	2671	-1.69	108.76	34
97	SLU 42	9	-126	2673	-1.72	108.98	32.18
97	SLU 43	11	-114	2429	-1.32	118.62	29.09
97	SLU 44	12	-102	2433	-1.37	118.99	26.06
97	SLU 45	11	-114	2429	-1.32	118.62	29.09
97	SLU 46	12	-107	2431	-1.35	118.84	27.27
97	SLU 47	12	-102	2433	-1.37	118.99	26.06
97	SLU 48	11	-114	2429	-1.32	118.62	29.09
97	SLU 49	12	-107	2431	-1.35	118.84	27.27
97	SLU 50	11	-114	2429	-1.32	118.62	29.09
97	SLU 51	12	-107	2431	-1.35	118.84	27.27
97	SLU 52	12	-122	2767	-1.66	126.28	31.04
97	SLU 53	11	-134	2762	-1.61	125.91	34.07
97	SLU 54	12	-127	2765	-1.64	126.13	32.25
97	SLU 55	12	-122	2767	-1.66	126.28	31.04
97	SLU 56	11	-134	2762	-1.61	125.91	34.07
97	SLU 57	12	-127	2765	-1.64	126.13	32.25
97	SLU 58	11	-134	2762	-1.61	125.91	34.07
97	SLU 59	12	-127	2765	-1.64	126.13	32.25
97	SLU 60	11	-142	2905	-1.73	129.04	36.2
97	SLU 61	12	-135	2908	-1.76	129.26	34.38
97	SLU 62	11	-142	2905	-1.73	129.04	36.2
97	SLU 63	12	-135	2908	-1.76	129.26	34.38
97	SLU 64	11	-128	2686	-1.53	124.23	32.66
97	SLU 65	12	-116	2690	-1.58	124.6	29.63
97	SLU 66	11	-128	2686	-1.53	124.23	32.66
97	SLU 67	12	-121	2689	-1.56	124.45	30.84
97	SLU 68	12	-116	2690	-1.58	124.6	29.63
97	SLU 69	11	-128	2686	-1.53	124.23	32.66
97	SLU 70	12	-121	2689	-1.56	124.45	30.84
97	SLU 71	11	-128	2686	-1.53	124.23	32.66
97	SLU 72	12	-121	2689	-1.56	124.45	30.84
97	SLU 73	12	-136	3024	-1.87	131.89	34.61
97	SLU 74	11	-148	3020	-1.82	131.53	37.64
97	SLU 75	12	-141	3023	-1.85	131.75	35.82
97	SLU 76	12	-136	3024	-1.87	131.89	34.61
97	SLU 77	11	-148	3020	-1.82	131.53	37.64
97	SLU 78	12	-141	3023	-1.85	131.75	35.82
97	SLU 79	11	-148	3020	-1.82	131.53	37.64
97	SLU 80	12	-141	3023	-1.85	131.75	35.82
97	SLU 81	11	-156	3163	-1.94	134.65	39.77
97	SLU 82	12	-149	3166	-1.97	134.87	37.95
97	SLU 83	11	-156	3163	-1.94	134.65	39.77
97	SLU 84	12	-149	3166	-1.97	134.87	37.95
97	SLE RA 1	9	-96	2010	-1.13	94.33	24.34
97	SLE RA 2	9	-88	2013	-1.17	94.57	22.32
97	SLE RA 3	9	-96	2010	-1.13	94.33	24.34
97	SLE RA 4	9	-91	2011	-1.15	94.48	23.13
97	SLE RA 5	9	-88	2013	-1.17	94.57	22.32
97	SLE RA 6	9	-96	2010	-1.13	94.33	24.34
97	SLE RA 7	9	-91	2011	-1.15	94.48	23.13
97	SLE RA 8	9	-96	2010	-1.13	94.33	24.34
97	SLE RA 9	9	-91	2011	-1.15	94.48	23.13
97	SLE RA 10	9	-101	2235	-1.36	99.44	25.64
97	SLE RA 11	9	-109	2232	-1.32	99.19	27.66
97	SLE RA 12	9	-104	2234	-1.34	99.34	26.44
97	SLE RA 13	9	-101	2235	-1.36	99.44	25.64
97	SLE RA 14	9	-109	2232	-1.32	99.19	27.66
97	SLE RA 15	9	-104	2234	-1.34	99.34	26.44
97	SLE RA 16	9	-109	2232	-1.32	99.19	27.66
97	SLE RA 17	9	-104	2234	-1.34	99.34	26.44
97	SLE RA 18	9	-114	2328	-1.41	101.28	29.08
97	SLE RA 19	9	-110	2329	-1.43	101.42	27.87
97	SLE RA 20	9	-114	2328	-1.41	101.28	29.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
97	SLE RA 21	9	-110	2329	-1.43	101.42	27.87
97	SLE FR 1	9	-96	2010	-1.13	94.33	24.34
97	SLE FR 2	9	-94	2010	-1.14	94.38	23.94
97	SLE FR 3	9	-96	2010	-1.13	94.33	24.34
97	SLE FR 4	9	-100	2106	-1.22	96.46	25.36
97	SLE FR 5	9	-101	2105	-1.22	96.41	25.76
97	SLE FR 6	9	-105	2169	-1.27	97.8	26.71
97	SLE QP 1	9	-96	2010	-1.13	94.33	24.34
97	SLE QP 2	9	-101	2105	-1.22	96.41	25.76
97	SLD 1	-18	-26	1877	-1.31	82.83	7.01
97	SLD 2	-13	15	1876	-1.31	82.9	-3.02
97	SLD 3	-26	-141	1832	-0.81	80.13	35.71
97	SLD 4	-21	-100	1831	-0.8	80.2	25.68
97	SLD 5	11	81	2106	-2.01	96.4	-19.85
97	SLD 6	16	122	2104	-2	96.48	-29.93
97	SLD 7	-16	-302	1956	-0.33	87.41	75.81
97	SLD 8	-11	-261	1954	-0.33	87.48	65.73
97	SLD 9	28	58	2256	-2.1	105.35	-14.21
97	SLD 10	33	99	2255	-2.1	105.42	-24.29
97	SLD 11	1	-325	2106	-0.43	96.35	81.46
97	SLD 12	6	-284	2105	-0.42	96.42	71.38
97	SLD 13	38	-102	2379	-1.63	112.63	25.84
97	SLD 14	43	-62	2378	-1.62	112.7	15.81
97	SLD 15	30	-217	2334	-1.12	109.93	54.54
97	SLD 16	35	-177	2333	-1.12	110	44.51
97	SLV 1	-54	70	1587	-1.44	61.25	-16.8
97	SLV 2	-43	162	1583	-1.42	61.41	-39.54
97	SLV 3	-72	-191	1485	-0.3	55.09	48.35
97	SLV 4	-61	-99	1481	-0.28	55.25	25.61
97	SLV 5	13	314	2106	-3.02	95.15	-77.81
97	SLV 6	25	406	2102	-3	95.31	-100.65
97	SLV 7	-47	-556	1766	0.79	74.62	139.36
97	SLV 8	-36	-464	1762	0.8	74.78	116.52
97	SLV 9	53	262	2448	-3.23	118.05	-65
97	SLV 10	64	353	2445	-3.22	118.21	-87.84
97	SLV 11	-8	-608	2108	0.57	97.51	152.17
97	SLV 12	4	-516	2104	0.59	97.67	129.33
97	SLV 13	78	-103	2729	-2.15	137.58	25.91
97	SLV 14	90	-12	2725	-2.14	137.74	3.17
97	SLV 15	60	-364	2627	-1.01	131.42	91.06
97	SLV 16	71	-273	2623	-0.99	131.57	68.32
97	CRTFP Ux+	0	0	0	0	0	0
97	CRTFP Ux-	0	0	0	0	0	0
97	CRTFP Uy+	0	0	0	0	0	0
97	CRTFP Uy-	0	0	0	0	0	0
98	SLU 1	-76	-53	2236	1.61	-572.88	-18.2
98	SLU 2	-77	-40	2240	1.57	-573.33	-13.58
98	SLU 3	-76	-53	2236	1.61	-572.88	-18.2
98	SLU 4	-77	-45	2238	1.59	-573.15	-15.43
98	SLU 5	-77	-40	2240	1.57	-573.33	-13.58
98	SLU 6	-76	-53	2236	1.61	-572.88	-18.2
98	SLU 7	-77	-45	2238	1.59	-573.15	-15.43
98	SLU 8	-76	-53	2236	1.61	-572.88	-18.2
98	SLU 9	-77	-45	2238	1.59	-573.15	-15.43
98	SLU 10	-82	-49	2697	1.97	-687.8	-16.69
98	SLU 11	-82	-62	2693	2.01	-687.36	-21.32
98	SLU 12	-82	-54	2695	1.99	-687.62	-18.54
98	SLU 13	-82	-49	2697	1.97	-687.8	-16.69
98	SLU 14	-82	-62	2693	2.01	-687.36	-21.32
98	SLU 15	-82	-54	2695	1.99	-687.62	-18.54
98	SLU 16	-82	-62	2693	2.01	-687.36	-21.32
98	SLU 17	-82	-54	2695	1.99	-687.62	-18.54
98	SLU 18	-84	-66	2889	2.18	-736.41	-22.65
98	SLU 19	-85	-58	2891	2.16	-736.68	-19.88
98	SLU 20	-84	-66	2889	2.18	-736.41	-22.65
98	SLU 21	-85	-58	2891	2.16	-736.68	-19.88
98	SLU 22	-81	-60	2558	1.89	-655.09	-20.65
98	SLU 23	-82	-47	2562	1.85	-655.53	-16.02
98	SLU 24	-81	-60	2558	1.89	-655.09	-20.65
98	SLU 25	-82	-52	2561	1.87	-655.35	-17.87
98	SLU 26	-82	-47	2562	1.85	-655.53	-16.02
98	SLU 27	-81	-60	2558	1.89	-655.09	-20.65
98	SLU 28	-82	-52	2561	1.87	-655.35	-17.87
98	SLU 29	-81	-60	2558	1.89	-655.09	-20.65
98	SLU 30	-82	-52	2561	1.87	-655.35	-17.87
98	SLU 31	-87	-56	3020	2.25	-770	-19.14
98	SLU 32	-87	-69	3015	2.3	-769.56	-23.76
98	SLU 33	-87	-61	3018	2.27	-769.83	-20.98
98	SLU 34	-87	-56	3020	2.25	-770	-19.14
98	SLU 35	-87	-69	3015	2.3	-769.56	-23.76
98	SLU 36	-87	-61	3018	2.27	-769.83	-20.98
98	SLU 37	-87	-69	3015	2.3	-769.56	-23.76
98	SLU 38	-87	-61	3018	2.27	-769.83	-20.98
98	SLU 39	-89	-73	3211	2.47	-818.62	-25.09
98	SLU 40	-90	-65	3214	2.44	-818.89	-22.32
98	SLU 41	-89	-73	3211	2.47	-818.62	-25.09
98	SLU 42	-90	-65	3214	2.44	-818.89	-22.32
98	SLU 43	-98	-66	2796	2	-716.56	-22.83
98	SLU 44	-98	-53	2800	1.96	-717.01	-18.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
98	SLU 45	-98	-66	2796	2	-716.56	-22.83
98	SLU 46	-98	-58	2798	1.97	-716.83	-20.05
98	SLU 47	-98	-53	2800	1.96	-717.01	-18.21
98	SLU 48	-98	-66	2796	2	-716.56	-22.83
98	SLU 49	-98	-58	2798	1.97	-716.83	-20.05
98	SLU 50	-98	-66	2796	2	-716.56	-22.83
98	SLU 51	-98	-58	2798	1.97	-716.83	-20.05
98	SLU 52	-104	-62	3257	2.36	-831.48	-21.32
98	SLU 53	-103	-75	3253	2.4	-831.04	-25.94
98	SLU 54	-103	-67	3256	2.37	-831.3	-23.17
98	SLU 55	-104	-62	3257	2.36	-831.48	-21.32
98	SLU 56	-103	-75	3253	2.4	-831.04	-25.94
98	SLU 57	-103	-67	3256	2.37	-831.3	-23.17
98	SLU 58	-103	-75	3253	2.4	-831.04	-25.94
98	SLU 59	-103	-67	3256	2.37	-831.3	-23.17
98	SLU 60	-106	-79	3449	2.57	-880.1	-27.27
98	SLU 61	-106	-71	3452	2.55	-880.36	-24.5
98	SLU 62	-106	-79	3449	2.57	-880.1	-27.27
98	SLU 63	-106	-71	3452	2.55	-880.36	-24.5
98	SLU 64	-103	-73	3118	2.28	-798.77	-25.27
98	SLU 65	-103	-60	3123	2.24	-799.21	-20.65
98	SLU 66	-103	-73	3118	2.28	-798.77	-25.27
98	SLU 67	-103	-65	3121	2.26	-799.03	-22.5
98	SLU 68	-103	-60	3123	2.24	-799.21	-20.65
98	SLU 69	-103	-73	3118	2.28	-798.77	-25.27
98	SLU 70	-103	-65	3121	2.26	-799.03	-22.5
98	SLU 71	-103	-73	3118	2.28	-798.77	-25.27
98	SLU 72	-103	-65	3121	2.26	-799.03	-22.5
98	SLU 73	-109	-69	3580	2.64	-913.68	-23.76
98	SLU 74	-108	-82	3575	2.68	-913.24	-28.38
98	SLU 75	-108	-74	3578	2.66	-913.51	-25.61
98	SLU 76	-109	-69	3580	2.64	-913.68	-23.76
98	SLU 77	-108	-82	3575	2.68	-913.24	-28.38
98	SLU 78	-108	-74	3578	2.66	-913.51	-25.61
98	SLU 79	-108	-82	3575	2.68	-913.24	-28.38
98	SLU 80	-108	-74	3578	2.66	-913.51	-25.61
98	SLU 81	-110	-86	3771	2.85	-962.3	-29.72
98	SLU 82	-111	-78	3774	2.83	-962.57	-26.94
98	SLU 83	-110	-86	3771	2.85	-962.3	-29.72
98	SLU 84	-111	-78	3774	2.83	-962.57	-26.94
98	SLE RA 1	-78	-55	2328	1.69	-596.37	-18.9
98	SLE RA 2	-78	-46	2331	1.67	-596.67	-15.82
98	SLE RA 3	-78	-55	2328	1.69	-596.37	-18.9
98	SLE RA 4	-78	-50	2330	1.68	-596.55	-17.05
98	SLE RA 5	-78	-46	2331	1.67	-596.67	-15.82
98	SLE RA 6	-78	-55	2328	1.69	-596.37	-18.9
98	SLE RA 7	-78	-50	2330	1.68	-596.55	-17.05
98	SLE RA 8	-78	-55	2328	1.69	-596.37	-18.9
98	SLE RA 9	-78	-50	2330	1.68	-596.55	-17.05
98	SLE RA 10	-82	-52	2635	1.93	-672.98	-17.89
98	SLE RA 11	-82	-61	2633	1.96	-672.69	-20.98
98	SLE RA 12	-82	-56	2634	1.94	-672.86	-19.13
98	SLE RA 13	-82	-52	2635	1.93	-672.98	-17.89
98	SLE RA 14	-82	-61	2633	1.96	-672.69	-20.98
98	SLE RA 15	-82	-56	2634	1.94	-672.86	-19.13
98	SLE RA 16	-82	-61	2633	1.96	-672.69	-20.98
98	SLE RA 17	-82	-56	2634	1.94	-672.86	-19.13
98	SLE RA 18	-83	-63	2763	2.07	-705.39	-21.87
98	SLE RA 19	-83	-58	2765	2.06	-705.57	-20.02
98	SLE RA 20	-83	-63	2763	2.07	-705.39	-21.87
98	SLE RA 21	-83	-58	2765	2.06	-705.57	-20.02
98	SLE FR 1	-78	-55	2328	1.69	-596.37	-18.9
98	SLE FR 2	-78	-53	2328	1.69	-596.43	-18.29
98	SLE FR 3	-78	-55	2328	1.69	-596.37	-18.9
98	SLE FR 4	-80	-56	2459	1.8	-629.14	-19.17
98	SLE FR 5	-79	-57	2458	1.81	-629.08	-19.79
98	SLE FR 6	-80	-59	2545	1.88	-650.88	-20.38
98	SLE QP 1	-78	-55	2328	1.69	-596.37	-18.9
98	SLE QP 2	-79	-57	2458	1.81	-629.08	-19.79
98	SLD 1	75	-20	2846	2.1	-719.36	-6.66
98	SLD 2	84	-61	2847	2.1	-719.19	-20.81
98	SLD 3	82	-134	2813	2.52	-716.31	-46.69
98	SLD 4	90	-175	2814	2.51	-716.14	-60.85
98	SLD 5	-45	142	2624	1.27	-660.84	49.86
98	SLD 6	-37	101	2625	1.26	-660.67	35.63
98	SLD 7	-25	-240	2515	2.65	-650.69	-83.59
98	SLD 8	-16	-281	2516	2.64	-650.51	-97.81
98	SLD 9	-143	166	2401	0.97	-607.64	58.23
98	SLD 10	-134	125	2402	0.96	-607.47	44.01
98	SLD 11	-122	-216	2292	2.35	-597.48	-75.21
98	SLD 12	-114	-257	2293	2.34	-597.31	-89.44
98	SLD 13	-249	60	2103	1.1	-542.02	21.27
98	SLD 14	-241	19	2103	1.1	-541.84	7.11
98	SLD 15	-242	-54	2070	1.52	-538.97	-18.77
98	SLD 16	-234	-95	2071	1.51	-538.8	-32.92
98	SLV 1	272	28	3338	2.48	-834.19	10.08
98	SLV 2	290	-64	3340	2.46	-833.8	-22.01
98	SLV 3	286	-232	3264	3.42	-827.15	-80.89
98	SLV 4	305	-324	3266	3.4	-826.76	-112.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
98	SLV 5	-2	395	2834	0.59	-701.44	138.45
98	SLV 6	16	302	2836	0.57	-701.05	106.22
98	SLV 7	45	-472	2587	3.72	-677.95	-164.8
98	SLV 8	64	-564	2589	3.71	-677.56	-197.03
98	SLV 9	-223	449	2328	-0.09	-580.6	157.44
98	SLV 10	-204	357	2330	-0.11	-580.21	125.22
98	SLV 11	-175	-417	2081	3.04	-557.11	-145.8
98	SLV 12	-157	-510	2083	3.03	-556.72	-178.03
98	SLV 13	-464	209	1651	0.21	-431.4	73.4
98	SLV 14	-445	117	1653	0.2	-431.01	41.31
98	SLV 15	-449	-51	1577	1.15	-424.35	-17.57
98	SLV 16	-431	-143	1578	1.14	-423.96	-49.66
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	-109	109	2333	8.31	2.68	1.33
100	SLU 2	-109	123	2340	8.24	2.31	1.29
100	SLU 3	-109	109	2333	8.31	2.68	1.33
100	SLU 4	-109	118	2337	8.27	2.46	1.3
100	SLU 5	-109	123	2340	8.24	2.31	1.29
100	SLU 6	-109	109	2333	8.31	2.68	1.33
100	SLU 7	-109	118	2337	8.27	2.46	1.3
100	SLU 8	-109	109	2333	8.31	2.68	1.33
100	SLU 9	-109	118	2337	8.27	2.46	1.3
100	SLU 10	-114	144	2956	10.28	4.05	1.46
100	SLU 11	-114	130	2949	10.36	4.43	1.5
100	SLU 12	-114	139	2953	10.31	4.2	1.48
100	SLU 13	-114	144	2956	10.28	4.05	1.46
100	SLU 14	-114	130	2949	10.36	4.43	1.5
100	SLU 15	-114	139	2953	10.31	4.2	1.48
100	SLU 16	-114	130	2949	10.36	4.43	1.5
100	SLU 17	-114	139	2953	10.31	4.2	1.48
100	SLU 18	-116	139	3213	11.23	5.17	1.58
100	SLU 19	-116	148	3217	11.19	4.95	1.55
100	SLU 20	-116	139	3213	11.23	5.17	1.58
100	SLU 21	-116	148	3217	11.19	4.95	1.55
100	SLU 22	-115	125	2773	9.75	4.8	1.47
100	SLU 23	-115	139	2780	9.68	4.43	1.43
100	SLU 24	-115	125	2773	9.75	4.8	1.47
100	SLU 25	-115	133	2777	9.71	4.58	1.45
100	SLU 26	-115	139	2780	9.68	4.43	1.43
100	SLU 27	-115	125	2773	9.75	4.8	1.47
100	SLU 28	-115	133	2777	9.71	4.58	1.45
100	SLU 29	-115	125	2773	9.75	4.8	1.47
100	SLU 30	-115	133	2777	9.71	4.58	1.45
100	SLU 31	-120	160	3396	11.73	6.17	1.6
100	SLU 32	-120	146	3389	11.8	6.55	1.64
100	SLU 33	-120	154	3394	11.76	6.32	1.62
100	SLU 34	-120	160	3396	11.73	6.17	1.6
100	SLU 35	-120	146	3389	11.8	6.55	1.64
100	SLU 36	-120	154	3394	11.76	6.32	1.62
100	SLU 37	-120	146	3389	11.8	6.55	1.64
100	SLU 38	-120	154	3394	11.76	6.32	1.62
100	SLU 39	-122	155	3653	12.68	7.29	1.72
100	SLU 40	-122	163	3658	12.63	7.07	1.69
100	SLU 41	-122	155	3653	12.68	7.29	1.72
100	SLU 42	-122	163	3658	12.63	7.07	1.69
100	SLU 43	-139	136	2882	10.31	2.76	1.68
100	SLU 44	-139	151	2889	10.24	2.39	1.64
100	SLU 45	-139	136	2882	10.31	2.76	1.68
100	SLU 46	-139	145	2886	10.27	2.54	1.65
100	SLU 47	-139	151	2889	10.24	2.39	1.64
100	SLU 48	-139	136	2882	10.31	2.76	1.68
100	SLU 49	-139	145	2886	10.27	2.54	1.65
100	SLU 50	-139	136	2882	10.31	2.76	1.68
100	SLU 51	-139	145	2886	10.27	2.54	1.65
100	SLU 52	-144	172	3505	12.28	4.13	1.81
100	SLU 53	-144	158	3498	12.36	4.5	1.85
100	SLU 54	-144	166	3502	12.31	4.28	1.83
100	SLU 55	-144	172	3505	12.28	4.13	1.81
100	SLU 56	-144	158	3498	12.36	4.5	1.85
100	SLU 57	-144	166	3502	12.31	4.28	1.83
100	SLU 58	-144	158	3498	12.36	4.5	1.85
100	SLU 59	-144	166	3502	12.31	4.28	1.83
100	SLU 60	-146	167	3762	13.23	5.25	1.93
100	SLU 61	-146	175	3766	13.19	5.03	1.9
100	SLU 62	-146	167	3762	13.23	5.25	1.93
100	SLU 63	-146	175	3766	13.19	5.03	1.9
100	SLU 64	-145	152	3322	11.75	4.88	1.82
100	SLU 65	-145	166	3329	11.68	4.51	1.78
100	SLU 66	-145	152	3322	11.75	4.88	1.82
100	SLU 67	-145	160	3326	11.71	4.66	1.8
100	SLU 68	-145	166	3329	11.68	4.51	1.78
100	SLU 69	-145	152	3322	11.75	4.88	1.82
100	SLU 70	-145	160	3326	11.71	4.66	1.8
100	SLU 71	-145	152	3322	11.75	4.88	1.82
100	SLU 72	-145	160	3326	11.71	4.66	1.8
100	SLU 73	-151	187	3945	13.73	6.25	1.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
100	SLU 74	-150	173	3938	13.8	6.62	1.99
100	SLU 75	-151	182	3942	13.76	6.4	1.97
100	SLU 76	-151	187	3945	13.73	6.25	1.95
100	SLU 77	-150	173	3938	13.8	6.62	1.99
100	SLU 78	-151	182	3942	13.76	6.4	1.97
100	SLU 79	-150	173	3938	13.8	6.62	1.99
100	SLU 80	-151	182	3942	13.76	6.4	1.97
100	SLU 81	-153	182	4202	14.68	7.37	2.07
100	SLU 82	-153	191	4207	14.63	7.15	2.04
100	SLU 83	-153	182	4202	14.68	7.37	2.07
100	SLU 84	-153	191	4207	14.63	7.15	2.04
100	SLE RA 1	-110	113	2459	8.73	3.29	1.37
100	SLE RA 2	-110	123	2463	8.68	3.04	1.34
100	SLE RA 3	-110	113	2459	8.73	3.29	1.37
100	SLE RA 4	-110	119	2461	8.7	3.14	1.35
100	SLE RA 5	-110	123	2463	8.68	3.04	1.34
100	SLE RA 6	-110	113	2459	8.73	3.29	1.37
100	SLE RA 7	-110	119	2461	8.7	3.14	1.35
100	SLE RA 8	-110	113	2459	8.73	3.29	1.37
100	SLE RA 9	-110	119	2461	8.7	3.14	1.35
100	SLE RA 10	-114	137	2874	10.04	4.2	1.46
100	SLE RA 11	-114	128	2869	10.09	4.45	1.48
100	SLE RA 12	-114	133	2872	10.06	4.3	1.47
100	SLE RA 13	-114	137	2874	10.04	4.2	1.46
100	SLE RA 14	-114	128	2869	10.09	4.45	1.48
100	SLE RA 15	-114	133	2872	10.06	4.3	1.47
100	SLE RA 16	-114	128	2869	10.09	4.45	1.48
100	SLE RA 17	-114	133	2872	10.06	4.3	1.47
100	SLE RA 18	-115	134	3046	10.67	4.95	1.53
100	SLE RA 19	-115	139	3048	10.64	4.8	1.52
100	SLE RA 20	-115	134	3046	10.67	4.95	1.53
100	SLE RA 21	-115	139	3048	10.64	4.8	1.52
100	SLE FR 1	-110	113	2459	8.73	3.29	1.37
100	SLE FR 2	-110	115	2460	8.72	3.24	1.36
100	SLE FR 3	-110	113	2459	8.73	3.29	1.37
100	SLE FR 4	-112	121	2636	9.3	3.74	1.41
100	SLE FR 5	-112	120	2635	9.31	3.79	1.42
100	SLE FR 6	-113	124	2752	9.7	4.12	1.45
100	SLE QP 1	-110	113	2459	8.73	3.29	1.37
100	SLE QP 2	-112	120	2635	9.31	3.79	1.42
100	SLD 1	143	170	2427	8.13	13.03	0.12
100	SLD 2	150	189	2427	8.1	12.74	0.87
100	SLD 3	137	31	2356	8.82	16.44	0.31
100	SLD 4	145	50	2355	8.8	16.16	1.05
100	SLD 5	-30	338	2682	7.91	1.48	0.49
100	SLD 6	-22	357	2681	7.89	1.19	1.23
100	SLD 7	-48	-124	2443	10.22	12.87	1.1
100	SLD 8	-41	-105	2442	10.2	12.58	1.85
100	SLD 9	-183	344	2828	8.42	-5.01	0.99
100	SLD 10	-176	363	2827	8.4	-5.29	1.73
100	SLD 11	-202	-118	2589	10.73	6.38	1.6
100	SLD 12	-194	-99	2588	10.71	6.1	2.35
100	SLD 13	-369	189	2914	9.82	-8.58	1.79
100	SLD 14	-361	208	2914	9.8	-8.87	2.53
100	SLD 15	-374	50	2843	10.51	-5.17	1.97
100	SLD 16	-367	69	2842	10.49	-5.45	2.72
100	SLV 1	467	233	2164	6.62	24.74	-1.54
100	SLV 2	484	276	2163	6.57	24.1	0.14
100	SLV 3	454	-81	2002	8.19	32.5	-1.11
100	SLV 4	471	-39	2000	8.14	31.85	0.58
100	SLV 5	75	616	2741	6.14	-1.46	-0.72
100	SLV 6	92	658	2739	6.09	-2.11	0.97
100	SLV 7	32	-433	2199	11.37	24.39	0.72
100	SLV 8	49	-390	2197	11.32	23.74	2.42
100	SLV 9	-273	629	3072	7.3	-16.17	0.42
100	SLV 10	-256	672	3070	7.25	-16.82	2.11
100	SLV 11	-316	-419	2530	12.53	9.69	1.86
100	SLV 12	-299	-377	2528	12.48	9.03	3.56
100	SLV 13	-694	278	3270	10.47	-24.28	2.26
100	SLV 14	-677	320	3268	10.43	-24.93	3.95
100	SLV 15	-707	-37	3107	12.04	-16.52	2.69
100	SLV 16	-690	6	3105	12	-17.17	4.38
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
104	SLU 1	-3	-92	1904	-1.01	86.61	23.39
104	SLU 2	-2	-80	1907	-1.06	86.95	20.36
104	SLU 3	-3	-92	1904	-1.01	86.61	23.39
104	SLU 4	-2	-85	1906	-1.04	86.82	21.57
104	SLU 5	-2	-80	1907	-1.06	86.95	20.36
104	SLU 6	-3	-92	1904	-1.01	86.61	23.39
104	SLU 7	-2	-85	1906	-1.04	86.82	21.57
104	SLU 8	-3	-92	1904	-1.01	86.61	23.39
104	SLU 9	-2	-85	1906	-1.04	86.82	21.57
104	SLU 10	-4	-100	2232	-1.33	92.96	25.35
104	SLU 11	-5	-112	2229	-1.28	92.63	28.38
104	SLU 12	-4	-105	2231	-1.31	92.83	26.56
104	SLU 13	-4	-100	2232	-1.33	92.96	25.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
104	SLU 14	-5	-112	2229	-1.28	92.63	28.38
104	SLU 15	-4	-105	2231	-1.31	92.83	26.56
104	SLU 16	-5	-112	2229	-1.28	92.63	28.38
104	SLU 17	-4	-105	2231	-1.31	92.83	26.56
104	SLU 18	-6	-120	2369	-1.4	95.2	30.52
104	SLU 19	-5	-113	2370	-1.42	95.4	28.7
104	SLU 20	-6	-120	2369	-1.4	95.2	30.52
104	SLU 21	-5	-113	2370	-1.42	95.4	28.7
104	SLU 22	-4	-106	2155	-1.21	91.25	26.97
104	SLU 23	-3	-94	2158	-1.26	91.59	23.94
104	SLU 24	-4	-106	2155	-1.21	91.25	26.97
104	SLU 25	-4	-99	2157	-1.24	91.45	25.15
104	SLU 26	-3	-94	2158	-1.26	91.59	23.94
104	SLU 27	-4	-106	2155	-1.21	91.25	26.97
104	SLU 28	-4	-99	2157	-1.24	91.45	25.15
104	SLU 29	-4	-106	2155	-1.21	91.25	26.97
104	SLU 30	-4	-99	2157	-1.24	91.45	25.15
104	SLU 31	-5	-114	2483	-1.53	97.6	28.93
104	SLU 32	-6	-126	2480	-1.48	97.27	31.96
104	SLU 33	-5	-119	2482	-1.51	97.47	30.14
104	SLU 34	-5	-114	2483	-1.53	97.6	28.93
104	SLU 35	-6	-126	2480	-1.48	97.27	31.96
104	SLU 36	-5	-119	2482	-1.51	97.47	30.14
104	SLU 37	-6	-126	2480	-1.48	97.27	31.96
104	SLU 38	-5	-119	2482	-1.51	97.47	30.14
104	SLU 39	-7	-135	2620	-1.6	99.84	34.1
104	SLU 40	-6	-127	2621	-1.62	100.04	32.28
104	SLU 41	-7	-135	2620	-1.6	99.84	34.1
104	SLU 42	-6	-127	2621	-1.62	100.04	32.28
104	SLU 43	-3	-115	2389	-1.24	111.01	29.17
104	SLU 44	-2	-103	2392	-1.29	111.34	26.15
104	SLU 45	-3	-115	2389	-1.24	111.01	29.17
104	SLU 46	-3	-108	2391	-1.27	111.21	27.36
104	SLU 47	-2	-103	2392	-1.29	111.34	26.15
104	SLU 48	-3	-115	2389	-1.24	111.01	29.17
104	SLU 49	-3	-108	2391	-1.27	111.21	27.36
104	SLU 50	-3	-115	2389	-1.24	111.01	29.17
104	SLU 51	-3	-108	2391	-1.27	111.21	27.36
104	SLU 52	-4	-123	2717	-1.56	117.36	31.14
104	SLU 53	-5	-135	2714	-1.51	117.02	34.16
104	SLU 54	-5	-128	2716	-1.54	117.22	32.35
104	SLU 55	-4	-123	2717	-1.56	117.36	31.14
104	SLU 56	-5	-135	2714	-1.51	117.02	34.16
104	SLU 57	-5	-128	2716	-1.54	117.22	32.35
104	SLU 58	-5	-135	2714	-1.51	117.02	34.16
104	SLU 59	-5	-128	2716	-1.54	117.22	32.35
104	SLU 60	-6	-143	2854	-1.63	119.6	36.3
104	SLU 61	-5	-136	2855	-1.66	119.8	34.49
104	SLU 62	-6	-143	2854	-1.63	119.6	36.3
104	SLU 63	-5	-136	2855	-1.66	119.8	34.49
104	SLU 64	-4	-129	2640	-1.44	115.65	32.76
104	SLU 65	-4	-117	2643	-1.49	115.98	29.73
104	SLU 66	-4	-129	2640	-1.44	115.65	32.76
104	SLU 67	-4	-122	2642	-1.47	115.85	30.94
104	SLU 68	-4	-117	2643	-1.49	115.98	29.73
104	SLU 69	-4	-129	2640	-1.44	115.65	32.76
104	SLU 70	-4	-122	2642	-1.47	115.85	30.94
104	SLU 71	-4	-129	2640	-1.44	115.65	32.76
104	SLU 72	-4	-122	2642	-1.47	115.85	30.94
104	SLU 73	-5	-137	2968	-1.76	121.99	34.72
104	SLU 74	-6	-149	2965	-1.71	121.66	37.75
104	SLU 75	-6	-142	2967	-1.74	121.86	35.93
104	SLU 76	-5	-137	2968	-1.76	121.99	34.72
104	SLU 77	-6	-149	2965	-1.71	121.66	37.75
104	SLU 78	-6	-142	2967	-1.74	121.86	35.93
104	SLU 79	-6	-149	2965	-1.71	121.66	37.75
104	SLU 80	-6	-142	2967	-1.74	121.86	35.93
104	SLU 81	-7	-157	3105	-1.83	124.24	39.89
104	SLU 82	-7	-150	3106	-1.86	124.44	38.07
104	SLU 83	-7	-157	3105	-1.83	124.24	39.89
104	SLU 84	-7	-150	3106	-1.86	124.44	38.07
104	SLE RA 1	-3	-96	1976	-1.07	87.94	24.41
104	SLE RA 2	-3	-88	1978	-1.1	88.16	22.39
104	SLE RA 3	-3	-96	1976	-1.07	87.94	24.41
104	SLE RA 4	-3	-91	1977	-1.08	88.07	23.2
104	SLE RA 5	-3	-88	1978	-1.1	88.16	22.39
104	SLE RA 6	-3	-96	1976	-1.07	87.94	24.41
104	SLE RA 7	-3	-91	1977	-1.08	88.07	23.2
104	SLE RA 8	-3	-96	1976	-1.07	87.94	24.41
104	SLE RA 9	-3	-91	1977	-1.08	88.07	23.2
104	SLE RA 10	-4	-101	2194	-1.28	92.17	25.72
104	SLE RA 11	-4	-109	2193	-1.25	91.95	27.74
104	SLE RA 12	-4	-105	2194	-1.27	92.08	26.53
104	SLE RA 13	-4	-101	2194	-1.28	92.17	25.72
104	SLE RA 14	-4	-109	2193	-1.25	91.95	27.74
104	SLE RA 15	-4	-105	2194	-1.27	92.08	26.53
104	SLE RA 16	-4	-109	2193	-1.25	91.95	27.74
104	SLE RA 17	-4	-105	2194	-1.27	92.08	26.53
104	SLE RA 18	-5	-115	2285	-1.32	93.67	29.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
104	SLE RA 19	-5	-110	2287	-1.34	93.8	27.95
104	SLE RA 20	-5	-115	2285	-1.32	93.67	29.16
104	SLE RA 21	-5	-110	2287	-1.34	93.8	27.95
104	SLE FR 1	-3	-96	1976	-1.07	87.94	24.41
104	SLE FR 2	-3	-95	1976	-1.07	87.98	24.01
104	SLE FR 3	-3	-96	1976	-1.07	87.94	24.41
104	SLE FR 4	-4	-100	2069	-1.15	89.7	25.43
104	SLE FR 5	-4	-102	2069	-1.14	89.66	25.84
104	SLE FR 6	-4	-106	2131	-1.19	90.8	26.79
104	SLE QP 1	-3	-96	1976	-1.07	87.94	24.41
104	SLE QP 2	-4	-102	2069	-1.14	89.66	25.84
104	SLD 1	-28	-27	1837	-1.27	74.72	7.04
104	SLD 2	-25	14	1836	-1.26	74.76	-2.99
104	SLD 3	-35	-141	1807	-0.78	72.69	35.74
104	SLD 4	-32	-101	1806	-0.77	72.74	25.7
104	SLD 5	-1	81	2045	-1.93	88.23	-19.8
104	SLD 6	2	121	2043	-1.92	88.28	-29.87
104	SLD 7	-25	-302	1946	-0.29	81.48	75.87
104	SLD 8	-22	-262	1944	-0.28	81.52	65.79
104	SLD 9	14	58	2193	-2	97.79	-14.12
104	SLD 10	18	98	2192	-1.99	97.84	-24.2
104	SLD 11	-9	-325	2094	-0.36	91.03	81.55
104	SLD 12	-6	-285	2093	-0.36	91.08	71.47
104	SLD 13	24	-103	2332	-1.51	106.58	25.97
104	SLD 14	27	-62	2330	-1.51	106.62	15.94
104	SLD 15	17	-218	2302	-1.02	104.55	54.67
104	SLD 16	20	-177	2300	-1.02	104.6	44.64
104	SLV 1	-61	69	1541	-1.43	51.1	-16.85
104	SLV 2	-54	161	1538	-1.41	51.2	-39.59
104	SLV 3	-78	-192	1474	-0.31	46.45	48.3
104	SLV 4	-70	-100	1471	-0.3	46.56	25.57
104	SLV 5	1	313	2014	-2.92	85.09	-77.77
104	SLV 6	8	405	2011	-2.91	85.2	-100.61
104	SLV 7	-53	-557	1789	0.79	69.61	139.4
104	SLV 8	-46	-465	1786	0.81	69.72	116.56
104	SLV 9	38	261	2352	-3.09	109.59	-64.89
104	SLV 10	46	353	2349	-3.08	109.7	-87.72
104	SLV 11	-16	-609	2126	0.62	94.11	152.28
104	SLV 12	-8	-517	2123	0.64	94.22	129.45
104	SLV 13	63	-104	2667	-1.99	132.76	26.11
104	SLV 14	70	-12	2664	-1.97	132.86	3.37
104	SLV 15	47	-364	2599	-0.87	128.11	91.26
104	SLV 16	54	-273	2596	-0.86	128.22	68.52
104	CRTFP Ux+	0	0	0	0	0	0
104	CRTFP Ux-	0	0	0	0	0	0
104	CRTFP Uy+	0	0	0	0	0	0
104	CRTFP Uy-	0	0	0	0	0	0
105	SLU 1	-78	-47	2092	-32.96	-594.33	-17.42
105	SLU 2	-78	-35	2095	-33.03	-594.81	-13.19
105	SLU 3	-78	-47	2092	-32.96	-594.33	-17.42
105	SLU 4	-78	-39	2093	-33	-594.62	-14.88
105	SLU 5	-78	-35	2095	-33.03	-594.81	-13.19
105	SLU 6	-78	-47	2092	-32.96	-594.33	-17.42
105	SLU 7	-78	-39	2093	-33	-594.62	-14.88
105	SLU 8	-78	-47	2092	-32.96	-594.33	-17.42
105	SLU 9	-78	-39	2093	-33	-594.62	-14.88
105	SLU 10	-84	-42	2524	-39.78	-715.78	-16.03
105	SLU 11	-84	-55	2521	-39.71	-715.3	-20.26
105	SLU 12	-84	-47	2522	-39.75	-715.58	-17.72
105	SLU 13	-84	-42	2524	-39.78	-715.78	-16.03
105	SLU 14	-84	-55	2521	-39.71	-715.3	-20.26
105	SLU 15	-84	-47	2522	-39.75	-715.58	-17.72
105	SLU 16	-84	-55	2521	-39.71	-715.3	-20.26
105	SLU 17	-84	-47	2522	-39.75	-715.58	-17.72
105	SLU 18	-86	-58	2704	-42.6	-767.14	-21.48
105	SLU 19	-86	-51	2706	-42.64	-767.43	-18.94
105	SLU 20	-86	-58	2704	-42.6	-767.14	-21.48
105	SLU 21	-86	-51	2706	-42.64	-767.43	-18.94
105	SLU 22	-83	-53	2394	-37.72	-680.93	-19.67
105	SLU 23	-83	-41	2397	-37.8	-681.41	-15.43
105	SLU 24	-83	-53	2394	-37.72	-680.93	-19.67
105	SLU 25	-83	-46	2396	-37.77	-681.22	-17.13
105	SLU 26	-83	-41	2397	-37.8	-681.41	-15.43
105	SLU 27	-83	-53	2394	-37.72	-680.93	-19.67
105	SLU 28	-83	-46	2396	-37.77	-681.22	-17.13
105	SLU 29	-83	-53	2394	-37.72	-680.93	-19.67
105	SLU 30	-83	-46	2396	-37.77	-681.22	-17.13
105	SLU 31	-89	-49	2826	-44.54	-802.37	-18.28
105	SLU 32	-89	-61	2823	-44.47	-801.9	-22.51
105	SLU 33	-89	-54	2825	-44.51	-802.18	-19.97
105	SLU 34	-89	-49	2826	-44.54	-802.37	-18.28
105	SLU 35	-89	-61	2823	-44.47	-801.9	-22.51
105	SLU 36	-89	-54	2825	-44.51	-802.18	-19.97
105	SLU 37	-89	-61	2823	-44.47	-801.9	-22.51
105	SLU 38	-89	-54	2825	-44.51	-802.18	-19.97
105	SLU 39	-91	-64	3007	-47.36	-853.74	-23.73
105	SLU 40	-91	-57	3009	-47.4	-854.03	-21.19
105	SLU 41	-91	-64	3007	-47.36	-853.74	-23.73
105	SLU 42	-91	-57	3009	-47.4	-854.03	-21.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
105	SLU 43	-99	-59	2615	-41.21	-742.94	-21.88
105	SLU 44	-100	-46	2618	-41.29	-743.42	-17.64
105	SLU 45	-99	-59	2615	-41.21	-742.94	-21.88
105	SLU 46	-100	-51	2617	-41.26	-743.23	-19.34
105	SLU 47	-100	-46	2618	-41.29	-743.42	-17.64
105	SLU 48	-99	-59	2615	-41.21	-742.94	-21.88
105	SLU 49	-100	-51	2617	-41.26	-743.23	-19.34
105	SLU 50	-99	-59	2615	-41.21	-742.94	-21.88
105	SLU 51	-100	-51	2617	-41.26	-743.23	-19.34
105	SLU 52	-105	-54	3047	-48.04	-864.38	-20.49
105	SLU 53	-105	-66	3044	-47.96	-863.91	-24.72
105	SLU 54	-105	-59	3046	-48.01	-864.19	-22.18
105	SLU 55	-105	-54	3047	-48.04	-864.38	-20.49
105	SLU 56	-105	-66	3044	-47.96	-863.91	-24.72
105	SLU 57	-105	-59	3046	-48.01	-864.19	-22.18
105	SLU 58	-105	-66	3044	-47.96	-863.91	-24.72
105	SLU 59	-105	-59	3046	-48.01	-864.19	-22.18
105	SLU 60	-108	-70	3228	-50.85	-915.75	-25.94
105	SLU 61	-108	-63	3230	-50.9	-916.04	-23.4
105	SLU 62	-108	-70	3228	-50.85	-915.75	-25.94
105	SLU 63	-108	-63	3230	-50.9	-916.04	-23.4
105	SLU 64	-104	-65	2918	-45.97	-829.54	-24.12
105	SLU 65	-105	-53	2921	-46.05	-830.02	-19.89
105	SLU 66	-104	-65	2918	-45.97	-829.54	-24.12
105	SLU 67	-105	-58	2920	-46.02	-829.82	-21.58
105	SLU 68	-105	-53	2921	-46.05	-830.02	-19.89
105	SLU 69	-104	-65	2918	-45.97	-829.54	-24.12
105	SLU 70	-105	-58	2920	-46.02	-829.82	-21.58
105	SLU 71	-104	-65	2918	-45.97	-829.54	-24.12
105	SLU 72	-105	-58	2920	-46.02	-829.82	-21.58
105	SLU 73	-111	-61	3350	-52.8	-950.98	-22.73
105	SLU 74	-110	-73	3347	-52.72	-950.51	-26.97
105	SLU 75	-110	-65	3349	-52.77	-950.79	-24.43
105	SLU 76	-111	-61	3350	-52.8	-950.98	-22.73
105	SLU 77	-110	-73	3347	-52.72	-950.51	-26.97
105	SLU 78	-110	-65	3349	-52.77	-950.79	-24.43
105	SLU 79	-110	-73	3347	-52.72	-950.51	-26.97
105	SLU 80	-110	-65	3349	-52.77	-950.79	-24.43
105	SLU 81	-113	-76	3531	-55.61	-1002.35	-28.18
105	SLU 82	-113	-69	3532	-55.66	-1002.63	-25.64
105	SLU 83	-113	-76	3531	-55.61	-1002.35	-28.18
105	SLU 84	-113	-69	3532	-55.66	-1002.63	-25.64
105	SLE RA 1	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE RA 2	-79	-40	2180	-34.37	-619.39	-15.24
105	SLE RA 3	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE RA 4	-79	-44	2179	-34.35	-619.26	-16.37
105	SLE RA 5	-79	-40	2180	-34.37	-619.39	-15.24
105	SLE RA 6	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE RA 7	-79	-44	2179	-34.35	-619.26	-16.37
105	SLE RA 8	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE RA 9	-79	-44	2179	-34.35	-619.26	-16.37
105	SLE RA 10	-83	-46	2466	-38.87	-700.04	-17.14
105	SLE RA 11	-83	-54	2464	-38.82	-699.72	-19.96
105	SLE RA 12	-83	-49	2465	-38.85	-699.91	-18.26
105	SLE RA 13	-83	-46	2466	-38.87	-700.04	-17.14
105	SLE RA 14	-83	-54	2464	-38.82	-699.72	-19.96
105	SLE RA 15	-83	-49	2465	-38.85	-699.91	-18.26
105	SLE RA 16	-83	-54	2464	-38.82	-699.72	-19.96
105	SLE RA 17	-83	-49	2465	-38.85	-699.91	-18.26
105	SLE RA 18	-85	-56	2587	-40.74	-734.28	-20.77
105	SLE RA 19	-85	-51	2588	-40.77	-734.47	-19.08
105	SLE RA 20	-85	-56	2587	-40.74	-734.28	-20.77
105	SLE RA 21	-85	-51	2588	-40.77	-734.47	-19.08
105	SLE FR 1	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE FR 2	-79	-47	2178	-34.33	-619.14	-17.5
105	SLE FR 3	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE FR 4	-81	-49	2301	-36.26	-653.7	-18.31
105	SLE FR 5	-81	-51	2301	-36.25	-653.64	-18.88
105	SLE FR 6	-82	-52	2382	-37.53	-676.68	-19.42
105	SLE QP 1	-79	-48	2178	-34.32	-619.07	-18.06
105	SLE QP 2	-81	-51	2301	-36.25	-653.64	-18.88
105	SLD 1	63	-16	2663	-41.98	-747.39	-4.6
105	SLD 2	68	-53	2664	-41.99	-747.33	-17.54
105	SLD 3	68	-121	2644	-41.37	-744.41	-41.28
105	SLD 4	73	-158	2644	-41.38	-744.35	-54.22
105	SLD 5	-47	132	2439	-38.89	-686.32	45.59
105	SLD 6	-42	95	2440	-38.9	-686.26	32.59
105	SLD 7	-30	-218	2373	-36.85	-676.36	-76.66
105	SLD 8	-25	-256	2374	-36.87	-676.3	-89.66
105	SLD 9	-136	154	2227	-35.62	-630.97	51.91
105	SLD 10	-132	116	2228	-35.64	-630.91	38.91
105	SLD 11	-120	-196	2161	-33.59	-621.02	-70.34
105	SLD 12	-115	-234	2162	-33.61	-620.96	-83.34
105	SLD 13	-235	57	1957	-31.11	-562.92	16.46
105	SLD 14	-230	19	1957	-31.12	-562.86	3.53
105	SLD 15	-230	-48	1937	-30.5	-559.94	-20.21
105	SLD 16	-225	-86	1938	-30.51	-559.88	-33.15
105	SLV 1	247	29	3124	-49.26	-866.55	13.54
105	SLV 2	257	-56	3126	-49.29	-866.41	-15.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
105	SLV 3	258	-210	3079	-47.87	-859.66	-69.8
105	SLV 4	269	-295	3081	-47.91	-859.53	-99.13
105	SLV 5	-4	365	2616	-42.24	-728	127.58
105	SLV 6	7	280	2617	-42.28	-727.86	98.12
105	SLV 7	34	-431	2465	-37.62	-705.05	-150.22
105	SLV 8	45	-516	2467	-37.65	-704.91	-179.68
105	SLV 9	-207	414	2134	-34.84	-602.36	141.93
105	SLV 10	-196	329	2136	-34.87	-602.22	112.47
105	SLV 11	-169	-381	1984	-30.21	-579.41	-135.87
105	SLV 12	-158	-467	1986	-30.25	-579.27	-165.33
105	SLV 13	-431	193	1521	-24.59	-447.74	61.37
105	SLV 14	-420	108	1522	-24.62	-447.61	32.05
105	SLV 15	-419	-46	1476	-23.2	-440.86	-21.97
105	SLV 16	-408	-130	1477	-23.23	-440.72	-51.29
105	CRTFP Ux+	0	0	0	0	0.01	0
105	CRTFP Ux-	0	0	0	0	-0.01	0
105	CRTFP Uy+	0	0	0	0	0	0
105	CRTFP Uy-	0	0	0	0	0	0
124	SLU 1	-48	48	1019	-23.66	-247.57	10.96
124	SLU 2	-48	54	1021	-23.73	-248.44	12.49
124	SLU 3	-48	48	1019	-23.66	-247.57	10.96
124	SLU 4	-48	52	1021	-23.7	-248.09	11.88
124	SLU 5	-48	54	1021	-23.73	-248.44	12.49
124	SLU 6	-48	48	1019	-23.66	-247.57	10.96
124	SLU 7	-48	52	1021	-23.7	-248.09	11.88
124	SLU 8	-48	48	1019	-23.66	-247.57	10.96
124	SLU 9	-48	52	1021	-23.7	-248.09	11.88
124	SLU 10	-51	63	1288	-29.99	-311.88	14.77
124	SLU 11	-51	57	1285	-29.91	-311	13.24
124	SLU 12	-51	61	1287	-29.96	-311.53	14.16
124	SLU 13	-51	63	1288	-29.99	-311.88	14.77
124	SLU 14	-51	57	1285	-29.91	-311	13.24
124	SLU 15	-51	61	1287	-29.96	-311.53	14.16
124	SLU 16	-51	57	1285	-29.91	-311	13.24
124	SLU 17	-51	61	1287	-29.96	-311.53	14.16
124	SLU 18	-52	61	1400	-32.59	-338.19	14.21
124	SLU 19	-52	65	1401	-32.64	-338.71	15.13
124	SLU 20	-52	61	1400	-32.59	-338.19	14.21
124	SLU 21	-52	65	1401	-32.64	-338.71	15.13
124	SLU 22	-52	55	1208	-28.11	-292.54	12.6
124	SLU 23	-52	61	1211	-28.19	-293.41	14.13
124	SLU 24	-52	55	1208	-28.11	-292.54	12.6
124	SLU 25	-52	59	1210	-28.16	-293.06	13.52
124	SLU 26	-52	61	1211	-28.19	-293.41	14.13
124	SLU 27	-52	55	1208	-28.11	-292.54	12.6
124	SLU 28	-52	59	1210	-28.16	-293.06	13.52
124	SLU 29	-52	55	1208	-28.11	-292.54	12.6
124	SLU 30	-52	59	1210	-28.16	-293.06	13.52
124	SLU 31	-54	70	1477	-34.44	-356.84	16.41
124	SLU 32	-54	64	1475	-34.37	-355.97	14.88
124	SLU 33	-54	68	1476	-34.41	-356.49	15.8
124	SLU 34	-54	70	1477	-34.44	-356.84	16.41
124	SLU 35	-54	64	1475	-34.37	-355.97	14.88
124	SLU 36	-54	68	1476	-34.41	-356.49	15.8
124	SLU 37	-54	64	1475	-34.37	-355.97	14.88
124	SLU 38	-54	68	1476	-34.41	-356.49	15.8
124	SLU 39	-55	68	1589	-37.05	-383.16	15.85
124	SLU 40	-55	72	1590	-37.09	-383.68	16.77
124	SLU 41	-55	68	1589	-37.05	-383.16	15.85
124	SLU 42	-55	72	1590	-37.09	-383.68	16.77
124	SLU 43	-62	60	1260	-29.23	-306.42	13.69
124	SLU 44	-62	66	1262	-29.3	-307.3	15.22
124	SLU 45	-62	60	1260	-29.23	-306.42	13.69
124	SLU 46	-62	64	1261	-29.27	-306.95	14.61
124	SLU 47	-62	66	1262	-29.3	-307.3	15.22
124	SLU 48	-62	60	1260	-29.23	-306.42	13.69
124	SLU 49	-62	64	1261	-29.27	-306.95	14.61
124	SLU 50	-62	60	1260	-29.23	-306.42	13.69
124	SLU 51	-62	64	1261	-29.27	-306.95	14.61
124	SLU 52	-65	76	1528	-35.56	-370.73	17.5
124	SLU 53	-64	69	1526	-35.48	-369.86	15.97
124	SLU 54	-65	73	1528	-35.53	-370.38	16.88
124	SLU 55	-65	76	1528	-35.56	-370.73	17.5
124	SLU 56	-64	69	1526	-35.48	-369.86	15.97
124	SLU 57	-65	73	1528	-35.53	-370.38	16.88
124	SLU 58	-64	69	1526	-35.48	-369.86	15.97
124	SLU 59	-65	73	1528	-35.53	-370.38	16.88
124	SLU 60	-66	73	1640	-38.16	-397.04	16.94
124	SLU 61	-66	77	1642	-38.21	-397.57	17.86
124	SLU 62	-66	73	1640	-38.16	-397.04	16.94
124	SLU 63	-66	77	1642	-38.21	-397.57	17.86
124	SLU 64	-65	67	1449	-33.68	-351.39	15.33
124	SLU 65	-65	73	1451	-33.76	-352.26	16.86
124	SLU 66	-65	67	1449	-33.68	-351.39	15.33
124	SLU 67	-65	71	1451	-33.73	-351.91	16.25
124	SLU 68	-65	73	1451	-33.76	-352.26	16.86
124	SLU 69	-65	67	1449	-33.68	-351.39	15.33
124	SLU 70	-65	71	1451	-33.73	-351.91	16.25
124	SLU 71	-65	67	1449	-33.68	-351.39	15.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
124	SLU 72	-65	71	1451	-33.73	-351.91	16.25
124	SLU 73	-68	82	1718	-40.01	-415.7	19.13
124	SLU 74	-68	76	1716	-39.94	-414.82	17.6
124	SLU 75	-68	80	1717	-39.98	-415.35	18.52
124	SLU 76	-68	82	1718	-40.01	-415.7	19.13
124	SLU 77	-68	76	1716	-39.94	-414.82	17.6
124	SLU 78	-68	80	1717	-39.98	-415.35	18.52
124	SLU 79	-68	76	1716	-39.94	-414.82	17.6
124	SLU 80	-68	80	1717	-39.98	-415.35	18.52
124	SLU 81	-69	80	1830	-42.62	-442.01	18.58
124	SLU 82	-69	84	1831	-42.66	-442.53	19.5
124	SLU 83	-69	80	1830	-42.62	-442.01	18.58
124	SLU 84	-69	84	1831	-42.66	-442.53	19.5
124	SLE RA 1	-49	50	1073	-24.93	-260.42	11.43
124	SLE RA 2	-49	54	1075	-24.98	-261	12.45
124	SLE RA 3	-49	50	1073	-24.93	-260.42	11.43
124	SLE RA 4	-49	52	1074	-24.96	-260.77	12.04
124	SLE RA 5	-49	54	1075	-24.98	-261	12.45
124	SLE RA 6	-49	50	1073	-24.93	-260.42	11.43
124	SLE RA 7	-49	52	1074	-24.96	-260.77	12.04
124	SLE RA 8	-49	50	1073	-24.93	-260.42	11.43
124	SLE RA 9	-49	52	1074	-24.96	-260.77	12.04
124	SLE RA 10	-51	60	1252	-29.15	-303.29	13.97
124	SLE RA 11	-51	56	1251	-29.1	-302.71	12.95
124	SLE RA 12	-51	59	1252	-29.13	-303.06	13.56
124	SLE RA 13	-51	60	1252	-29.15	-303.29	13.97
124	SLE RA 14	-51	56	1251	-29.1	-302.71	12.95
124	SLE RA 15	-51	59	1252	-29.13	-303.06	13.56
124	SLE RA 16	-51	56	1251	-29.1	-302.71	12.95
124	SLE RA 17	-51	59	1252	-29.13	-303.06	13.56
124	SLE RA 18	-52	59	1327	-30.89	-320.83	13.6
124	SLE RA 19	-52	61	1328	-30.92	-321.18	14.21
124	SLE RA 20	-52	59	1327	-30.89	-320.83	13.6
124	SLE RA 21	-52	61	1328	-30.92	-321.18	14.21
124	SLE FR 1	-49	50	1073	-24.93	-260.42	11.43
124	SLE FR 2	-49	51	1074	-24.94	-260.53	11.64
124	SLE FR 3	-49	50	1073	-24.93	-260.42	11.43
124	SLE FR 4	-50	54	1150	-26.73	-278.66	12.29
124	SLE FR 5	-50	53	1149	-26.72	-278.54	12.08
124	SLE FR 6	-51	54	1200	-27.91	-290.62	12.52
124	SLE QP 1	-49	50	1073	-24.93	-260.42	11.43
124	SLE QP 2	-50	53	1149	-26.72	-278.54	12.08
124	SLD 1	60	74	1047	-24.43	-252.36	21.6
124	SLD 2	62	83	1046	-24.42	-252.53	24.01
124	SLD 3	57	14	1024	-23.67	-243.89	6.59
124	SLD 4	59	23	1024	-23.66	-244.07	9
124	SLD 5	-14	146	1153	-27.19	-283.47	36.84
124	SLD 6	-12	156	1152	-27.18	-283.65	39.26
124	SLD 7	-22	-53	1078	-24.65	-255.24	-13.17
124	SLD 8	-21	-44	1078	-24.64	-255.42	-10.75
124	SLD 9	-80	149	1221	-28.79	-301.67	34.91
124	SLD 10	-78	158	1221	-28.78	-301.84	37.33
124	SLD 11	-88	-50	1146	-26.25	-273.44	-15.1
124	SLD 12	-86	-41	1146	-26.25	-273.61	-12.68
124	SLD 13	-159	82	1275	-29.77	-313.02	15.16
124	SLD 14	-158	92	1274	-29.77	-313.19	17.57
124	SLD 15	-162	23	1252	-29.01	-304.55	0.16
124	SLD 16	-160	32	1252	-29	-304.72	2.57
124	SLV 1	200	100	916	-21.53	-219.13	33.7
124	SLV 2	203	121	916	-21.51	-219.53	39.15
124	SLV 3	194	-36	866	-19.8	-199.91	-0.37
124	SLV 4	198	-15	865	-19.78	-200.3	5.09
124	SLV 5	33	265	1157	-27.79	-289.73	68.3
124	SLV 6	36	287	1156	-27.77	-290.13	73.79
124	SLV 7	13	-187	988	-22.03	-225.66	-45.24
124	SLV 8	17	-166	987	-22.01	-226.06	-39.75
124	SLV 9	-117	271	1312	-31.42	-331.03	63.92
124	SLV 10	-113	293	1311	-31.41	-331.43	69.4
124	SLV 11	-136	-181	1143	-25.66	-266.95	-49.62
124	SLV 12	-133	-160	1142	-25.65	-267.35	-44.14
124	SLV 13	-298	120	1434	-33.65	-356.78	19.07
124	SLV 14	-294	141	1433	-33.63	-357.18	24.53
124	SLV 15	-304	-16	1383	-31.92	-337.56	-14.99
124	SLV 16	-300	5	1382	-31.91	-337.96	-9.53
124	CRTFP Ux+	0	0	0	0	0	0
124	CRTFP Ux-	0	0	0	0	0	0
124	CRTFP Uy+	0	0	0	0	0	0
124	CRTFP Uy-	0	0	0	0	0	0
127	SLU 1	-12	-93	1874	-0.95	82.16	23.46
127	SLU 2	-11	-81	1875	-1	82.48	20.43
127	SLU 3	-12	-93	1874	-0.95	82.16	23.46
127	SLU 4	-11	-86	1874	-0.98	82.35	21.65
127	SLU 5	-11	-81	1875	-1	82.48	20.43
127	SLU 6	-12	-93	1874	-0.95	82.16	23.46
127	SLU 7	-11	-86	1874	-0.98	82.35	21.65
127	SLU 8	-12	-93	1874	-0.95	82.16	23.46
127	SLU 9	-11	-86	1874	-0.98	82.35	21.65
127	SLU 10	-14	-101	2192	-1.26	87.56	25.44
127	SLU 11	-15	-113	2191	-1.21	87.24	28.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
127	SLU 12	-15	-105	2191	-1.24	87.43	26.65
127	SLU 13	-14	-101	2192	-1.26	87.56	25.44
127	SLU 14	-15	-113	2191	-1.21	87.24	28.47
127	SLU 15	-15	-105	2191	-1.24	87.43	26.65
127	SLU 16	-15	-113	2191	-1.21	87.24	28.47
127	SLU 17	-15	-105	2191	-1.24	87.43	26.65
127	SLU 18	-17	-121	2327	-1.32	89.42	30.61
127	SLU 19	-16	-114	2327	-1.35	89.61	28.8
127	SLU 20	-17	-121	2327	-1.32	89.42	30.61
127	SLU 21	-16	-114	2327	-1.35	89.61	28.8
127	SLU 22	-14	-107	2119	-1.15	86.09	27.06
127	SLU 23	-13	-95	2120	-1.19	86.41	24.03
127	SLU 24	-14	-107	2119	-1.15	86.09	27.06
127	SLU 25	-14	-100	2120	-1.17	86.28	25.24
127	SLU 26	-13	-95	2120	-1.19	86.41	24.03
127	SLU 27	-14	-107	2119	-1.15	86.09	27.06
127	SLU 28	-14	-100	2120	-1.17	86.28	25.24
127	SLU 29	-14	-107	2119	-1.15	86.09	27.06
127	SLU 30	-14	-100	2120	-1.17	86.28	25.24
127	SLU 31	-17	-115	2437	-1.45	91.49	29.04
127	SLU 32	-18	-127	2436	-1.4	91.17	32.07
127	SLU 33	-17	-120	2437	-1.43	91.36	30.25
127	SLU 34	-17	-115	2437	-1.45	91.49	29.04
127	SLU 35	-18	-127	2436	-1.4	91.17	32.07
127	SLU 36	-17	-120	2437	-1.43	91.36	30.25
127	SLU 37	-18	-127	2436	-1.4	91.17	32.07
127	SLU 38	-17	-120	2437	-1.43	91.36	30.25
127	SLU 39	-19	-135	2572	-1.52	93.34	34.21
127	SLU 40	-19	-128	2573	-1.54	93.54	32.4
127	SLU 41	-19	-135	2572	-1.52	93.34	34.21
127	SLU 42	-19	-128	2573	-1.54	93.54	32.4
127	SLU 43	-14	-116	2352	-1.17	105.46	29.27
127	SLU 44	-13	-104	2353	-1.22	105.78	26.24
127	SLU 45	-14	-116	2352	-1.17	105.46	29.27
127	SLU 46	-14	-109	2353	-1.2	105.65	27.45
127	SLU 47	-13	-104	2353	-1.22	105.78	26.24
127	SLU 48	-14	-116	2352	-1.17	105.46	29.27
127	SLU 49	-14	-109	2353	-1.2	105.65	27.45
127	SLU 50	-14	-116	2352	-1.17	105.46	29.27
127	SLU 51	-14	-109	2353	-1.2	105.65	27.45
127	SLU 52	-17	-124	2670	-1.48	110.86	31.25
127	SLU 53	-18	-136	2669	-1.43	110.54	34.27
127	SLU 54	-17	-128	2670	-1.46	110.73	32.46
127	SLU 55	-17	-124	2670	-1.48	110.86	31.25
127	SLU 56	-18	-136	2669	-1.43	110.54	34.27
127	SLU 57	-17	-128	2670	-1.46	110.73	32.46
127	SLU 58	-18	-136	2669	-1.43	110.54	34.27
127	SLU 59	-17	-128	2670	-1.46	110.73	32.46
127	SLU 60	-19	-144	2805	-1.54	112.72	36.42
127	SLU 61	-19	-137	2805	-1.57	112.91	34.6
127	SLU 62	-19	-144	2805	-1.54	112.72	36.42
127	SLU 63	-19	-137	2805	-1.57	112.91	34.6
127	SLU 64	-17	-130	2597	-1.37	109.39	32.87
127	SLU 65	-16	-118	2598	-1.41	109.71	29.84
127	SLU 66	-17	-130	2597	-1.37	109.39	32.87
127	SLU 67	-16	-123	2598	-1.39	109.58	31.05
127	SLU 68	-16	-118	2598	-1.41	109.71	29.84
127	SLU 69	-17	-130	2597	-1.37	109.39	32.87
127	SLU 70	-16	-123	2598	-1.39	109.58	31.05
127	SLU 71	-17	-130	2597	-1.37	109.39	32.87
127	SLU 72	-16	-123	2598	-1.39	109.58	31.05
127	SLU 73	-19	-138	2915	-1.67	114.79	34.84
127	SLU 74	-20	-150	2914	-1.63	114.47	37.87
127	SLU 75	-20	-143	2915	-1.65	114.66	36.06
127	SLU 76	-19	-138	2915	-1.67	114.79	34.84
127	SLU 77	-20	-150	2914	-1.63	114.47	37.87
127	SLU 78	-20	-143	2915	-1.65	114.66	36.06
127	SLU 79	-20	-150	2914	-1.63	114.47	37.87
127	SLU 80	-20	-143	2915	-1.65	114.66	36.06
127	SLU 81	-22	-158	3050	-1.74	116.64	40.02
127	SLU 82	-21	-151	3051	-1.76	116.84	38.2
127	SLU 83	-22	-158	3050	-1.74	116.64	40.02
127	SLU 84	-21	-151	3051	-1.76	116.84	38.2
127	SLE RA 1	-12	-97	1944	-1.01	83.28	24.49
127	SLE RA 2	-12	-89	1945	-1.04	83.5	22.47
127	SLE RA 3	-12	-97	1944	-1.01	83.28	24.49
127	SLE RA 4	-12	-92	1944	-1.03	83.41	23.28
127	SLE RA 5	-12	-89	1945	-1.04	83.5	22.47
127	SLE RA 6	-12	-97	1944	-1.01	83.28	24.49
127	SLE RA 7	-12	-92	1944	-1.03	83.41	23.28
127	SLE RA 8	-12	-97	1944	-1.01	83.28	24.49
127	SLE RA 9	-12	-92	1944	-1.03	83.41	23.28
127	SLE RA 10	-14	-102	2156	-1.21	86.88	25.81
127	SLE RA 11	-15	-110	2155	-1.18	86.67	27.83
127	SLE RA 12	-14	-105	2156	-1.2	86.8	26.62
127	SLE RA 13	-14	-102	2156	-1.21	86.88	25.81
127	SLE RA 14	-15	-110	2155	-1.18	86.67	27.83
127	SLE RA 15	-14	-105	2156	-1.2	86.8	26.62
127	SLE RA 16	-15	-110	2155	-1.18	86.67	27.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
127	SLE RA 17	-14	-105	2156	-1.2	86.8	26.62
127	SLE RA 18	-16	-116	2246	-1.26	88.12	29.26
127	SLE RA 19	-15	-111	2246	-1.27	88.25	28.05
127	SLE RA 20	-16	-116	2246	-1.26	88.12	29.26
127	SLE RA 21	-15	-111	2246	-1.27	88.25	28.05
127	SLE FR 1	-12	-97	1944	-1.01	83.28	24.49
127	SLE FR 2	-12	-95	1944	-1.02	83.32	24.09
127	SLE FR 3	-12	-97	1944	-1.01	83.28	24.49
127	SLE FR 4	-13	-101	2035	-1.09	84.77	25.52
127	SLE FR 5	-13	-103	2034	-1.08	84.73	25.92
127	SLE FR 6	-14	-106	2095	-1.13	85.7	26.87
127	SLE QP 1	-12	-97	1944	-1.01	83.28	24.49
127	SLE QP 2	-13	-103	2034	-1.08	84.73	25.92
127	SLD 1	-37	-27	1798	-1.24	68.79	7.07
127	SLD 2	-35	13	1797	-1.23	68.81	-2.95
127	SLD 3	-43	-142	1783	-0.75	67.27	35.77
127	SLD 4	-42	-102	1782	-0.75	67.29	25.74
127	SLD 5	-11	80	1987	-1.87	82.25	-19.72
127	SLD 6	-10	120	1986	-1.86	82.27	-29.79
127	SLD 7	-33	-303	1936	-0.25	77.18	75.93
127	SLD 8	-31	-262	1935	-0.24	77.2	65.85
127	SLD 9	4	57	2134	-1.92	92.26	-14.01
127	SLD 10	6	98	2132	-1.91	92.28	-24.08
127	SLD 11	-17	-326	2083	-0.31	87.19	81.63
127	SLD 12	-15	-285	2082	-0.3	87.22	71.56
127	SLD 13	15	-103	2287	-1.42	102.17	26.1
127	SLD 14	17	-63	2286	-1.41	102.19	16.07
127	SLD 15	9	-218	2272	-0.93	100.65	54.79
127	SLD 16	10	-178	2271	-0.93	100.67	44.77
127	SLV 1	-70	68	1497	-1.43	43.67	-16.87
127	SLV 2	-67	159	1494	-1.42	43.72	-39.59
127	SLV 3	-85	-193	1462	-0.33	40.17	48.27
127	SLV 4	-81	-101	1459	-0.32	40.22	25.54
127	SLV 5	-9	312	1927	-2.86	77.71	-77.7
127	SLV 6	-6	404	1924	-2.85	77.75	-100.53
127	SLV 7	-58	-557	1811	0.81	66.04	139.42
127	SLV 8	-55	-465	1808	0.82	66.09	116.6
127	SLV 9	28	260	2260	-2.99	103.37	-64.76
127	SLV 10	31	352	2258	-2.97	103.42	-87.58
127	SLV 11	-21	-609	2145	0.68	91.71	152.37
127	SLV 12	-17	-517	2142	0.7	91.76	129.55
127	SLV 13	55	-104	2609	-1.85	129.24	26.3
127	SLV 14	58	-13	2607	-1.83	129.29	3.57
127	SLV 15	40	-365	2575	-0.75	125.74	91.43
127	SLV 16	43	-273	2572	-0.73	125.79	68.71
127	CRTFP Ux+	0	0	0	0	0	0
127	CRTFP Ux-	0	0	0	0	0	0
127	CRTFP Uy+	0	0	0	0	0	0
127	CRTFP Uy-	0	0	0	0	0	0
128	SLU 1	-200	-110	5210	-7.63	-1155.55	-25.77
128	SLU 2	-200	-80	5214	-8.19	-1156.54	-18.71
128	SLU 3	-200	-110	5210	-7.63	-1155.55	-25.77
128	SLU 4	-200	-92	5212	-7.97	-1156.15	-21.53
128	SLU 5	-200	-80	5214	-8.19	-1156.54	-18.71
128	SLU 6	-200	-110	5210	-7.63	-1155.55	-25.77
128	SLU 7	-200	-92	5212	-7.97	-1156.15	-21.53
128	SLU 8	-200	-110	5210	-7.63	-1155.55	-25.77
128	SLU 9	-200	-92	5212	-7.97	-1156.15	-21.53
128	SLU 10	-216	-99	6278	-10.83	-1393.6	-23.06
128	SLU 11	-215	-128	6274	-10.27	-1392.61	-30.13
128	SLU 12	-216	-110	6277	-10.6	-1393.2	-25.89
128	SLU 13	-216	-99	6278	-10.83	-1393.6	-23.06
128	SLU 14	-215	-128	6274	-10.27	-1392.61	-30.13
128	SLU 15	-216	-110	6277	-10.6	-1393.2	-25.89
128	SLU 16	-215	-128	6274	-10.27	-1392.61	-30.13
128	SLU 17	-216	-110	6277	-10.6	-1393.2	-25.89
128	SLU 18	-222	-136	6730	-11.39	-1494.21	-32
128	SLU 19	-222	-118	6733	-11.73	-1494.8	-27.76
128	SLU 20	-222	-136	6730	-11.39	-1494.21	-32
128	SLU 21	-222	-118	6733	-11.73	-1494.8	-27.76
128	SLU 22	-213	-124	5957	-9.71	-1323.82	-29.22
128	SLU 23	-214	-95	5962	-10.27	-1324.81	-22.15
128	SLU 24	-213	-124	5957	-9.71	-1323.82	-29.22
128	SLU 25	-214	-107	5960	-10.04	-1324.41	-24.98
128	SLU 26	-214	-95	5962	-10.27	-1324.81	-22.15
128	SLU 27	-213	-124	5957	-9.71	-1323.82	-29.22
128	SLU 28	-214	-107	5960	-10.04	-1324.41	-24.98
128	SLU 29	-213	-124	5957	-9.71	-1323.82	-29.22
128	SLU 30	-214	-107	5960	-10.04	-1324.41	-24.98
128	SLU 31	-229	-113	7026	-12.9	-1561.86	-26.51
128	SLU 32	-229	-143	7021	-12.34	-1560.88	-33.58
128	SLU 33	-229	-125	7024	-12.68	-1561.47	-29.34
128	SLU 34	-229	-113	7026	-12.9	-1561.86	-26.51
128	SLU 35	-229	-143	7021	-12.34	-1560.88	-33.58
128	SLU 36	-229	-125	7024	-12.68	-1561.47	-29.34
128	SLU 37	-229	-143	7021	-12.34	-1560.88	-33.58
128	SLU 38	-229	-125	7024	-12.68	-1561.47	-29.34
128	SLU 39	-235	-151	7478	-13.47	-1662.47	-35.45
128	SLU 40	-235	-133	7480	-13.81	-1663.07	-31.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
128	SLU 41	-235	-151	7478	-13.47	-1662.47	-35.45
128	SLU 42	-235	-133	7480	-13.81	-1663.07	-31.21
128	SLU 43	-255	-138	6516	-9.21	-1444.53	-32.32
128	SLU 44	-256	-108	6521	-9.77	-1445.52	-25.26
128	SLU 45	-255	-138	6516	-9.21	-1444.53	-32.32
128	SLU 46	-256	-120	6519	-9.54	-1445.12	-28.08
128	SLU 47	-256	-108	6521	-9.77	-1445.52	-25.26
128	SLU 48	-255	-138	6516	-9.21	-1444.53	-32.32
128	SLU 49	-256	-120	6519	-9.54	-1445.12	-28.08
128	SLU 50	-255	-138	6516	-9.21	-1444.53	-32.32
128	SLU 51	-256	-120	6519	-9.54	-1445.12	-28.08
128	SLU 52	-271	-127	7585	-12.4	-1682.57	-29.61
128	SLU 53	-271	-156	7581	-11.84	-1681.58	-36.68
128	SLU 54	-271	-138	7583	-12.18	-1682.18	-32.44
128	SLU 55	-271	-127	7585	-12.4	-1682.57	-29.61
128	SLU 56	-271	-156	7581	-11.84	-1681.58	-36.68
128	SLU 57	-271	-138	7583	-12.18	-1682.18	-32.44
128	SLU 58	-271	-156	7581	-11.84	-1681.58	-36.68
128	SLU 59	-271	-138	7583	-12.18	-1682.18	-32.44
128	SLU 60	-277	-164	8037	-12.97	-1783.18	-38.55
128	SLU 61	-278	-146	8039	-13.31	-1783.77	-34.31
128	SLU 62	-277	-164	8037	-12.97	-1783.18	-38.55
128	SLU 63	-278	-146	8039	-13.31	-1783.77	-34.31
128	SLU 64	-269	-152	7264	-11.28	-1612.8	-35.77
128	SLU 65	-269	-123	7268	-11.84	-1613.78	-28.7
128	SLU 66	-269	-152	7264	-11.28	-1612.8	-35.77
128	SLU 67	-269	-135	7266	-11.62	-1613.39	-31.53
128	SLU 68	-269	-123	7268	-11.84	-1613.78	-28.7
128	SLU 69	-269	-152	7264	-11.28	-1612.8	-35.77
128	SLU 70	-269	-135	7266	-11.62	-1613.39	-31.53
128	SLU 71	-269	-152	7264	-11.28	-1612.8	-35.77
128	SLU 72	-269	-135	7266	-11.62	-1613.39	-31.53
128	SLU 73	-284	-141	8333	-14.48	-1850.84	-33.06
128	SLU 74	-284	-171	8328	-13.92	-1849.85	-40.13
128	SLU 75	-284	-153	8331	-14.26	-1850.44	-35.89
128	SLU 76	-284	-141	8333	-14.48	-1850.84	-33.06
128	SLU 77	-284	-171	8328	-13.92	-1849.85	-40.13
128	SLU 78	-284	-153	8331	-14.26	-1850.44	-35.89
128	SLU 79	-284	-171	8328	-13.92	-1849.85	-40.13
128	SLU 80	-284	-153	8331	-14.26	-1850.44	-35.89
128	SLU 81	-291	-179	8784	-15.05	-1951.45	-42
128	SLU 82	-291	-161	8787	-15.39	-1952.04	-37.75
128	SLU 83	-291	-179	8784	-15.05	-1951.45	-42
128	SLU 84	-291	-161	8787	-15.39	-1952.04	-37.75
128	SLE RA 1	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE RA 2	-204	-94	5426	-8.6	-1204.29	-22.05
128	SLE RA 3	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE RA 4	-204	-102	5425	-8.45	-1204.03	-23.93
128	SLE RA 5	-204	-94	5426	-8.6	-1204.29	-22.05
128	SLE RA 6	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE RA 7	-204	-102	5425	-8.45	-1204.03	-23.93
128	SLE RA 8	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE RA 9	-204	-102	5425	-8.45	-1204.03	-23.93
128	SLE RA 10	-214	-107	6136	-10.35	-1362.33	-24.95
128	SLE RA 11	-214	-126	6133	-9.98	-1361.67	-29.66
128	SLE RA 12	-214	-114	6135	-10.2	-1362.06	-26.84
128	SLE RA 13	-214	-107	6136	-10.35	-1362.33	-24.95
128	SLE RA 14	-214	-126	6133	-9.98	-1361.67	-29.66
128	SLE RA 15	-214	-114	6135	-10.2	-1362.06	-26.84
128	SLE RA 16	-214	-126	6133	-9.98	-1361.67	-29.66
128	SLE RA 17	-214	-114	6135	-10.2	-1362.06	-26.84
128	SLE RA 18	-218	-131	6437	-10.73	-1429.4	-30.91
128	SLE RA 19	-219	-120	6439	-10.96	-1429.79	-28.08
128	SLE RA 20	-218	-131	6437	-10.73	-1429.4	-30.91
128	SLE RA 21	-219	-120	6439	-10.96	-1429.79	-28.08
128	SLE FR 1	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE FR 2	-204	-110	5424	-8.3	-1203.76	-25.82
128	SLE FR 3	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE FR 4	-208	-115	5728	-9.05	-1271.49	-27.06
128	SLE FR 5	-208	-119	5727	-8.98	-1271.36	-28
128	SLE FR 6	-211	-123	5930	-9.48	-1316.51	-28.83
128	SLE QP 1	-204	-114	5423	-8.22	-1203.63	-26.76
128	SLE QP 2	-208	-119	5727	-8.98	-1271.36	-28
128	SLD 1	145	-33	6649	-12.18	-1460.1	-7.09
128	SLD 2	148	-125	6650	-12.26	-1460.3	-28.51
128	SLD 3	154	-289	6623	-6.45	-1454.46	-68.36
128	SLD 4	157	-381	6624	-6.54	-1454.67	-89.78
128	SLD 5	-117	327	6043	-18.59	-1336.46	78.74
128	SLD 6	-114	234	6044	-18.68	-1336.66	57.21
128	SLD 7	-87	-525	5956	0.49	-1317.67	-125.48
128	SLD 8	-84	-619	5957	0.41	-1317.87	-147
128	SLD 9	-333	380	5497	-18.36	-1224.85	91
128	SLD 10	-329	287	5498	-18.45	-1225.05	69.47
128	SLD 11	-303	-473	5411	0.72	-1206.06	-113.22
128	SLD 12	-299	-566	5412	0.64	-1206.26	-134.75
128	SLD 13	-574	143	4831	-11.41	-1088.06	33.77
128	SLD 14	-570	50	4832	-11.5	-1088.26	12.35
128	SLD 15	-565	-113	4805	-5.69	-1082.42	-27.49
128	SLD 16	-561	-206	4806	-5.78	-1082.62	-48.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
128	SLV 1	593	77	7819	-16.25	-1699.85	19.55
128	SLV 2	601	-133	7822	-16.46	-1700.3	-29.01
128	SLV 3	614	-504	7759	-3.26	-1686.85	-119.68
128	SLV 4	622	-714	7762	-3.46	-1687.3	-168.23
128	SLV 5	-2	896	6445	-30.8	-1419.46	214.52
128	SLV 6	6	685	6447	-31	-1419.92	165.75
128	SLV 7	67	-1043	6245	12.52	-1376.13	-249.56
128	SLV 8	75	-1254	6248	12.32	-1376.59	-298.33
128	SLV 9	-491	1015	5207	-30.27	-1166.13	242.32
128	SLV 10	-483	804	5209	-30.47	-1166.59	193.55
128	SLV 11	-422	-923	5007	13.05	-1122.8	-221.76
128	SLV 12	-414	-1134	5010	12.85	-1123.26	-270.52
128	SLV 13	-1038	476	3693	-14.49	-855.42	112.23
128	SLV 14	-1030	266	3695	-14.69	-855.88	63.67
128	SLV 15	-1017	-106	3633	-1.5	-842.42	-27
128	SLV 16	-1009	-316	3635	-1.7	-842.88	-75.56
128	CRTFP Ux+	0	0	0	0	0.01	0
128	CRTFP Ux-	0	0	0	0	-0.01	0
128	CRTFP Uy+	0	0	0	0	0	0
128	CRTFP Uy-	0	0	0	0	0	0
130	SLU 1	-129	-68	3254	-3.78	-85.48	-0.66
130	SLU 2	-129	-49	3257	-4.44	-85.55	-0.25
130	SLU 3	-129	-68	3254	-3.78	-85.48	-0.66
130	SLU 4	-129	-56	3255	-4.17	-85.53	-0.41
130	SLU 5	-129	-49	3257	-4.44	-85.55	-0.25
130	SLU 6	-129	-68	3254	-3.78	-85.48	-0.66
130	SLU 7	-129	-56	3255	-4.17	-85.53	-0.41
130	SLU 8	-129	-68	3254	-3.78	-85.48	-0.66
130	SLU 9	-129	-56	3255	-4.17	-85.53	-0.41
130	SLU 10	-139	-60	3924	-6.53	-103.24	-0.39
130	SLU 11	-139	-79	3921	-5.87	-103.17	-0.81
130	SLU 12	-139	-68	3923	-6.26	-103.21	-0.56
130	SLU 13	-139	-60	3924	-6.53	-103.24	-0.39
130	SLU 14	-139	-79	3921	-5.87	-103.17	-0.81
130	SLU 15	-139	-68	3923	-6.26	-103.21	-0.56
130	SLU 16	-139	-79	3921	-5.87	-103.17	-0.81
130	SLU 17	-139	-68	3923	-6.26	-103.21	-0.56
130	SLU 18	-143	-84	4207	-6.77	-110.75	-0.87
130	SLU 19	-143	-73	4209	-7.16	-110.79	-0.62
130	SLU 20	-143	-84	4207	-6.77	-110.75	-0.87
130	SLU 21	-143	-73	4209	-7.16	-110.79	-0.62
130	SLU 22	-137	-77	3725	-5.51	-98.09	-0.78
130	SLU 23	-138	-58	3728	-6.17	-98.17	-0.36
130	SLU 24	-137	-77	3725	-5.51	-98.09	-0.78
130	SLU 25	-137	-65	3727	-5.91	-98.14	-0.53
130	SLU 26	-138	-58	3728	-6.17	-98.17	-0.36
130	SLU 27	-137	-77	3725	-5.51	-98.09	-0.78
130	SLU 28	-137	-65	3727	-5.91	-98.14	-0.53
130	SLU 29	-137	-77	3725	-5.51	-98.09	-0.78
130	SLU 30	-137	-65	3727	-5.91	-98.14	-0.53
130	SLU 31	-147	-69	4395	-8.26	-115.85	-0.51
130	SLU 32	-147	-88	4393	-7.6	-115.78	-0.92
130	SLU 33	-147	-77	4394	-8	-115.82	-0.67
130	SLU 34	-147	-69	4395	-8.26	-115.85	-0.51
130	SLU 35	-147	-88	4393	-7.6	-115.78	-0.92
130	SLU 36	-147	-77	4394	-8	-115.82	-0.67
130	SLU 37	-147	-88	4393	-7.6	-115.78	-0.92
130	SLU 38	-147	-77	4394	-8	-115.82	-0.67
130	SLU 39	-151	-93	4679	-8.5	-123.36	-0.98
130	SLU 40	-151	-82	4680	-8.89	-123.41	-0.74
130	SLU 41	-151	-93	4679	-8.5	-123.36	-0.98
130	SLU 42	-151	-82	4680	-8.89	-123.41	-0.74
130	SLU 43	-164	-85	4068	-4.32	-106.8	-0.82
130	SLU 44	-165	-66	4071	-4.98	-106.87	-0.41
130	SLU 45	-164	-85	4068	-4.32	-106.8	-0.82
130	SLU 46	-165	-74	4070	-4.72	-106.85	-0.57
130	SLU 47	-165	-66	4071	-4.98	-106.87	-0.41
130	SLU 48	-164	-85	4068	-4.32	-106.8	-0.82
130	SLU 49	-165	-74	4070	-4.72	-106.85	-0.57
130	SLU 50	-164	-85	4068	-4.32	-106.8	-0.82
130	SLU 51	-165	-74	4070	-4.72	-106.85	-0.57
130	SLU 52	-174	-77	4739	-7.07	-124.56	-0.55
130	SLU 53	-174	-96	4736	-6.41	-124.49	-0.96
130	SLU 54	-174	-85	4738	-6.8	-124.53	-0.72
130	SLU 55	-174	-77	4739	-7.07	-124.56	-0.55
130	SLU 56	-174	-96	4736	-6.41	-124.49	-0.96
130	SLU 57	-174	-85	4738	-6.8	-124.53	-0.72
130	SLU 58	-174	-96	4736	-6.41	-124.49	-0.96
130	SLU 59	-174	-85	4738	-6.8	-124.53	-0.72
130	SLU 60	-178	-101	5022	-7.31	-132.07	-1.03
130	SLU 61	-179	-90	5024	-7.7	-132.11	-0.78
130	SLU 62	-178	-101	5022	-7.31	-132.07	-1.03
130	SLU 63	-179	-90	5024	-7.7	-132.11	-0.78
130	SLU 64	-173	-94	4540	-6.05	-119.41	-0.93
130	SLU 65	-173	-75	4542	-6.71	-119.49	-0.52
130	SLU 66	-173	-94	4540	-6.05	-119.41	-0.93
130	SLU 67	-173	-83	4541	-6.45	-119.46	-0.69
130	SLU 68	-173	-75	4542	-6.71	-119.49	-0.52
130	SLU 69	-173	-94	4540	-6.05	-119.41	-0.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
130	SLU 70	-173	-83	4541	-6.45	-119.46	-0.69
130	SLU 71	-173	-94	4540	-6.05	-119.41	-0.93
130	SLU 72	-173	-83	4541	-6.45	-119.46	-0.69
130	SLU 73	-183	-87	5210	-8.8	-137.17	-0.67
130	SLU 74	-183	-105	5207	-8.14	-137.1	-1.08
130	SLU 75	-183	-94	5209	-8.54	-137.15	-0.83
130	SLU 76	-183	-87	5210	-8.8	-137.17	-0.67
130	SLU 77	-183	-105	5207	-8.14	-137.1	-1.08
130	SLU 78	-183	-94	5209	-8.54	-137.15	-0.83
130	SLU 79	-183	-105	5207	-8.14	-137.1	-1.08
130	SLU 80	-183	-94	5209	-8.54	-137.15	-0.83
130	SLU 81	-187	-110	5493	-9.04	-144.68	-1.14
130	SLU 82	-187	-99	5495	-9.43	-144.73	-0.9
130	SLU 83	-187	-110	5493	-9.04	-144.68	-1.14
130	SLU 84	-187	-99	5495	-9.43	-144.73	-0.9
130	SLE RA 1	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE RA 2	-131	-58	3390	-4.71	-89.13	-0.42
130	SLE RA 3	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE RA 4	-131	-63	3390	-4.54	-89.11	-0.53
130	SLE RA 5	-131	-58	3390	-4.71	-89.13	-0.42
130	SLE RA 6	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE RA 7	-131	-63	3390	-4.54	-89.11	-0.53
130	SLE RA 8	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE RA 9	-131	-63	3390	-4.54	-89.11	-0.53
130	SLE RA 10	-138	-65	3835	-6.11	-100.93	-0.52
130	SLE RA 11	-138	-78	3833	-5.67	-100.88	-0.79
130	SLE RA 12	-138	-70	3835	-5.93	-100.91	-0.63
130	SLE RA 13	-138	-65	3835	-6.11	-100.93	-0.52
130	SLE RA 14	-138	-78	3833	-5.67	-100.88	-0.79
130	SLE RA 15	-138	-70	3835	-5.93	-100.91	-0.63
130	SLE RA 16	-138	-78	3833	-5.67	-100.88	-0.79
130	SLE RA 17	-138	-70	3835	-5.93	-100.91	-0.63
130	SLE RA 18	-141	-81	4024	-6.27	-105.93	-0.83
130	SLE RA 19	-141	-74	4025	-6.53	-105.96	-0.67
130	SLE RA 20	-141	-81	4024	-6.27	-105.93	-0.83
130	SLE RA 21	-141	-74	4025	-6.53	-105.96	-0.67
130	SLE FR 1	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE FR 2	-131	-68	3389	-4.36	-89.09	-0.64
130	SLE FR 3	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE FR 4	-134	-71	3580	-4.96	-94.15	-0.68
130	SLE FR 5	-134	-73	3579	-4.87	-94.14	-0.73
130	SLE FR 6	-136	-76	3706	-5.27	-97.51	-0.76
130	SLE QP 1	-131	-70	3388	-4.28	-89.09	-0.69
130	SLE QP 2	-134	-73	3579	-4.87	-94.14	-0.73
130	SLD 1	100	-19	4134	-7.3	-107.59	0.5
130	SLD 2	102	-76	4134	-7.39	-107.6	-0.12
130	SLD 3	94	-181	4118	-0.56	-107.17	-3.1
130	SLD 4	96	-238	4118	-0.66	-107.19	-3.72
130	SLD 5	-56	210	3770	-15.77	-98.8	5.32
130	SLD 6	-54	152	3770	-15.87	-98.81	4.69
130	SLD 7	-75	-332	3716	6.66	-97.41	-6.68
130	SLD 8	-73	-389	3717	6.57	-97.43	-7.31
130	SLD 9	-195	242	3442	-16.31	-90.85	5.84
130	SLD 10	-193	185	3442	-16.41	-90.86	5.21
130	SLD 11	-214	-299	3388	6.12	-89.46	-6.16
130	SLD 12	-212	-356	3389	6.03	-89.48	-6.79
130	SLD 13	-364	91	3040	-9.09	-81.09	2.25
130	SLD 14	-362	34	3041	-9.18	-81.1	1.63
130	SLD 15	-370	-71	3024	-2.36	-80.68	-1.35
130	SLD 16	-368	-128	3025	-2.45	-80.69	-1.97
130	SLV 1	397	51	4838	-10.37	-124.68	2.08
130	SLV 2	402	-78	4840	-10.58	-124.7	0.66
130	SLV 3	383	-318	4801	4.91	-123.72	-6.1
130	SLV 4	389	-447	4803	4.69	-123.74	-7.52
130	SLV 5	44	569	4013	-29.62	-104.74	13.01
130	SLV 6	49	439	4014	-29.83	-104.77	11.59
130	SLV 7	-1	-661	3889	21.31	-101.55	-14.25
130	SLV 8	4	-791	3891	21.09	-101.58	-15.67
130	SLV 9	-272	644	3268	-30.84	-86.7	14.2
130	SLV 10	-267	514	3269	-31.06	-86.73	12.78
130	SLV 11	-317	-586	3144	20.09	-83.5	-13.06
130	SLV 12	-312	-716	3146	19.87	-83.53	-14.48
130	SLV 13	-657	300	2356	-14.44	-64.53	6.05
130	SLV 14	-651	171	2357	-14.66	-64.56	4.63
130	SLV 15	-670	-69	2319	0.84	-63.57	-2.13
130	SLV 16	-665	-198	2320	0.62	-63.6	-3.55
130	CRTFP Ux+	0	0	0	0	0	0
130	CRTFP Ux-	0	0	0	0	0	0
130	CRTFP Uy+	0	0	0	0	0	0
130	CRTFP Uy-	0	0	0	0	0	0
131	SLU 1	-149	-70	3575	-2.71	6.7	1.96
131	SLU 2	-149	-49	3578	-3.47	6.71	1.8
131	SLU 3	-149	-70	3575	-2.71	6.7	1.96
131	SLU 4	-149	-57	3576	-3.16	6.7	1.86
131	SLU 5	-149	-49	3578	-3.47	6.71	1.8
131	SLU 6	-149	-70	3575	-2.71	6.7	1.96
131	SLU 7	-149	-57	3576	-3.16	6.7	1.86
131	SLU 8	-149	-70	3575	-2.71	6.7	1.96
131	SLU 9	-149	-57	3576	-3.16	6.7	1.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
131	SLU 10	-161	-61	4319	-5.66	7.79	2.09
131	SLU 11	-160	-82	4316	-4.9	7.78	2.26
131	SLU 12	-160	-69	4318	-5.35	7.79	2.16
131	SLU 13	-161	-61	4319	-5.66	7.79	2.09
131	SLU 14	-160	-82	4316	-4.9	7.78	2.26
131	SLU 15	-160	-69	4318	-5.35	7.79	2.16
131	SLU 16	-160	-82	4316	-4.9	7.78	2.26
131	SLU 17	-160	-69	4318	-5.35	7.79	2.16
131	SLU 18	-165	-87	4633	-5.84	8.24	2.38
131	SLU 19	-165	-75	4635	-6.29	8.25	2.28
131	SLU 20	-165	-87	4633	-5.84	8.24	2.38
131	SLU 21	-165	-75	4635	-6.29	8.25	2.28
131	SLU 22	-159	-80	4103	-4.56	7.27	2.19
131	SLU 23	-159	-59	4106	-5.31	7.28	2.03
131	SLU 24	-159	-80	4103	-4.56	7.27	2.19
131	SLU 25	-159	-67	4105	-5.01	7.28	2.09
131	SLU 26	-159	-59	4106	-5.31	7.28	2.03
131	SLU 27	-159	-80	4103	-4.56	7.27	2.19
131	SLU 28	-159	-67	4105	-5.01	7.28	2.09
131	SLU 29	-159	-80	4103	-4.56	7.27	2.19
131	SLU 30	-159	-67	4105	-5.01	7.28	2.09
131	SLU 31	-170	-71	4847	-7.5	8.36	2.32
131	SLU 32	-170	-92	4844	-6.75	8.35	2.49
131	SLU 33	-170	-79	4846	-7.2	8.36	2.39
131	SLU 34	-170	-71	4847	-7.5	8.36	2.32
131	SLU 35	-170	-92	4844	-6.75	8.35	2.49
131	SLU 36	-170	-79	4846	-7.2	8.36	2.39
131	SLU 37	-170	-92	4844	-6.75	8.35	2.49
131	SLU 38	-170	-79	4846	-7.2	8.36	2.39
131	SLU 39	-175	-97	5162	-7.69	8.82	2.61
131	SLU 40	-175	-84	5164	-8.14	8.82	2.52
131	SLU 41	-175	-97	5162	-7.69	8.82	2.61
131	SLU 42	-175	-84	5164	-8.14	8.82	2.52
131	SLU 43	-191	-88	4466	-2.89	8.51	2.47
131	SLU 44	-191	-67	4469	-3.65	8.52	2.31
131	SLU 45	-191	-88	4466	-2.89	8.51	2.47
131	SLU 46	-191	-75	4468	-3.35	8.52	2.37
131	SLU 47	-191	-67	4469	-3.65	8.52	2.31
131	SLU 48	-191	-88	4466	-2.89	8.51	2.47
131	SLU 49	-191	-75	4468	-3.35	8.52	2.37
131	SLU 50	-191	-88	4466	-2.89	8.51	2.47
131	SLU 51	-191	-75	4468	-3.35	8.52	2.37
131	SLU 52	-202	-79	5210	-5.84	9.6	2.6
131	SLU 53	-202	-100	5207	-5.08	9.59	2.76
131	SLU 54	-202	-87	5209	-5.54	9.6	2.67
131	SLU 55	-202	-79	5210	-5.84	9.6	2.6
131	SLU 56	-202	-100	5207	-5.08	9.59	2.76
131	SLU 57	-202	-87	5209	-5.54	9.6	2.67
131	SLU 58	-202	-100	5207	-5.08	9.59	2.76
131	SLU 59	-202	-87	5209	-5.54	9.6	2.67
131	SLU 60	-206	-105	5524	-6.02	10.06	2.89
131	SLU 61	-207	-92	5526	-6.47	10.06	2.79
131	SLU 62	-206	-105	5524	-6.02	10.06	2.89
131	SLU 63	-207	-92	5526	-6.47	10.06	2.79
131	SLU 64	-200	-97	4995	-4.74	9.09	2.7
131	SLU 65	-201	-76	4998	-5.49	9.09	2.54
131	SLU 66	-200	-97	4995	-4.74	9.09	2.7
131	SLU 67	-201	-85	4996	-5.19	9.09	2.6
131	SLU 68	-201	-76	4998	-5.49	9.09	2.54
131	SLU 69	-200	-97	4995	-4.74	9.09	2.7
131	SLU 70	-201	-85	4996	-5.19	9.09	2.6
131	SLU 71	-200	-97	4995	-4.74	9.09	2.7
131	SLU 72	-201	-85	4996	-5.19	9.09	2.6
131	SLU 73	-212	-88	5739	-7.68	10.17	2.83
131	SLU 74	-212	-109	5736	-6.93	10.17	3
131	SLU 75	-212	-97	5737	-7.38	10.17	2.9
131	SLU 76	-212	-88	5739	-7.68	10.17	2.83
131	SLU 77	-212	-109	5736	-6.93	10.17	3
131	SLU 78	-212	-97	5737	-7.38	10.17	2.9
131	SLU 79	-212	-109	5736	-6.93	10.17	3
131	SLU 80	-212	-97	5737	-7.38	10.17	2.9
131	SLU 81	-216	-115	6053	-7.87	10.63	3.12
131	SLU 82	-216	-102	6055	-8.32	10.63	3.02
131	SLU 83	-216	-115	6053	-7.87	10.63	3.12
131	SLU 84	-216	-102	6055	-8.32	10.63	3.02
131	SLE RA 1	-152	-73	3726	-3.24	6.86	2.03
131	SLE RA 2	-152	-59	3728	-3.74	6.87	1.92
131	SLE RA 3	-152	-73	3726	-3.24	6.86	2.03
131	SLE RA 4	-152	-64	3727	-3.54	6.87	1.96
131	SLE RA 5	-152	-59	3728	-3.74	6.87	1.92
131	SLE RA 6	-152	-73	3726	-3.24	6.86	2.03
131	SLE RA 7	-152	-64	3727	-3.54	6.87	1.96
131	SLE RA 8	-152	-73	3726	-3.24	6.86	2.03
131	SLE RA 9	-152	-64	3727	-3.54	6.87	1.96
131	SLE RA 10	-160	-67	4222	-5.2	7.59	2.11
131	SLE RA 11	-159	-81	4220	-4.7	7.58	2.22
131	SLE RA 12	-160	-72	4221	-5	7.59	2.16
131	SLE RA 13	-160	-67	4222	-5.2	7.59	2.11
131	SLE RA 14	-159	-81	4220	-4.7	7.58	2.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
131	SLE RA 15	-160	-72	4221	-5	7.59	2.16
131	SLE RA 16	-159	-81	4220	-4.7	7.58	2.22
131	SLE RA 17	-160	-72	4221	-5	7.59	2.16
131	SLE RA 18	-163	-84	4432	-5.32	7.89	2.31
131	SLE RA 19	-163	-76	4433	-5.63	7.9	2.24
131	SLE RA 20	-163	-84	4432	-5.32	7.89	2.31
131	SLE RA 21	-163	-76	4433	-5.63	7.9	2.24
131	SLE FR 1	-152	-73	3726	-3.24	6.86	2.03
131	SLE FR 2	-152	-70	3726	-3.34	6.86	2.01
131	SLE FR 3	-152	-73	3726	-3.24	6.86	2.03
131	SLE FR 4	-155	-73	3938	-3.97	7.17	2.09
131	SLE FR 5	-155	-76	3937	-3.86	7.17	2.11
131	SLE FR 6	-157	-79	4079	-4.28	7.38	2.17
131	SLE QP 1	-152	-73	3726	-3.24	6.86	2.03
131	SLE QP 2	-155	-76	3937	-3.86	7.17	2.11
131	SLD 1	118	-14	4497	-6.6	10.03	1.75
131	SLD 2	121	-75	4497	-6.69	10.03	2.99
131	SLD 3	111	-197	4479	1.18	9.97	3.12
131	SLD 4	114	-258	4480	1.09	9.97	4.36
131	SLD 5	-64	241	4132	-16.45	8.12	-0.51
131	SLD 6	-61	180	4132	-16.54	8.13	0.73
131	SLD 7	-86	-368	4073	9.48	7.91	4.06
131	SLD 8	-84	-429	4074	9.39	7.92	5.3
131	SLD 9	-227	277	3801	-17.12	6.43	-1.08
131	SLD 10	-224	216	3801	-17.21	6.43	0.16
131	SLD 11	-249	-332	3743	8.82	6.22	3.49
131	SLD 12	-246	-393	3743	8.73	6.22	4.74
131	SLD 13	-424	105	3395	-8.82	4.37	-0.14
131	SLD 14	-421	44	3395	-8.91	4.38	1.1
131	SLD 15	-431	-78	3378	-1.04	4.31	1.23
131	SLD 16	-428	-138	3378	-1.13	4.32	2.47
131	SLV 1	465	65	5207	-10.08	13.66	1.29
131	SLV 2	471	-72	5209	-10.28	13.67	4.1
131	SLV 3	449	-350	5167	7.58	13.51	4.41
131	SLV 4	455	-488	5168	7.38	13.52	7.22
131	SLV 5	52	645	4379	-32.44	9.33	-3.86
131	SLV 6	58	506	4380	-32.65	9.35	-1.04
131	SLV 7	0	-740	4245	26.43	8.85	6.55
131	SLV 8	7	-878	4246	26.22	8.86	9.36
131	SLV 9	-317	726	3629	-33.95	5.48	-5.14
131	SLV 10	-311	587	3630	-34.16	5.5	-2.32
131	SLV 11	-369	-659	3495	24.92	5	5.26
131	SLV 12	-363	-797	3496	24.71	5.01	8.08
131	SLV 13	-766	335	2706	-15.11	0.82	-3
131	SLV 14	-760	198	2708	-15.31	0.83	-0.19
131	SLV 15	-781	-80	2666	2.55	0.67	0.13
131	SLV 16	-775	-218	2667	2.35	0.69	2.93
131	CRTFP Ux+	0	0	0	0	0	0
131	CRTFP Ux-	0	0	0	0	0	0
131	CRTFP Uy+	0	0	0	0	0	0
131	CRTFP Uy-	0	0	0	0	0	0
132	SLU 1	-148	-58	3389	-0.88	5.35	2.37
132	SLU 2	-148	-38	3392	-1.63	5.36	2.19
132	SLU 3	-148	-58	3389	-0.88	5.35	2.37
132	SLU 4	-148	-46	3391	-1.33	5.36	2.26
132	SLU 5	-148	-38	3392	-1.63	5.36	2.19
132	SLU 6	-148	-58	3389	-0.88	5.35	2.37
132	SLU 7	-148	-46	3391	-1.33	5.36	2.26
132	SLU 8	-148	-58	3389	-0.88	5.35	2.37
132	SLU 9	-148	-46	3391	-1.33	5.36	2.26
132	SLU 10	-159	-49	4105	-3.57	6.13	2.56
132	SLU 11	-159	-69	4102	-2.81	6.12	2.74
132	SLU 12	-159	-57	4104	-3.27	6.12	2.63
132	SLU 13	-159	-49	4105	-3.57	6.13	2.56
132	SLU 14	-159	-69	4102	-2.81	6.12	2.74
132	SLU 15	-159	-57	4104	-3.27	6.12	2.63
132	SLU 16	-159	-69	4102	-2.81	6.12	2.74
132	SLU 17	-159	-57	4104	-3.27	6.12	2.63
132	SLU 18	-163	-73	4408	-3.64	6.45	2.9
132	SLU 19	-163	-61	4409	-4.1	6.45	2.79
132	SLU 20	-163	-73	4408	-3.64	6.45	2.9
132	SLU 21	-163	-61	4409	-4.1	6.45	2.79
132	SLU 22	-157	-67	3904	-2.55	5.73	2.66
132	SLU 23	-158	-47	3906	-3.3	5.73	2.48
132	SLU 24	-157	-67	3904	-2.55	5.73	2.66
132	SLU 25	-158	-55	3905	-3	5.73	2.55
132	SLU 26	-158	-47	3906	-3.3	5.73	2.48
132	SLU 27	-157	-67	3904	-2.55	5.73	2.66
132	SLU 28	-158	-55	3905	-3	5.73	2.55
132	SLU 29	-157	-67	3904	-2.55	5.73	2.66
132	SLU 30	-158	-55	3905	-3	5.73	2.55
132	SLU 31	-168	-57	4619	-5.24	6.5	2.85
132	SLU 32	-168	-77	4616	-4.48	6.49	3.03
132	SLU 33	-168	-65	4618	-4.94	6.5	2.92
132	SLU 34	-168	-57	4619	-5.24	6.5	2.85
132	SLU 35	-168	-77	4616	-4.48	6.49	3.03
132	SLU 36	-168	-65	4618	-4.94	6.5	2.92
132	SLU 37	-168	-77	4616	-4.48	6.49	3.03
132	SLU 38	-168	-65	4618	-4.94	6.5	2.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
132	SLU 39	-173	-81	4922	-5.31	6.82	3.19
132	SLU 40	-173	-69	4924	-5.77	6.83	3.08
132	SLU 41	-173	-81	4922	-5.31	6.82	3.19
132	SLU 42	-173	-69	4924	-5.77	6.83	3.08
132	SLU 43	-189	-73	4230	-0.56	6.83	2.98
132	SLU 44	-189	-53	4233	-1.32	6.84	2.8
132	SLU 45	-189	-73	4230	-0.56	6.83	2.98
132	SLU 46	-189	-61	4231	-1.02	6.84	2.87
132	SLU 47	-189	-53	4233	-1.32	6.84	2.8
132	SLU 48	-189	-73	4230	-0.56	6.83	2.98
132	SLU 49	-189	-61	4231	-1.02	6.84	2.87
132	SLU 50	-189	-73	4230	-0.56	6.83	2.98
132	SLU 51	-189	-61	4231	-1.02	6.84	2.87
132	SLU 52	-200	-63	4945	-3.26	7.61	3.17
132	SLU 53	-200	-83	4943	-2.5	7.6	3.35
132	SLU 54	-200	-71	4944	-2.96	7.6	3.24
132	SLU 55	-200	-63	4945	-3.26	7.61	3.17
132	SLU 56	-200	-83	4943	-2.5	7.6	3.35
132	SLU 57	-200	-71	4944	-2.96	7.6	3.24
132	SLU 58	-200	-83	4943	-2.5	7.6	3.35
132	SLU 59	-200	-71	4944	-2.96	7.6	3.24
132	SLU 60	-204	-88	5248	-3.33	7.93	3.51
132	SLU 61	-204	-76	5250	-3.79	7.93	3.4
132	SLU 62	-204	-88	5248	-3.33	7.93	3.51
132	SLU 63	-204	-76	5250	-3.79	7.93	3.4
132	SLU 64	-198	-81	4744	-2.24	7.2	3.27
132	SLU 65	-199	-61	4747	-2.99	7.21	3.09
132	SLU 66	-198	-81	4744	-2.24	7.2	3.27
132	SLU 67	-199	-69	4746	-2.69	7.21	3.16
132	SLU 68	-199	-61	4747	-2.99	7.21	3.09
132	SLU 69	-198	-81	4744	-2.24	7.2	3.27
132	SLU 70	-199	-69	4746	-2.69	7.21	3.16
132	SLU 71	-198	-81	4744	-2.24	7.2	3.27
132	SLU 72	-199	-69	4746	-2.69	7.21	3.16
132	SLU 73	-209	-72	5460	-4.93	7.98	3.46
132	SLU 74	-209	-92	5457	-4.17	7.97	3.64
132	SLU 75	-209	-80	5459	-4.63	7.98	3.53
132	SLU 76	-209	-72	5460	-4.93	7.98	3.46
132	SLU 77	-209	-92	5457	-4.17	7.97	3.64
132	SLU 78	-209	-80	5459	-4.63	7.98	3.53
132	SLU 79	-209	-92	5457	-4.17	7.97	3.64
132	SLU 80	-209	-80	5459	-4.63	7.98	3.53
132	SLU 81	-214	-96	5762	-5	8.3	3.8
132	SLU 82	-214	-84	5764	-5.46	8.3	3.69
132	SLU 83	-214	-96	5762	-5	8.3	3.8
132	SLU 84	-214	-84	5764	-5.46	8.3	3.69
132	SLE RA 1	-151	-61	3536	-1.35	5.46	2.45
132	SLE RA 2	-151	-47	3538	-1.85	5.46	2.33
132	SLE RA 3	-151	-61	3536	-1.35	5.46	2.45
132	SLE RA 4	-151	-53	3537	-1.65	5.46	2.38
132	SLE RA 5	-151	-47	3538	-1.85	5.46	2.33
132	SLE RA 6	-151	-61	3536	-1.35	5.46	2.45
132	SLE RA 7	-151	-53	3537	-1.65	5.46	2.38
132	SLE RA 8	-151	-61	3536	-1.35	5.46	2.45
132	SLE RA 9	-151	-53	3537	-1.65	5.46	2.38
132	SLE RA 10	-158	-54	4013	-3.15	5.98	2.58
132	SLE RA 11	-158	-68	4011	-2.64	5.97	2.7
132	SLE RA 12	-158	-60	4013	-2.95	5.97	2.63
132	SLE RA 13	-158	-54	4013	-3.15	5.98	2.58
132	SLE RA 14	-158	-68	4011	-2.64	5.97	2.7
132	SLE RA 15	-158	-60	4013	-2.95	5.97	2.63
132	SLE RA 16	-158	-68	4011	-2.64	5.97	2.7
132	SLE RA 17	-158	-60	4013	-2.95	5.97	2.63
132	SLE RA 18	-161	-71	4215	-3.2	6.19	2.8
132	SLE RA 19	-161	-63	4216	-3.5	6.19	2.73
132	SLE RA 20	-161	-71	4215	-3.2	6.19	2.8
132	SLE RA 21	-161	-63	4216	-3.5	6.19	2.73
132	SLE FR 1	-151	-61	3536	-1.35	5.46	2.45
132	SLE FR 2	-151	-58	3537	-1.45	5.46	2.43
132	SLE FR 3	-151	-61	3536	-1.35	5.46	2.45
132	SLE FR 4	-154	-61	3740	-2.01	5.68	2.53
132	SLE FR 5	-154	-64	3740	-1.91	5.68	2.56
132	SLE FR 6	-156	-66	3876	-2.28	5.83	2.63
132	SLE QP 1	-151	-61	3536	-1.35	5.46	2.45
132	SLE QP 2	-154	-64	3740	-1.91	5.68	2.56
132	SLD 1	120	-4	4216	-4.57	8.24	2.22
132	SLD 2	123	-58	4217	-4.64	8.25	3.48
132	SLD 3	113	-178	4200	3.2	8.18	3.71
132	SLD 4	116	-233	4200	3.13	8.19	4.97
132	SLD 5	-62	239	3908	-14.47	6.53	-0.24
132	SLD 6	-59	184	3908	-14.53	6.54	1.02
132	SLD 7	-85	-345	3853	11.43	6.34	4.71
132	SLD 8	-82	-399	3853	11.37	6.34	5.98
132	SLD 9	-225	271	3627	-15.18	5.01	-0.87
132	SLD 10	-223	217	3627	-15.25	5.02	0.4
132	SLD 11	-248	-312	3572	10.72	4.82	4.09
132	SLD 12	-245	-366	3572	10.65	4.82	5.36
132	SLD 13	-423	105	3280	-6.95	3.17	0.14
132	SLD 14	-421	51	3280	-7.01	3.18	1.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
132	SLD 15	-430	-70	3263	0.82	3.11	1.63
132	SLD 16	-427	-124	3264	0.76	3.12	2.89
132	SLV 1	468	73	4821	-7.95	11.49	1.79
132	SLV 2	474	-49	4822	-8.1	11.51	4.65
132	SLV 3	453	-324	4783	9.69	11.36	5.18
132	SLV 4	459	-447	4784	9.53	11.37	8.04
132	SLV 5	54	624	4122	-30.42	7.62	-3.81
132	SLV 6	60	501	4123	-30.57	7.64	-0.94
132	SLV 7	3	-702	3995	28.38	7.17	7.47
132	SLV 8	9	-825	3996	28.22	7.19	10.34
132	SLV 9	-316	697	3484	-32.04	4.17	-5.22
132	SLV 10	-310	574	3485	-32.19	4.19	-2.35
132	SLV 11	-368	-628	3357	26.76	3.72	6.05
132	SLV 12	-362	-751	3358	26.61	3.73	8.93
132	SLV 13	-766	319	2696	-13.35	-0.01	-2.92
132	SLV 14	-760	197	2696	-13.5	0	-0.06
132	SLV 15	-781	-78	2658	4.29	-0.15	0.46
132	SLV 16	-775	-201	2658	4.14	-0.14	3.32
132	CRTFP Ux+	0	0	0	0	0	0
132	CRTFP Ux-	0	0	0	0	0	0
132	CRTFP Uy+	0	0	0	0	0	0
132	CRTFP Uy-	0	0	0	0	0	0
133	SLU 1	-146	-45	3239	0.96	4.4	2.69
133	SLU 2	-146	-26	3242	0.21	4.4	2.51
133	SLU 3	-146	-45	3239	0.96	4.4	2.69
133	SLU 4	-146	-34	3241	0.51	4.4	2.58
133	SLU 5	-146	-26	3242	0.21	4.4	2.51
133	SLU 6	-146	-45	3239	0.96	4.4	2.69
133	SLU 7	-146	-34	3241	0.51	4.4	2.58
133	SLU 8	-146	-45	3239	0.96	4.4	2.69
133	SLU 9	-146	-34	3241	0.51	4.4	2.58
133	SLU 10	-157	-34	3934	-1.48	4.95	2.94
133	SLU 11	-156	-53	3932	-0.73	4.94	3.12
133	SLU 12	-156	-42	3933	-1.18	4.95	3.01
133	SLU 13	-157	-34	3934	-1.48	4.95	2.94
133	SLU 14	-156	-53	3932	-0.73	4.94	3.12
133	SLU 15	-156	-42	3933	-1.18	4.95	3.01
133	SLU 16	-156	-53	3932	-0.73	4.94	3.12
133	SLU 17	-156	-42	3933	-1.18	4.95	3.01
133	SLU 18	-161	-57	4229	-1.45	5.18	3.31
133	SLU 19	-161	-45	4230	-1.9	5.18	3.2
133	SLU 20	-161	-57	4229	-1.45	5.18	3.31
133	SLU 21	-161	-45	4230	-1.9	5.18	3.2
133	SLU 22	-155	-51	3744	-0.54	4.64	3.03
133	SLU 23	-156	-32	3747	-1.29	4.65	2.84
133	SLU 24	-155	-51	3744	-0.54	4.64	3.03
133	SLU 25	-156	-40	3746	-0.99	4.64	2.92
133	SLU 26	-156	-32	3747	-1.29	4.65	2.84
133	SLU 27	-155	-51	3744	-0.54	4.64	3.03
133	SLU 28	-156	-40	3746	-0.99	4.64	2.92
133	SLU 29	-155	-51	3744	-0.54	4.64	3.03
133	SLU 30	-156	-40	3746	-0.99	4.64	2.92
133	SLU 31	-166	-40	4439	-2.98	5.19	3.28
133	SLU 32	-166	-60	4437	-2.23	5.19	3.46
133	SLU 33	-166	-48	4438	-2.68	5.19	3.35
133	SLU 34	-166	-40	4439	-2.98	5.19	3.28
133	SLU 35	-166	-60	4437	-2.23	5.19	3.46
133	SLU 36	-166	-48	4438	-2.68	5.19	3.35
133	SLU 37	-166	-60	4437	-2.23	5.19	3.46
133	SLU 38	-166	-48	4438	-2.68	5.19	3.35
133	SLU 39	-170	-63	4734	-2.95	5.42	3.64
133	SLU 40	-171	-52	4735	-3.4	5.43	3.53
133	SLU 41	-170	-63	4734	-2.95	5.42	3.64
133	SLU 42	-171	-52	4735	-3.4	5.43	3.53
133	SLU 43	-186	-56	4038	1.76	5.63	3.38
133	SLU 44	-187	-37	4041	1.01	5.64	3.2
133	SLU 45	-186	-56	4038	1.76	5.63	3.38
133	SLU 46	-187	-45	4039	1.31	5.63	3.27
133	SLU 47	-187	-37	4041	1.01	5.64	3.2
133	SLU 48	-186	-56	4038	1.76	5.63	3.38
133	SLU 49	-187	-45	4039	1.31	5.63	3.27
133	SLU 50	-186	-56	4038	1.76	5.63	3.38
133	SLU 51	-187	-45	4039	1.31	5.63	3.27
133	SLU 52	-197	-45	4733	-0.68	6.18	3.63
133	SLU 53	-197	-64	4730	0.07	6.18	3.81
133	SLU 54	-197	-53	4732	-0.38	6.18	3.7
133	SLU 55	-197	-45	4733	-0.68	6.18	3.63
133	SLU 56	-197	-64	4730	0.07	6.18	3.81
133	SLU 57	-197	-53	4732	-0.38	6.18	3.7
133	SLU 58	-197	-64	4730	0.07	6.18	3.81
133	SLU 59	-197	-53	4732	-0.38	6.18	3.7
133	SLU 60	-201	-68	5027	-0.65	6.41	4
133	SLU 61	-201	-56	5029	-1.1	6.42	3.89
133	SLU 62	-201	-68	5027	-0.65	6.41	4
133	SLU 63	-201	-56	5029	-1.1	6.42	3.89
133	SLU 64	-196	-63	4543	0.26	5.88	3.72
133	SLU 65	-196	-44	4545	-0.49	5.88	3.53
133	SLU 66	-196	-63	4543	0.26	5.88	3.72
133	SLU 67	-196	-51	4544	-0.19	5.88	3.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
133	SLU 68	-196	-44	4545	-0.49	5.88	3.53
133	SLU 69	-196	-63	4543	0.26	5.88	3.72
133	SLU 70	-196	-51	4544	-0.19	5.88	3.61
133	SLU 71	-196	-63	4543	0.26	5.88	3.72
133	SLU 72	-196	-51	4544	-0.19	5.88	3.61
133	SLU 73	-207	-52	5238	-2.18	6.43	3.97
133	SLU 74	-206	-71	5235	-1.43	6.42	4.15
133	SLU 75	-207	-59	5237	-1.88	6.43	4.04
133	SLU 76	-207	-52	5238	-2.18	6.43	3.97
133	SLU 77	-206	-71	5235	-1.43	6.42	4.15
133	SLU 78	-207	-59	5237	-1.88	6.43	4.04
133	SLU 79	-206	-71	5235	-1.43	6.42	4.15
133	SLU 80	-207	-59	5237	-1.88	6.43	4.04
133	SLU 81	-211	-74	5532	-2.15	6.66	4.34
133	SLU 82	-211	-63	5534	-2.6	6.66	4.23
133	SLU 83	-211	-74	5532	-2.15	6.66	4.34
133	SLU 84	-211	-63	5534	-2.6	6.66	4.23
133	SLE RA 1	-149	-47	3384	0.53	4.47	2.79
133	SLE RA 2	-149	-34	3385	0.03	4.47	2.66
133	SLE RA 3	-149	-47	3384	0.53	4.47	2.79
133	SLE RA 4	-149	-39	3385	0.23	4.47	2.71
133	SLE RA 5	-149	-34	3385	0.03	4.47	2.66
133	SLE RA 6	-149	-47	3384	0.53	4.47	2.79
133	SLE RA 7	-149	-39	3385	0.23	4.47	2.71
133	SLE RA 8	-149	-47	3384	0.53	4.47	2.79
133	SLE RA 9	-149	-39	3385	0.23	4.47	2.71
133	SLE RA 10	-156	-39	3847	-1.09	4.84	2.95
133	SLE RA 11	-156	-52	3845	-0.59	4.83	3.07
133	SLE RA 12	-156	-45	3846	-0.89	4.83	3
133	SLE RA 13	-156	-39	3847	-1.09	4.84	2.95
133	SLE RA 14	-156	-52	3845	-0.59	4.83	3.07
133	SLE RA 15	-156	-45	3846	-0.89	4.83	3
133	SLE RA 16	-156	-52	3845	-0.59	4.83	3.07
133	SLE RA 17	-156	-45	3846	-0.89	4.83	3
133	SLE RA 18	-159	-55	4043	-1.08	4.99	3.2
133	SLE RA 19	-159	-47	4044	-1.38	4.99	3.12
133	SLE RA 20	-159	-55	4043	-1.08	4.99	3.2
133	SLE RA 21	-159	-47	4044	-1.38	4.99	3.12
133	SLE FR 1	-149	-47	3384	0.53	4.47	2.79
133	SLE FR 2	-149	-44	3384	0.43	4.47	2.76
133	SLE FR 3	-149	-47	3384	0.53	4.47	2.79
133	SLE FR 4	-152	-47	3582	-0.05	4.62	2.89
133	SLE FR 5	-152	-49	3581	0.05	4.62	2.91
133	SLE FR 6	-154	-51	3713	-0.27	4.73	2.99
133	SLE QP 1	-149	-47	3384	0.53	4.47	2.79
133	SLE QP 2	-152	-49	3581	0.05	4.62	2.91
133	SLD 1	123	9	3983	-2.54	6.91	2.63
133	SLD 2	126	-38	3983	-2.59	6.92	3.89
133	SLD 3	116	-158	3967	5.23	6.97	4.12
133	SLD 4	119	-205	3967	5.18	6.97	5.38
133	SLD 5	-60	238	3726	-12.5	5.22	0.13
133	SLD 6	-57	191	3726	-12.54	5.23	1.39
133	SLD 7	-82	-318	3672	13.4	5.41	5.08
133	SLD 8	-80	-366	3672	13.36	5.42	6.35
133	SLD 9	-224	268	3490	-13.26	3.83	-0.53
133	SLD 10	-221	220	3490	-13.31	3.83	0.74
133	SLD 11	-246	-289	3436	12.64	4.02	4.42
133	SLD 12	-243	-337	3436	12.6	4.03	5.69
133	SLD 13	-422	107	3196	-5.08	2.27	0.44
133	SLD 14	-419	59	3196	-5.13	2.28	1.7
133	SLD 15	-429	-60	3180	2.69	2.33	1.93
133	SLD 16	-426	-108	3180	2.64	2.34	3.19
133	SLV 1	472	84	4493	-5.83	9.81	2.27
133	SLV 2	478	-23	4493	-5.94	9.83	5.13
133	SLV 3	456	-295	4456	11.8	9.94	5.65
133	SLV 4	462	-403	4456	11.7	9.96	8.51
133	SLV 5	57	604	3911	-28.43	5.97	-3.42
133	SLV 6	63	496	3911	-28.53	5.99	-0.55
133	SLV 7	5	-661	3787	30.36	6.42	7.85
133	SLV 8	11	-768	3788	30.26	6.43	10.72
133	SLV 9	-314	670	3375	-30.16	2.81	-4.9
133	SLV 10	-308	562	3375	-30.27	2.83	-2.03
133	SLV 11	-366	-594	3252	28.63	3.26	6.36
133	SLV 12	-360	-702	3252	28.53	3.28	9.24
133	SLV 13	-766	305	2707	-11.6	-0.71	-2.69
133	SLV 14	-760	197	2707	-11.71	-0.7	0.17
133	SLV 15	-781	-75	2670	6.03	-0.58	0.69
133	SLV 16	-775	-182	2670	5.93	-0.56	3.55
133	CRTFP Ux+	0	0	0	0	0	0
133	CRTFP Ux-	0	0	0	0	0	0
133	CRTFP Uy+	0	0	0	0	0	0
133	CRTFP Uy-	0	0	0	0	0	0
134	SLU 1	-144	-30	3115	2.8	3.69	2.93
134	SLU 2	-144	-12	3117	2.05	3.7	2.76
134	SLU 3	-144	-30	3115	2.8	3.69	2.93
134	SLU 4	-144	-19	3116	2.35	3.7	2.83
134	SLU 5	-144	-12	3117	2.05	3.7	2.76
134	SLU 6	-144	-30	3115	2.8	3.69	2.93
134	SLU 7	-144	-19	3116	2.35	3.7	2.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
134	SLU 8	-144	-30	3115	2.8	3.69	2.93
134	SLU 9	-144	-19	3116	2.35	3.7	2.83
134	SLU 10	-154	-18	3795	0.6	4.09	3.24
134	SLU 11	-154	-36	3793	1.35	4.08	3.41
134	SLU 12	-154	-25	3794	0.9	4.08	3.31
134	SLU 13	-154	-18	3795	0.6	4.09	3.24
134	SLU 14	-154	-36	3793	1.35	4.08	3.41
134	SLU 15	-154	-25	3794	0.9	4.08	3.31
134	SLU 16	-154	-36	3793	1.35	4.08	3.41
134	SLU 17	-154	-25	3794	0.9	4.08	3.31
134	SLU 18	-158	-38	4083	0.74	4.25	3.62
134	SLU 19	-158	-27	4085	0.29	4.25	3.51
134	SLU 20	-158	-38	4083	0.74	4.25	3.62
134	SLU 21	-158	-27	4085	0.29	4.25	3.51
134	SLU 22	-153	-35	3613	1.47	3.86	3.3
134	SLU 23	-153	-16	3616	0.72	3.86	3.13
134	SLU 24	-153	-35	3613	1.47	3.86	3.3
134	SLU 25	-153	-24	3615	1.02	3.86	3.2
134	SLU 26	-153	-16	3616	0.72	3.86	3.13
134	SLU 27	-153	-35	3613	1.47	3.86	3.3
134	SLU 28	-153	-24	3615	1.02	3.86	3.2
134	SLU 29	-153	-35	3613	1.47	3.86	3.3
134	SLU 30	-153	-24	3615	1.02	3.86	3.2
134	SLU 31	-163	-22	4294	-0.72	4.25	3.61
134	SLU 32	-163	-40	4291	0.03	4.25	3.78
134	SLU 33	-163	-29	4293	-0.42	4.25	3.68
134	SLU 34	-163	-22	4294	-0.72	4.25	3.61
134	SLU 35	-163	-40	4291	0.03	4.25	3.78
134	SLU 36	-163	-29	4293	-0.42	4.25	3.68
134	SLU 37	-163	-40	4291	0.03	4.25	3.78
134	SLU 38	-163	-29	4293	-0.42	4.25	3.68
134	SLU 39	-167	-43	4582	-0.59	4.41	3.99
134	SLU 40	-168	-32	4584	-1.04	4.42	3.89
134	SLU 41	-167	-43	4582	-0.59	4.41	3.99
134	SLU 42	-168	-32	4584	-1.04	4.42	3.89
134	SLU 43	-184	-37	3878	4.09	4.75	3.68
134	SLU 44	-184	-19	3881	3.34	4.75	3.51
134	SLU 45	-184	-37	3878	4.09	4.75	3.68
134	SLU 46	-184	-27	3880	3.64	4.75	3.58
134	SLU 47	-184	-19	3881	3.34	4.75	3.51
134	SLU 48	-184	-37	3878	4.09	4.75	3.68
134	SLU 49	-184	-27	3880	3.64	4.75	3.58
134	SLU 50	-184	-37	3878	4.09	4.75	3.68
134	SLU 51	-184	-27	3880	3.64	4.75	3.58
134	SLU 52	-194	-25	4559	1.9	5.14	3.99
134	SLU 53	-194	-43	4556	2.65	5.13	4.16
134	SLU 54	-194	-32	4558	2.2	5.14	4.06
134	SLU 55	-194	-25	4559	1.9	5.14	3.99
134	SLU 56	-194	-43	4556	2.65	5.13	4.16
134	SLU 57	-194	-32	4558	2.2	5.14	4.06
134	SLU 58	-194	-43	4556	2.65	5.13	4.16
134	SLU 59	-194	-32	4558	2.2	5.14	4.06
134	SLU 60	-198	-46	4847	2.03	5.3	4.37
134	SLU 61	-198	-35	4848	1.58	5.3	4.26
134	SLU 62	-198	-46	4847	2.03	5.3	4.37
134	SLU 63	-198	-35	4848	1.58	5.3	4.26
134	SLU 64	-193	-42	4377	2.77	4.91	4.06
134	SLU 65	-193	-24	4379	2.02	4.91	3.88
134	SLU 66	-193	-42	4377	2.77	4.91	4.06
134	SLU 67	-193	-31	4378	2.32	4.91	3.95
134	SLU 68	-193	-24	4379	2.02	4.91	3.88
134	SLU 69	-193	-42	4377	2.77	4.91	4.06
134	SLU 70	-193	-31	4378	2.32	4.91	3.95
134	SLU 71	-193	-42	4377	2.77	4.91	4.06
134	SLU 72	-193	-31	4378	2.32	4.91	3.95
134	SLU 73	-203	-30	5057	0.57	5.3	4.36
134	SLU 74	-203	-48	5055	1.32	5.3	4.54
134	SLU 75	-203	-37	5056	0.87	5.3	4.43
134	SLU 76	-203	-30	5057	0.57	5.3	4.36
134	SLU 77	-203	-48	5055	1.32	5.3	4.54
134	SLU 78	-203	-37	5056	0.87	5.3	4.43
134	SLU 79	-203	-48	5055	1.32	5.3	4.54
134	SLU 80	-203	-37	5056	0.87	5.3	4.43
134	SLU 81	-207	-50	5346	0.7	5.47	4.74
134	SLU 82	-208	-39	5347	0.25	5.47	4.64
134	SLU 83	-207	-50	5346	0.7	5.47	4.74
134	SLU 84	-208	-39	5347	0.25	5.47	4.64
134	SLE RA 1	-147	-31	3257	2.42	3.74	3.04
134	SLE RA 2	-147	-19	3259	1.92	3.74	2.92
134	SLE RA 3	-147	-31	3257	2.42	3.74	3.04
134	SLE RA 4	-147	-24	3258	2.12	3.74	2.97
134	SLE RA 5	-147	-19	3259	1.92	3.74	2.92
134	SLE RA 6	-147	-31	3257	2.42	3.74	3.04
134	SLE RA 7	-147	-24	3258	2.12	3.74	2.97
134	SLE RA 8	-147	-31	3257	2.42	3.74	3.04
134	SLE RA 9	-147	-24	3258	2.12	3.74	2.97
134	SLE RA 10	-153	-23	3711	0.96	4	3.24
134	SLE RA 11	-153	-35	3709	1.46	4	3.36
134	SLE RA 12	-153	-28	3710	1.16	4	3.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
134	SLE RA 13	-153	-23	3711	0.96	4	3.24
134	SLE RA 14	-153	-35	3709	1.46	4	3.36
134	SLE RA 15	-153	-28	3710	1.16	4	3.29
134	SLE RA 16	-153	-35	3709	1.46	4	3.36
134	SLE RA 17	-153	-28	3710	1.16	4	3.29
134	SLE RA 18	-156	-37	3903	1.04	4.11	3.5
134	SLE RA 19	-156	-29	3904	0.74	4.11	3.43
134	SLE RA 20	-156	-37	3903	1.04	4.11	3.5
134	SLE RA 21	-156	-29	3904	0.74	4.11	3.43
134	SLE FR 1	-147	-31	3257	2.42	3.74	3.04
134	SLE FR 2	-147	-29	3257	2.32	3.74	3.01
134	SLE FR 3	-147	-31	3257	2.42	3.74	3.04
134	SLE FR 4	-149	-31	3451	1.91	3.85	3.15
134	SLE FR 5	-149	-33	3451	2.01	3.85	3.17
134	SLE FR 6	-151	-34	3580	1.73	3.93	3.27
134	SLE QP 1	-147	-31	3257	2.42	3.74	3.04
134	SLE QP 2	-149	-33	3451	2.01	3.85	3.17
134	SLD 1	126	24	3783	-0.52	5.97	2.97
134	SLD 2	129	-17	3783	-0.54	5.98	4.22
134	SLD 3	119	-135	3767	7.26	6.03	4.37
134	SLD 4	122	-176	3767	7.24	6.04	5.61
134	SLD 5	-58	240	3575	-10.54	4.4	0.57
134	SLD 6	-55	199	3575	-10.57	4.4	1.82
134	SLD 7	-80	-291	3521	15.39	4.59	5.2
134	SLD 8	-77	-332	3521	15.37	4.6	6.45
134	SLD 9	-221	266	3381	-11.36	3.1	-0.1
134	SLD 10	-219	225	3381	-11.38	3.11	1.15
134	SLD 11	-244	-265	3326	14.58	3.3	4.53
134	SLD 12	-241	-306	3326	14.56	3.31	5.78
134	SLD 13	-421	110	3135	-3.23	1.66	0.74
134	SLD 14	-418	69	3135	-3.25	1.67	1.98
134	SLD 15	-427	-49	3118	4.55	1.72	2.13
134	SLD 16	-425	-90	3118	4.53	1.73	3.38
134	SLV 1	475	97	4206	-3.72	8.67	2.71
134	SLV 2	482	5	4206	-3.77	8.69	5.53
134	SLV 3	460	-265	4169	13.94	8.81	5.88
134	SLV 4	466	-357	4168	13.89	8.82	8.69
134	SLV 5	59	587	3734	-26.48	5.08	-2.75
134	SLV 6	66	495	3734	-26.53	5.1	0.07
134	SLV 7	8	-619	3610	32.39	5.54	7.79
134	SLV 8	14	-711	3609	32.34	5.56	10.62
134	SLV 9	-313	646	3292	-28.33	2.15	-4.27
134	SLV 10	-307	553	3292	-28.38	2.17	-1.44
134	SLV 11	-364	-560	3168	30.54	2.6	6.28
134	SLV 12	-358	-653	3168	30.49	2.62	9.1
134	SLV 13	-765	291	2733	-9.88	-1.12	-2.34
134	SLV 14	-759	199	2733	-9.93	-1.1	0.47
134	SLV 15	-780	-71	2696	7.78	-0.98	0.82
134	SLV 16	-774	-163	2696	7.73	-0.97	3.64
134	CRTFP Ux+	0	0	0	0	0	0
134	CRTFP Ux-	0	0	0	0	0	0
134	CRTFP Uy+	0	0	0	0	0	0
134	CRTFP Uy-	0	0	0	0	0	0
135	SLU 1	-142	-14	3009	4.64	3.15	3.1
135	SLU 2	-142	3	3012	3.89	3.15	2.94
135	SLU 3	-142	-14	3009	4.64	3.15	3.1
135	SLU 4	-142	-4	3011	4.19	3.15	3
135	SLU 5	-142	3	3012	3.89	3.15	2.94
135	SLU 6	-142	-14	3009	4.64	3.15	3.1
135	SLU 7	-142	-4	3011	4.19	3.15	3
135	SLU 8	-142	-14	3009	4.64	3.15	3.1
135	SLU 9	-142	-4	3011	4.19	3.15	3
135	SLU 10	-151	0	3680	2.69	3.42	3.46
135	SLU 11	-151	-17	3677	3.44	3.42	3.61
135	SLU 12	-151	-7	3679	2.99	3.42	3.52
135	SLU 13	-151	0	3680	2.69	3.42	3.46
135	SLU 14	-151	-17	3677	3.44	3.42	3.61
135	SLU 15	-151	-7	3679	2.99	3.42	3.52
135	SLU 16	-151	-17	3677	3.44	3.42	3.61
135	SLU 17	-151	-7	3679	2.99	3.42	3.52
135	SLU 18	-155	-18	3964	2.93	3.53	3.84
135	SLU 19	-155	-8	3965	2.48	3.53	3.74
135	SLU 20	-155	-18	3964	2.93	3.53	3.84
135	SLU 21	-155	-8	3965	2.48	3.53	3.74
135	SLU 22	-151	-17	3503	3.48	3.26	3.5
135	SLU 23	-151	1	3506	2.73	3.27	3.34
135	SLU 24	-151	-17	3503	3.48	3.26	3.5
135	SLU 25	-151	-6	3505	3.03	3.26	3.4
135	SLU 26	-151	1	3506	2.73	3.27	3.34
135	SLU 27	-151	-17	3503	3.48	3.26	3.5
135	SLU 28	-151	-6	3505	3.03	3.26	3.4
135	SLU 29	-151	-17	3503	3.48	3.26	3.5
135	SLU 30	-151	-6	3505	3.03	3.26	3.4
135	SLU 31	-160	-2	4174	1.53	3.53	3.86
135	SLU 32	-160	-20	4172	2.28	3.53	4.01
135	SLU 33	-160	-9	4173	1.83	3.53	3.92
135	SLU 34	-160	-2	4174	1.53	3.53	3.86
135	SLU 35	-160	-20	4172	2.28	3.53	4.01
135	SLU 36	-160	-9	4173	1.83	3.53	3.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
135	SLU 37	-160	-20	4172	2.28	3.53	4.01
135	SLU 38	-160	-9	4173	1.83	3.53	3.92
135	SLU 39	-164	-21	4458	1.77	3.64	4.24
135	SLU 40	-164	-10	4459	1.32	3.64	4.14
135	SLU 41	-164	-21	4458	1.77	3.64	4.24
135	SLU 42	-164	-10	4459	1.32	3.64	4.14
135	SLU 43	-181	-17	3742	6.43	4.06	3.89
135	SLU 44	-181	0	3745	5.68	4.06	3.73
135	SLU 45	-181	-17	3742	6.43	4.06	3.89
135	SLU 46	-181	-7	3744	5.98	4.06	3.79
135	SLU 47	-181	0	3745	5.68	4.06	3.73
135	SLU 48	-181	-17	3742	6.43	4.06	3.89
135	SLU 49	-181	-7	3744	5.98	4.06	3.79
135	SLU 50	-181	-17	3742	6.43	4.06	3.89
135	SLU 51	-181	-7	3744	5.98	4.06	3.79
135	SLU 52	-191	-3	4413	4.48	4.32	4.25
135	SLU 53	-190	-20	4410	5.23	4.32	4.41
135	SLU 54	-190	-10	4412	4.78	4.32	4.31
135	SLU 55	-191	-3	4413	4.48	4.32	4.25
135	SLU 56	-190	-20	4410	5.23	4.32	4.41
135	SLU 57	-190	-10	4412	4.78	4.32	4.31
135	SLU 58	-190	-20	4410	5.23	4.32	4.41
135	SLU 59	-190	-10	4412	4.78	4.32	4.31
135	SLU 60	-194	-22	4697	4.71	4.44	4.63
135	SLU 61	-195	-11	4698	4.26	4.44	4.53
135	SLU 62	-194	-22	4697	4.71	4.44	4.63
135	SLU 63	-195	-11	4698	4.26	4.44	4.53
135	SLU 64	-190	-20	4237	5.27	4.17	4.29
135	SLU 65	-190	-3	4239	4.52	4.17	4.13
135	SLU 66	-190	-20	4237	5.27	4.17	4.29
135	SLU 67	-190	-9	4238	4.82	4.17	4.19
135	SLU 68	-190	-3	4239	4.52	4.17	4.13
135	SLU 69	-190	-20	4237	5.27	4.17	4.29
135	SLU 70	-190	-9	4238	4.82	4.17	4.19
135	SLU 71	-190	-20	4237	5.27	4.17	4.29
135	SLU 72	-190	-9	4238	4.82	4.17	4.19
135	SLU 73	-200	-6	4907	3.32	4.44	4.65
135	SLU 74	-200	-23	4905	4.07	4.44	4.81
135	SLU 75	-200	-13	4906	3.62	4.44	4.71
135	SLU 76	-200	-6	4907	3.32	4.44	4.65
135	SLU 77	-200	-23	4905	4.07	4.44	4.81
135	SLU 78	-200	-13	4906	3.62	4.44	4.71
135	SLU 79	-200	-23	4905	4.07	4.44	4.81
135	SLU 80	-200	-13	4906	3.62	4.44	4.71
135	SLU 81	-204	-24	5191	3.56	4.55	5.03
135	SLU 82	-204	-14	5193	3.11	4.55	4.93
135	SLU 83	-204	-24	5191	3.56	4.55	5.03
135	SLU 84	-204	-14	5193	3.11	4.55	4.93
135	SLE RA 1	-144	-15	3150	4.31	3.18	3.21
135	SLE RA 2	-144	-3	3152	3.81	3.18	3.11
135	SLE RA 3	-144	-15	3150	4.31	3.18	3.21
135	SLE RA 4	-144	-8	3151	4.01	3.18	3.15
135	SLE RA 5	-144	-3	3152	3.81	3.18	3.11
135	SLE RA 6	-144	-15	3150	4.31	3.18	3.21
135	SLE RA 7	-144	-8	3151	4.01	3.18	3.15
135	SLE RA 8	-144	-15	3150	4.31	3.18	3.21
135	SLE RA 9	-144	-8	3151	4.01	3.18	3.15
135	SLE RA 10	-151	-5	3597	3.01	3.36	3.45
135	SLE RA 11	-151	-17	3596	3.51	3.36	3.56
135	SLE RA 12	-151	-10	3597	3.21	3.36	3.49
135	SLE RA 13	-151	-5	3597	3.01	3.36	3.45
135	SLE RA 14	-151	-17	3596	3.51	3.36	3.56
135	SLE RA 15	-151	-10	3597	3.21	3.36	3.49
135	SLE RA 16	-151	-17	3596	3.51	3.36	3.56
135	SLE RA 17	-151	-10	3597	3.21	3.36	3.49
135	SLE RA 18	-153	-18	3787	3.17	3.44	3.7
135	SLE RA 19	-153	-11	3788	2.87	3.44	3.64
135	SLE RA 20	-153	-18	3787	3.17	3.44	3.7
135	SLE RA 21	-153	-11	3788	2.87	3.44	3.64
135	SLE FR 1	-144	-15	3150	4.31	3.18	3.21
135	SLE FR 2	-144	-12	3151	4.21	3.18	3.19
135	SLE FR 3	-144	-15	3150	4.31	3.18	3.21
135	SLE FR 4	-147	-13	3342	3.87	3.26	3.34
135	SLE FR 5	-147	-16	3341	3.97	3.26	3.36
135	SLE FR 6	-149	-16	3468	3.74	3.31	3.46
135	SLE QP 1	-144	-15	3150	4.31	3.18	3.21
135	SLE QP 2	-147	-16	3341	3.97	3.26	3.36
135	SLD 1	129	41	3609	1.51	5.26	3.25
135	SLD 2	131	6	3609	1.51	5.27	4.46
135	SLD 3	122	-112	3593	9.31	5.32	4.47
135	SLD 4	125	-146	3592	9.31	5.33	5.69
135	SLD 5	-55	244	3447	-8.6	3.76	1.05
135	SLD 6	-52	210	3447	-8.6	3.77	2.26
135	SLD 7	-77	-263	3391	17.4	3.97	5.12
135	SLD 8	-75	-298	3391	17.4	3.98	6.34
135	SLD 9	-219	266	3292	-9.47	2.54	0.38
135	SLD 10	-216	232	3291	-9.47	2.55	1.6
135	SLD 11	-242	-241	3235	16.53	2.75	4.45
135	SLD 12	-239	-275	3235	16.53	2.76	5.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
135	SLD 13	-419	115	3090	-1.38	1.19	1.03
135	SLD 14	-416	80	3090	-1.38	1.19	2.24
135	SLD 15	-425	-38	3073	6.42	1.25	2.25
135	SLD 16	-423	-72	3073	6.42	1.26	3.47
135	SLV 1	479	112	3950	-1.61	7.8	3.11
135	SLV 2	485	35	3949	-1.61	7.82	5.86
135	SLV 3	464	-234	3912	16.1	7.94	5.89
135	SLV 4	470	-311	3911	16.1	7.96	8.64
135	SLV 5	62	575	3582	-24.56	4.4	-1.9
135	SLV 6	68	497	3582	-24.56	4.42	0.86
135	SLV 7	11	-578	3454	34.46	4.87	7.37
135	SLV 8	17	-656	3454	34.46	4.89	10.13
135	SLV 9	-311	625	3229	-26.53	1.63	-3.41
135	SLV 10	-304	547	3228	-26.53	1.64	-0.65
135	SLV 11	-362	-528	3101	32.49	2.1	5.86
135	SLV 12	-356	-606	3100	32.49	2.12	8.62
135	SLV 13	-764	280	2772	-8.17	-1.44	-1.92
135	SLV 14	-757	202	2771	-8.17	-1.43	0.82
135	SLV 15	-779	-66	2733	9.54	-1.3	0.86
135	SLV 16	-773	-143	2732	9.54	-1.28	3.61
135	CRTFP Ux+	0	0	0	0	0	0
135	CRTFP Ux-	0	0	0	0	0	0
135	CRTFP Uy+	0	0	0	0	0	0
135	CRTFP Uy-	0	0	0	0	0	0
136	SLU 1	-139	3	2919	6.49	2.71	3.19
136	SLU 2	-139	19	2921	5.74	2.71	3.06
136	SLU 3	-139	3	2919	6.49	2.71	3.19
136	SLU 4	-139	13	2920	6.04	2.71	3.11
136	SLU 5	-139	19	2921	5.74	2.71	3.06
136	SLU 6	-139	3	2919	6.49	2.71	3.19
136	SLU 7	-139	13	2920	6.04	2.71	3.11
136	SLU 8	-139	3	2919	6.49	2.71	3.19
136	SLU 9	-139	13	2920	6.04	2.71	3.11
136	SLU 10	-148	19	3583	4.78	2.87	3.6
136	SLU 11	-148	2	3580	5.53	2.87	3.73
136	SLU 12	-148	12	3582	5.08	2.87	3.65
136	SLU 13	-148	19	3583	4.78	2.87	3.6
136	SLU 14	-148	2	3580	5.53	2.87	3.73
136	SLU 15	-148	12	3582	5.08	2.87	3.65
136	SLU 16	-148	2	3580	5.53	2.87	3.73
136	SLU 17	-148	12	3582	5.08	2.87	3.65
136	SLU 18	-152	2	3864	5.12	2.94	3.97
136	SLU 19	-152	12	3865	4.67	2.94	3.88
136	SLU 20	-152	2	3864	5.12	2.94	3.97
136	SLU 21	-152	12	3865	4.67	2.94	3.88
136	SLU 22	-148	2	3410	5.5	2.79	3.61
136	SLU 23	-148	19	3413	4.75	2.79	3.47
136	SLU 24	-148	2	3410	5.5	2.79	3.61
136	SLU 25	-148	12	3412	5.05	2.79	3.53
136	SLU 26	-148	19	3413	4.75	2.79	3.47
136	SLU 27	-148	2	3410	5.5	2.79	3.61
136	SLU 28	-148	12	3412	5.05	2.79	3.53
136	SLU 29	-148	2	3410	5.5	2.79	3.61
136	SLU 30	-148	12	3412	5.05	2.79	3.53
136	SLU 31	-157	19	4074	3.79	2.95	4.02
136	SLU 32	-157	2	4072	4.54	2.95	4.15
136	SLU 33	-157	12	4073	4.09	2.95	4.07
136	SLU 34	-157	19	4074	3.79	2.95	4.02
136	SLU 35	-157	2	4072	4.54	2.95	4.15
136	SLU 36	-157	12	4073	4.09	2.95	4.07
136	SLU 37	-157	2	4072	4.54	2.95	4.15
136	SLU 38	-157	12	4073	4.09	2.95	4.07
136	SLU 39	-161	2	4355	4.13	3.02	4.38
136	SLU 40	-161	12	4357	3.68	3.02	4.3
136	SLU 41	-161	2	4355	4.13	3.02	4.38
136	SLU 42	-161	12	4357	3.68	3.02	4.3
136	SLU 43	-178	4	3626	8.77	3.49	4
136	SLU 44	-178	20	3628	8.02	3.5	3.87
136	SLU 45	-178	4	3626	8.77	3.49	4
136	SLU 46	-178	14	3627	8.32	3.5	3.92
136	SLU 47	-178	20	3628	8.02	3.5	3.87
136	SLU 48	-178	4	3626	8.77	3.49	4
136	SLU 49	-178	14	3627	8.32	3.5	3.92
136	SLU 50	-178	4	3626	8.77	3.49	4
136	SLU 51	-178	14	3627	8.32	3.5	3.92
136	SLU 52	-187	20	4290	7.06	3.66	4.41
136	SLU 53	-187	3	4287	7.81	3.66	4.55
136	SLU 54	-187	13	4289	7.36	3.66	4.47
136	SLU 55	-187	20	4290	7.06	3.66	4.41
136	SLU 56	-187	3	4287	7.81	3.66	4.55
136	SLU 57	-187	13	4289	7.36	3.66	4.47
136	SLU 58	-187	3	4287	7.81	3.66	4.55
136	SLU 59	-187	13	4289	7.36	3.66	4.47
136	SLU 60	-191	3	4571	7.4	3.73	4.78
136	SLU 61	-191	13	4572	6.95	3.73	4.7
136	SLU 62	-191	3	4571	7.4	3.73	4.78
136	SLU 63	-191	13	4572	6.95	3.73	4.7
136	SLU 64	-187	3	4117	7.78	3.57	4.42
136	SLU 65	-187	20	4120	7.03	3.57	4.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
136	SLU 66	-187	3	4117	7.78	3.57	4.42
136	SLU 67	-187	13	4119	7.33	3.57	4.34
136	SLU 68	-187	20	4120	7.03	3.57	4.29
136	SLU 69	-187	3	4117	7.78	3.57	4.42
136	SLU 70	-187	13	4119	7.33	3.57	4.34
136	SLU 71	-187	3	4117	7.78	3.57	4.42
136	SLU 72	-187	13	4119	7.33	3.57	4.34
136	SLU 73	-196	20	4781	6.08	3.74	4.83
136	SLU 74	-196	3	4779	6.83	3.74	4.97
136	SLU 75	-196	13	4780	6.38	3.74	4.88
136	SLU 76	-196	20	4781	6.08	3.74	4.83
136	SLU 77	-196	3	4779	6.83	3.74	4.97
136	SLU 78	-196	13	4780	6.38	3.74	4.88
136	SLU 79	-196	3	4779	6.83	3.74	4.97
136	SLU 80	-196	13	4780	6.38	3.74	4.88
136	SLU 81	-200	3	5062	6.42	3.81	5.2
136	SLU 82	-200	13	5064	5.97	3.81	5.12
136	SLU 83	-200	3	5062	6.42	3.81	5.2
136	SLU 84	-200	13	5064	5.97	3.81	5.12
136	SLE RA 1	-142	3	3059	6.2	2.73	3.31
136	SLE RA 2	-142	14	3061	5.7	2.73	3.22
136	SLE RA 3	-142	3	3059	6.2	2.73	3.31
136	SLE RA 4	-142	9	3060	5.9	2.73	3.26
136	SLE RA 5	-142	14	3061	5.7	2.73	3.22
136	SLE RA 6	-142	3	3059	6.2	2.73	3.31
136	SLE RA 7	-142	9	3060	5.9	2.73	3.26
136	SLE RA 8	-142	3	3059	6.2	2.73	3.31
136	SLE RA 9	-142	9	3060	5.9	2.73	3.26
136	SLE RA 10	-148	13	3502	5.07	2.84	3.58
136	SLE RA 11	-148	2	3500	5.57	2.84	3.67
136	SLE RA 12	-148	9	3501	5.27	2.84	3.62
136	SLE RA 13	-148	13	3502	5.07	2.84	3.58
136	SLE RA 14	-148	2	3500	5.57	2.84	3.67
136	SLE RA 15	-148	9	3501	5.27	2.84	3.62
136	SLE RA 16	-148	2	3500	5.57	2.84	3.67
136	SLE RA 17	-148	9	3501	5.27	2.84	3.62
136	SLE RA 18	-150	2	3689	5.29	2.89	3.83
136	SLE RA 19	-150	9	3690	4.99	2.89	3.77
136	SLE RA 20	-150	2	3689	5.29	2.89	3.83
136	SLE RA 21	-150	9	3690	4.99	2.89	3.77
136	SLE FR 1	-142	3	3059	6.2	2.73	3.31
136	SLE FR 2	-142	5	3059	6.1	2.73	3.29
136	SLE FR 3	-142	3	3059	6.2	2.73	3.31
136	SLE FR 4	-144	5	3248	5.83	2.78	3.45
136	SLE FR 5	-144	3	3248	5.93	2.78	3.47
136	SLE FR 6	-146	3	3374	5.75	2.81	3.57
136	SLE QP 1	-142	3	3059	6.2	2.73	3.31
136	SLE QP 2	-144	3	3248	5.93	2.78	3.47
136	SLD 1	132	58	3455	3.54	4.69	3.46
136	SLD 2	134	30	3455	3.56	4.7	4.63
136	SLD 3	125	-88	3438	11.37	4.76	4.46
136	SLD 4	128	-116	3437	11.39	4.76	5.63
136	SLD 5	-52	251	3338	-6.67	3.25	1.53
136	SLD 6	-50	223	3337	-6.65	3.26	2.71
136	SLD 7	-75	-237	3278	19.43	3.47	4.87
136	SLD 8	-72	-265	3278	19.45	3.48	6.05
136	SLD 9	-217	270	3219	-7.59	2.08	0.88
136	SLD 10	-214	242	3218	-7.57	2.09	2.06
136	SLD 11	-239	-218	3159	18.51	2.3	4.22
136	SLD 12	-236	-246	3159	18.53	2.31	5.4
136	SLD 13	-416	121	3059	0.47	0.79	1.3
136	SLD 14	-414	93	3059	0.49	0.8	2.47
136	SLD 15	-423	-25	3041	8.3	0.86	2.3
136	SLD 16	-420	-53	3041	8.32	0.87	3.47
136	SLV 1	483	129	3719	0.51	7.12	3.45
136	SLV 2	489	66	3717	0.56	7.14	6.1
136	SLV 3	467	-203	3678	18.28	7.27	5.73
136	SLV 4	473	-266	3677	18.33	7.29	8.39
136	SLV 5	65	567	3451	-22.67	3.84	-0.93
136	SLV 6	71	503	3450	-22.62	3.86	1.73
136	SLV 7	14	-541	3316	36.57	4.35	6.67
136	SLV 8	20	-605	3315	36.62	4.37	9.34
136	SLV 9	-308	610	3182	-24.76	1.19	-2.4
136	SLV 10	-302	546	3180	-24.71	1.21	0.26
136	SLV 11	-360	-498	3046	34.48	1.69	5.2
136	SLV 12	-354	-562	3045	34.53	1.71	7.86
136	SLV 13	-762	271	2819	-6.47	-1.73	-1.45
136	SLV 14	-756	208	2818	-6.42	-1.71	1.2
136	SLV 15	-777	-61	2779	11.31	-1.58	0.83
136	SLV 16	-771	-124	2777	11.36	-1.56	3.48
136	CRTFP Ux+	0	0	0	0	0	0
136	CRTFP Ux-	0	0	0	0	0	0
136	CRTFP Uy+	0	0	0	0	0	0
136	CRTFP Uy-	0	0	0	0	0	0
137	SLU 1	-137	20	2841	8.34	2.34	3.21
137	SLU 2	-137	36	2843	7.59	2.34	3.1
137	SLU 3	-137	20	2841	8.34	2.34	3.21
137	SLU 4	-137	29	2842	7.89	2.34	3.15
137	SLU 5	-137	36	2843	7.59	2.34	3.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
137	SLU 6	-137	20	2841	8.34	2.34	3.21
137	SLU 7	-137	29	2842	7.89	2.34	3.15
137	SLU 8	-137	20	2841	8.34	2.34	3.21
137	SLU 9	-137	29	2842	7.89	2.34	3.15
137	SLU 10	-145	38	3501	6.88	2.42	3.66
137	SLU 11	-145	22	3499	7.63	2.42	3.77
137	SLU 12	-145	32	3500	7.18	2.42	3.71
137	SLU 13	-145	38	3501	6.88	2.42	3.66
137	SLU 14	-145	22	3499	7.63	2.42	3.77
137	SLU 15	-145	32	3500	7.18	2.42	3.71
137	SLU 16	-145	22	3499	7.63	2.42	3.77
137	SLU 17	-145	32	3500	7.18	2.42	3.71
137	SLU 18	-149	24	3780	7.32	2.45	4.01
137	SLU 19	-149	33	3782	6.87	2.45	3.94
137	SLU 20	-149	24	3780	7.32	2.45	4.01
137	SLU 21	-149	33	3782	6.87	2.45	3.94
137	SLU 22	-145	22	3330	7.52	2.39	3.64
137	SLU 23	-146	37	3333	6.77	2.39	3.53
137	SLU 24	-145	22	3330	7.52	2.39	3.64
137	SLU 25	-146	31	3332	7.07	2.39	3.57
137	SLU 26	-146	37	3333	6.77	2.39	3.53
137	SLU 27	-145	22	3330	7.52	2.39	3.64
137	SLU 28	-146	31	3332	7.07	2.39	3.57
137	SLU 29	-145	22	3330	7.52	2.39	3.64
137	SLU 30	-146	31	3332	7.07	2.39	3.57
137	SLU 31	-154	40	3990	6.05	2.47	4.09
137	SLU 32	-154	24	3988	6.81	2.47	4.2
137	SLU 33	-154	34	3989	6.36	2.47	4.13
137	SLU 34	-154	40	3990	6.05	2.47	4.09
137	SLU 35	-154	24	3988	6.81	2.47	4.2
137	SLU 36	-154	34	3989	6.36	2.47	4.13
137	SLU 37	-154	24	3988	6.81	2.47	4.2
137	SLU 38	-154	34	3989	6.36	2.47	4.13
137	SLU 39	-158	25	4270	6.5	2.51	4.44
137	SLU 40	-158	35	4271	6.05	2.51	4.37
137	SLU 41	-158	25	4270	6.5	2.51	4.44
137	SLU 42	-158	35	4271	6.05	2.51	4.37
137	SLU 43	-175	25	3525	11.13	3.02	4.03
137	SLU 44	-175	41	3528	10.38	3.02	3.92
137	SLU 45	-175	25	3525	11.13	3.02	4.03
137	SLU 46	-175	35	3527	10.68	3.02	3.97
137	SLU 47	-175	41	3528	10.38	3.02	3.92
137	SLU 48	-175	25	3525	11.13	3.02	4.03
137	SLU 49	-175	35	3527	10.68	3.02	3.97
137	SLU 50	-175	25	3525	11.13	3.02	4.03
137	SLU 51	-175	35	3527	10.68	3.02	3.97
137	SLU 52	-183	44	4185	9.66	3.1	4.48
137	SLU 53	-183	28	4183	10.41	3.1	4.59
137	SLU 54	-183	37	4184	9.96	3.1	4.52
137	SLU 55	-183	44	4185	9.66	3.1	4.48
137	SLU 56	-183	28	4183	10.41	3.1	4.59
137	SLU 57	-183	37	4184	9.96	3.1	4.52
137	SLU 58	-183	28	4183	10.41	3.1	4.59
137	SLU 59	-183	37	4184	9.96	3.1	4.52
137	SLU 60	-187	29	4465	10.11	3.13	4.83
137	SLU 61	-187	38	4466	9.66	3.13	4.76
137	SLU 62	-187	29	4465	10.11	3.13	4.83
137	SLU 63	-187	38	4466	9.66	3.13	4.76
137	SLU 64	-183	27	4015	10.31	3.07	4.46
137	SLU 65	-184	43	4017	9.55	3.07	4.35
137	SLU 66	-183	27	4015	10.31	3.07	4.46
137	SLU 67	-184	36	4016	9.86	3.07	4.39
137	SLU 68	-184	43	4017	9.55	3.07	4.35
137	SLU 69	-183	27	4015	10.31	3.07	4.46
137	SLU 70	-184	36	4016	9.86	3.07	4.39
137	SLU 71	-183	27	4015	10.31	3.07	4.46
137	SLU 72	-184	36	4016	9.86	3.07	4.39
137	SLU 73	-192	45	4675	8.84	3.15	4.91
137	SLU 74	-192	30	4672	9.59	3.15	5.01
137	SLU 75	-192	39	4674	9.14	3.15	4.95
137	SLU 76	-192	45	4675	8.84	3.15	4.91
137	SLU 77	-192	30	4672	9.59	3.15	5.01
137	SLU 78	-192	39	4674	9.14	3.15	4.95
137	SLU 79	-192	30	4672	9.59	3.15	5.01
137	SLU 80	-192	39	4674	9.14	3.15	4.95
137	SLU 81	-196	31	4954	9.29	3.19	5.25
137	SLU 82	-196	40	4956	8.83	3.19	5.19
137	SLU 83	-196	31	4954	9.29	3.19	5.25
137	SLU 84	-196	40	4956	8.83	3.19	5.19
137	SLE RA 1	-139	20	2981	8.11	2.35	3.34
137	SLE RA 2	-139	31	2982	7.61	2.35	3.26
137	SLE RA 3	-139	20	2981	8.11	2.35	3.34
137	SLE RA 4	-139	27	2982	7.81	2.35	3.29
137	SLE RA 5	-139	31	2982	7.61	2.35	3.26
137	SLE RA 6	-139	20	2981	8.11	2.35	3.34
137	SLE RA 7	-139	27	2982	7.81	2.35	3.29
137	SLE RA 8	-139	20	2981	8.11	2.35	3.34
137	SLE RA 9	-139	27	2982	7.81	2.35	3.29
137	SLE RA 10	-145	33	3421	7.13	2.41	3.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
137	SLE RA 11	-145	22	3419	7.63	2.41	3.71
137	SLE RA 12	-145	28	3420	7.33	2.41	3.66
137	SLE RA 13	-145	33	3421	7.13	2.41	3.63
137	SLE RA 14	-145	22	3419	7.63	2.41	3.71
137	SLE RA 15	-145	28	3420	7.33	2.41	3.66
137	SLE RA 16	-145	22	3419	7.63	2.41	3.71
137	SLE RA 17	-145	28	3420	7.33	2.41	3.66
137	SLE RA 18	-147	23	3607	7.43	2.43	3.87
137	SLE RA 19	-147	29	3608	7.13	2.43	3.82
137	SLE RA 20	-147	23	3607	7.43	2.43	3.87
137	SLE RA 21	-147	29	3608	7.13	2.43	3.82
137	SLE FR 1	-139	20	2981	8.11	2.35	3.34
137	SLE FR 2	-139	22	2981	8.01	2.35	3.32
137	SLE FR 3	-139	20	2981	8.11	2.35	3.34
137	SLE FR 4	-142	23	3169	7.8	2.38	3.48
137	SLE FR 5	-142	21	3169	7.91	2.38	3.49
137	SLE FR 6	-143	22	3294	7.77	2.39	3.6
137	SLE QP 1	-139	20	2981	8.11	2.35	3.34
137	SLE QP 2	-142	21	3169	7.91	2.38	3.49
137	SLD 1	135	77	3318	5.58	4.22	3.59
137	SLD 2	137	55	3317	5.62	4.23	4.72
137	SLD 3	128	-65	3298	13.45	4.29	4.34
137	SLD 4	131	-87	3297	13.49	4.3	5.47
137	SLD 5	-50	260	3243	-4.74	2.82	1.99
137	SLD 6	-47	238	3242	-4.7	2.83	3.13
137	SLD 7	-72	-212	3179	21.49	3.05	4.48
137	SLD 8	-69	-234	3178	21.53	3.06	5.62
137	SLD 9	-214	276	3159	-5.72	1.69	1.37
137	SLD 10	-211	254	3158	-5.67	1.7	2.51
137	SLD 11	-236	-196	3095	20.51	1.92	3.86
137	SLD 12	-234	-218	3094	20.55	1.93	5
137	SLD 13	-414	129	3040	2.32	0.45	1.52
137	SLD 14	-411	107	3039	2.36	0.46	2.65
137	SLD 15	-421	-13	3020	10.19	0.52	2.27
137	SLD 16	-418	-35	3020	10.23	0.53	3.4
137	SLV 1	486	148	3507	2.62	6.56	3.71
137	SLV 2	492	98	3505	2.72	6.58	6.27
137	SLV 3	470	-174	3463	20.48	6.72	5.41
137	SLV 4	476	-223	3461	20.58	6.74	7.97
137	SLV 5	68	565	3337	-20.8	3.38	0.07
137	SLV 6	74	515	3335	-20.7	3.4	2.64
137	SLV 7	16	-508	3191	38.73	3.92	5.76
137	SLV 8	23	-558	3189	38.83	3.94	8.33
137	SLV 9	-306	600	3148	-23.02	0.81	-1.34
137	SLV 10	-300	550	3146	-22.92	0.83	1.23
137	SLV 11	-357	-473	3002	36.51	1.35	4.35
137	SLV 12	-351	-523	3000	36.61	1.37	6.92
137	SLV 13	-760	266	2876	-4.77	-1.99	-0.98
137	SLV 14	-754	216	2874	-4.67	-1.97	1.57
137	SLV 15	-775	-56	2832	13.09	-1.83	0.72
137	SLV 16	-769	-106	2830	13.19	-1.81	3.28
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	-134	37	2774	10.21	2.02	3.16
138	SLU 2	-134	52	2776	9.46	2.02	3.08
138	SLU 3	-134	37	2774	10.21	2.02	3.16
138	SLU 4	-134	46	2775	9.76	2.02	3.12
138	SLU 5	-134	52	2776	9.46	2.02	3.08
138	SLU 6	-134	37	2774	10.21	2.02	3.16
138	SLU 7	-134	46	2775	9.76	2.02	3.12
138	SLU 8	-134	37	2774	10.21	2.02	3.16
138	SLU 9	-134	46	2775	9.76	2.02	3.12
138	SLU 10	-142	58	3432	8.98	2.03	3.64
138	SLU 11	-142	42	3430	9.74	2.03	3.72
138	SLU 12	-142	52	3431	9.29	2.03	3.67
138	SLU 13	-142	58	3432	8.98	2.03	3.64
138	SLU 14	-142	42	3430	9.74	2.03	3.72
138	SLU 15	-142	52	3431	9.29	2.03	3.67
138	SLU 16	-142	42	3430	9.74	2.03	3.72
138	SLU 17	-142	52	3431	9.29	2.03	3.67
138	SLU 18	-146	45	3711	9.54	2.04	3.96
138	SLU 19	-146	54	3713	9.08	2.04	3.91
138	SLU 20	-146	45	3711	9.54	2.04	3.96
138	SLU 21	-146	54	3713	9.08	2.04	3.91
138	SLU 22	-143	41	3262	9.56	2.06	3.59
138	SLU 23	-143	56	3264	8.8	2.06	3.51
138	SLU 24	-143	41	3262	9.56	2.06	3.59
138	SLU 25	-143	50	3263	9.1	2.06	3.54
138	SLU 26	-143	56	3264	8.8	2.06	3.51
138	SLU 27	-143	41	3262	9.56	2.06	3.59
138	SLU 28	-143	50	3263	9.1	2.06	3.54
138	SLU 29	-143	41	3262	9.56	2.06	3.59
138	SLU 30	-143	50	3263	9.1	2.06	3.54
138	SLU 31	-151	62	3920	8.33	2.08	4.07
138	SLU 32	-151	47	3918	9.08	2.08	4.15
138	SLU 33	-151	56	3919	8.63	2.08	4.1
138	SLU 34	-151	62	3920	8.33	2.08	4.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
138	SLU 35	-151	47	3918	9.08	2.08	4.15
138	SLU 36	-151	56	3919	8.63	2.08	4.1
138	SLU 37	-151	47	3918	9.08	2.08	4.15
138	SLU 38	-151	56	3919	8.63	2.08	4.1
138	SLU 39	-154	49	4199	8.88	2.08	4.39
138	SLU 40	-155	58	4201	8.42	2.08	4.34
138	SLU 41	-154	49	4199	8.88	2.08	4.39
138	SLU 42	-155	58	4201	8.42	2.08	4.34
138	SLU 43	-172	46	3438	13.5	2.61	3.97
138	SLU 44	-172	62	3441	12.75	2.61	3.89
138	SLU 45	-172	46	3438	13.5	2.61	3.97
138	SLU 46	-172	55	3440	13.05	2.61	3.92
138	SLU 47	-172	62	3441	12.75	2.61	3.89
138	SLU 48	-172	46	3438	13.5	2.61	3.97
138	SLU 49	-172	55	3440	13.05	2.61	3.92
138	SLU 50	-172	46	3438	13.5	2.61	3.97
138	SLU 51	-172	55	3440	13.05	2.61	3.92
138	SLU 52	-180	67	4097	12.27	2.62	4.45
138	SLU 53	-180	52	4095	13.03	2.62	4.53
138	SLU 54	-180	61	4096	12.57	2.62	4.48
138	SLU 55	-180	67	4097	12.27	2.62	4.45
138	SLU 56	-180	52	4095	13.03	2.62	4.53
138	SLU 57	-180	61	4096	12.57	2.62	4.48
138	SLU 58	-180	52	4095	13.03	2.62	4.53
138	SLU 59	-180	61	4096	12.57	2.62	4.48
138	SLU 60	-183	54	4376	12.82	2.63	4.77
138	SLU 61	-183	64	4377	12.37	2.63	4.72
138	SLU 62	-183	54	4376	12.82	2.63	4.77
138	SLU 63	-183	64	4377	12.37	2.63	4.72
138	SLU 64	-180	50	3926	12.85	2.65	4.39
138	SLU 65	-180	66	3929	12.09	2.65	4.31
138	SLU 66	-180	50	3926	12.85	2.65	4.39
138	SLU 67	-180	60	3928	12.39	2.65	4.34
138	SLU 68	-180	66	3929	12.09	2.65	4.31
138	SLU 69	-180	50	3926	12.85	2.65	4.39
138	SLU 70	-180	60	3928	12.39	2.65	4.34
138	SLU 71	-180	50	3926	12.85	2.65	4.39
138	SLU 72	-180	60	3928	12.39	2.65	4.34
138	SLU 73	-188	71	4585	11.62	2.67	4.87
138	SLU 74	-188	56	4583	12.37	2.67	4.95
138	SLU 75	-188	65	4584	11.92	2.67	4.9
138	SLU 76	-188	71	4585	11.62	2.67	4.87
138	SLU 77	-188	56	4583	12.37	2.67	4.95
138	SLU 78	-188	65	4584	11.92	2.67	4.9
138	SLU 79	-188	56	4583	12.37	2.67	4.95
138	SLU 80	-188	65	4584	11.92	2.67	4.9
138	SLU 81	-192	59	4864	12.17	2.67	5.19
138	SLU 82	-192	68	4865	11.71	2.67	5.14
138	SLU 83	-192	59	4864	12.17	2.67	5.19
138	SLU 84	-192	68	4865	11.71	2.67	5.14
138	SLE RA 1	-137	38	2913	10.03	2.03	3.29
138	SLE RA 2	-137	48	2915	9.52	2.03	3.23
138	SLE RA 3	-137	38	2913	10.03	2.03	3.29
138	SLE RA 4	-137	44	2914	9.72	2.03	3.25
138	SLE RA 5	-137	48	2915	9.52	2.03	3.23
138	SLE RA 6	-137	38	2913	10.03	2.03	3.29
138	SLE RA 7	-137	44	2914	9.72	2.03	3.25
138	SLE RA 8	-137	38	2913	10.03	2.03	3.29
138	SLE RA 9	-137	44	2914	9.72	2.03	3.25
138	SLE RA 10	-142	52	3352	9.21	2.04	3.6
138	SLE RA 11	-142	42	3351	9.71	2.04	3.66
138	SLE RA 12	-142	48	3352	9.41	2.04	3.63
138	SLE RA 13	-142	52	3352	9.21	2.04	3.6
138	SLE RA 14	-142	42	3351	9.71	2.04	3.66
138	SLE RA 15	-142	48	3352	9.41	2.04	3.63
138	SLE RA 16	-142	42	3351	9.71	2.04	3.66
138	SLE RA 17	-142	48	3352	9.41	2.04	3.63
138	SLE RA 18	-144	43	3538	9.57	2.05	3.82
138	SLE RA 19	-144	49	3539	9.27	2.04	3.79
138	SLE RA 20	-144	43	3538	9.57	2.05	3.82
138	SLE RA 21	-144	49	3539	9.27	2.04	3.79
138	SLE FR 1	-137	38	2913	10.03	2.03	3.29
138	SLE FR 2	-137	40	2913	9.93	2.03	3.27
138	SLE FR 3	-137	38	2913	10.03	2.03	3.29
138	SLE FR 4	-139	42	3101	9.79	2.04	3.43
138	SLE FR 5	-139	39	3101	9.89	2.04	3.45
138	SLE FR 6	-141	41	3226	9.8	2.04	3.55
138	SLE QP 1	-137	38	2913	10.03	2.03	3.29
138	SLE QP 2	-139	39	3101	9.89	2.04	3.45
138	SLD 1	137	96	3193	7.62	3.83	3.63
138	SLD 2	140	80	3192	7.69	3.84	4.72
138	SLD 3	131	-43	3172	15.54	3.91	4.12
138	SLD 4	133	-59	3171	15.61	3.92	5.2
138	SLD 5	-47	272	3160	-2.82	2.46	2.39
138	SLD 6	-44	256	3159	-2.75	2.46	3.48
138	SLD 7	-69	-190	3091	23.57	2.71	4
138	SLD 8	-66	-206	3090	23.64	2.72	5.09
138	SLD 9	-212	285	3111	-3.85	1.35	1.8
138	SLD 10	-209	269	3110	-3.79	1.36	2.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
138	SLD 11	-234	-177	3042	22.53	1.61	3.41
138	SLD 12	-231	-193	3041	22.6	1.62	4.5
138	SLD 13	-411	138	3030	4.17	0.16	1.69
138	SLD 14	-409	122	3029	4.24	0.16	2.77
138	SLD 15	-418	-1	3009	12.09	0.23	2.17
138	SLD 16	-415	-17	3008	12.16	0.24	3.26
138	SLV 1	489	168	3311	4.75	6.11	3.87
138	SLV 2	495	131	3308	4.9	6.13	6.33
138	SLV 3	473	-147	3263	22.72	6.28	4.97
138	SLV 4	479	-183	3260	22.87	6.3	7.44
138	SLV 5	70	568	3237	-18.96	2.99	1.03
138	SLV 6	76	531	3234	-18.81	3.01	3.5
138	SLV 7	19	-481	3078	40.94	3.57	4.71
138	SLV 8	25	-517	3076	41.09	3.59	7.19
138	SLV 9	-303	596	3126	-21.31	0.48	-0.3
138	SLV 10	-297	560	3123	-21.16	0.5	2.18
138	SLV 11	-355	-452	2967	38.59	1.06	3.39
138	SLV 12	-348	-489	2965	38.74	1.08	5.86
138	SLV 13	-757	262	2941	-3.09	-2.23	-0.55
138	SLV 14	-751	226	2938	-2.94	-2.21	1.92
138	SLV 15	-773	-52	2893	14.88	-2.06	0.56
138	SLV 16	-767	-89	2890	15.03	-2.04	3.02
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	-132	53	2715	12.1	1.75	3.04
139	SLU 2	-132	68	2718	11.34	1.75	2.98
139	SLU 3	-132	53	2715	12.1	1.75	3.04
139	SLU 4	-132	62	2717	11.64	1.75	3.01
139	SLU 5	-132	68	2718	11.34	1.75	2.98
139	SLU 6	-132	53	2715	12.1	1.75	3.04
139	SLU 7	-132	62	2717	11.64	1.75	3.01
139	SLU 8	-132	53	2715	12.1	1.75	3.04
139	SLU 9	-132	62	2717	11.64	1.75	3.01
139	SLU 10	-140	77	3375	11.1	1.72	3.54
139	SLU 11	-140	62	3372	11.86	1.72	3.59
139	SLU 12	-140	71	3374	11.41	1.72	3.56
139	SLU 13	-140	77	3375	11.1	1.72	3.54
139	SLU 14	-140	62	3372	11.86	1.72	3.59
139	SLU 15	-140	71	3374	11.41	1.72	3.56
139	SLU 16	-140	62	3372	11.86	1.72	3.59
139	SLU 17	-140	71	3374	11.41	1.72	3.56
139	SLU 18	-143	65	3653	11.76	1.71	3.82
139	SLU 19	-143	74	3655	11.31	1.71	3.79
139	SLU 20	-143	65	3653	11.76	1.71	3.82
139	SLU 21	-143	74	3655	11.31	1.71	3.79
139	SLU 22	-140	60	3202	11.61	1.79	3.45
139	SLU 23	-140	75	3205	10.85	1.79	3.4
139	SLU 24	-140	60	3202	11.61	1.79	3.45
139	SLU 25	-140	69	3204	11.15	1.79	3.42
139	SLU 26	-140	75	3205	10.85	1.79	3.4
139	SLU 27	-140	60	3202	11.61	1.79	3.45
139	SLU 28	-140	69	3204	11.15	1.79	3.42
139	SLU 29	-140	60	3202	11.61	1.79	3.45
139	SLU 30	-140	69	3204	11.15	1.79	3.42
139	SLU 31	-148	83	3861	10.61	1.76	3.95
139	SLU 32	-148	68	3859	11.37	1.76	4
139	SLU 33	-148	77	3860	10.91	1.76	3.97
139	SLU 34	-148	83	3861	10.61	1.76	3.95
139	SLU 35	-148	68	3859	11.37	1.76	4
139	SLU 36	-148	77	3860	10.91	1.76	3.97
139	SLU 37	-148	68	3859	11.37	1.76	4
139	SLU 38	-148	77	3860	10.91	1.76	3.97
139	SLU 39	-151	72	4140	11.27	1.75	4.24
139	SLU 40	-151	81	4142	10.81	1.75	4.21
139	SLU 41	-151	72	4140	11.27	1.75	4.24
139	SLU 42	-151	81	4142	10.81	1.75	4.21
139	SLU 43	-168	67	3363	15.9	2.26	3.8
139	SLU 44	-169	82	3366	15.14	2.26	3.75
139	SLU 45	-168	67	3363	15.9	2.26	3.8
139	SLU 46	-169	76	3365	15.44	2.26	3.77
139	SLU 47	-169	82	3366	15.14	2.26	3.75
139	SLU 48	-168	67	3363	15.9	2.26	3.8
139	SLU 49	-169	76	3365	15.44	2.26	3.77
139	SLU 50	-168	67	3363	15.9	2.26	3.8
139	SLU 51	-169	76	3365	15.44	2.26	3.77
139	SLU 52	-176	91	4022	14.9	2.23	4.3
139	SLU 53	-176	76	4020	15.66	2.23	4.36
139	SLU 54	-176	85	4021	15.21	2.23	4.32
139	SLU 55	-176	91	4022	14.9	2.23	4.3
139	SLU 56	-176	76	4020	15.66	2.23	4.36
139	SLU 57	-176	85	4021	15.21	2.23	4.32
139	SLU 58	-176	76	4020	15.66	2.23	4.36
139	SLU 59	-176	85	4021	15.21	2.23	4.32
139	SLU 60	-179	79	4301	15.56	2.22	4.59
139	SLU 61	-180	88	4303	15.1	2.22	4.56
139	SLU 62	-179	79	4301	15.56	2.22	4.59
139	SLU 63	-180	88	4303	15.1	2.22	4.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
139	SLU 64	-177	73	3850	15.41	2.31	4.22
139	SLU 65	-177	88	3852	14.65	2.3	4.17
139	SLU 66	-177	73	3850	15.41	2.31	4.22
139	SLU 67	-177	82	3851	14.95	2.3	4.19
139	SLU 68	-177	88	3852	14.65	2.3	4.17
139	SLU 69	-177	73	3850	15.41	2.31	4.22
139	SLU 70	-177	82	3851	14.95	2.3	4.19
139	SLU 71	-177	73	3850	15.41	2.31	4.22
139	SLU 72	-177	82	3851	14.95	2.3	4.19
139	SLU 73	-185	97	4509	14.41	2.27	4.72
139	SLU 74	-185	82	4506	15.17	2.27	4.77
139	SLU 75	-185	91	4508	14.71	2.27	4.74
139	SLU 76	-185	97	4509	14.41	2.27	4.72
139	SLU 77	-185	82	4506	15.17	2.27	4.77
139	SLU 78	-185	91	4508	14.71	2.27	4.74
139	SLU 79	-185	82	4506	15.17	2.27	4.77
139	SLU 80	-185	91	4508	14.71	2.27	4.74
139	SLU 81	-188	86	4788	15.07	2.26	5.01
139	SLU 82	-188	95	4789	14.61	2.26	4.98
139	SLU 83	-188	86	4788	15.07	2.26	5.01
139	SLU 84	-188	95	4789	14.61	2.26	4.98
139	SLE RA 1	-134	55	2854	11.96	1.76	3.16
139	SLE RA 2	-134	65	2856	11.45	1.76	3.12
139	SLE RA 3	-134	55	2854	11.96	1.76	3.16
139	SLE RA 4	-134	61	2855	11.65	1.76	3.14
139	SLE RA 5	-134	65	2856	11.45	1.76	3.12
139	SLE RA 6	-134	55	2854	11.96	1.76	3.16
139	SLE RA 7	-134	61	2855	11.65	1.76	3.14
139	SLE RA 8	-134	55	2854	11.96	1.76	3.16
139	SLE RA 9	-134	61	2855	11.65	1.76	3.14
139	SLE RA 10	-139	71	3294	11.29	1.74	3.49
139	SLE RA 11	-139	61	3292	11.8	1.74	3.52
139	SLE RA 12	-139	67	3293	11.5	1.74	3.5
139	SLE RA 13	-139	71	3294	11.29	1.74	3.49
139	SLE RA 14	-139	61	3292	11.8	1.74	3.52
139	SLE RA 15	-139	67	3293	11.5	1.74	3.5
139	SLE RA 16	-139	61	3292	11.8	1.74	3.52
139	SLE RA 17	-139	67	3293	11.5	1.74	3.5
139	SLE RA 18	-142	63	3480	11.73	1.74	3.68
139	SLE RA 19	-142	69	3481	11.43	1.73	3.66
139	SLE RA 20	-142	63	3480	11.73	1.74	3.68
139	SLE RA 21	-142	69	3481	11.43	1.73	3.66
139	SLE FR 1	-134	55	2854	11.96	1.76	3.16
139	SLE FR 2	-134	57	2855	11.86	1.76	3.15
139	SLE FR 3	-134	55	2854	11.96	1.76	3.16
139	SLE FR 4	-136	59	3042	11.79	1.75	3.31
139	SLE FR 5	-136	57	3042	11.89	1.76	3.31
139	SLE FR 6	-138	59	3167	11.85	1.75	3.42
139	SLE QP 1	-134	55	2854	11.96	1.76	3.16
139	SLE QP 2	-136	57	3042	11.89	1.76	3.31
139	SLD 1	140	115	3080	9.68	3.51	3.57
139	SLD 2	143	104	3078	9.77	3.52	4.62
139	SLD 3	133	-22	3057	17.66	3.59	3.81
139	SLD 4	136	-32	3055	17.75	3.6	4.85
139	SLD 5	-44	286	3089	-0.9	2.15	2.67
139	SLD 6	-42	275	3087	-0.81	2.16	3.72
139	SLD 7	-67	-170	3012	25.68	2.43	3.45
139	SLD 8	-64	-181	3011	25.77	2.44	4.5
139	SLD 9	-209	296	3073	-1.99	1.07	2.13
139	SLD 10	-206	285	3072	-1.9	1.08	3.18
139	SLD 11	-231	-160	2997	24.59	1.35	2.9
139	SLD 12	-228	-171	2995	24.68	1.36	3.96
139	SLD 13	-409	147	3029	6.04	-0.09	1.77
139	SLD 14	-406	137	3027	6.12	-0.08	2.82
139	SLD 15	-415	11	3006	14.01	-0.01	2.01
139	SLD 16	-413	0	3004	14.1	0	3.05
139	SLV 1	491	187	3128	6.88	5.73	3.9
139	SLV 2	497	164	3125	7.09	5.75	6.27
139	SLV 3	476	-123	3076	24.99	5.92	4.44
139	SLV 4	482	-147	3073	25.19	5.94	6.81
139	SLV 5	73	576	3148	-17.14	2.66	1.83
139	SLV 6	79	552	3145	-16.93	2.68	4.21
139	SLV 7	22	-460	2974	43.2	3.28	3.64
139	SLV 8	28	-483	2971	43.4	3.3	6.02
139	SLV 9	-301	598	3113	-19.62	0.21	0.6
139	SLV 10	-295	574	3110	-19.42	0.23	2.99
139	SLV 11	-352	-437	2939	40.72	0.83	2.42
139	SLV 12	-346	-461	2936	40.92	0.85	4.8
139	SLV 13	-755	262	3012	-1.4	-2.43	-0.19
139	SLV 14	-749	238	3008	-1.2	-2.41	2.18
139	SLV 15	-770	-49	2959	16.7	-2.24	0.36
139	SLV 16	-764	-72	2956	16.9	-2.22	2.73
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	-130	69	2665	14	1.53	2.83
140	SLU 2	-130	84	2667	13.24	1.53	2.8
140	SLU 3	-130	69	2665	14	1.53	2.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
140	SLU 4	-130	78	2666	13.54	1.53	2.81
140	SLU 5	-130	84	2667	13.24	1.53	2.8
140	SLU 6	-130	69	2665	14	1.53	2.83
140	SLU 7	-130	78	2666	13.54	1.53	2.81
140	SLU 8	-130	69	2665	14	1.53	2.83
140	SLU 9	-130	78	2666	13.54	1.53	2.81
140	SLU 10	-137	95	3325	13.24	1.48	3.33
140	SLU 11	-137	80	3323	14.01	1.48	3.36
140	SLU 12	-137	89	3324	13.55	1.48	3.34
140	SLU 13	-137	95	3325	13.24	1.48	3.33
140	SLU 14	-137	80	3323	14.01	1.48	3.36
140	SLU 15	-137	89	3324	13.55	1.48	3.34
140	SLU 16	-137	80	3323	14.01	1.48	3.36
140	SLU 17	-137	89	3324	13.55	1.48	3.34
140	SLU 18	-140	85	3605	14.01	1.46	3.58
140	SLU 19	-140	94	3606	13.55	1.46	3.57
140	SLU 20	-140	85	3605	14.01	1.46	3.58
140	SLU 21	-140	94	3606	13.55	1.46	3.57
140	SLU 22	-138	77	3150	13.67	1.59	3.23
140	SLU 23	-138	92	3153	12.91	1.58	3.2
140	SLU 24	-138	77	3150	13.67	1.59	3.23
140	SLU 25	-138	86	3151	13.21	1.58	3.21
140	SLU 26	-138	92	3153	12.91	1.58	3.2
140	SLU 27	-138	77	3150	13.67	1.59	3.23
140	SLU 28	-138	86	3151	13.21	1.58	3.21
140	SLU 29	-138	77	3150	13.67	1.59	3.23
140	SLU 30	-138	86	3151	13.21	1.58	3.21
140	SLU 31	-145	104	3810	12.91	1.53	3.73
140	SLU 32	-145	89	3808	13.68	1.54	3.75
140	SLU 33	-145	98	3809	13.22	1.54	3.74
140	SLU 34	-145	104	3810	12.91	1.53	3.73
140	SLU 35	-145	89	3808	13.68	1.54	3.75
140	SLU 36	-145	98	3809	13.22	1.54	3.74
140	SLU 37	-145	89	3808	13.68	1.54	3.75
140	SLU 38	-145	98	3809	13.22	1.54	3.74
140	SLU 39	-148	94	4090	13.68	1.52	3.98
140	SLU 40	-148	103	4091	13.22	1.51	3.96
140	SLU 41	-148	94	4090	13.68	1.52	3.98
140	SLU 42	-148	103	4091	13.22	1.51	3.96
140	SLU 43	-166	87	3298	18.32	1.97	3.54
140	SLU 44	-166	101	3300	17.55	1.97	3.51
140	SLU 45	-166	87	3298	18.32	1.97	3.54
140	SLU 46	-166	95	3299	17.86	1.97	3.52
140	SLU 47	-166	101	3300	17.55	1.97	3.51
140	SLU 48	-166	87	3298	18.32	1.97	3.54
140	SLU 49	-166	95	3299	17.86	1.97	3.52
140	SLU 50	-166	87	3298	18.32	1.97	3.54
140	SLU 51	-166	95	3299	17.86	1.97	3.52
140	SLU 52	-173	113	3958	17.55	1.92	4.04
140	SLU 53	-173	98	3956	18.32	1.92	4.07
140	SLU 54	-173	107	3957	17.86	1.92	4.05
140	SLU 55	-173	113	3958	17.55	1.92	4.04
140	SLU 56	-173	98	3956	18.32	1.92	4.07
140	SLU 57	-173	107	3957	17.86	1.92	4.05
140	SLU 58	-173	98	3956	18.32	1.92	4.07
140	SLU 59	-173	107	3957	17.86	1.92	4.05
140	SLU 60	-176	103	4238	18.32	1.9	4.29
140	SLU 61	-176	112	4239	17.86	1.9	4.28
140	SLU 62	-176	103	4238	18.32	1.9	4.29
140	SLU 63	-176	112	4239	17.86	1.9	4.28
140	SLU 64	-174	95	3783	17.99	2.03	3.94
140	SLU 65	-174	110	3786	17.22	2.02	3.91
140	SLU 66	-174	95	3783	17.99	2.03	3.94
140	SLU 67	-174	104	3785	17.53	2.02	3.92
140	SLU 68	-174	110	3786	17.22	2.02	3.91
140	SLU 69	-174	95	3783	17.99	2.03	3.94
140	SLU 70	-174	104	3785	17.53	2.02	3.92
140	SLU 71	-174	95	3783	17.99	2.03	3.94
140	SLU 72	-174	104	3785	17.53	2.02	3.92
140	SLU 73	-181	121	4444	17.22	1.97	4.44
140	SLU 74	-181	107	4441	17.99	1.98	4.47
140	SLU 75	-181	115	4442	17.53	1.98	4.45
140	SLU 76	-181	121	4444	17.22	1.97	4.44
140	SLU 77	-181	107	4441	17.99	1.98	4.47
140	SLU 78	-181	115	4442	17.53	1.98	4.45
140	SLU 79	-181	107	4441	17.99	1.98	4.47
140	SLU 80	-181	115	4442	17.53	1.98	4.45
140	SLU 81	-184	111	4723	17.99	1.96	4.69
140	SLU 82	-184	120	4724	17.53	1.96	4.68
140	SLU 83	-184	111	4723	17.99	1.96	4.69
140	SLU 84	-184	120	4724	17.53	1.96	4.68
140	SLE RA 1	-132	71	2803	13.91	1.55	2.94
140	SLE RA 2	-132	81	2805	13.4	1.54	2.92
140	SLE RA 3	-132	71	2803	13.91	1.55	2.94
140	SLE RA 4	-132	77	2804	13.6	1.55	2.93
140	SLE RA 5	-132	81	2805	13.4	1.54	2.92
140	SLE RA 6	-132	71	2803	13.91	1.55	2.94
140	SLE RA 7	-132	77	2804	13.6	1.55	2.93
140	SLE RA 8	-132	71	2803	13.91	1.55	2.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
140	SLE RA 9	-132	77	2804	13.6	1.55	2.93
140	SLE RA 10	-137	89	3244	13.4	1.51	3.28
140	SLE RA 11	-137	79	3242	13.91	1.51	3.29
140	SLE RA 12	-137	85	3243	13.6	1.51	3.28
140	SLE RA 13	-137	89	3244	13.4	1.51	3.28
140	SLE RA 14	-137	79	3242	13.91	1.51	3.29
140	SLE RA 15	-137	85	3243	13.6	1.51	3.28
140	SLE RA 16	-137	79	3242	13.91	1.51	3.29
140	SLE RA 17	-137	85	3243	13.6	1.51	3.28
140	SLE RA 18	-139	82	3430	13.91	1.5	3.44
140	SLE RA 19	-139	88	3431	13.6	1.5	3.43
140	SLE RA 20	-139	82	3430	13.91	1.5	3.44
140	SLE RA 21	-139	88	3431	13.6	1.5	3.43
140	SLE FR 1	-132	71	2803	13.91	1.55	2.94
140	SLE FR 2	-132	73	2804	13.81	1.55	2.94
140	SLE FR 3	-132	71	2803	13.91	1.55	2.94
140	SLE FR 4	-134	77	2992	13.81	1.53	3.09
140	SLE FR 5	-134	75	2991	13.91	1.53	3.09
140	SLE FR 6	-135	77	3117	13.91	1.52	3.19
140	SLE QP 1	-132	71	2803	13.91	1.55	2.94
140	SLE QP 2	-134	75	2991	13.91	1.53	3.09
140	SLD 1	142	133	2975	11.76	3.24	3.34
140	SLD 2	145	128	2973	11.87	3.25	4.35
140	SLD 3	136	-4	2950	19.8	3.33	3.47
140	SLD 4	138	-9	2948	19.91	3.33	4.48
140	SLD 5	-42	301	3025	1.03	1.91	2.62
140	SLD 6	-39	296	3024	1.14	1.91	3.64
140	SLD 7	-64	-154	2941	27.83	2.2	3.04
140	SLD 8	-61	-159	2939	27.95	2.21	4.05
140	SLD 9	-207	308	3043	-0.13	0.86	2.13
140	SLD 10	-204	303	3042	-0.02	0.86	3.15
140	SLD 11	-229	-147	2959	26.68	1.15	2.55
140	SLD 12	-226	-152	2957	26.79	1.16	3.56
140	SLD 13	-406	158	3035	7.91	-0.27	1.71
140	SLD 14	-404	153	3033	8.02	-0.26	2.72
140	SLD 15	-413	21	3010	15.95	-0.18	1.83
140	SLD 16	-410	16	3008	16.06	-0.17	2.84
140	SLV 1	493	206	2954	9.03	5.4	3.65
140	SLV 2	499	195	2950	9.29	5.42	5.94
140	SLV 3	478	-103	2896	27.29	5.61	3.96
140	SLV 4	484	-115	2893	27.54	5.62	6.25
140	SLV 5	75	588	3069	-15.33	2.38	1.99
140	SLV 6	81	577	3065	-15.07	2.4	4.29
140	SLV 7	24	-445	2877	45.52	3.06	3
140	SLV 8	30	-456	2873	45.77	3.07	5.31
140	SLV 9	-298	605	3109	-17.95	-0.01	0.88
140	SLV 10	-292	594	3106	-17.7	0.01	3.18
140	SLV 11	-349	-427	2918	42.89	0.67	1.89
140	SLV 12	-343	-439	2914	43.15	0.68	4.19
140	SLV 13	-752	264	3090	0.28	-2.56	-0.06
140	SLV 14	-746	253	3086	0.53	-2.54	2.23
140	SLV 15	-767	-46	3033	18.53	-2.35	0.24
140	SLV 16	-761	-57	3029	18.79	-2.34	2.53
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	-127	83	2620	15.93	1.34	2.53
141	SLU 2	-127	98	2623	15.15	1.34	2.52
141	SLU 3	-127	83	2620	15.93	1.34	2.53
141	SLU 4	-127	92	2622	15.46	1.34	2.53
141	SLU 5	-127	98	2623	15.15	1.34	2.52
141	SLU 6	-127	83	2620	15.93	1.34	2.53
141	SLU 7	-127	92	2622	15.46	1.34	2.53
141	SLU 8	-127	83	2620	15.93	1.34	2.53
141	SLU 9	-127	92	2622	15.46	1.34	2.53
141	SLU 10	-135	112	3282	15.4	1.3	3.02
141	SLU 11	-134	97	3280	16.17	1.31	3.02
141	SLU 12	-135	106	3281	15.7	1.3	3.02
141	SLU 13	-135	112	3282	15.4	1.3	3.02
141	SLU 14	-134	97	3280	16.17	1.31	3.02
141	SLU 15	-135	106	3281	15.7	1.3	3.02
141	SLU 16	-134	97	3280	16.17	1.31	3.02
141	SLU 17	-135	106	3281	15.7	1.3	3.02
141	SLU 18	-137	103	3562	16.27	1.29	3.23
141	SLU 19	-138	112	3564	15.81	1.29	3.23
141	SLU 20	-137	103	3562	16.27	1.29	3.23
141	SLU 21	-138	112	3564	15.81	1.29	3.23
141	SLU 22	-136	94	3103	15.76	1.42	2.9
141	SLU 23	-136	108	3106	14.99	1.42	2.89
141	SLU 24	-136	94	3103	15.76	1.42	2.9
141	SLU 25	-136	103	3105	15.3	1.42	2.89
141	SLU 26	-136	108	3106	14.99	1.42	2.89
141	SLU 27	-136	94	3103	15.76	1.42	2.9
141	SLU 28	-136	103	3105	15.3	1.42	2.89
141	SLU 29	-136	94	3103	15.76	1.42	2.9
141	SLU 30	-136	103	3105	15.3	1.42	2.89
141	SLU 31	-143	123	3766	15.23	1.38	3.38
141	SLU 32	-143	108	3763	16	1.39	3.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
141	SLU 33	-143	117	3764	15.54	1.38	3.38
141	SLU 34	-143	123	3766	15.23	1.38	3.38
141	SLU 35	-143	108	3763	16	1.39	3.39
141	SLU 36	-143	117	3764	15.54	1.38	3.38
141	SLU 37	-143	108	3763	16	1.39	3.39
141	SLU 38	-143	117	3764	15.54	1.38	3.38
141	SLU 39	-146	114	4045	16.11	1.37	3.6
141	SLU 40	-146	123	4047	15.64	1.37	3.6
141	SLU 41	-146	114	4045	16.11	1.37	3.6
141	SLU 42	-146	123	4047	15.64	1.37	3.6
141	SLU 43	-163	104	3241	20.76	1.72	3.16
141	SLU 44	-163	119	3244	19.99	1.71	3.16
141	SLU 45	-163	104	3241	20.76	1.72	3.16
141	SLU 46	-163	113	3243	20.3	1.71	3.16
141	SLU 47	-163	119	3244	19.99	1.71	3.16
141	SLU 48	-163	104	3241	20.76	1.72	3.16
141	SLU 49	-163	113	3243	20.3	1.71	3.16
141	SLU 50	-163	104	3241	20.76	1.72	3.16
141	SLU 51	-163	113	3243	20.3	1.71	3.16
141	SLU 52	-170	133	3903	20.23	1.67	3.65
141	SLU 53	-170	119	3900	21	1.68	3.65
141	SLU 54	-170	127	3902	20.54	1.68	3.65
141	SLU 55	-170	133	3903	20.23	1.67	3.65
141	SLU 56	-170	119	3900	21	1.68	3.65
141	SLU 57	-170	127	3902	20.54	1.68	3.65
141	SLU 58	-170	119	3900	21	1.68	3.65
141	SLU 59	-170	127	3902	20.54	1.68	3.65
141	SLU 60	-173	125	4183	21.11	1.66	3.86
141	SLU 61	-173	134	4184	20.64	1.66	3.86
141	SLU 62	-173	125	4183	21.11	1.66	3.86
141	SLU 63	-173	134	4184	20.64	1.66	3.86
141	SLU 64	-171	115	3724	20.59	1.8	3.53
141	SLU 65	-171	130	3727	19.82	1.79	3.52
141	SLU 66	-171	115	3724	20.59	1.8	3.53
141	SLU 67	-171	124	3726	20.13	1.79	3.53
141	SLU 68	-171	130	3727	19.82	1.79	3.52
141	SLU 69	-171	115	3724	20.59	1.8	3.53
141	SLU 70	-171	124	3726	20.13	1.79	3.53
141	SLU 71	-171	115	3724	20.59	1.8	3.53
141	SLU 72	-171	124	3726	20.13	1.79	3.53
141	SLU 73	-178	144	4386	20.06	1.76	4.02
141	SLU 74	-178	129	4383	20.84	1.76	4.02
141	SLU 75	-178	138	4385	20.37	1.76	4.02
141	SLU 76	-178	144	4386	20.06	1.76	4.02
141	SLU 77	-178	129	4383	20.84	1.76	4.02
141	SLU 78	-178	138	4385	20.37	1.76	4.02
141	SLU 79	-178	129	4383	20.84	1.76	4.02
141	SLU 80	-178	138	4385	20.37	1.76	4.02
141	SLU 81	-181	135	4666	20.94	1.75	4.23
141	SLU 82	-181	144	4667	20.48	1.74	4.23
141	SLU 83	-181	135	4666	20.94	1.75	4.23
141	SLU 84	-181	144	4667	20.48	1.74	4.23
141	SLE RA 1	-130	86	2758	15.88	1.36	2.63
141	SLE RA 2	-130	96	2760	15.36	1.36	2.63
141	SLE RA 3	-130	86	2758	15.88	1.36	2.63
141	SLE RA 4	-130	92	2760	15.57	1.36	2.63
141	SLE RA 5	-130	96	2760	15.36	1.36	2.63
141	SLE RA 6	-130	86	2758	15.88	1.36	2.63
141	SLE RA 7	-130	92	2760	15.57	1.36	2.63
141	SLE RA 8	-130	86	2758	15.88	1.36	2.63
141	SLE RA 9	-130	92	2760	15.57	1.36	2.63
141	SLE RA 10	-135	105	3200	15.52	1.34	2.96
141	SLE RA 11	-134	96	3198	16.04	1.34	2.96
141	SLE RA 12	-134	102	3199	15.73	1.34	2.96
141	SLE RA 13	-135	105	3200	15.52	1.34	2.96
141	SLE RA 14	-134	96	3198	16.04	1.34	2.96
141	SLE RA 15	-134	102	3199	15.73	1.34	2.96
141	SLE RA 16	-134	96	3198	16.04	1.34	2.96
141	SLE RA 17	-134	102	3199	15.73	1.34	2.96
141	SLE RA 18	-136	100	3386	16.11	1.33	3.1
141	SLE RA 19	-137	106	3387	15.8	1.33	3.1
141	SLE RA 20	-136	100	3386	16.11	1.33	3.1
141	SLE RA 21	-137	106	3387	15.8	1.33	3.1
141	SLE FR 1	-130	86	2758	15.88	1.36	2.63
141	SLE FR 2	-130	88	2759	15.78	1.36	2.63
141	SLE FR 3	-130	86	2758	15.88	1.36	2.63
141	SLE FR 4	-132	92	2947	15.84	1.35	2.77
141	SLE FR 5	-132	90	2947	15.95	1.35	2.77
141	SLE FR 6	-133	93	3072	15.99	1.35	2.87
141	SLE QP 1	-130	86	2758	15.88	1.36	2.63
141	SLE QP 2	-132	90	2947	15.95	1.35	2.77
141	SLD 1	144	149	2879	13.85	3	3.15
141	SLD 2	147	149	2877	13.99	3	4.13
141	SLD 3	137	12	2851	21.97	3.09	2.87
141	SLD 4	140	12	2849	22.11	3.1	3.85
141	SLD 5	-40	316	2969	2.96	1.7	2.96
141	SLD 6	-37	316	2968	3.09	1.7	3.95
141	SLD 7	-62	-142	2876	30.02	2.02	2.04
141	SLD 8	-59	-141	2874	30.16	2.03	3.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
141	SLD 9	-204	322	3019	1.74	0.68	2.53
141	SLD 10	-202	322	3017	1.87	0.69	3.51
141	SLD 11	-226	-136	2926	28.8	1.01	1.6
141	SLD 12	-224	-136	2924	28.94	1.01	2.58
141	SLD 13	-404	169	3045	9.79	-0.39	1.69
141	SLD 14	-401	169	3043	9.92	-0.38	2.67
141	SLD 15	-410	31	3017	17.91	-0.29	1.41
141	SLD 16	-408	32	3015	18.04	-0.29	2.4
141	SLV 1	494	223	2792	11.2	5.08	3.64
141	SLV 2	500	224	2788	11.5	5.09	5.86
141	SLV 3	479	-89	2728	29.63	5.3	3
141	SLV 4	485	-88	2724	29.93	5.31	5.22
141	SLV 5	77	603	2998	-13.54	2.13	3.21
141	SLV 6	83	603	2994	-13.23	2.14	5.45
141	SLV 7	26	-436	2786	47.9	2.87	1.09
141	SLV 8	32	-436	2782	48.2	2.88	3.33
141	SLV 9	-296	616	3111	-16.31	-0.17	2.22
141	SLV 10	-290	617	3107	-16	-0.16	4.45
141	SLV 11	-347	-423	2900	45.13	0.57	0.1
141	SLV 12	-341	-422	2895	45.43	0.58	2.33
141	SLV 13	-749	269	3169	1.96	-2.6	0.33
141	SLV 14	-743	269	3165	2.27	-2.59	2.55
141	SLV 15	-764	-43	3106	20.39	-2.38	-0.31
141	SLV 16	-758	-43	3102	20.7	-2.37	1.91
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	-125	96	2582	17.87	1.15	2.13
142	SLU 2	-126	110	2585	17.09	1.14	2.14
142	SLU 3	-125	96	2582	17.87	1.15	2.13
142	SLU 4	-125	104	2584	17.4	1.14	2.13
142	SLU 5	-126	110	2585	17.09	1.14	2.14
142	SLU 6	-125	96	2582	17.87	1.15	2.13
142	SLU 7	-125	104	2584	17.4	1.14	2.13
142	SLU 8	-125	96	2582	17.87	1.15	2.13
142	SLU 9	-125	104	2584	17.4	1.14	2.13
142	SLU 10	-132	127	3245	17.57	1.14	2.58
142	SLU 11	-132	112	3242	18.35	1.14	2.57
142	SLU 12	-132	121	3244	17.89	1.14	2.57
142	SLU 13	-132	127	3245	17.57	1.14	2.58
142	SLU 14	-132	112	3242	18.35	1.14	2.57
142	SLU 15	-132	121	3244	17.89	1.14	2.57
142	SLU 16	-132	112	3242	18.35	1.14	2.57
142	SLU 17	-132	121	3244	17.89	1.14	2.57
142	SLU 18	-135	119	3525	18.56	1.14	2.76
142	SLU 19	-135	128	3526	18.09	1.14	2.76
142	SLU 20	-135	119	3525	18.56	1.14	2.76
142	SLU 21	-135	128	3526	18.09	1.14	2.76
142	SLU 22	-134	108	3062	17.87	1.26	2.45
142	SLU 23	-134	123	3065	17.09	1.25	2.46
142	SLU 24	-134	108	3062	17.87	1.26	2.45
142	SLU 25	-134	117	3064	17.4	1.26	2.46
142	SLU 26	-134	123	3065	17.09	1.25	2.46
142	SLU 27	-134	108	3062	17.87	1.26	2.45
142	SLU 28	-134	117	3064	17.4	1.26	2.46
142	SLU 29	-134	108	3062	17.87	1.26	2.45
142	SLU 30	-134	117	3064	17.4	1.26	2.46
142	SLU 31	-141	139	3725	17.57	1.25	2.9
142	SLU 32	-140	125	3722	18.35	1.26	2.89
142	SLU 33	-140	134	3724	17.88	1.25	2.9
142	SLU 34	-141	139	3725	17.57	1.25	2.9
142	SLU 35	-140	125	3722	18.35	1.26	2.89
142	SLU 36	-140	134	3724	17.88	1.25	2.9
142	SLU 37	-140	125	3722	18.35	1.26	2.89
142	SLU 38	-140	134	3724	17.88	1.25	2.9
142	SLU 39	-143	132	4005	18.56	1.26	3.08
142	SLU 40	-143	141	4006	18.09	1.25	3.09
142	SLU 41	-143	132	4005	18.56	1.26	3.08
142	SLU 42	-143	141	4006	18.09	1.25	3.09
142	SLU 43	-160	120	3192	23.23	1.45	2.66
142	SLU 44	-160	135	3195	22.45	1.44	2.67
142	SLU 45	-160	120	3192	23.23	1.45	2.66
142	SLU 46	-160	129	3194	22.77	1.44	2.66
142	SLU 47	-160	135	3195	22.45	1.44	2.67
142	SLU 48	-160	120	3192	23.23	1.45	2.66
142	SLU 49	-160	129	3194	22.77	1.44	2.66
142	SLU 50	-160	120	3192	23.23	1.45	2.66
142	SLU 51	-160	129	3194	22.77	1.44	2.66
142	SLU 52	-167	151	3855	22.94	1.44	3.11
142	SLU 53	-167	137	3852	23.72	1.45	3.1
142	SLU 54	-167	146	3854	23.25	1.44	3.1
142	SLU 55	-167	151	3855	22.94	1.44	3.11
142	SLU 56	-167	137	3852	23.72	1.45	3.1
142	SLU 57	-167	146	3854	23.25	1.44	3.1
142	SLU 58	-167	137	3852	23.72	1.45	3.1
142	SLU 59	-167	146	3854	23.25	1.44	3.1
142	SLU 60	-170	144	4135	23.92	1.45	3.28
142	SLU 61	-170	153	4136	23.46	1.44	3.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
142	SLU 62	-170	144	4135	23.92	1.45	3.28
142	SLU 63	-170	153	4136	23.46	1.44	3.29
142	SLU 64	-168	132	3672	23.23	1.56	2.98
142	SLU 65	-168	147	3675	22.45	1.56	2.99
142	SLU 66	-168	132	3672	23.23	1.56	2.98
142	SLU 67	-168	141	3674	22.76	1.56	2.99
142	SLU 68	-168	147	3675	22.45	1.56	2.99
142	SLU 69	-168	132	3672	23.23	1.56	2.98
142	SLU 70	-168	141	3674	22.76	1.56	2.99
142	SLU 71	-168	132	3672	23.23	1.56	2.98
142	SLU 72	-168	141	3674	22.76	1.56	2.99
142	SLU 73	-175	164	4335	22.93	1.56	3.43
142	SLU 74	-175	149	4332	23.71	1.56	3.42
142	SLU 75	-175	158	4334	23.25	1.56	3.43
142	SLU 76	-175	164	4335	22.93	1.56	3.43
142	SLU 77	-175	149	4332	23.71	1.56	3.42
142	SLU 78	-175	158	4334	23.25	1.56	3.43
142	SLU 79	-175	149	4332	23.71	1.56	3.42
142	SLU 80	-175	158	4334	23.25	1.56	3.43
142	SLU 81	-178	156	4615	23.92	1.56	3.61
142	SLU 82	-178	165	4616	23.45	1.56	3.61
142	SLU 83	-178	156	4615	23.92	1.56	3.61
142	SLU 84	-178	165	4616	23.45	1.56	3.61
142	SLE RA 1	-128	99	2719	17.87	1.18	2.22
142	SLE RA 2	-128	109	2721	17.35	1.17	2.23
142	SLE RA 3	-128	99	2719	17.87	1.18	2.22
142	SLE RA 4	-128	105	2720	17.56	1.17	2.22
142	SLE RA 5	-128	109	2721	17.35	1.17	2.23
142	SLE RA 6	-128	99	2719	17.87	1.18	2.22
142	SLE RA 7	-128	105	2720	17.56	1.17	2.22
142	SLE RA 8	-128	99	2719	17.87	1.18	2.22
142	SLE RA 9	-128	105	2720	17.56	1.17	2.22
142	SLE RA 10	-132	120	3161	17.67	1.17	2.52
142	SLE RA 11	-132	110	3159	18.19	1.18	2.51
142	SLE RA 12	-132	116	3160	17.88	1.17	2.52
142	SLE RA 13	-132	120	3161	17.67	1.17	2.52
142	SLE RA 14	-132	110	3159	18.19	1.18	2.51
142	SLE RA 15	-132	116	3160	17.88	1.17	2.52
142	SLE RA 16	-132	110	3159	18.19	1.18	2.51
142	SLE RA 17	-132	116	3160	17.88	1.17	2.52
142	SLE RA 18	-134	115	3348	18.33	1.18	2.64
142	SLE RA 19	-134	121	3349	18.02	1.17	2.64
142	SLE RA 20	-134	115	3348	18.33	1.18	2.64
142	SLE RA 21	-134	121	3349	18.02	1.17	2.64
142	SLE FR 1	-128	99	2719	17.87	1.18	2.22
142	SLE FR 2	-128	101	2719	17.77	1.18	2.22
142	SLE FR 3	-128	99	2719	17.87	1.18	2.22
142	SLE FR 4	-130	106	2908	17.91	1.18	2.35
142	SLE FR 5	-130	104	2908	18.01	1.18	2.35
142	SLE FR 6	-131	107	3033	18.1	1.18	2.43
142	SLE QP 1	-128	99	2719	17.87	1.18	2.22
142	SLE QP 2	-130	104	2908	18.01	1.18	2.35
142	SLD 1	146	162	2790	15.97	2.72	2.71
142	SLD 2	148	168	2788	16.12	2.72	3.67
142	SLD 3	139	23	2759	24.17	2.83	2.29
142	SLD 4	142	29	2757	24.33	2.83	3.25
142	SLD 5	-38	331	2920	4.89	1.47	2.75
142	SLD 6	-35	336	2918	5.05	1.47	3.71
142	SLD 7	-60	-133	2817	32.25	1.84	1.36
142	SLD 8	-57	-128	2815	32.41	1.84	2.32
142	SLD 9	-202	336	3000	3.61	0.52	2.37
142	SLD 10	-199	341	2999	3.77	0.52	3.33
142	SLD 11	-224	-128	2897	30.97	0.88	0.98
142	SLD 12	-221	-123	2895	31.12	0.88	1.94
142	SLD 13	-401	179	3058	11.69	-0.47	1.44
142	SLD 14	-398	185	3056	11.84	-0.47	2.4
142	SLD 15	-408	40	3027	19.89	-0.36	1.02
142	SLD 16	-405	46	3025	20.05	-0.36	1.98
142	SLV 1	495	236	2641	13.38	4.68	3.18
142	SLV 2	501	248	2637	13.73	4.67	5.35
142	SLV 3	480	-80	2571	32.01	4.92	2.23
142	SLV 4	486	-68	2566	32.37	4.92	4.4
142	SLV 5	79	619	2936	-11.76	1.85	3.28
142	SLV 6	85	631	2932	-11.4	1.85	5.45
142	SLV 7	28	-435	2701	50.34	2.68	0.1
142	SLV 8	34	-423	2697	50.7	2.68	2.28
142	SLV 9	-294	630	3118	-14.68	-0.32	2.41
142	SLV 10	-288	642	3114	-14.32	-0.32	4.59
142	SLV 11	-344	-423	2884	47.42	0.51	-0.76
142	SLV 12	-338	-411	2879	47.78	0.5	1.41
142	SLV 13	-745	276	3249	3.65	-2.57	0.3
142	SLV 14	-740	288	3245	4.01	-2.57	2.46
142	SLV 15	-761	-40	3178	22.28	-2.32	-0.66
142	SLV 16	-755	-28	3174	22.64	-2.32	1.51
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	-124	106	2551	19.85	0.87	1.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
143	SLU 2	-124	121	2554	19.06	0.86	1.63
143	SLU 3	-124	106	2551	19.85	0.87	1.62
143	SLU 4	-124	115	2552	19.37	0.86	1.63
143	SLU 5	-124	121	2554	19.06	0.86	1.63
143	SLU 6	-124	106	2551	19.85	0.87	1.62
143	SLU 7	-124	115	2552	19.37	0.86	1.63
143	SLU 8	-124	106	2551	19.85	0.87	1.62
143	SLU 9	-124	115	2552	19.37	0.86	1.63
143	SLU 10	-131	139	3213	19.78	0.9	2
143	SLU 11	-130	125	3210	20.57	0.91	1.99
143	SLU 12	-130	133	3212	20.09	0.9	2
143	SLU 13	-131	139	3213	19.78	0.9	2
143	SLU 14	-130	125	3210	20.57	0.91	1.99
143	SLU 15	-130	133	3212	20.09	0.9	2
143	SLU 16	-130	125	3210	20.57	0.91	1.99
143	SLU 17	-130	133	3212	20.09	0.9	2
143	SLU 18	-133	133	3492	20.88	0.92	2.14
143	SLU 19	-133	142	3494	20.4	0.92	2.16
143	SLU 20	-133	133	3492	20.88	0.92	2.14
143	SLU 21	-133	142	3494	20.4	0.92	2.16
143	SLU 22	-132	120	3027	20.01	1.01	1.88
143	SLU 23	-132	135	3030	19.22	1	1.9
143	SLU 24	-132	120	3027	20.01	1.01	1.88
143	SLU 25	-132	129	3029	19.53	1	1.89
143	SLU 26	-132	135	3030	19.22	1	1.9
143	SLU 27	-132	120	3027	20.01	1.01	1.88
143	SLU 28	-132	129	3029	19.53	1	1.89
143	SLU 29	-132	120	3027	20.01	1.01	1.88
143	SLU 30	-132	129	3029	19.53	1	1.89
143	SLU 31	-139	153	3689	19.94	1.04	2.27
143	SLU 32	-139	139	3686	20.73	1.05	2.25
143	SLU 33	-139	147	3688	20.25	1.04	2.26
143	SLU 34	-139	153	3689	19.94	1.04	2.27
143	SLU 35	-139	139	3686	20.73	1.05	2.25
143	SLU 36	-139	147	3688	20.25	1.04	2.26
143	SLU 37	-139	139	3686	20.73	1.05	2.25
143	SLU 38	-139	147	3688	20.25	1.04	2.26
143	SLU 39	-141	147	3968	21.04	1.06	2.41
143	SLU 40	-141	156	3970	20.56	1.06	2.42
143	SLU 41	-141	147	3968	21.04	1.06	2.41
143	SLU 42	-141	156	3970	20.56	1.06	2.42
143	SLU 43	-158	133	3152	25.74	1.08	2.01
143	SLU 44	-158	147	3156	24.95	1.07	2.03
143	SLU 45	-158	133	3152	25.74	1.08	2.01
143	SLU 46	-158	141	3154	25.27	1.08	2.02
143	SLU 47	-158	147	3156	24.95	1.07	2.03
143	SLU 48	-158	133	3152	25.74	1.08	2.01
143	SLU 49	-158	141	3154	25.27	1.08	2.02
143	SLU 50	-158	133	3152	25.74	1.08	2.01
143	SLU 51	-158	141	3154	25.27	1.08	2.02
143	SLU 52	-165	166	3815	25.68	1.11	2.4
143	SLU 53	-165	151	3812	26.47	1.12	2.38
143	SLU 54	-165	160	3814	25.99	1.11	2.39
143	SLU 55	-165	166	3815	25.68	1.11	2.4
143	SLU 56	-165	151	3812	26.47	1.12	2.38
143	SLU 57	-165	160	3814	25.99	1.11	2.39
143	SLU 58	-165	151	3812	26.47	1.12	2.38
143	SLU 59	-165	160	3814	25.99	1.11	2.39
143	SLU 60	-168	160	4094	26.78	1.14	2.54
143	SLU 61	-168	168	4096	26.3	1.13	2.55
143	SLU 62	-168	160	4094	26.78	1.14	2.54
143	SLU 63	-168	168	4096	26.3	1.13	2.55
143	SLU 64	-166	147	3629	25.9	1.22	2.27
143	SLU 65	-166	161	3632	25.12	1.21	2.29
143	SLU 66	-166	147	3629	25.9	1.22	2.27
143	SLU 67	-166	156	3630	25.43	1.22	2.29
143	SLU 68	-166	161	3632	25.12	1.21	2.29
143	SLU 69	-166	147	3629	25.9	1.22	2.27
143	SLU 70	-166	156	3630	25.43	1.22	2.29
143	SLU 71	-166	147	3629	25.9	1.22	2.27
143	SLU 72	-166	156	3630	25.43	1.22	2.29
143	SLU 73	-173	180	4291	25.84	1.25	2.66
143	SLU 74	-173	165	4288	26.63	1.26	2.65
143	SLU 75	-173	174	4290	26.15	1.25	2.66
143	SLU 76	-173	180	4291	25.84	1.25	2.66
143	SLU 77	-173	165	4288	26.63	1.26	2.65
143	SLU 78	-173	174	4290	26.15	1.25	2.66
143	SLU 79	-173	165	4288	26.63	1.26	2.65
143	SLU 80	-173	174	4290	26.15	1.25	2.66
143	SLU 81	-176	174	4570	26.94	1.28	2.8
143	SLU 82	-176	182	4572	26.46	1.27	2.81
143	SLU 83	-176	174	4570	26.94	1.28	2.8
143	SLU 84	-176	182	4572	26.46	1.27	2.81
143	SLE RA 1	-126	110	2687	19.89	0.91	1.69
143	SLE RA 2	-126	120	2689	19.37	0.9	1.7
143	SLE RA 3	-126	110	2687	19.89	0.91	1.69
143	SLE RA 4	-126	116	2688	19.58	0.91	1.7
143	SLE RA 5	-126	120	2689	19.37	0.9	1.7
143	SLE RA 6	-126	110	2687	19.89	0.91	1.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
143	SLE RA 7	-126	116	2688	19.58	0.91	1.7
143	SLE RA 8	-126	110	2687	19.89	0.91	1.69
143	SLE RA 9	-126	116	2688	19.58	0.91	1.7
143	SLE RA 10	-131	132	3128	19.85	0.93	1.95
143	SLE RA 11	-130	122	3126	20.37	0.94	1.94
143	SLE RA 12	-131	128	3127	20.06	0.93	1.95
143	SLE RA 13	-131	132	3128	19.85	0.93	1.95
143	SLE RA 14	-130	122	3126	20.37	0.94	1.94
143	SLE RA 15	-131	128	3127	20.06	0.93	1.95
143	SLE RA 16	-130	122	3126	20.37	0.94	1.94
143	SLE RA 17	-131	128	3127	20.06	0.93	1.95
143	SLE RA 18	-132	128	3314	20.58	0.95	2.04
143	SLE RA 19	-132	134	3316	20.26	0.94	2.05
143	SLE RA 20	-132	128	3314	20.58	0.95	2.04
143	SLE RA 21	-132	134	3316	20.26	0.94	2.05
143	SLE FR 1	-126	110	2687	19.89	0.91	1.69
143	SLE FR 2	-126	112	2687	19.79	0.91	1.69
143	SLE FR 3	-126	110	2687	19.89	0.91	1.69
143	SLE FR 4	-128	117	2875	19.99	0.92	1.8
143	SLE FR 5	-128	115	2875	20.1	0.92	1.8
143	SLE FR 6	-129	119	3001	20.24	0.93	1.87
143	SLE QP 1	-126	110	2687	19.89	0.91	1.69
143	SLE QP 2	-128	115	2875	20.1	0.92	1.8
143	SLD 1	147	172	2712	18.11	2.32	2.11
143	SLD 2	149	183	2710	18.29	2.31	3.05
143	SLD 3	140	31	2677	26.41	2.44	1.62
143	SLD 4	143	41	2676	26.59	2.44	2.56
143	SLD 5	-37	343	2879	6.84	1.15	2.31
143	SLD 6	-34	354	2877	7.02	1.14	3.25
143	SLD 7	-58	-129	2764	34.53	1.57	0.67
143	SLD 8	-56	-118	2762	34.71	1.57	1.61
143	SLD 9	-200	348	2988	5.49	0.28	1.98
143	SLD 10	-197	359	2986	5.67	0.27	2.92
143	SLD 11	-222	-124	2872	33.17	0.7	0.35
143	SLD 12	-219	-113	2871	33.36	0.69	1.29
143	SLD 13	-399	189	3074	13.6	-0.59	1.04
143	SLD 14	-396	200	3072	13.78	-0.6	1.97
143	SLD 15	-405	48	3040	21.91	-0.47	0.55
143	SLD 16	-403	58	3038	22.09	-0.47	1.48
143	SLV 1	495	245	2505	15.58	4.09	2.52
143	SLV 2	501	268	2501	15.99	4.07	4.64
143	SLV 3	480	-77	2427	34.44	4.37	1.4
143	SLV 4	486	-54	2423	34.85	4.36	3.52
143	SLV 5	80	633	2885	-10	1.44	2.96
143	SLV 6	86	657	2880	-9.59	1.43	5.09
143	SLV 7	30	-438	2623	52.85	2.4	-0.76
143	SLV 8	35	-415	2619	53.26	2.38	1.37
143	SLV 9	-291	645	3131	-13.07	-0.54	2.22
143	SLV 10	-285	669	3127	-12.66	-0.55	4.35
143	SLV 11	-342	-427	2869	49.78	0.42	-1.49
143	SLV 12	-336	-403	2865	50.19	0.4	0.64
143	SLV 13	-742	284	3327	5.35	-2.52	0.07
143	SLV 14	-736	307	3323	5.76	-2.53	2.19
143	SLV 15	-757	-38	3249	24.2	-2.23	-1.04
143	SLV 16	-751	-14	3245	24.61	-2.24	1.08
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	-111	102	2292	19.74	42.98	-1.01
144	SLU 2	-111	115	2295	19.02	43.03	-1.25
144	SLU 3	-111	102	2292	19.74	42.98	-1.01
144	SLU 4	-111	110	2294	19.31	43.01	-1.15
144	SLU 5	-111	115	2295	19.02	43.03	-1.25
144	SLU 6	-111	102	2292	19.74	42.98	-1.01
144	SLU 7	-111	110	2294	19.31	43.01	-1.15
144	SLU 8	-111	102	2292	19.74	42.98	-1.01
144	SLU 9	-111	110	2294	19.31	43.01	-1.15
144	SLU 10	-117	134	2891	19.88	54.15	-1.34
144	SLU 11	-117	121	2888	20.6	54.1	-1.11
144	SLU 12	-117	129	2890	20.17	54.13	-1.25
144	SLU 13	-117	134	2891	19.88	54.15	-1.34
144	SLU 14	-117	121	2888	20.6	54.1	-1.11
144	SLU 15	-117	129	2890	20.17	54.13	-1.25
144	SLU 16	-117	121	2888	20.6	54.1	-1.11
144	SLU 17	-117	129	2890	20.17	54.13	-1.25
144	SLU 18	-119	129	3143	20.97	58.86	-1.15
144	SLU 19	-119	137	3145	20.54	58.89	-1.29
144	SLU 20	-119	129	3143	20.97	58.86	-1.15
144	SLU 21	-119	137	3145	20.54	58.89	-1.29
144	SLU 22	-118	116	2719	20.03	51.03	-1.09
144	SLU 23	-118	129	2722	19.3	51.08	-1.33
144	SLU 24	-118	116	2719	20.03	51.03	-1.09
144	SLU 25	-118	124	2721	19.59	51.06	-1.24
144	SLU 26	-118	129	2722	19.3	51.08	-1.33
144	SLU 27	-118	116	2719	20.03	51.03	-1.09
144	SLU 28	-118	124	2721	19.59	51.06	-1.24
144	SLU 29	-118	116	2719	20.03	51.03	-1.09
144	SLU 30	-118	124	2721	19.59	51.06	-1.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
144	SLU 31	-124	148	3318	20.16	62.2	-1.43
144	SLU 32	-124	134	3315	20.89	62.15	-1.19
144	SLU 33	-124	142	3317	20.45	62.18	-1.33
144	SLU 34	-124	148	3318	20.16	62.2	-1.43
144	SLU 35	-124	134	3315	20.89	62.15	-1.19
144	SLU 36	-124	142	3317	20.45	62.18	-1.33
144	SLU 37	-124	134	3315	20.89	62.15	-1.19
144	SLU 38	-124	142	3317	20.45	62.18	-1.33
144	SLU 39	-127	142	3570	21.26	66.91	-1.23
144	SLU 40	-127	150	3572	20.82	66.94	-1.37
144	SLU 41	-127	142	3570	21.26	66.91	-1.23
144	SLU 42	-127	150	3572	20.82	66.94	-1.37
144	SLU 43	-141	128	2833	25.57	53.11	-1.28
144	SLU 44	-141	141	2836	24.84	53.16	-1.52
144	SLU 45	-141	128	2833	25.57	53.11	-1.28
144	SLU 46	-141	136	2835	25.13	53.14	-1.43
144	SLU 47	-141	141	2836	24.84	53.16	-1.52
144	SLU 48	-141	128	2833	25.57	53.11	-1.28
144	SLU 49	-141	136	2835	25.13	53.14	-1.43
144	SLU 50	-141	128	2833	25.57	53.11	-1.28
144	SLU 51	-141	136	2835	25.13	53.14	-1.43
144	SLU 52	-147	160	3432	25.7	64.28	-1.62
144	SLU 53	-147	146	3429	26.43	64.23	-1.38
144	SLU 54	-147	154	3431	25.99	64.26	-1.52
144	SLU 55	-147	160	3432	25.7	64.28	-1.62
144	SLU 56	-147	146	3429	26.43	64.23	-1.38
144	SLU 57	-147	154	3431	25.99	64.26	-1.52
144	SLU 58	-147	146	3429	26.43	64.23	-1.38
144	SLU 59	-147	154	3431	25.99	64.26	-1.52
144	SLU 60	-150	154	3684	26.8	69	-1.42
144	SLU 61	-150	162	3686	26.36	69.03	-1.56
144	SLU 62	-150	154	3684	26.8	69	-1.42
144	SLU 63	-150	162	3686	26.36	69.03	-1.56
144	SLU 64	-149	142	3260	25.85	61.16	-1.37
144	SLU 65	-149	155	3263	25.13	61.21	-1.61
144	SLU 66	-149	142	3260	25.85	61.16	-1.37
144	SLU 67	-149	150	3262	25.42	61.19	-1.51
144	SLU 68	-149	155	3263	25.13	61.21	-1.61
144	SLU 69	-149	142	3260	25.85	61.16	-1.37
144	SLU 70	-149	150	3262	25.42	61.19	-1.51
144	SLU 71	-149	142	3260	25.85	61.16	-1.37
144	SLU 72	-149	150	3262	25.42	61.19	-1.51
144	SLU 73	-155	174	3859	25.99	72.33	-1.7
144	SLU 74	-155	160	3856	26.71	72.28	-1.46
144	SLU 75	-155	168	3858	26.28	72.31	-1.61
144	SLU 76	-155	174	3859	25.99	72.33	-1.7
144	SLU 77	-155	160	3856	26.71	72.28	-1.46
144	SLU 78	-155	168	3858	26.28	72.31	-1.61
144	SLU 79	-155	160	3856	26.71	72.28	-1.46
144	SLU 80	-155	168	3858	26.28	72.31	-1.61
144	SLU 81	-157	168	4111	27.08	77.05	-1.51
144	SLU 82	-157	176	4113	26.65	77.08	-1.65
144	SLU 83	-157	168	4111	27.08	77.05	-1.51
144	SLU 84	-157	176	4113	26.65	77.08	-1.65
144	SLE RA 1	-113	106	2414	19.82	45.28	-1.03
144	SLE RA 2	-113	115	2416	19.34	45.31	-1.19
144	SLE RA 3	-113	106	2414	19.82	45.28	-1.03
144	SLE RA 4	-113	111	2415	19.53	45.3	-1.13
144	SLE RA 5	-113	115	2416	19.34	45.31	-1.19
144	SLE RA 6	-113	106	2414	19.82	45.28	-1.03
144	SLE RA 7	-113	111	2415	19.53	45.3	-1.13
144	SLE RA 8	-113	106	2414	19.82	45.28	-1.03
144	SLE RA 9	-113	111	2415	19.53	45.3	-1.13
144	SLE RA 10	-117	127	2813	19.91	52.72	-1.26
144	SLE RA 11	-117	118	2811	20.4	52.69	-1.1
144	SLE RA 12	-117	124	2812	20.11	52.71	-1.19
144	SLE RA 13	-117	127	2813	19.91	52.72	-1.26
144	SLE RA 14	-117	118	2811	20.4	52.69	-1.1
144	SLE RA 15	-117	124	2812	20.11	52.71	-1.19
144	SLE RA 16	-117	118	2811	20.4	52.69	-1.1
144	SLE RA 17	-117	124	2812	20.11	52.71	-1.19
144	SLE RA 18	-119	124	2981	20.64	55.87	-1.13
144	SLE RA 19	-119	129	2983	20.35	55.89	-1.22
144	SLE RA 20	-119	124	2981	20.64	55.87	-1.13
144	SLE RA 21	-119	129	2983	20.35	55.89	-1.22
144	SLE FR 1	-113	106	2414	19.82	45.28	-1.03
144	SLE FR 2	-113	108	2414	19.73	45.28	-1.07
144	SLE FR 3	-113	106	2414	19.82	45.28	-1.03
144	SLE FR 4	-114	113	2585	19.97	48.46	-1.09
144	SLE FR 5	-114	111	2584	20.07	48.45	-1.06
144	SLE FR 6	-116	115	2698	20.23	50.57	-1.08
144	SLE QP 1	-113	106	2414	19.82	45.28	-1.03
144	SLE QP 2	-114	111	2584	20.07	48.45	-1.06
144	SLD 1	133	161	2402	18.3	45.96	-2.71
144	SLD 2	136	175	2400	18.48	45.93	-2.15
144	SLD 3	128	31	2367	25.95	45.42	-0.68
144	SLD 4	130	44	2365	26.13	45.39	-0.12
144	SLD 5	-32	319	2583	7.88	48.54	-4.82
144	SLD 6	-30	333	2581	8.06	48.51	-4.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
144	SLD 7	-52	-116	2466	33.36	46.73	1.93
144	SLD 8	-49	-102	2465	33.55	46.7	2.49
144	SLD 9	-180	324	2703	6.59	50.21	-4.61
144	SLD 10	-177	338	2702	6.78	50.18	-4.05
144	SLD 11	-199	-111	2587	32.08	48.4	2.14
144	SLD 12	-197	-97	2585	32.26	48.37	2.7
144	SLD 13	-359	178	2803	14.01	51.52	-2
144	SLD 14	-356	192	2802	14.19	51.49	-1.44
144	SLD 15	-365	48	2768	21.66	50.98	0.03
144	SLD 16	-362	61	2767	21.84	50.95	0.58
144	SLV 1	448	225	2170	16.06	42.8	-4.8
144	SLV 2	454	255	2167	16.47	42.72	-3.54
144	SLV 3	435	-72	2091	33.41	41.57	-0.2
144	SLV 4	440	-41	2087	33.83	41.49	1.06
144	SLV 5	73	584	2581	-7.6	48.65	-9.61
144	SLV 6	78	615	2578	-7.19	48.58	-8.34
144	SLV 7	28	-404	2317	50.25	44.55	5.74
144	SLV 8	33	-373	2314	50.67	44.47	7
144	SLV 9	-262	596	2854	-10.53	52.44	-9.12
144	SLV 10	-257	626	2851	-10.11	52.36	-7.86
144	SLV 11	-307	-392	2590	47.33	48.33	6.22
144	SLV 12	-302	-362	2587	47.74	48.26	7.49
144	SLV 13	-669	263	3081	6.31	55.42	-3.18
144	SLV 14	-664	294	3078	6.73	55.34	-1.92
144	SLV 15	-683	-33	3001	23.67	54.19	1.42
144	SLV 16	-677	-2	2998	24.08	54.11	2.68
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
163	SLU 1	-326	317	6955	-57.36	308.53	-20.48
163	SLU 2	-326	358	6964	-58.74	308.91	-22.36
163	SLU 3	-326	317	6955	-57.36	308.53	-20.48
163	SLU 4	-326	342	6960	-58.19	308.76	-21.61
163	SLU 5	-326	358	6964	-58.74	308.91	-22.36
163	SLU 6	-326	317	6955	-57.36	308.53	-20.48
163	SLU 7	-326	342	6960	-58.19	308.76	-21.61
163	SLU 8	-326	317	6955	-57.36	308.53	-20.48
163	SLU 9	-326	342	6960	-58.19	308.76	-21.61
163	SLU 10	-346	417	8753	-83.03	391.04	-24.62
163	SLU 11	-346	376	8745	-81.65	390.66	-22.74
163	SLU 12	-346	401	8750	-82.48	390.89	-23.87
163	SLU 13	-346	417	8753	-83.03	391.04	-24.62
163	SLU 14	-346	376	8745	-81.65	390.66	-22.74
163	SLU 15	-346	401	8750	-82.48	390.89	-23.87
163	SLU 16	-346	376	8745	-81.65	390.66	-22.74
163	SLU 17	-346	401	8750	-82.48	390.89	-23.87
163	SLU 18	-354	401	9512	-92.07	425.86	-23.7
163	SLU 19	-354	426	9517	-92.89	426.09	-24.83
163	SLU 20	-354	401	9512	-92.07	425.86	-23.7
163	SLU 21	-354	426	9517	-92.89	426.09	-24.83
163	SLU 22	-349	361	8230	-75.86	368.89	-22.41
163	SLU 23	-349	402	8238	-77.24	369.27	-24.3
163	SLU 24	-349	361	8230	-75.86	368.89	-22.41
163	SLU 25	-349	385	8235	-76.69	369.12	-23.54
163	SLU 26	-349	402	8238	-77.24	369.27	-24.3
163	SLU 27	-349	361	8230	-75.86	368.89	-22.41
163	SLU 28	-349	385	8235	-76.69	369.12	-23.54
163	SLU 29	-349	361	8230	-75.86	368.89	-22.41
163	SLU 30	-349	385	8235	-76.69	369.12	-23.54
163	SLU 31	-368	460	10028	-101.54	451.4	-26.55
163	SLU 32	-368	420	10019	-100.16	451.02	-24.67
163	SLU 33	-368	444	10024	-100.99	451.25	-25.8
163	SLU 34	-368	460	10028	-101.54	451.4	-26.55
163	SLU 35	-368	420	10019	-100.16	451.02	-24.67
163	SLU 36	-368	444	10024	-100.99	451.25	-25.8
163	SLU 37	-368	420	10019	-100.16	451.02	-24.67
163	SLU 38	-368	444	10024	-100.99	451.25	-25.8
163	SLU 39	-376	445	10786	-110.57	486.22	-25.63
163	SLU 40	-376	469	10791	-111.4	486.45	-26.77
163	SLU 41	-376	445	10786	-110.57	486.22	-25.63
163	SLU 42	-376	469	10791	-111.4	486.45	-26.77
163	SLU 43	-416	398	8605	-68.22	380.39	-25.96
163	SLU 44	-417	438	8613	-69.6	380.77	-27.85
163	SLU 45	-416	398	8605	-68.22	380.39	-25.96
163	SLU 46	-416	422	8610	-69.05	380.62	-27.09
163	SLU 47	-417	438	8613	-69.6	380.77	-27.85
163	SLU 48	-416	398	8605	-68.22	380.39	-25.96
163	SLU 49	-416	422	8610	-69.05	380.62	-27.09
163	SLU 50	-416	398	8605	-68.22	380.39	-25.96
163	SLU 51	-416	422	8610	-69.05	380.62	-27.09
163	SLU 52	-436	497	10403	-93.9	462.91	-30.1
163	SLU 53	-436	456	10395	-92.52	462.53	-28.22
163	SLU 54	-436	481	10400	-93.35	462.76	-29.35
163	SLU 55	-436	497	10403	-93.9	462.91	-30.1
163	SLU 56	-436	456	10395	-92.52	462.53	-28.22
163	SLU 57	-436	481	10400	-93.35	462.76	-29.35
163	SLU 58	-436	456	10395	-92.52	462.53	-28.22
163	SLU 59	-436	481	10400	-93.35	462.76	-29.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	SLU 60	-444	482	11162	-102.93	497.73	-29.18
163	SLU 61	-444	506	11167	-103.76	497.96	-30.31
163	SLU 62	-444	482	11162	-102.93	497.73	-29.18
163	SLU 63	-444	506	11167	-103.76	497.96	-30.31
163	SLU 64	-439	441	9880	-86.73	440.75	-27.89
163	SLU 65	-439	482	9888	-88.11	441.13	-29.78
163	SLU 66	-439	441	9880	-86.73	440.75	-27.89
163	SLU 67	-439	466	9885	-87.55	440.98	-29.02
163	SLU 68	-439	482	9888	-88.11	441.13	-29.78
163	SLU 69	-439	441	9880	-86.73	440.75	-27.89
163	SLU 70	-439	466	9885	-87.55	440.98	-29.02
163	SLU 71	-439	441	9880	-86.73	440.75	-27.89
163	SLU 72	-439	466	9885	-87.55	440.98	-29.02
163	SLU 73	-458	541	11677	-112.4	523.27	-32.03
163	SLU 74	-458	500	11669	-111.02	522.89	-30.15
163	SLU 75	-458	524	11674	-111.85	523.12	-31.28
163	SLU 76	-458	541	11677	-112.4	523.27	-32.03
163	SLU 77	-458	500	11669	-111.02	522.89	-30.15
163	SLU 78	-458	524	11674	-111.85	523.12	-31.28
163	SLU 79	-458	500	11669	-111.02	522.89	-30.15
163	SLU 80	-458	524	11674	-111.85	523.12	-31.28
163	SLU 81	-466	525	12436	-121.43	558.09	-31.12
163	SLU 82	-466	550	12441	-122.26	558.32	-32.25
163	SLU 83	-466	525	12436	-121.43	558.09	-31.12
163	SLU 84	-466	550	12441	-122.26	558.32	-32.25
163	SLE RA 1	-333	330	7320	-62.65	325.78	-21.03
163	SLE RA 2	-333	357	7325	-63.57	326.03	-22.29
163	SLE RA 3	-333	330	7320	-62.65	325.78	-21.03
163	SLE RA 4	-333	346	7323	-63.2	325.93	-21.79
163	SLE RA 5	-333	357	7325	-63.57	326.03	-22.29
163	SLE RA 6	-333	330	7320	-62.65	325.78	-21.03
163	SLE RA 7	-333	346	7323	-63.2	325.93	-21.79
163	SLE RA 8	-333	330	7320	-62.65	325.78	-21.03
163	SLE RA 9	-333	346	7323	-63.2	325.93	-21.79
163	SLE RA 10	-346	396	8518	-79.76	380.79	-23.79
163	SLE RA 11	-345	369	8513	-78.84	380.53	-22.54
163	SLE RA 12	-346	385	8516	-79.39	380.68	-23.29
163	SLE RA 13	-346	396	8518	-79.76	380.79	-23.79
163	SLE RA 14	-345	369	8513	-78.84	380.53	-22.54
163	SLE RA 15	-346	385	8516	-79.39	380.68	-23.29
163	SLE RA 16	-345	369	8513	-78.84	380.53	-22.54
163	SLE RA 17	-346	385	8516	-79.39	380.68	-23.29
163	SLE RA 18	-351	386	9024	-85.78	404	-23.18
163	SLE RA 19	-351	402	9027	-86.34	404.15	-23.93
163	SLE RA 20	-351	386	9024	-85.78	404	-23.18
163	SLE RA 21	-351	402	9027	-86.34	404.15	-23.93
163	SLE FR 1	-333	330	7320	-62.65	325.78	-21.03
163	SLE FR 2	-333	335	7321	-62.83	325.83	-21.28
163	SLE FR 3	-333	330	7320	-62.65	325.78	-21.03
163	SLE FR 4	-338	352	7832	-69.77	349.29	-21.93
163	SLE FR 5	-338	347	7831	-69.59	349.24	-21.68
163	SLE FR 6	-342	358	8172	-74.22	364.89	-22.11
163	SLE QP 1	-333	330	7320	-62.65	325.78	-21.03
163	SLE QP 2	-338	347	7831	-69.59	349.24	-21.68
163	SLD 1	385	491	7192	-67.96	347.32	-19.41
163	SLD 2	384	543	7190	-67.33	346.8	-17.41
163	SLD 3	404	94	7106	-53.07	343.11	-2.5
163	SLD 4	404	146	7104	-52.44	342.6	-0.5
163	SLD 5	-150	974	7771	-91.9	355.23	-47.36
163	SLD 6	-151	1027	7769	-91.27	354.71	-45.35
163	SLD 7	-86	-350	7483	-42.27	341.21	9.03
163	SLD 8	-87	-297	7481	-41.64	340.68	11.04
163	SLD 9	-589	991	8181	-97.54	357.8	-54.39
163	SLD 10	-590	1043	8179	-96.9	357.28	-52.38
163	SLD 11	-526	-333	7893	-47.91	343.78	2
163	SLD 12	-526	-280	7891	-47.27	343.26	4.01
163	SLD 13	-1080	547	8558	-86.74	355.89	-42.85
163	SLD 14	-1081	600	8556	-86.1	355.37	-40.85
163	SLD 15	-1061	150	8471	-71.85	351.68	-25.94
163	SLD 16	-1061	202	8469	-71.22	351.16	-23.94
163	SLV 1	1304	673	6382	-65.88	344.85	-16.58
163	SLV 2	1302	793	6378	-64.45	343.67	-12.05
163	SLV 3	1348	-229	6186	-32.08	335.3	21.84
163	SLV 4	1346	-109	6181	-30.65	334.12	26.38
163	SLV 5	88	1770	7695	-120.24	362.83	-80.02
163	SLV 6	87	1890	7691	-118.81	361.64	-75.47
163	SLV 7	235	-1236	7041	-7.58	330.99	48.06
163	SLV 8	233	-1116	7037	-6.14	329.8	52.62
163	SLV 9	-909	1809	8625	-133.04	368.68	-95.97
163	SLV 10	-911	1929	8621	-131.6	367.5	-91.41
163	SLV 11	-763	-1197	7971	-20.37	336.84	32.12
163	SLV 12	-765	-1077	7967	-18.93	335.66	36.67
163	SLV 13	-2022	802	9480	-108.52	364.37	-69.73
163	SLV 14	-2024	922	9476	-107.09	363.19	-65.2
163	SLV 15	-1978	-99	9284	-74.72	354.81	-31.3
163	SLV 16	-1980	20	9280	-73.29	353.64	-26.77
163	CRTFP Ux+	0	0	0	0	0	0
163	CRTFP Ux-	0	0	0	0	0	0
163	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	CRTFP Uy-	0	0	0	0	0	0
166	SLU 1	-18	-93	1845	-0.9	79.29	23.54
166	SLU 2	-17	-81	1845	-0.94	79.61	20.52
166	SLU 3	-18	-93	1845	-0.9	79.29	23.54
166	SLU 4	-17	-86	1845	-0.93	79.48	21.73
166	SLU 5	-17	-81	1845	-0.94	79.61	20.52
166	SLU 6	-18	-93	1845	-0.9	79.29	23.54
166	SLU 7	-17	-86	1845	-0.93	79.48	21.73
166	SLU 8	-18	-93	1845	-0.9	79.29	23.54
166	SLU 9	-17	-86	1845	-0.93	79.48	21.73
166	SLU 10	-22	-101	2154	-1.19	84.09	25.54
166	SLU 11	-23	-113	2154	-1.14	83.76	28.56
166	SLU 12	-22	-106	2154	-1.17	83.96	26.75
166	SLU 13	-22	-101	2154	-1.19	84.09	25.54
166	SLU 14	-23	-113	2154	-1.14	83.76	28.56
166	SLU 15	-22	-106	2154	-1.17	83.96	26.75
166	SLU 16	-23	-113	2154	-1.14	83.76	28.56
166	SLU 17	-22	-106	2154	-1.17	83.96	26.75
166	SLU 18	-25	-122	2287	-1.25	85.68	30.72
166	SLU 19	-24	-115	2287	-1.28	85.87	28.9
166	SLU 20	-25	-122	2287	-1.25	85.68	30.72
166	SLU 21	-24	-115	2287	-1.28	85.87	28.9
166	SLU 22	-22	-108	2085	-1.08	82.75	27.16
166	SLU 23	-21	-96	2084	-1.13	83.07	24.13
166	SLU 24	-22	-108	2085	-1.08	82.75	27.16
166	SLU 25	-21	-101	2084	-1.11	82.95	25.34
166	SLU 26	-21	-96	2084	-1.13	83.07	24.13
166	SLU 27	-22	-108	2085	-1.08	82.75	27.16
166	SLU 28	-21	-101	2084	-1.11	82.95	25.34
166	SLU 29	-22	-108	2085	-1.08	82.75	27.16
166	SLU 30	-21	-101	2084	-1.11	82.95	25.34
166	SLU 31	-26	-116	2394	-1.37	87.55	29.15
166	SLU 32	-26	-128	2394	-1.33	87.23	32.18
166	SLU 33	-26	-121	2394	-1.36	87.42	30.36
166	SLU 34	-26	-116	2394	-1.37	87.55	29.15
166	SLU 35	-26	-128	2394	-1.33	87.23	32.18
166	SLU 36	-26	-121	2394	-1.36	87.42	30.36
166	SLU 37	-26	-128	2394	-1.33	87.23	32.18
166	SLU 38	-26	-121	2394	-1.36	87.42	30.36
166	SLU 39	-29	-136	2526	-1.43	89.15	34.33
166	SLU 40	-28	-129	2526	-1.46	89.34	32.51
166	SLU 41	-29	-136	2526	-1.43	89.15	34.33
166	SLU 42	-28	-129	2526	-1.46	89.34	32.51
166	SLU 43	-22	-117	2317	-1.1	101.89	29.37
166	SLU 44	-21	-105	2316	-1.15	102.21	26.34
166	SLU 45	-22	-117	2317	-1.1	101.89	29.37
166	SLU 46	-22	-109	2316	-1.13	102.08	27.55
166	SLU 47	-21	-105	2316	-1.15	102.21	26.34
166	SLU 48	-22	-117	2317	-1.1	101.89	29.37
166	SLU 49	-22	-109	2316	-1.13	102.08	27.55
166	SLU 50	-22	-117	2317	-1.1	101.89	29.37
166	SLU 51	-22	-109	2316	-1.13	102.08	27.55
166	SLU 52	-26	-124	2626	-1.4	106.68	31.36
166	SLU 53	-27	-137	2626	-1.35	106.36	34.39
166	SLU 54	-26	-129	2626	-1.38	106.56	32.57
166	SLU 55	-26	-124	2626	-1.4	106.68	31.36
166	SLU 56	-27	-137	2626	-1.35	106.36	34.39
166	SLU 57	-26	-129	2626	-1.38	106.56	32.57
166	SLU 58	-27	-137	2626	-1.35	106.36	34.39
166	SLU 59	-26	-129	2626	-1.38	106.56	32.57
166	SLU 60	-29	-145	2758	-1.46	108.28	36.54
166	SLU 61	-28	-138	2758	-1.49	108.47	34.73
166	SLU 62	-29	-145	2758	-1.46	108.28	36.54
166	SLU 63	-28	-138	2758	-1.49	108.47	34.73
166	SLU 64	-26	-131	2556	-1.29	105.35	32.98
166	SLU 65	-25	-119	2556	-1.33	105.67	29.95
166	SLU 66	-26	-131	2556	-1.29	105.35	32.98
166	SLU 67	-25	-124	2556	-1.32	105.54	31.16
166	SLU 68	-25	-119	2556	-1.33	105.67	29.95
166	SLU 69	-26	-131	2556	-1.29	105.35	32.98
166	SLU 70	-25	-124	2556	-1.32	105.54	31.16
166	SLU 71	-26	-131	2556	-1.29	105.35	32.98
166	SLU 72	-25	-124	2556	-1.32	105.54	31.16
166	SLU 73	-30	-139	2865	-1.58	110.15	34.98
166	SLU 74	-31	-151	2865	-1.53	109.83	38
166	SLU 75	-30	-144	2865	-1.56	110.02	36.19
166	SLU 76	-30	-139	2865	-1.58	110.15	34.98
166	SLU 77	-31	-151	2865	-1.53	109.83	38
166	SLU 78	-30	-144	2865	-1.56	110.02	36.19
166	SLU 79	-31	-151	2865	-1.53	109.83	38
166	SLU 80	-30	-144	2865	-1.56	110.02	36.19
166	SLU 81	-33	-159	2998	-1.64	111.75	40.15
166	SLU 82	-32	-152	2998	-1.67	111.94	38.34
166	SLU 83	-33	-159	2998	-1.64	111.75	40.15
166	SLU 84	-32	-152	2998	-1.67	111.94	38.34
166	SLE RA 1	-19	-98	1914	-0.95	80.28	24.57
166	SLE RA 2	-18	-90	1913	-0.98	80.49	22.56
166	SLE RA 3	-19	-98	1914	-0.95	80.28	24.57
166	SLE RA 4	-19	-93	1913	-0.97	80.41	23.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
166	SLE RA 5	-18	-90	1913	-0.98	80.49	22.56
166	SLE RA 6	-19	-98	1914	-0.95	80.28	24.57
166	SLE RA 7	-19	-93	1913	-0.97	80.41	23.36
166	SLE RA 8	-19	-98	1914	-0.95	80.28	24.57
166	SLE RA 9	-19	-93	1913	-0.97	80.41	23.36
166	SLE RA 10	-22	-103	2120	-1.15	83.48	25.91
166	SLE RA 11	-22	-111	2120	-1.12	83.26	27.92
166	SLE RA 12	-22	-106	2120	-1.13	83.39	26.71
166	SLE RA 13	-22	-103	2120	-1.15	83.48	25.91
166	SLE RA 14	-22	-111	2120	-1.12	83.26	27.92
166	SLE RA 15	-22	-106	2120	-1.13	83.39	26.71
166	SLE RA 16	-22	-111	2120	-1.12	83.26	27.92
166	SLE RA 17	-22	-106	2120	-1.13	83.39	26.71
166	SLE RA 18	-24	-117	2208	-1.19	84.54	29.36
166	SLE RA 19	-23	-112	2208	-1.2	84.67	28.15
166	SLE RA 20	-24	-117	2208	-1.19	84.54	29.36
166	SLE RA 21	-23	-112	2208	-1.2	84.67	28.15
166	SLE FR 1	-19	-98	1914	-0.95	80.28	24.57
166	SLE FR 2	-19	-96	1913	-0.96	80.32	24.17
166	SLE FR 3	-19	-98	1914	-0.95	80.28	24.57
166	SLE FR 4	-20	-102	2002	-1.03	81.6	25.61
166	SLE FR 5	-20	-103	2002	-1.02	81.56	26.01
166	SLE FR 6	-21	-107	2061	-1.07	82.41	26.97
166	SLE QP 1	-19	-98	1914	-0.95	80.28	24.57
166	SLE QP 2	-20	-103	2002	-1.02	81.56	26.01
166	SLD 1	11	-28	1757	-1.21	65	7.13
166	SLD 2	10	12	1756	-1.2	65	-2.89
166	SLD 3	5	-143	1763	-0.72	63.91	35.81
166	SLD 4	5	-103	1761	-0.72	63.91	25.79
166	SLD 5	-2	79	1920	-1.81	78.25	-19.62
166	SLD 6	-2	120	1919	-1.81	78.24	-29.69
166	SLD 7	-22	-304	1939	-0.2	74.61	75.98
166	SLD 8	-22	-263	1938	-0.19	74.61	65.91
166	SLD 9	-19	56	2066	-1.85	88.51	-13.89
166	SLD 10	-19	97	2065	-1.84	88.5	-23.96
166	SLD 11	-38	-326	2084	-0.23	84.87	81.71
166	SLD 12	-39	-286	2083	-0.23	84.87	71.64
166	SLD 13	-45	-104	2242	-1.33	99.21	26.23
166	SLD 14	-46	-63	2241	-1.32	99.2	16.21
166	SLD 15	-51	-219	2248	-0.84	98.12	54.91
166	SLD 16	-51	-178	2247	-0.84	98.11	44.89
166	SLV 1	53	67	1444	-1.44	38.98	-16.86
166	SLV 2	52	158	1442	-1.43	38.97	-39.56
166	SLV 3	39	-194	1457	-0.34	36.45	48.25
166	SLV 4	39	-102	1455	-0.33	36.44	25.54
166	SLV 5	22	311	1816	-2.82	72.64	-77.6
166	SLV 6	21	403	1814	-2.81	72.63	-100.4
166	SLV 7	-22	-558	1859	0.85	64.18	139.42
166	SLV 8	-23	-466	1856	0.86	64.17	116.62
166	SLV 9	-18	260	2147	-2.9	98.95	-64.6
166	SLV 10	-18	351	2145	-2.89	98.93	-87.4
166	SLV 11	-62	-609	2190	0.76	90.49	152.42
166	SLV 12	-63	-517	2188	0.78	90.48	129.62
166	SLV 13	-80	-104	2549	-1.71	126.68	26.47
166	SLV 14	-80	-13	2546	-1.7	126.67	3.77
166	SLV 15	-93	-365	2562	-0.61	124.14	91.58
166	SLV 16	-93	-273	2559	-0.6	124.13	68.88
166	CRTFP Ux+	0	0	0	0	0	0
166	CRTFP Ux-	0	0	0	0	0	0
166	CRTFP Uy+	0	0	0	0	0	0
166	CRTFP Uy-	0	0	0	0	0	0
167	SLU 1	-81	-42	2038	31.43	-601.47	-13.47
167	SLU 2	-81	-30	2039	31.41	-602.01	-9.3
167	SLU 3	-81	-42	2038	31.43	-601.47	-13.47
167	SLU 4	-81	-35	2039	31.42	-601.79	-10.97
167	SLU 5	-81	-30	2039	31.41	-602.01	-9.3
167	SLU 6	-81	-42	2038	31.43	-601.47	-13.47
167	SLU 7	-81	-35	2039	31.42	-601.79	-10.97
167	SLU 8	-81	-42	2038	31.43	-601.47	-13.47
167	SLU 9	-81	-35	2039	31.42	-601.79	-10.97
167	SLU 10	-87	-37	2453	37.7	-723.23	-11.68
167	SLU 11	-87	-49	2453	37.72	-722.68	-15.85
167	SLU 12	-87	-42	2453	37.7	-723.01	-13.35
167	SLU 13	-87	-37	2453	37.7	-723.23	-11.68
167	SLU 14	-87	-49	2453	37.72	-722.68	-15.85
167	SLU 15	-87	-42	2453	37.7	-723.01	-13.35
167	SLU 16	-87	-49	2453	37.72	-722.68	-15.85
167	SLU 17	-87	-42	2453	37.7	-723.01	-13.35
167	SLU 18	-90	-52	2630	40.41	-774.63	-16.87
167	SLU 19	-90	-45	2631	40.4	-774.96	-14.37
167	SLU 20	-90	-52	2630	40.41	-774.63	-16.87
167	SLU 21	-90	-45	2631	40.4	-774.96	-14.37
167	SLU 22	-87	-48	2330	35.83	-688.24	-15.36
167	SLU 23	-86	-36	2330	35.81	-688.79	-11.18
167	SLU 24	-87	-48	2330	35.83	-688.24	-15.36
167	SLU 25	-87	-40	2330	35.82	-688.57	-12.85
167	SLU 26	-86	-36	2330	35.81	-688.79	-11.18
167	SLU 27	-87	-48	2330	35.83	-688.24	-15.36
167	SLU 28	-87	-40	2330	35.82	-688.57	-12.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLU 29	-87	-48	2330	35.83	-688.24	-15.36
167	SLU 30	-87	-40	2330	35.82	-688.57	-12.85
167	SLU 31	-93	-43	2745	42.1	-810	-13.56
167	SLU 32	-93	-55	2744	42.12	-809.46	-17.74
167	SLU 33	-93	-47	2744	42.1	-809.78	-15.23
167	SLU 34	-93	-43	2745	42.1	-810	-13.56
167	SLU 35	-93	-55	2744	42.12	-809.46	-17.74
167	SLU 36	-93	-47	2744	42.1	-809.78	-15.23
167	SLU 37	-93	-55	2744	42.12	-809.46	-17.74
167	SLU 38	-93	-47	2744	42.1	-809.78	-15.23
167	SLU 39	-95	-58	2921	44.81	-861.41	-18.76
167	SLU 40	-95	-50	2922	44.8	-861.73	-16.25
167	SLU 41	-95	-58	2921	44.81	-861.41	-18.76
167	SLU 42	-95	-50	2922	44.8	-861.73	-16.25
167	SLU 43	-104	-53	2550	39.35	-752.16	-16.86
167	SLU 44	-104	-41	2551	39.33	-752.7	-12.69
167	SLU 45	-104	-53	2550	39.35	-752.16	-16.86
167	SLU 46	-104	-45	2550	39.34	-752.48	-14.36
167	SLU 47	-104	-41	2551	39.33	-752.7	-12.69
167	SLU 48	-104	-53	2550	39.35	-752.16	-16.86
167	SLU 49	-104	-45	2550	39.34	-752.48	-14.36
167	SLU 50	-104	-53	2550	39.35	-752.16	-16.86
167	SLU 51	-104	-45	2550	39.34	-752.48	-14.36
167	SLU 52	-110	-48	2965	45.62	-873.92	-15.07
167	SLU 53	-110	-60	2964	45.63	-873.37	-19.24
167	SLU 54	-110	-52	2965	45.62	-873.7	-16.74
167	SLU 55	-110	-48	2965	45.62	-873.92	-15.07
167	SLU 56	-110	-60	2964	45.63	-873.37	-19.24
167	SLU 57	-110	-52	2965	45.62	-873.7	-16.74
167	SLU 58	-110	-60	2964	45.63	-873.37	-19.24
167	SLU 59	-110	-52	2965	45.62	-873.7	-16.74
167	SLU 60	-112	-63	3142	48.33	-925.32	-20.26
167	SLU 61	-112	-55	3142	48.32	-925.65	-17.76
167	SLU 62	-112	-63	3142	48.33	-925.32	-20.26
167	SLU 63	-112	-55	3142	48.32	-925.65	-17.76
167	SLU 64	-109	-58	2841	43.75	-838.93	-18.75
167	SLU 65	-109	-46	2842	43.73	-839.48	-14.58
167	SLU 66	-109	-58	2841	43.75	-838.93	-18.75
167	SLU 67	-109	-51	2842	43.74	-839.26	-16.25
167	SLU 68	-109	-46	2842	43.73	-839.48	-14.58
167	SLU 69	-109	-58	2841	43.75	-838.93	-18.75
167	SLU 70	-109	-51	2842	43.74	-839.26	-16.25
167	SLU 71	-109	-58	2841	43.75	-838.93	-18.75
167	SLU 72	-109	-51	2842	43.74	-839.26	-16.25
167	SLU 73	-115	-53	3256	50.02	-960.69	-16.96
167	SLU 74	-115	-65	3256	50.04	-960.15	-21.13
167	SLU 75	-115	-58	3256	50.02	-960.47	-18.63
167	SLU 76	-115	-53	3256	50.02	-960.69	-16.96
167	SLU 77	-115	-65	3256	50.04	-960.15	-21.13
167	SLU 78	-115	-58	3256	50.02	-960.47	-18.63
167	SLU 79	-115	-65	3256	50.04	-960.15	-21.13
167	SLU 80	-115	-58	3256	50.02	-960.47	-18.63
167	SLU 81	-118	-68	3433	52.73	-1012.1	-22.15
167	SLU 82	-118	-61	3433	52.72	-1012.42	-19.65
167	SLU 83	-118	-68	3433	52.73	-1012.1	-22.15
167	SLU 84	-118	-61	3433	52.72	-1012.42	-19.65
167	SLE RA 1	-83	-44	2122	32.69	-626.26	-14.01
167	SLE RA 2	-83	-36	2122	32.67	-626.62	-11.23
167	SLE RA 3	-83	-44	2122	32.69	-626.26	-14.01
167	SLE RA 4	-83	-39	2122	32.68	-626.48	-12.34
167	SLE RA 5	-83	-36	2122	32.67	-626.62	-11.23
167	SLE RA 6	-83	-44	2122	32.69	-626.26	-14.01
167	SLE RA 7	-83	-39	2122	32.68	-626.48	-12.34
167	SLE RA 8	-83	-44	2122	32.69	-626.26	-14.01
167	SLE RA 9	-83	-39	2122	32.68	-626.48	-12.34
167	SLE RA 10	-87	-40	2398	36.86	-707.43	-12.81
167	SLE RA 11	-87	-48	2398	36.88	-707.07	-15.6
167	SLE RA 12	-87	-43	2398	36.87	-707.29	-13.93
167	SLE RA 13	-87	-40	2398	36.86	-707.43	-12.81
167	SLE RA 14	-87	-48	2398	36.88	-707.07	-15.6
167	SLE RA 15	-87	-43	2398	36.87	-707.29	-13.93
167	SLE RA 16	-87	-48	2398	36.88	-707.07	-15.6
167	SLE RA 17	-87	-43	2398	36.87	-707.29	-13.93
167	SLE RA 18	-89	-50	2516	38.67	-741.7	-16.28
167	SLE RA 19	-89	-45	2516	38.67	-741.92	-14.61
167	SLE RA 20	-89	-50	2516	38.67	-741.7	-16.28
167	SLE RA 21	-89	-45	2516	38.67	-741.92	-14.61
167	SLE FR 1	-83	-44	2122	32.69	-626.26	-14.01
167	SLE FR 2	-83	-42	2122	32.68	-626.33	-13.45
167	SLE FR 3	-83	-44	2122	32.69	-626.26	-14.01
167	SLE FR 4	-84	-44	2240	34.48	-660.97	-14.13
167	SLE FR 5	-84	-46	2240	34.48	-660.89	-14.69
167	SLE FR 6	-86	-47	2319	35.68	-683.98	-15.14
167	SLE QP 1	-83	-44	2122	32.69	-626.26	-14.01
167	SLE QP 2	-84	-46	2240	34.48	-660.89	-14.69
167	SLD 1	62	-10	2585	39.73	-753.88	-4.44
167	SLD 2	60	-47	2586	39.73	-754.2	-17.23
167	SLD 3	59	-114	2594	40.13	-751.16	-40.63
167	SLD 4	57	-151	2595	40.12	-751.47	-53.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLD 5	-35	135	2330	35.46	-692.81	47.77
167	SLD 6	-37	98	2330	35.46	-693.13	34.92
167	SLD 7	-46	-210	2360	36.77	-683.73	-72.84
167	SLD 8	-48	-247	2360	36.77	-684.05	-85.69
167	SLD 9	-121	156	2120	32.2	-637.74	56.32
167	SLD 10	-123	119	2120	32.19	-638.06	43.47
167	SLD 11	-132	-189	2150	33.51	-628.66	-64.3
167	SLD 12	-134	-226	2150	33.5	-628.98	-77.15
167	SLD 13	-226	59	1885	28.84	-570.32	24.04
167	SLD 14	-228	23	1886	28.84	-570.63	11.25
167	SLD 15	-229	-44	1894	29.23	-567.59	-12.14
167	SLD 16	-231	-81	1894	29.23	-567.91	-24.93
167	SLV 1	248	35	3024	46.4	-872.05	8.64
167	SLV 2	244	-49	3024	46.39	-872.77	-20.35
167	SLV 3	241	-200	3044	47.29	-865.72	-73.59
167	SLV 4	237	-284	3045	47.28	-866.44	-102.58
167	SLV 5	28	365	2444	36.71	-733.59	127.23
167	SLV 6	24	281	2444	36.7	-734.3	98.11
167	SLV 7	3	-419	2512	39.68	-712.49	-146.86
167	SLV 8	-1	-503	2513	39.67	-713.21	-175.98
167	SLV 9	-168	412	1967	29.29	-608.57	146.6
167	SLV 10	-172	328	1967	29.28	-609.29	117.49
167	SLV 11	-193	-372	2036	32.27	-587.48	-127.49
167	SLV 12	-197	-456	2036	32.26	-588.2	-156.61
167	SLV 13	-406	193	1435	21.68	-455.35	73.21
167	SLV 14	-410	109	1435	21.67	-456.06	44.22
167	SLV 15	-413	-42	1456	22.57	-449.02	-9.02
167	SLV 16	-417	-126	1456	22.56	-449.73	-38.01
167	CRTFP Ux+	0	0	0	0	0.01	0
167	CRTFP Ux-	0	0	0	0	-0.01	0
167	CRTFP Uy+	0	0	0	0	0	0
167	CRTFP Uy-	0	0	0	0	0	0
170	SLU 1	-22	-94	1818	-0.82	78.22	23.62
170	SLU 2	-21	-82	1817	-0.87	78.54	20.6
170	SLU 3	-22	-94	1818	-0.82	78.22	23.62
170	SLU 4	-21	-87	1817	-0.85	78.41	21.81
170	SLU 5	-21	-82	1817	-0.87	78.54	20.6
170	SLU 6	-22	-94	1818	-0.82	78.22	23.62
170	SLU 7	-21	-87	1817	-0.85	78.41	21.81
170	SLU 8	-22	-94	1818	-0.82	78.22	23.62
170	SLU 9	-21	-87	1817	-0.85	78.41	21.81
170	SLU 10	-27	-102	2119	-1.1	82.76	25.64
170	SLU 11	-28	-114	2120	-1.06	82.45	28.66
170	SLU 12	-27	-107	2119	-1.08	82.64	26.85
170	SLU 13	-27	-102	2119	-1.1	82.76	25.64
170	SLU 14	-28	-114	2120	-1.06	82.45	28.66
170	SLU 15	-27	-107	2119	-1.08	82.64	26.85
170	SLU 16	-28	-114	2120	-1.06	82.45	28.66
170	SLU 17	-27	-107	2119	-1.08	82.64	26.85
170	SLU 18	-30	-123	2250	-1.16	84.26	30.82
170	SLU 19	-30	-116	2249	-1.18	84.45	29.01
170	SLU 20	-30	-123	2250	-1.16	84.26	30.82
170	SLU 21	-30	-116	2249	-1.18	84.45	29.01
170	SLU 22	-26	-109	2052	-1	81.49	27.25
170	SLU 23	-25	-96	2051	-1.04	81.81	24.23
170	SLU 24	-26	-109	2052	-1	81.49	27.25
170	SLU 25	-26	-101	2051	-1.03	81.68	25.44
170	SLU 26	-25	-96	2051	-1.04	81.81	24.23
170	SLU 27	-26	-109	2052	-1	81.49	27.25
170	SLU 28	-26	-101	2051	-1.03	81.68	25.44
170	SLU 29	-26	-109	2052	-1	81.49	27.25
170	SLU 30	-26	-101	2051	-1.03	81.68	25.44
170	SLU 31	-31	-117	2353	-1.28	86.03	29.27
170	SLU 32	-32	-129	2354	-1.23	85.72	32.29
170	SLU 33	-32	-121	2353	-1.26	85.91	30.48
170	SLU 34	-31	-117	2353	-1.28	86.03	29.27
170	SLU 35	-32	-129	2354	-1.23	85.72	32.29
170	SLU 36	-32	-121	2353	-1.26	85.91	30.48
170	SLU 37	-32	-129	2354	-1.23	85.72	32.29
170	SLU 38	-32	-121	2353	-1.26	85.91	30.48
170	SLU 39	-35	-137	2483	-1.33	87.53	34.45
170	SLU 40	-34	-130	2482	-1.36	87.72	32.63
170	SLU 41	-35	-137	2483	-1.33	87.53	34.45
170	SLU 42	-34	-130	2482	-1.36	87.72	32.63
170	SLU 43	-27	-117	2284	-1.01	100.57	29.47
170	SLU 44	-26	-105	2282	-1.06	100.88	26.44
170	SLU 45	-27	-117	2284	-1.01	100.57	29.47
170	SLU 46	-26	-110	2283	-1.04	100.76	27.65
170	SLU 47	-26	-105	2282	-1.06	100.88	26.44
170	SLU 48	-27	-117	2284	-1.01	100.57	29.47
170	SLU 49	-26	-110	2283	-1.04	100.76	27.65
170	SLU 50	-27	-117	2284	-1.01	100.57	29.47
170	SLU 51	-26	-110	2283	-1.04	100.76	27.65
170	SLU 52	-32	-125	2584	-1.29	105.11	31.48
170	SLU 53	-33	-137	2586	-1.24	104.8	34.5
170	SLU 54	-32	-130	2585	-1.27	104.99	32.69
170	SLU 55	-32	-125	2584	-1.29	105.11	31.48
170	SLU 56	-33	-137	2586	-1.24	104.8	34.5
170	SLU 57	-32	-130	2585	-1.27	104.99	32.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLU 58	-33	-137	2586	-1.24	104.8	34.5
170	SLU 59	-32	-130	2585	-1.27	104.99	32.69
170	SLU 60	-35	-146	2715	-1.34	106.61	36.66
170	SLU 61	-35	-139	2714	-1.37	106.8	34.85
170	SLU 62	-35	-146	2715	-1.34	106.61	36.66
170	SLU 63	-35	-139	2714	-1.37	106.8	34.85
170	SLU 64	-31	-132	2518	-1.18	103.84	33.1
170	SLU 65	-30	-120	2516	-1.23	104.15	30.07
170	SLU 66	-31	-132	2518	-1.18	103.84	33.1
170	SLU 67	-31	-125	2517	-1.21	104.03	31.28
170	SLU 68	-30	-120	2516	-1.23	104.15	30.07
170	SLU 69	-31	-132	2518	-1.18	103.84	33.1
170	SLU 70	-31	-125	2517	-1.21	104.03	31.28
170	SLU 71	-31	-132	2518	-1.18	103.84	33.1
170	SLU 72	-31	-125	2517	-1.21	104.03	31.28
170	SLU 73	-36	-140	2818	-1.46	108.38	35.11
170	SLU 74	-37	-152	2819	-1.42	108.07	38.13
170	SLU 75	-37	-145	2818	-1.45	108.25	36.32
170	SLU 76	-36	-140	2818	-1.46	108.38	35.11
170	SLU 77	-37	-152	2819	-1.42	108.07	38.13
170	SLU 78	-37	-145	2818	-1.45	108.25	36.32
170	SLU 79	-37	-152	2819	-1.42	108.07	38.13
170	SLU 80	-37	-145	2818	-1.45	108.25	36.32
170	SLU 81	-40	-160	2949	-1.52	109.88	40.29
170	SLU 82	-39	-153	2948	-1.54	110.07	38.48
170	SLU 83	-40	-160	2949	-1.52	109.88	40.29
170	SLU 84	-39	-153	2948	-1.54	110.07	38.48
170	SLE RA 1	-23	-98	1885	-0.87	79.16	24.66
170	SLE RA 2	-23	-90	1884	-0.91	79.37	22.65
170	SLE RA 3	-23	-98	1885	-0.87	79.16	24.66
170	SLE RA 4	-23	-93	1885	-0.89	79.28	23.45
170	SLE RA 5	-23	-90	1884	-0.91	79.37	22.65
170	SLE RA 6	-23	-98	1885	-0.87	79.16	24.66
170	SLE RA 7	-23	-93	1885	-0.89	79.28	23.45
170	SLE RA 8	-23	-98	1885	-0.87	79.16	24.66
170	SLE RA 9	-23	-93	1885	-0.89	79.28	23.45
170	SLE RA 10	-26	-104	2085	-1.06	82.18	26
170	SLE RA 11	-27	-112	2086	-1.03	81.98	28.02
170	SLE RA 12	-27	-107	2086	-1.05	82.1	26.81
170	SLE RA 13	-26	-104	2085	-1.06	82.18	26
170	SLE RA 14	-27	-112	2086	-1.03	81.98	28.02
170	SLE RA 15	-27	-107	2086	-1.05	82.1	26.81
170	SLE RA 16	-27	-112	2086	-1.03	81.98	28.02
170	SLE RA 17	-27	-107	2086	-1.05	82.1	26.81
170	SLE RA 18	-29	-117	2173	-1.09	83.18	29.46
170	SLE RA 19	-28	-113	2172	-1.11	83.31	28.25
170	SLE RA 20	-29	-117	2173	-1.09	83.18	29.46
170	SLE RA 21	-28	-113	2172	-1.11	83.31	28.25
170	SLE FR 1	-23	-98	1885	-0.87	79.16	24.66
170	SLE FR 2	-23	-97	1885	-0.88	79.2	24.26
170	SLE FR 3	-23	-98	1885	-0.87	79.16	24.66
170	SLE FR 4	-25	-102	1971	-0.95	80.41	25.7
170	SLE FR 5	-25	-104	1971	-0.94	80.37	26.1
170	SLE FR 6	-26	-108	2029	-0.98	81.17	27.06
170	SLE QP 1	-23	-98	1885	-0.87	79.16	24.66
170	SLE QP 2	-25	-104	1971	-0.94	80.37	26.1
170	SLD 1	11	-29	1722	-1.15	63.58	7.19
170	SLD 2	9	11	1721	-1.15	63.55	-2.81
170	SLD 3	6	-144	1739	-0.66	62.9	35.86
170	SLD 4	4	-104	1738	-0.66	62.87	25.85
170	SLD 5	-5	78	1872	-1.75	76.38	-19.52
170	SLD 6	-7	119	1871	-1.74	76.35	-29.57
170	SLD 7	-23	-304	1927	-0.11	74.1	76.02
170	SLD 8	-25	-264	1926	-0.11	74.07	65.97
170	SLD 9	-25	56	2017	-1.77	86.66	-13.77
170	SLD 10	-27	96	2016	-1.77	86.63	-23.82
170	SLD 11	-42	-327	2072	-0.13	84.38	81.76
170	SLD 12	-44	-286	2071	-0.13	84.35	71.72
170	SLD 13	-53	-104	2205	-1.22	97.86	26.35
170	SLD 14	-55	-64	2204	-1.22	97.83	16.34
170	SLD 15	-59	-219	2222	-0.73	97.18	55.01
170	SLD 16	-61	-179	2221	-0.73	97.15	45
170	SLV 1	58	66	1403	-1.42	37.28	-16.82
170	SLV 2	54	157	1402	-1.41	37.21	-39.49
170	SLV 3	46	-195	1441	-0.31	35.64	48.24
170	SLV 4	42	-104	1440	-0.29	35.57	25.57
170	SLV 5	20	310	1744	-2.78	69.95	-77.47
170	SLV 6	15	401	1742	-2.77	69.88	-100.24
170	SLV 7	-20	-558	1871	0.94	64.49	139.41
170	SLV 8	-25	-467	1869	0.95	64.42	116.64
170	SLV 9	-25	259	2074	-2.83	96.31	-64.44
170	SLV 10	-30	350	2072	-2.82	96.25	-87.21
170	SLV 11	-65	-609	2201	0.89	90.85	152.44
170	SLV 12	-70	-518	2199	0.9	90.78	129.67
170	SLV 13	-92	-104	2503	-1.59	125.16	26.63
170	SLV 14	-96	-13	2502	-1.57	125.09	3.96
170	SLV 15	-104	-365	2541	-0.47	123.52	91.69
170	SLV 16	-108	-274	2540	-0.46	123.45	69.02
170	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
170	CRTFP Ux-	0	0	0	0	0	0
170	CRTFP Uy+	0	0	0	0	0	0
170	CRTFP Uy-	0	0	0	0	0	0
171	SLU 1	-82	-44	2149	-2.81	-592.1	-15.71
171	SLU 2	-82	-31	2149	-2.85	-592.67	-11.15
171	SLU 3	-82	-44	2149	-2.81	-592.1	-15.71
171	SLU 4	-82	-36	2149	-2.83	-592.44	-12.98
171	SLU 5	-82	-31	2149	-2.85	-592.67	-11.15
171	SLU 6	-82	-44	2149	-2.81	-592.1	-15.71
171	SLU 7	-82	-36	2149	-2.83	-592.44	-12.98
171	SLU 8	-82	-44	2149	-2.81	-592.1	-15.71
171	SLU 9	-82	-36	2149	-2.83	-592.44	-12.98
171	SLU 10	-87	-38	2581	-3.59	-709.04	-13.78
171	SLU 11	-88	-51	2581	-3.55	-708.46	-18.34
171	SLU 12	-88	-44	2581	-3.57	-708.81	-15.6
171	SLU 13	-87	-38	2581	-3.59	-709.04	-13.78
171	SLU 14	-88	-51	2581	-3.55	-708.46	-18.34
171	SLU 15	-88	-44	2581	-3.57	-708.81	-15.6
171	SLU 16	-88	-51	2581	-3.55	-708.46	-18.34
171	SLU 17	-88	-44	2581	-3.57	-708.81	-15.6
171	SLU 18	-90	-55	2767	-3.86	-758.33	-19.46
171	SLU 19	-90	-47	2766	-3.89	-758.68	-16.73
171	SLU 20	-90	-55	2767	-3.86	-758.33	-19.46
171	SLU 21	-90	-47	2766	-3.89	-758.68	-16.73
171	SLU 22	-87	-50	2452	-3.36	-675.66	-17.81
171	SLU 23	-87	-37	2452	-3.4	-676.23	-13.25
171	SLU 24	-87	-50	2452	-3.36	-675.66	-17.81
171	SLU 25	-87	-42	2452	-3.38	-676.01	-15.07
171	SLU 26	-87	-37	2452	-3.4	-676.23	-13.25
171	SLU 27	-87	-50	2452	-3.36	-675.66	-17.81
171	SLU 28	-87	-42	2452	-3.38	-676.01	-15.07
171	SLU 29	-87	-50	2452	-3.36	-675.66	-17.81
171	SLU 30	-87	-42	2452	-3.38	-676.01	-15.07
171	SLU 31	-93	-44	2884	-4.14	-792.6	-15.88
171	SLU 32	-93	-57	2885	-4.09	-792.03	-20.44
171	SLU 33	-93	-50	2884	-4.12	-792.37	-17.7
171	SLU 34	-93	-44	2884	-4.14	-792.6	-15.88
171	SLU 35	-93	-57	2885	-4.09	-792.03	-20.44
171	SLU 36	-93	-50	2884	-4.12	-792.37	-17.7
171	SLU 37	-93	-57	2885	-4.09	-792.03	-20.44
171	SLU 38	-93	-50	2884	-4.12	-792.37	-17.7
171	SLU 39	-95	-60	3070	-4.41	-841.9	-21.56
171	SLU 40	-95	-53	3070	-4.44	-842.24	-18.83
171	SLU 41	-95	-60	3070	-4.41	-841.9	-21.56
171	SLU 42	-95	-53	3070	-4.44	-842.24	-18.83
171	SLU 43	-104	-55	2690	-3.46	-741.08	-19.7
171	SLU 44	-104	-42	2690	-3.5	-741.65	-15.15
171	SLU 45	-104	-55	2690	-3.46	-741.08	-19.7
171	SLU 46	-104	-47	2690	-3.49	-741.42	-16.97
171	SLU 47	-104	-42	2690	-3.5	-741.65	-15.15
171	SLU 48	-104	-55	2690	-3.46	-741.08	-19.7
171	SLU 49	-104	-47	2690	-3.49	-741.42	-16.97
171	SLU 50	-104	-55	2690	-3.46	-741.08	-19.7
171	SLU 51	-104	-47	2690	-3.49	-741.42	-16.97
171	SLU 52	-110	-50	3122	-4.24	-858.02	-17.78
171	SLU 53	-110	-63	3122	-4.2	-857.44	-22.33
171	SLU 54	-110	-55	3122	-4.22	-857.79	-19.6
171	SLU 55	-110	-50	3122	-4.24	-858.02	-17.78
171	SLU 56	-110	-63	3122	-4.2	-857.44	-22.33
171	SLU 57	-110	-55	3122	-4.22	-857.79	-19.6
171	SLU 58	-110	-63	3122	-4.2	-857.44	-22.33
171	SLU 59	-110	-55	3122	-4.22	-857.79	-19.6
171	SLU 60	-113	-66	3308	-4.52	-907.31	-23.46
171	SLU 61	-113	-58	3307	-4.54	-907.66	-20.72
171	SLU 62	-113	-66	3308	-4.52	-907.31	-23.46
171	SLU 63	-113	-58	3307	-4.54	-907.66	-20.72
171	SLU 64	-110	-61	2993	-4.01	-824.64	-21.8
171	SLU 65	-110	-48	2993	-4.05	-825.21	-17.25
171	SLU 66	-110	-61	2993	-4.01	-824.64	-21.8
171	SLU 67	-110	-53	2993	-4.04	-824.98	-19.07
171	SLU 68	-110	-48	2993	-4.05	-825.21	-17.25
171	SLU 69	-110	-61	2993	-4.01	-824.64	-21.8
171	SLU 70	-110	-53	2993	-4.04	-824.98	-19.07
171	SLU 71	-110	-61	2993	-4.01	-824.64	-21.8
171	SLU 72	-110	-53	2993	-4.04	-824.98	-19.07
171	SLU 73	-115	-55	3425	-4.79	-941.58	-19.87
171	SLU 74	-116	-68	3425	-4.75	-941.01	-24.43
171	SLU 75	-116	-61	3425	-4.77	-941.35	-21.7
171	SLU 76	-115	-55	3425	-4.79	-941.58	-19.87
171	SLU 77	-116	-68	3425	-4.75	-941.01	-24.43
171	SLU 78	-116	-61	3425	-4.77	-941.35	-21.7
171	SLU 79	-116	-68	3425	-4.75	-941.01	-24.43
171	SLU 80	-116	-61	3425	-4.77	-941.35	-21.7
171	SLU 81	-118	-72	3611	-5.06	-990.88	-25.56
171	SLU 82	-118	-64	3610	-5.09	-991.22	-22.82
171	SLU 83	-118	-72	3611	-5.06	-990.88	-25.56
171	SLU 84	-118	-64	3610	-5.09	-991.22	-22.82
171	SLE RA 1	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE RA 2	-83	-37	2235	-2.99	-616.36	-13.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLE RA 3	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE RA 4	-83	-40	2236	-2.98	-616.2	-14.49
171	SLE RA 5	-83	-37	2235	-2.99	-616.36	-13.27
171	SLE RA 6	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE RA 7	-83	-40	2236	-2.98	-616.2	-14.49
171	SLE RA 8	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE RA 9	-83	-40	2236	-2.98	-616.2	-14.49
171	SLE RA 10	-87	-42	2524	-3.48	-693.93	-15.02
171	SLE RA 11	-87	-51	2524	-3.46	-693.55	-18.06
171	SLE RA 12	-87	-45	2524	-3.47	-693.78	-16.24
171	SLE RA 13	-87	-42	2524	-3.48	-693.93	-15.02
171	SLE RA 14	-87	-51	2524	-3.46	-693.55	-18.06
171	SLE RA 15	-87	-45	2524	-3.47	-693.78	-16.24
171	SLE RA 16	-87	-51	2524	-3.46	-693.55	-18.06
171	SLE RA 17	-87	-45	2524	-3.47	-693.78	-16.24
171	SLE RA 18	-89	-53	2647	-3.67	-726.8	-18.81
171	SLE RA 19	-89	-48	2647	-3.68	-727.03	-16.99
171	SLE RA 20	-89	-53	2647	-3.67	-726.8	-18.81
171	SLE RA 21	-89	-48	2647	-3.68	-727.03	-16.99
171	SLE FR 1	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE FR 2	-83	-44	2236	-2.97	-616.05	-15.7
171	SLE FR 3	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE FR 4	-85	-46	2359	-3.18	-649.3	-16.45
171	SLE FR 5	-85	-48	2359	-3.18	-649.22	-17.06
171	SLE FR 6	-86	-49	2442	-3.32	-671.39	-17.56
171	SLE QP 1	-83	-46	2236	-2.96	-615.97	-16.31
171	SLE QP 2	-85	-48	2359	-3.18	-649.22	-17.06
171	SLD 1	74	-9	2721	-3.8	-739.45	-3.41
171	SLD 2	69	-49	2721	-3.81	-739.94	-17.37
171	SLD 3	71	-122	2740	-3.38	-736.91	-42.92
171	SLD 4	65	-162	2739	-3.39	-737.39	-56.89
171	SLD 5	-30	149	2439	-3.99	-679.98	51.89
171	SLD 6	-35	109	2439	-4	-680.46	37.85
171	SLD 7	-42	-227	2502	-2.6	-671.5	-79.82
171	SLD 8	-47	-267	2502	-2.61	-671.99	-93.86
171	SLD 9	-123	172	2217	-3.74	-626.45	59.74
171	SLD 10	-128	131	2217	-3.75	-626.94	45.7
171	SLD 11	-135	-205	2279	-2.35	-617.98	-71.97
171	SLD 12	-140	-245	2279	-2.36	-618.46	-86.01
171	SLD 13	-235	66	1979	-2.96	-561.05	22.76
171	SLD 14	-240	26	1979	-2.97	-561.53	8.8
171	SLD 15	-239	-47	1998	-2.54	-558.5	-16.75
171	SLD 16	-244	-87	1998	-2.55	-558.99	-30.72
171	SLV 1	276	41	3180	-4.59	-854.23	13.99
171	SLV 2	265	-50	3179	-4.62	-855.32	-17.68
171	SLV 3	268	-216	3223	-3.65	-848.24	-75.81
171	SLV 4	257	-307	3222	-3.67	-849.33	-107.47
171	SLV 5	40	400	2541	-5.03	-719.43	139.59
171	SLV 6	29	308	2540	-5.06	-720.52	107.79
171	SLV 7	12	-455	2683	-1.87	-699.45	-159.72
171	SLV 8	1	-547	2683	-1.9	-700.55	-191.52
171	SLV 9	-171	451	2036	-4.45	-597.89	157.4
171	SLV 10	-182	360	2035	-4.48	-598.99	125.6
171	SLV 11	-199	-404	2178	-1.29	-577.92	-141.91
171	SLV 12	-210	-496	2178	-1.32	-579.02	-173.71
171	SLV 13	-426	211	1496	-2.68	-449.11	73.35
171	SLV 14	-438	120	1496	-2.7	-450.21	41.68
171	SLV 15	-435	-45	1539	-1.73	-443.12	-16.44
171	SLV 16	-446	-136	1539	-1.76	-444.21	-48.11
171	CRTFP Ux+	0	0	0	0	0	0
171	CRTFP Ux-	0	0	0	0	0	0
171	CRTFP Uy+	0	0	0	0	0	0
171	CRTFP Uy-	0	0	0	0	0	0
174	SLU 1	-24	-95	1795	-0.71	79.52	23.7
174	SLU 2	-23	-83	1792	-0.76	79.8	20.68
174	SLU 3	-24	-95	1795	-0.71	79.52	23.7
174	SLU 4	-23	-88	1793	-0.74	79.69	21.89
174	SLU 5	-23	-83	1792	-0.76	79.8	20.68
174	SLU 6	-24	-95	1795	-0.71	79.52	23.7
174	SLU 7	-23	-88	1793	-0.74	79.69	21.89
174	SLU 8	-24	-95	1795	-0.71	79.52	23.7
174	SLU 9	-23	-88	1793	-0.74	79.69	21.89
174	SLU 10	-29	-103	2086	-0.97	84.23	25.73
174	SLU 11	-30	-115	2090	-0.92	83.95	28.75
174	SLU 12	-30	-108	2088	-0.95	84.12	26.94
174	SLU 13	-29	-103	2086	-0.97	84.23	25.73
174	SLU 14	-30	-115	2090	-0.92	83.95	28.75
174	SLU 15	-30	-108	2088	-0.95	84.12	26.94
174	SLU 16	-30	-115	2090	-0.92	83.95	28.75
174	SLU 17	-30	-108	2088	-0.95	84.12	26.94
174	SLU 18	-33	-124	2216	-1.01	85.84	30.92
174	SLU 19	-32	-116	2214	-1.04	86.02	29.1
174	SLU 20	-33	-124	2216	-1.01	85.84	30.92
174	SLU 21	-32	-116	2214	-1.04	86.02	29.1
174	SLU 22	-28	-109	2023	-0.87	82.93	27.34
174	SLU 23	-27	-97	2020	-0.92	83.21	24.32
174	SLU 24	-28	-109	2023	-0.87	82.93	27.34
174	SLU 25	-28	-102	2022	-0.9	83.1	25.53
174	SLU 26	-27	-97	2020	-0.92	83.21	24.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 27	-28	-109	2023	-0.87	82.93	27.34
174	SLU 28	-28	-102	2022	-0.9	83.1	25.53
174	SLU 29	-28	-109	2023	-0.87	82.93	27.34
174	SLU 30	-28	-102	2022	-0.9	83.1	25.53
174	SLU 31	-34	-117	2315	-1.13	87.64	29.37
174	SLU 32	-35	-129	2318	-1.08	87.36	32.39
174	SLU 33	-34	-122	2316	-1.11	87.53	30.58
174	SLU 34	-34	-117	2315	-1.13	87.64	29.37
174	SLU 35	-35	-129	2318	-1.08	87.36	32.39
174	SLU 36	-34	-122	2316	-1.11	87.53	30.58
174	SLU 37	-35	-129	2318	-1.08	87.36	32.39
174	SLU 38	-34	-122	2316	-1.11	87.53	30.58
174	SLU 39	-38	-138	2445	-1.17	89.26	34.56
174	SLU 40	-37	-131	2443	-1.2	89.43	32.75
174	SLU 41	-38	-138	2445	-1.17	89.26	34.56
174	SLU 42	-37	-131	2443	-1.2	89.43	32.75
174	SLU 43	-29	-118	2255	-0.87	102.21	29.56
174	SLU 44	-28	-106	2251	-0.92	102.49	26.55
174	SLU 45	-29	-118	2255	-0.87	102.21	29.56
174	SLU 46	-28	-111	2253	-0.9	102.38	27.75
174	SLU 47	-28	-106	2251	-0.92	102.49	26.55
174	SLU 48	-29	-118	2255	-0.87	102.21	29.56
174	SLU 49	-28	-111	2253	-0.9	102.38	27.75
174	SLU 50	-29	-118	2255	-0.87	102.21	29.56
174	SLU 51	-28	-111	2253	-0.9	102.38	27.75
174	SLU 52	-35	-126	2546	-1.13	106.92	31.6
174	SLU 53	-36	-138	2549	-1.08	106.63	34.61
174	SLU 54	-35	-131	2548	-1.11	106.8	32.8
174	SLU 55	-35	-126	2546	-1.13	106.92	31.6
174	SLU 56	-36	-138	2549	-1.08	106.63	34.61
174	SLU 57	-35	-131	2548	-1.11	106.8	32.8
174	SLU 58	-36	-138	2549	-1.08	106.63	34.61
174	SLU 59	-35	-131	2548	-1.11	106.8	32.8
174	SLU 60	-38	-147	2676	-1.17	108.53	36.78
174	SLU 61	-38	-140	2674	-1.2	108.7	34.97
174	SLU 62	-38	-147	2676	-1.17	108.53	36.78
174	SLU 63	-38	-140	2674	-1.2	108.7	34.97
174	SLU 64	-34	-133	2483	-1.03	105.62	33.21
174	SLU 65	-33	-121	2480	-1.08	105.9	30.19
174	SLU 66	-34	-133	2483	-1.03	105.62	33.21
174	SLU 67	-33	-125	2482	-1.06	105.79	31.39
174	SLU 68	-33	-121	2480	-1.08	105.9	30.19
174	SLU 69	-34	-133	2483	-1.03	105.62	33.21
174	SLU 70	-33	-125	2482	-1.06	105.79	31.39
174	SLU 71	-34	-133	2483	-1.03	105.62	33.21
174	SLU 72	-33	-125	2482	-1.06	105.79	31.39
174	SLU 73	-39	-141	2775	-1.29	110.33	35.24
174	SLU 74	-40	-153	2778	-1.24	110.05	38.26
174	SLU 75	-40	-146	2776	-1.27	110.22	36.44
174	SLU 76	-39	-141	2775	-1.29	110.33	35.24
174	SLU 77	-40	-153	2778	-1.24	110.05	38.26
174	SLU 78	-40	-146	2776	-1.27	110.22	36.44
174	SLU 79	-40	-153	2778	-1.24	110.05	38.26
174	SLU 80	-40	-146	2776	-1.27	110.22	36.44
174	SLU 81	-43	-161	2905	-1.33	111.94	40.42
174	SLU 82	-43	-154	2903	-1.36	112.11	38.61
174	SLU 83	-43	-161	2905	-1.33	111.94	40.42
174	SLU 84	-43	-154	2903	-1.36	112.11	38.61
174	SLE RA 1	-25	-99	1860	-0.76	80.5	24.74
174	SLE RA 2	-24	-91	1858	-0.79	80.68	22.73
174	SLE RA 3	-25	-99	1860	-0.76	80.5	24.74
174	SLE RA 4	-25	-94	1859	-0.78	80.61	23.53
174	SLE RA 5	-24	-91	1858	-0.79	80.68	22.73
174	SLE RA 6	-25	-99	1860	-0.76	80.5	24.74
174	SLE RA 7	-25	-94	1859	-0.78	80.61	23.53
174	SLE RA 8	-25	-99	1860	-0.76	80.5	24.74
174	SLE RA 9	-25	-94	1859	-0.78	80.61	23.53
174	SLE RA 10	-29	-104	2055	-0.93	83.64	26.1
174	SLE RA 11	-29	-112	2057	-0.9	83.45	28.11
174	SLE RA 12	-29	-107	2055	-0.92	83.56	26.9
174	SLE RA 13	-29	-104	2055	-0.93	83.64	26.1
174	SLE RA 14	-29	-112	2057	-0.9	83.45	28.11
174	SLE RA 15	-29	-107	2055	-0.92	83.56	26.9
174	SLE RA 16	-29	-112	2057	-0.9	83.45	28.11
174	SLE RA 17	-29	-107	2055	-0.92	83.56	26.9
174	SLE RA 18	-31	-118	2141	-0.96	84.71	29.55
174	SLE RA 19	-31	-113	2140	-0.98	84.82	28.34
174	SLE RA 20	-31	-118	2141	-0.96	84.71	29.55
174	SLE RA 21	-31	-113	2140	-0.98	84.82	28.34
174	SLE FR 1	-25	-99	1860	-0.76	80.5	24.74
174	SLE FR 2	-25	-97	1860	-0.76	80.53	24.34
174	SLE FR 3	-25	-99	1860	-0.76	80.5	24.74
174	SLE FR 4	-27	-103	1944	-0.82	81.8	25.78
174	SLE FR 5	-27	-105	1944	-0.82	81.76	26.19
174	SLE FR 6	-28	-108	2000	-0.86	82.6	27.15
174	SLE QP 1	-25	-99	1860	-0.76	80.5	24.74
174	SLE QP 2	-27	-105	1944	-0.82	81.76	26.19
174	SLD 1	17	-30	1687	-1.12	65.27	7.27
174	SLD 2	13	10	1686	-1.12	65.23	-2.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLD 3	12	-145	1719	-0.62	64.67	35.91
174	SLD 4	8	-105	1718	-0.61	64.62	25.92
174	SLD 5	-5	77	1819	-1.68	77.74	-19.4
174	SLD 6	-9	118	1819	-1.67	77.7	-29.43
174	SLD 7	-21	-305	1925	0.01	75.74	76.05
174	SLD 8	-25	-264	1924	0.01	75.69	66.02
174	SLD 9	-29	55	1964	-1.65	87.83	-13.65
174	SLD 10	-33	95	1964	-1.64	87.78	-23.68
174	SLD 11	-45	-327	2070	0.04	85.82	81.8
174	SLD 12	-48	-287	2069	0.04	85.78	71.77
174	SLD 13	-62	-105	2170	-1.03	98.9	26.45
174	SLD 14	-66	-64	2170	-1.02	98.85	16.46
174	SLD 15	-66	-219	2202	-0.52	98.29	55.08
174	SLD 16	-70	-179	2202	-0.51	98.25	45.1
174	SLV 1	73	64	1359	-1.51	39.45	-16.75
174	SLV 2	64	155	1357	-1.5	39.34	-39.38
174	SLV 3	62	-196	1431	-0.36	38	48.25
174	SLV 4	53	-105	1429	-0.35	37.89	25.62
174	SLV 5	23	309	1660	-2.78	71.3	-77.31
174	SLV 6	14	400	1659	-2.76	71.19	-100.04
174	SLV 7	-14	-559	1900	1.06	66.48	139.36
174	SLV 8	-22	-467	1898	1.07	66.37	116.63
174	SLV 9	-31	258	1990	-2.71	97.15	-64.26
174	SLV 10	-40	349	1989	-2.69	97.04	-86.99
174	SLV 11	-68	-609	2230	1.12	92.33	152.41
174	SLV 12	-76	-518	2229	1.14	92.22	129.68
174	SLV 13	-107	-104	2459	-1.29	125.63	26.75
174	SLV 14	-116	-13	2458	-1.27	125.52	4.12
174	SLV 15	-118	-365	2531	-0.14	124.18	91.75
174	SLV 16	-127	-274	2530	-0.12	124.07	69.12
174	CRTFP Ux+	0	0	0	0	0	0
174	CRTFP Ux-	0	0	0	0	0	0
174	CRTFP Uy+	0	0	0	0	0	0
174	CRTFP Uy-	0	0	0	0	0	0
175	SLU 1	-70	-43	2057	-3.06	-521.67	-15.36
175	SLU 2	-70	-30	2055	-3.1	-522.15	-10.8
175	SLU 3	-70	-43	2057	-3.06	-521.67	-15.36
175	SLU 4	-70	-35	2056	-3.09	-521.96	-12.62
175	SLU 5	-70	-30	2055	-3.1	-522.15	-10.8
175	SLU 6	-70	-43	2057	-3.06	-521.67	-15.36
175	SLU 7	-70	-35	2056	-3.09	-521.96	-12.62
175	SLU 8	-70	-43	2057	-3.06	-521.67	-15.36
175	SLU 9	-70	-35	2056	-3.09	-521.96	-12.62
175	SLU 10	-75	-37	2463	-3.91	-621.1	-13.36
175	SLU 11	-75	-50	2465	-3.86	-620.62	-17.93
175	SLU 12	-75	-42	2464	-3.89	-620.91	-15.19
175	SLU 13	-75	-37	2463	-3.91	-621.1	-13.36
175	SLU 14	-75	-50	2465	-3.86	-620.62	-17.93
175	SLU 15	-75	-42	2464	-3.89	-620.91	-15.19
175	SLU 16	-75	-50	2465	-3.86	-620.62	-17.93
175	SLU 17	-75	-42	2464	-3.89	-620.91	-15.19
175	SLU 18	-77	-53	2640	-4.21	-663.03	-19.02
175	SLU 19	-76	-45	2639	-4.24	-663.32	-16.29
175	SLU 20	-77	-53	2640	-4.21	-663.03	-19.02
175	SLU 21	-76	-45	2639	-4.24	-663.32	-16.29
175	SLU 22	-74	-48	2342	-3.66	-592.88	-17.41
175	SLU 23	-74	-35	2340	-3.7	-593.37	-12.85
175	SLU 24	-74	-48	2342	-3.66	-592.88	-17.41
175	SLU 25	-74	-41	2341	-3.68	-593.17	-14.67
175	SLU 26	-74	-35	2340	-3.7	-593.37	-12.85
175	SLU 27	-74	-48	2342	-3.66	-592.88	-17.41
175	SLU 28	-74	-41	2341	-3.68	-593.17	-14.67
175	SLU 29	-74	-48	2342	-3.66	-592.88	-17.41
175	SLU 30	-74	-41	2341	-3.68	-593.17	-14.67
175	SLU 31	-79	-43	2748	-4.51	-692.32	-15.42
175	SLU 32	-79	-56	2750	-4.46	-691.84	-19.98
175	SLU 33	-79	-48	2749	-4.49	-692.13	-17.24
175	SLU 34	-79	-43	2748	-4.51	-692.32	-15.42
175	SLU 35	-79	-56	2750	-4.46	-691.84	-19.98
175	SLU 36	-79	-48	2749	-4.49	-692.13	-17.24
175	SLU 37	-79	-56	2750	-4.46	-691.84	-19.98
175	SLU 38	-79	-48	2749	-4.49	-692.13	-17.24
175	SLU 39	-81	-59	2925	-4.81	-734.25	-21.08
175	SLU 40	-81	-51	2924	-4.83	-734.53	-18.34
175	SLU 41	-81	-59	2925	-4.81	-734.25	-21.08
175	SLU 42	-81	-51	2924	-4.83	-734.53	-18.34
175	SLU 43	-90	-53	2576	-3.77	-653.75	-19.26
175	SLU 44	-90	-40	2574	-3.82	-654.23	-14.7
175	SLU 45	-90	-53	2576	-3.77	-653.75	-19.26
175	SLU 46	-90	-46	2575	-3.8	-654.04	-16.53
175	SLU 47	-90	-40	2574	-3.82	-654.23	-14.7
175	SLU 48	-90	-53	2576	-3.77	-653.75	-19.26
175	SLU 49	-90	-46	2575	-3.8	-654.04	-16.53
175	SLU 50	-90	-53	2576	-3.77	-653.75	-19.26
175	SLU 51	-90	-46	2575	-3.8	-654.04	-16.53
175	SLU 52	-94	-48	2983	-4.62	-753.18	-17.27
175	SLU 53	-94	-61	2984	-4.57	-752.7	-21.83
175	SLU 54	-94	-53	2983	-4.6	-752.99	-19.09
175	SLU 55	-94	-48	2983	-4.62	-753.18	-17.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLU 56	-94	-61	2984	-4.57	-752.7	-21.83
175	SLU 57	-94	-53	2983	-4.6	-752.99	-19.09
175	SLU 58	-94	-61	2984	-4.57	-752.7	-21.83
175	SLU 59	-94	-53	2983	-4.6	-752.99	-19.09
175	SLU 60	-96	-64	3159	-4.92	-795.11	-22.93
175	SLU 61	-96	-56	3158	-4.95	-795.4	-20.19
175	SLU 62	-96	-64	3159	-4.92	-795.11	-22.93
175	SLU 63	-96	-56	3158	-4.95	-795.4	-20.19
175	SLU 64	-94	-59	2861	-4.37	-724.97	-21.31
175	SLU 65	-94	-46	2860	-4.41	-725.45	-16.75
175	SLU 66	-94	-59	2861	-4.37	-724.97	-21.31
175	SLU 67	-94	-51	2860	-4.4	-725.26	-18.58
175	SLU 68	-94	-46	2860	-4.41	-725.45	-16.75
175	SLU 69	-94	-59	2861	-4.37	-724.97	-21.31
175	SLU 70	-94	-51	2860	-4.4	-725.26	-18.58
175	SLU 71	-94	-59	2861	-4.37	-724.97	-21.31
175	SLU 72	-94	-51	2860	-4.4	-725.26	-18.58
175	SLU 73	-98	-53	3268	-5.22	-824.4	-19.32
175	SLU 74	-98	-66	3269	-5.17	-823.92	-23.88
175	SLU 75	-98	-59	3268	-5.2	-824.21	-21.14
175	SLU 76	-98	-53	3268	-5.22	-824.4	-19.32
175	SLU 77	-98	-66	3269	-5.17	-823.92	-23.88
175	SLU 78	-98	-59	3268	-5.2	-824.21	-21.14
175	SLU 79	-98	-66	3269	-5.17	-823.92	-23.88
175	SLU 80	-98	-59	3268	-5.2	-824.21	-21.14
175	SLU 81	-100	-69	3444	-5.52	-866.33	-24.98
175	SLU 82	-100	-62	3443	-5.55	-866.62	-22.24
175	SLU 83	-100	-69	3444	-5.52	-866.33	-24.98
175	SLU 84	-100	-62	3443	-5.55	-866.62	-22.24
175	SLE RA 1	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE RA 2	-71	-36	2137	-3.26	-542.34	-12.9
175	SLE RA 3	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE RA 4	-71	-39	2138	-3.25	-542.21	-14.12
175	SLE RA 5	-71	-36	2137	-3.26	-542.34	-12.9
175	SLE RA 6	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE RA 7	-71	-39	2138	-3.25	-542.21	-14.12
175	SLE RA 8	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE RA 9	-71	-39	2138	-3.25	-542.21	-14.12
175	SLE RA 10	-74	-40	2409	-3.8	-608.3	-14.61
175	SLE RA 11	-74	-49	2410	-3.76	-607.98	-17.66
175	SLE RA 12	-74	-44	2410	-3.78	-608.18	-15.83
175	SLE RA 13	-74	-40	2409	-3.8	-608.3	-14.61
175	SLE RA 14	-74	-49	2410	-3.76	-607.98	-17.66
175	SLE RA 15	-74	-44	2410	-3.78	-608.18	-15.83
175	SLE RA 16	-74	-49	2410	-3.76	-607.98	-17.66
175	SLE RA 17	-74	-44	2410	-3.78	-608.18	-15.83
175	SLE RA 18	-76	-51	2527	-3.99	-636.26	-18.39
175	SLE RA 19	-76	-46	2526	-4.01	-636.45	-16.56
175	SLE RA 20	-76	-51	2527	-3.99	-636.26	-18.39
175	SLE RA 21	-76	-46	2526	-4.01	-636.45	-16.56
175	SLE FR 1	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE FR 2	-71	-43	2138	-3.23	-542.08	-15.34
175	SLE FR 3	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE FR 4	-73	-45	2255	-3.46	-570.35	-16.07
175	SLE FR 5	-73	-46	2255	-3.46	-570.29	-16.68
175	SLE FR 6	-73	-48	2333	-3.61	-589.13	-17.17
175	SLE QP 1	-71	-44	2138	-3.23	-542.01	-15.95
175	SLE QP 2	-73	-46	2255	-3.46	-570.29	-16.68
175	SLD 1	86	-7	2597	-4.13	-648.19	-2.88
175	SLD 2	78	-47	2596	-4.14	-648.73	-16.87
175	SLD 3	83	-120	2628	-3.67	-646.04	-42.47
175	SLD 4	74	-160	2628	-3.68	-646.58	-56.45
175	SLD 5	-17	151	2310	-4.35	-596.73	52.42
175	SLD 6	-25	111	2309	-4.36	-597.27	38.37
175	SLD 7	-29	-226	2415	-2.82	-589.56	-79.52
175	SLD 8	-37	-266	2414	-2.84	-590.1	-93.57
175	SLD 9	-108	173	2096	-4.08	-550.47	60.22
175	SLD 10	-116	133	2095	-4.09	-551.01	46.17
175	SLD 11	-121	-203	2201	-2.55	-543.31	-71.73
175	SLD 12	-129	-244	2200	-2.57	-543.85	-85.78
175	SLD 13	-220	68	1882	-3.23	-494	23.09
175	SLD 14	-228	27	1882	-3.24	-494.53	9.11
175	SLD 15	-223	-45	1914	-2.77	-491.85	-16.49
175	SLD 16	-231	-86	1913	-2.79	-492.39	-30.47
175	SLV 1	288	43	3031	-4.98	-747.42	14.68
175	SLV 2	269	-48	3029	-5.01	-748.64	-17.01
175	SLV 3	280	-214	3102	-3.94	-742.24	-75.27
175	SLV 4	261	-305	3101	-3.97	-743.46	-106.96
175	SLV 5	55	402	2380	-5.48	-630.85	140.32
175	SLV 6	36	311	2379	-5.51	-632.08	108.49
175	SLV 7	27	-454	2618	-2.02	-613.59	-159.53
175	SLV 8	8	-546	2617	-2.05	-614.81	-191.36
175	SLV 9	-153	453	1893	-4.87	-525.76	158
175	SLV 10	-172	361	1892	-4.9	-526.99	126.17
175	SLV 11	-182	-403	2131	-1.41	-508.5	-141.85
175	SLV 12	-200	-495	2130	-1.43	-509.72	-173.68
175	SLV 13	-406	212	1409	-2.95	-397.12	73.61
175	SLV 14	-425	121	1408	-2.97	-398.34	41.91
175	SLV 15	-415	-45	1481	-1.91	-391.94	-16.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLV 16	-433	-136	1479	-1.93	-393.16	-48.04
175	CRTFP Ux+	0	0	0	0	0	0
175	CRTFP Ux-	0	0	0	0	0	0
175	CRTFP Uy+	0	0	0	0	0	0
175	CRTFP Uy-	0	0	0	0	0	0
178	SLU 1	-183	227	5124	-883.22	89.26	-45.03
178	SLU 2	-183	255	5124	-883.56	89.59	-45.6
178	SLU 3	-183	227	5124	-883.22	89.26	-45.03
178	SLU 4	-183	244	5124	-883.43	89.46	-45.37
178	SLU 5	-183	255	5124	-883.56	89.59	-45.6
178	SLU 6	-183	227	5124	-883.22	89.26	-45.03
178	SLU 7	-183	244	5124	-883.43	89.46	-45.37
178	SLU 8	-183	227	5124	-883.22	89.26	-45.03
178	SLU 9	-183	244	5124	-883.43	89.46	-45.37
178	SLU 10	-197	294	6373	-1102.91	113.14	-49.03
178	SLU 11	-198	266	6372	-1102.57	112.8	-48.46
178	SLU 12	-197	283	6372	-1102.77	113	-48.8
178	SLU 13	-197	294	6373	-1102.91	113.14	-49.03
178	SLU 14	-198	266	6372	-1102.57	112.8	-48.46
178	SLU 15	-197	283	6372	-1102.77	113	-48.8
178	SLU 16	-198	266	6372	-1102.57	112.8	-48.46
178	SLU 17	-197	283	6372	-1102.77	113	-48.8
178	SLU 18	-204	283	6907	-1196.58	122.89	-49.93
178	SLU 19	-204	300	6907	-1196.78	123.09	-50.27
178	SLU 20	-204	283	6907	-1196.58	122.89	-49.93
178	SLU 21	-204	300	6907	-1196.78	123.09	-50.27
178	SLU 22	-198	257	6007	-1038.63	105.89	-48.55
178	SLU 23	-198	285	6007	-1038.96	106.23	-49.12
178	SLU 24	-198	257	6007	-1038.63	105.89	-48.55
178	SLU 25	-198	274	6007	-1038.83	106.09	-48.89
178	SLU 26	-198	285	6007	-1038.96	106.23	-49.12
178	SLU 27	-198	257	6007	-1038.63	105.89	-48.55
178	SLU 28	-198	274	6007	-1038.83	106.09	-48.89
178	SLU 29	-198	257	6007	-1038.63	105.89	-48.55
178	SLU 30	-198	274	6007	-1038.83	106.09	-48.89
178	SLU 31	-212	324	7255	-1258.31	129.77	-52.55
178	SLU 32	-212	296	7255	-1257.97	129.44	-51.98
178	SLU 33	-212	313	7255	-1258.18	129.64	-52.32
178	SLU 34	-212	324	7255	-1258.31	129.77	-52.55
178	SLU 35	-212	296	7255	-1257.97	129.44	-51.98
178	SLU 36	-212	313	7255	-1258.18	129.64	-52.32
178	SLU 37	-212	296	7255	-1257.97	129.44	-51.98
178	SLU 38	-212	313	7255	-1258.18	129.64	-52.32
178	SLU 39	-218	313	7790	-1351.98	139.53	-53.45
178	SLU 40	-218	329	7790	-1352.18	139.73	-53.79
178	SLU 41	-218	313	7790	-1351.98	139.53	-53.45
178	SLU 42	-218	329	7790	-1352.18	139.73	-53.79
178	SLU 43	-233	286	6359	-1094.91	110.33	-57.33
178	SLU 44	-233	314	6359	-1095.25	110.67	-57.9
178	SLU 45	-233	286	6359	-1094.91	110.33	-57.33
178	SLU 46	-233	302	6359	-1095.11	110.53	-57.67
178	SLU 47	-233	314	6359	-1095.25	110.67	-57.9
178	SLU 48	-233	286	6359	-1094.91	110.33	-57.33
178	SLU 49	-233	302	6359	-1095.11	110.53	-57.67
178	SLU 50	-233	286	6359	-1094.91	110.33	-57.33
178	SLU 51	-233	302	6359	-1095.11	110.53	-57.67
178	SLU 52	-247	353	7607	-1314.6	134.21	-61.33
178	SLU 53	-247	325	7607	-1314.26	133.88	-60.76
178	SLU 54	-247	341	7607	-1314.46	134.08	-61.1
178	SLU 55	-247	353	7607	-1314.6	134.21	-61.33
178	SLU 56	-247	325	7607	-1314.26	133.88	-60.76
178	SLU 57	-247	341	7607	-1314.46	134.08	-61.1
178	SLU 58	-247	325	7607	-1314.26	133.88	-60.76
178	SLU 59	-247	341	7607	-1314.46	134.08	-61.1
178	SLU 60	-254	341	8142	-1408.27	143.97	-62.23
178	SLU 61	-253	358	8142	-1408.47	144.17	-62.58
178	SLU 62	-254	341	8142	-1408.27	143.97	-62.23
178	SLU 63	-253	358	8142	-1408.47	144.17	-62.58
178	SLU 64	-248	315	7242	-1250.31	126.97	-60.85
178	SLU 65	-248	343	7242	-1250.65	127.3	-61.42
178	SLU 66	-248	315	7242	-1250.31	126.97	-60.85
178	SLU 67	-248	332	7242	-1250.51	127.17	-61.19
178	SLU 68	-248	343	7242	-1250.65	127.3	-61.42
178	SLU 69	-248	315	7242	-1250.31	126.97	-60.85
178	SLU 70	-248	332	7242	-1250.51	127.17	-61.19
178	SLU 71	-248	315	7242	-1250.31	126.97	-60.85
178	SLU 72	-248	332	7242	-1250.51	127.17	-61.19
178	SLU 73	-262	382	8490	-1470	150.85	-64.85
178	SLU 74	-262	354	8490	-1469.66	150.51	-64.28
178	SLU 75	-262	371	8490	-1469.86	150.71	-64.62
178	SLU 76	-262	382	8490	-1470	150.85	-64.85
178	SLU 77	-262	354	8490	-1469.66	150.51	-64.28
178	SLU 78	-262	371	8490	-1469.86	150.71	-64.62
178	SLU 79	-262	354	8490	-1469.66	150.51	-64.28
178	SLU 80	-262	371	8490	-1469.86	150.71	-64.62
178	SLU 81	-268	371	9025	-1563.67	160.6	-65.75
178	SLU 82	-268	388	9025	-1563.87	160.8	-66.09
178	SLU 83	-268	371	9025	-1563.67	160.6	-65.75
178	SLU 84	-268	388	9025	-1563.87	160.8	-66.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLE RA 1	-187	236	5376	-927.62	94.01	-46.03
178	SLE RA 2	-187	255	5376	-927.85	94.23	-46.41
178	SLE RA 3	-187	236	5376	-927.62	94.01	-46.03
178	SLE RA 4	-187	247	5376	-927.76	94.15	-46.26
178	SLE RA 5	-187	255	5376	-927.85	94.23	-46.41
178	SLE RA 6	-187	236	5376	-927.62	94.01	-46.03
178	SLE RA 7	-187	247	5376	-927.76	94.15	-46.26
178	SLE RA 8	-187	236	5376	-927.62	94.01	-46.03
178	SLE RA 9	-187	247	5376	-927.76	94.15	-46.26
178	SLE RA 10	-197	281	6209	-1074.08	109.93	-48.7
178	SLE RA 11	-197	262	6209	-1073.86	109.71	-48.32
178	SLE RA 12	-197	273	6209	-1073.99	109.84	-48.55
178	SLE RA 13	-197	281	6209	-1074.08	109.93	-48.7
178	SLE RA 14	-197	262	6209	-1073.86	109.71	-48.32
178	SLE RA 15	-197	273	6209	-1073.99	109.84	-48.55
178	SLE RA 16	-197	262	6209	-1073.86	109.71	-48.32
178	SLE RA 17	-197	273	6209	-1073.99	109.84	-48.55
178	SLE RA 18	-201	273	6565	-1136.53	116.43	-49.3
178	SLE RA 19	-201	284	6565	-1136.66	116.57	-49.53
178	SLE RA 20	-201	273	6565	-1136.53	116.43	-49.3
178	SLE RA 21	-201	284	6565	-1136.66	116.57	-49.53
178	SLE FR 1	-187	236	5376	-927.62	94.01	-46.03
178	SLE FR 2	-187	240	5376	-927.67	94.06	-46.11
178	SLE FR 3	-187	236	5376	-927.62	94.01	-46.03
178	SLE FR 4	-192	251	5733	-990.34	100.78	-47.09
178	SLE FR 5	-192	247	5733	-990.3	100.74	-47.01
178	SLE FR 6	-194	254	5971	-1032.08	105.22	-47.67
178	SLE QP 1	-187	236	5376	-927.62	94.01	-46.03
178	SLE QP 2	-192	247	5733	-990.3	100.74	-47.01
178	SLD 1	304	345	5304	-915.33	120.57	37.83
178	SLD 2	284	382	5309	-915.74	120.55	36.07
178	SLD 3	321	72	5317	-912.32	117.94	45.13
178	SLD 4	301	109	5321	-912.74	117.92	43.37
178	SLD 5	-62	677	5584	-972.22	110.69	-32.01
178	SLD 6	-82	714	5588	-972.64	110.66	-33.78
178	SLD 7	-4	-232	5626	-962.2	101.92	-7.68
178	SLD 8	-25	-195	5630	-962.61	101.89	-9.45
178	SLD 9	-358	689	5836	-1017.98	99.58	-84.58
178	SLD 10	-379	726	5841	-1018.39	99.56	-86.35
178	SLD 11	-301	-220	5878	-1007.96	90.81	-60.25
178	SLD 12	-321	-183	5882	-1008.37	90.79	-62.02
178	SLD 13	-684	385	6145	-1067.86	83.55	-137.4
178	SLD 14	-704	422	6149	-1068.27	83.53	-139.16
178	SLD 15	-667	112	6157	-1064.85	80.92	-130.1
178	SLD 16	-687	149	6162	-1065.26	80.9	-131.86
178	SLV 1	933	469	4760	-820.19	145.75	145.61
178	SLV 2	887	552	4770	-821.13	145.69	141.62
178	SLV 3	973	-150	4789	-813.33	139.77	162.18
178	SLV 4	927	-67	4799	-814.27	139.71	158.19
178	SLV 5	102	1223	5394	-949.33	123.33	-12.95
178	SLV 6	56	1307	5404	-950.28	123.27	-16.96
178	SLV 7	234	-840	5490	-926.47	103.4	42.28
178	SLV 8	187	-756	5500	-927.42	103.34	38.27
178	SLV 9	-570	1251	5966	-1053.17	98.13	-132.3
178	SLV 10	-617	1334	5976	-1054.12	98.08	-136.31
178	SLV 11	-439	-812	6062	-1030.32	78.2	-77.07
178	SLV 12	-486	-729	6072	-1031.26	78.15	-81.08
178	SLV 13	-1310	561	6667	-1166.32	61.76	-252.22
178	SLV 14	-1356	644	6677	-1167.26	61.71	-256.21
178	SLV 15	-1270	-58	6696	-1159.46	55.78	-235.65
178	SLV 16	-1316	26	6706	-1160.41	55.73	-239.64
178	CRTFP Ux+	0	0	0	0	0	0
178	CRTFP Ux-	0	0	0	0	0	0
178	CRTFP Uy+	0	0	0	0	0	0
178	CRTFP Uy-	0	0	0	0	0	0
181	SLU 1	-23	-95	1775	-0.54	84.14	23.77
181	SLU 2	-22	-83	1770	-0.6	84.35	20.76
181	SLU 3	-23	-95	1775	-0.54	84.14	23.77
181	SLU 4	-22	-88	1772	-0.57	84.26	21.96
181	SLU 5	-22	-83	1770	-0.6	84.35	20.76
181	SLU 6	-23	-95	1775	-0.54	84.14	23.77
181	SLU 7	-22	-88	1772	-0.57	84.26	21.96
181	SLU 8	-23	-95	1775	-0.54	84.14	23.77
181	SLU 9	-22	-88	1772	-0.57	84.26	21.96
181	SLU 10	-29	-104	2059	-0.77	89.59	25.82
181	SLU 11	-30	-116	2064	-0.72	89.38	28.83
181	SLU 12	-29	-108	2061	-0.75	89.51	27.02
181	SLU 13	-29	-104	2059	-0.77	89.59	25.82
181	SLU 14	-30	-116	2064	-0.72	89.38	28.83
181	SLU 15	-29	-108	2061	-0.75	89.51	27.02
181	SLU 16	-30	-116	2064	-0.72	89.38	28.83
181	SLU 17	-29	-108	2061	-0.75	89.51	27.02
181	SLU 18	-33	-124	2188	-0.8	91.63	31
181	SLU 19	-32	-117	2185	-0.83	91.75	29.19
181	SLU 20	-33	-124	2188	-0.8	91.63	31
181	SLU 21	-32	-117	2185	-0.83	91.75	29.19
181	SLU 22	-28	-110	1999	-0.68	88.16	27.42
181	SLU 23	-27	-98	1995	-0.73	88.37	24.41
181	SLU 24	-28	-110	1999	-0.68	88.16	27.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLU 25	-27	-103	1997	-0.71	88.28	25.62
181	SLU 26	-27	-98	1995	-0.73	88.37	24.41
181	SLU 27	-28	-110	1999	-0.68	88.16	27.42
181	SLU 28	-27	-103	1997	-0.71	88.28	25.62
181	SLU 29	-28	-110	1999	-0.68	88.16	27.42
181	SLU 30	-27	-103	1997	-0.71	88.28	25.62
181	SLU 31	-34	-118	2284	-0.91	93.61	29.47
181	SLU 32	-35	-130	2288	-0.85	93.4	32.48
181	SLU 33	-34	-123	2285	-0.89	93.53	30.67
181	SLU 34	-34	-118	2284	-0.91	93.61	29.47
181	SLU 35	-35	-130	2288	-0.85	93.4	32.48
181	SLU 36	-34	-123	2285	-0.89	93.53	30.67
181	SLU 37	-35	-130	2288	-0.85	93.4	32.48
181	SLU 38	-34	-123	2285	-0.89	93.53	30.67
181	SLU 39	-38	-139	2412	-0.93	95.65	34.65
181	SLU 40	-37	-132	2409	-0.96	95.78	32.84
181	SLU 41	-38	-139	2412	-0.93	95.65	34.65
181	SLU 42	-37	-132	2409	-0.96	95.78	32.84
181	SLU 43	-28	-119	2231	-0.66	108	29.65
181	SLU 44	-27	-107	2226	-0.71	108.21	26.64
181	SLU 45	-28	-119	2231	-0.66	108	29.65
181	SLU 46	-27	-112	2228	-0.69	108.13	27.84
181	SLU 47	-27	-107	2226	-0.71	108.21	26.64
181	SLU 48	-28	-119	2231	-0.66	108	29.65
181	SLU 49	-27	-112	2228	-0.69	108.13	27.84
181	SLU 50	-28	-119	2231	-0.66	108	29.65
181	SLU 51	-27	-112	2228	-0.69	108.13	27.84
181	SLU 52	-34	-127	2515	-0.89	113.45	31.7
181	SLU 53	-35	-139	2520	-0.84	113.25	34.71
181	SLU 54	-34	-132	2517	-0.87	113.37	32.9
181	SLU 55	-34	-127	2515	-0.89	113.45	31.7
181	SLU 56	-35	-139	2520	-0.84	113.25	34.71
181	SLU 57	-34	-132	2517	-0.87	113.37	32.9
181	SLU 58	-35	-139	2520	-0.84	113.25	34.71
181	SLU 59	-34	-132	2517	-0.87	113.37	32.9
181	SLU 60	-38	-148	2643	-0.92	115.49	36.88
181	SLU 61	-37	-141	2641	-0.95	115.62	35.07
181	SLU 62	-38	-148	2643	-0.92	115.49	36.88
181	SLU 63	-37	-141	2641	-0.95	115.62	35.07
181	SLU 64	-33	-134	2455	-0.79	112.02	33.3
181	SLU 65	-32	-121	2450	-0.85	112.23	30.29
181	SLU 66	-33	-134	2455	-0.79	112.02	33.3
181	SLU 67	-32	-126	2452	-0.82	112.15	31.5
181	SLU 68	-32	-121	2450	-0.85	112.23	30.29
181	SLU 69	-33	-134	2455	-0.79	112.02	33.3
181	SLU 70	-32	-126	2452	-0.82	112.15	31.5
181	SLU 71	-33	-134	2455	-0.79	112.02	33.3
181	SLU 72	-32	-126	2452	-0.82	112.15	31.5
181	SLU 73	-39	-142	2739	-1.02	117.47	35.35
181	SLU 74	-40	-154	2744	-0.97	117.27	38.36
181	SLU 75	-39	-147	2741	-1	117.39	36.55
181	SLU 76	-39	-142	2739	-1.02	117.47	35.35
181	SLU 77	-40	-154	2744	-0.97	117.27	38.36
181	SLU 78	-39	-147	2741	-1	117.39	36.55
181	SLU 79	-40	-154	2744	-0.97	117.27	38.36
181	SLU 80	-39	-147	2741	-1	117.39	36.55
181	SLU 81	-43	-162	2868	-1.05	119.51	40.53
181	SLU 82	-42	-155	2865	-1.08	119.64	38.72
181	SLU 83	-43	-162	2868	-1.05	119.51	40.53
181	SLU 84	-42	-155	2865	-1.08	119.64	38.72
181	SLE RA 1	-24	-100	1839	-0.58	85.29	24.82
181	SLE RA 2	-24	-91	1836	-0.62	85.43	22.81
181	SLE RA 3	-24	-100	1839	-0.58	85.29	24.82
181	SLE RA 4	-24	-95	1837	-0.6	85.37	23.61
181	SLE RA 5	-24	-91	1836	-0.62	85.43	22.81
181	SLE RA 6	-24	-100	1839	-0.58	85.29	24.82
181	SLE RA 7	-24	-95	1837	-0.6	85.37	23.61
181	SLE RA 8	-24	-100	1839	-0.58	85.29	24.82
181	SLE RA 9	-24	-95	1837	-0.6	85.37	23.61
181	SLE RA 10	-28	-105	2029	-0.74	88.92	26.18
181	SLE RA 11	-29	-113	2032	-0.7	88.78	28.19
181	SLE RA 12	-28	-108	2030	-0.72	88.87	26.98
181	SLE RA 13	-28	-105	2029	-0.74	88.92	26.18
181	SLE RA 14	-29	-113	2032	-0.7	88.78	28.19
181	SLE RA 15	-28	-108	2030	-0.72	88.87	26.98
181	SLE RA 16	-29	-113	2032	-0.7	88.78	28.19
181	SLE RA 17	-28	-108	2030	-0.72	88.87	26.98
181	SLE RA 18	-31	-119	2114	-0.75	90.28	29.63
181	SLE RA 19	-30	-114	2112	-0.77	90.36	28.43
181	SLE RA 20	-31	-119	2114	-0.75	90.28	29.63
181	SLE RA 21	-30	-114	2112	-0.77	90.36	28.43
181	SLE FR 1	-24	-100	1839	-0.58	85.29	24.82
181	SLE FR 2	-24	-98	1839	-0.59	85.32	24.41
181	SLE FR 3	-24	-100	1839	-0.58	85.29	24.82
181	SLE FR 4	-26	-104	1921	-0.64	86.81	25.86
181	SLE FR 5	-26	-105	1922	-0.63	86.79	26.26
181	SLE FR 6	-28	-109	1977	-0.67	87.78	27.22
181	SLE QP 1	-24	-100	1839	-0.58	85.29	24.82
181	SLE QP 2	-26	-105	1922	-0.63	86.79	26.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLD 1	28	-31	1655	-1	69.87	7.36
181	SLD 2	22	9	1655	-0.99	69.81	-2.6
181	SLD 3	24	-146	1702	-0.46	71.34	35.96
181	SLD 4	18	-106	1702	-0.46	71.28	26
181	SLD 5	-2	76	1770	-1.55	79.51	-19.27
181	SLD 6	-8	117	1769	-1.54	79.45	-29.28
181	SLD 7	-16	-305	1928	0.22	84.39	76.05
181	SLD 8	-22	-265	1928	0.23	84.34	66.05
181	SLD 9	-31	54	1916	-1.49	89.24	-13.52
181	SLD 10	-37	95	1915	-1.49	89.18	-23.53
181	SLD 11	-45	-327	2074	0.28	94.12	81.8
181	SLD 12	-51	-287	2074	0.29	94.06	71.79
181	SLD 13	-70	-105	2141	-0.81	102.29	26.52
181	SLD 14	-76	-65	2141	-0.8	102.24	16.56
181	SLD 15	-74	-219	2189	-0.28	103.76	55.12
181	SLD 16	-80	-179	2188	-0.27	103.7	45.16
181	SLV 1	97	63	1315	-1.46	43.68	-16.65
181	SLV 2	83	154	1314	-1.44	43.56	-39.22
181	SLV 3	87	-197	1423	-0.25	47.03	48.27
181	SLV 4	74	-106	1422	-0.24	46.91	25.7
181	SLV 5	30	307	1576	-2.72	68.82	-77.12
181	SLV 6	17	399	1575	-2.7	68.69	-99.8
181	SLV 7	-2	-559	1936	1.31	79.98	139.28
181	SLV 8	-16	-468	1935	1.33	79.86	116.61
181	SLV 9	-37	257	1908	-2.59	93.72	-64.08
181	SLV 10	-50	348	1907	-2.57	93.59	-86.76
181	SLV 11	-69	-609	2268	1.44	104.88	152.32
181	SLV 12	-83	-518	2267	1.46	104.75	129.65
181	SLV 13	-126	-105	2422	-1.03	126.67	26.82
181	SLV 14	-139	-14	2421	-1.01	126.54	4.25
181	SLV 15	-136	-364	2530	0.18	130.02	91.75
181	SLV 16	-149	-273	2529	0.2	129.89	69.17
181	CRTFP Ux+	0	0	0	0	0	0
181	CRTFP Ux-	0	0	0	0	0	0
181	CRTFP Uy+	0	0	0	0	0	0
181	CRTFP Uy-	0	0	0	0	0	0
182	SLU 1	-55	-42	1966	-2.79	-455.57	-15.05
182	SLU 2	-55	-28	1962	-2.84	-455.86	-10.49
182	SLU 3	-55	-42	1966	-2.79	-455.57	-15.05
182	SLU 4	-55	-34	1963	-2.82	-455.74	-12.32
182	SLU 5	-55	-28	1962	-2.84	-455.86	-10.49
182	SLU 6	-55	-42	1966	-2.79	-455.57	-15.05
182	SLU 7	-55	-34	1963	-2.82	-455.74	-12.32
182	SLU 8	-55	-42	1966	-2.79	-455.57	-15.05
182	SLU 9	-55	-34	1963	-2.82	-455.74	-12.32
182	SLU 10	-58	-36	2346	-3.59	-538.42	-13.01
182	SLU 11	-58	-49	2349	-3.54	-538.13	-17.57
182	SLU 12	-58	-41	2347	-3.57	-538.31	-14.83
182	SLU 13	-58	-36	2346	-3.59	-538.42	-13.01
182	SLU 14	-58	-49	2349	-3.54	-538.13	-17.57
182	SLU 15	-58	-41	2347	-3.57	-538.31	-14.83
182	SLU 16	-58	-49	2349	-3.54	-538.13	-17.57
182	SLU 17	-58	-41	2347	-3.57	-538.31	-14.83
182	SLU 18	-59	-52	2514	-3.86	-573.52	-18.65
182	SLU 19	-59	-44	2512	-3.89	-573.69	-15.91
182	SLU 20	-59	-52	2514	-3.86	-573.52	-18.65
182	SLU 21	-59	-44	2512	-3.89	-573.69	-15.91
182	SLU 22	-58	-47	2232	-3.34	-515.04	-17.07
182	SLU 23	-58	-34	2229	-3.4	-515.33	-12.5
182	SLU 24	-58	-47	2232	-3.34	-515.04	-17.07
182	SLU 25	-58	-39	2230	-3.38	-515.21	-14.33
182	SLU 26	-58	-34	2229	-3.4	-515.33	-12.5
182	SLU 27	-58	-47	2232	-3.34	-515.04	-17.07
182	SLU 28	-58	-39	2230	-3.38	-515.21	-14.33
182	SLU 29	-58	-47	2232	-3.34	-515.04	-17.07
182	SLU 30	-58	-39	2230	-3.38	-515.21	-14.33
182	SLU 31	-61	-41	2613	-4.15	-597.89	-15.02
182	SLU 32	-61	-54	2616	-4.09	-597.6	-19.58
182	SLU 33	-61	-46	2614	-4.13	-597.77	-16.85
182	SLU 34	-61	-41	2613	-4.15	-597.89	-15.02
182	SLU 35	-61	-54	2616	-4.09	-597.6	-19.58
182	SLU 36	-61	-46	2614	-4.13	-597.77	-16.85
182	SLU 37	-61	-54	2616	-4.09	-597.6	-19.58
182	SLU 38	-61	-46	2614	-4.13	-597.77	-16.85
182	SLU 39	-62	-57	2781	-4.42	-632.98	-20.66
182	SLU 40	-62	-49	2779	-4.45	-633.16	-17.92
182	SLU 41	-62	-57	2781	-4.42	-632.98	-20.66
182	SLU 42	-62	-49	2779	-4.45	-633.16	-17.92
182	SLU 43	-71	-52	2464	-3.43	-571.85	-18.88
182	SLU 44	-71	-39	2460	-3.48	-572.14	-14.32
182	SLU 45	-71	-52	2464	-3.43	-571.85	-18.88
182	SLU 46	-71	-44	2462	-3.46	-572.03	-16.14
182	SLU 47	-71	-39	2460	-3.48	-572.14	-14.32
182	SLU 48	-71	-52	2464	-3.43	-571.85	-18.88
182	SLU 49	-71	-44	2462	-3.46	-572.03	-16.14
182	SLU 50	-71	-52	2464	-3.43	-571.85	-18.88
182	SLU 51	-71	-44	2462	-3.46	-572.03	-16.14
182	SLU 52	-74	-46	2844	-4.23	-654.71	-16.84
182	SLU 53	-74	-59	2847	-4.18	-654.41	-21.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLU 54	-74	-51	2845	-4.21	-654.59	-18.66
182	SLU 55	-74	-46	2844	-4.23	-654.71	-16.84
182	SLU 56	-74	-59	2847	-4.18	-654.41	-21.4
182	SLU 57	-74	-51	2845	-4.21	-654.59	-18.66
182	SLU 58	-74	-59	2847	-4.18	-654.41	-21.4
182	SLU 59	-74	-51	2845	-4.21	-654.59	-18.66
182	SLU 60	-75	-62	3012	-4.5	-689.8	-22.48
182	SLU 61	-75	-54	3010	-4.53	-689.97	-19.74
182	SLU 62	-75	-62	3012	-4.5	-689.8	-22.48
182	SLU 63	-75	-54	3010	-4.53	-689.97	-19.74
182	SLU 64	-74	-58	2731	-3.99	-631.32	-20.89
182	SLU 65	-74	-45	2727	-4.04	-631.61	-16.33
182	SLU 66	-74	-58	2731	-3.99	-631.32	-20.89
182	SLU 67	-74	-50	2729	-4.02	-631.49	-18.15
182	SLU 68	-74	-45	2727	-4.04	-631.61	-16.33
182	SLU 69	-74	-58	2731	-3.99	-631.32	-20.89
182	SLU 70	-74	-50	2729	-4.02	-631.49	-18.15
182	SLU 71	-74	-58	2731	-3.99	-631.32	-20.89
182	SLU 72	-74	-50	2729	-4.02	-631.49	-18.15
182	SLU 73	-77	-52	3111	-4.79	-714.17	-18.85
182	SLU 74	-77	-65	3114	-4.74	-713.88	-23.41
182	SLU 75	-77	-57	3112	-4.77	-714.06	-20.67
182	SLU 76	-77	-52	3111	-4.79	-714.17	-18.85
182	SLU 77	-77	-65	3114	-4.74	-713.88	-23.41
182	SLU 78	-77	-57	3112	-4.77	-714.06	-20.67
182	SLU 79	-77	-65	3114	-4.74	-713.88	-23.41
182	SLU 80	-77	-57	3112	-4.77	-714.06	-20.67
182	SLU 81	-78	-68	3279	-5.06	-749.26	-24.49
182	SLU 82	-78	-60	3277	-5.09	-749.44	-21.75
182	SLU 83	-78	-68	3279	-5.06	-749.26	-24.49
182	SLU 84	-78	-60	3277	-5.09	-749.44	-21.75
182	SLE RA 1	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE RA 2	-56	-34	2040	-2.98	-472.76	-12.59
182	SLE RA 3	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE RA 4	-56	-38	2040	-2.97	-472.68	-13.8
182	SLE RA 5	-56	-34	2040	-2.98	-472.76	-12.59
182	SLE RA 6	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE RA 7	-56	-38	2040	-2.97	-472.68	-13.8
182	SLE RA 8	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE RA 9	-56	-38	2040	-2.97	-472.68	-13.8
182	SLE RA 10	-58	-39	2295	-3.48	-527.8	-14.27
182	SLE RA 11	-58	-48	2298	-3.45	-527.6	-17.31
182	SLE RA 12	-58	-43	2296	-3.47	-527.72	-15.48
182	SLE RA 13	-58	-39	2295	-3.48	-527.8	-14.27
182	SLE RA 14	-58	-48	2298	-3.45	-527.6	-17.31
182	SLE RA 15	-58	-43	2296	-3.47	-527.72	-15.48
182	SLE RA 16	-58	-48	2298	-3.45	-527.6	-17.31
182	SLE RA 17	-58	-43	2296	-3.47	-527.72	-15.48
182	SLE RA 18	-59	-50	2407	-3.66	-551.19	-18.03
182	SLE RA 19	-59	-45	2406	-3.68	-551.31	-16.2
182	SLE RA 20	-59	-50	2407	-3.66	-551.19	-18.03
182	SLE RA 21	-59	-45	2406	-3.68	-551.31	-16.2
182	SLE FR 1	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE FR 2	-56	-41	2041	-2.95	-472.6	-15.02
182	SLE FR 3	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE FR 4	-57	-43	2151	-3.17	-496.19	-15.74
182	SLE FR 5	-57	-45	2151	-3.16	-496.15	-16.35
182	SLE FR 6	-57	-46	2225	-3.3	-511.88	-16.83
182	SLE QP 1	-56	-43	2042	-2.95	-472.56	-15.63
182	SLE QP 2	-57	-45	2151	-3.16	-496.15	-16.35
182	SLD 1	103	-5	2473	-3.78	-560.36	-2.45
182	SLD 2	91	-46	2472	-3.79	-560.88	-16.44
182	SLD 3	99	-119	2519	-3.27	-563.16	-42.08
182	SLD 4	87	-159	2518	-3.28	-563.69	-56.06
182	SLD 5	1	152	2178	-4.12	-510.97	52.84
182	SLD 6	-10	112	2178	-4.13	-511.5	38.79
182	SLD 7	-12	-224	2332	-2.41	-520.32	-79.23
182	SLD 8	-24	-265	2331	-2.43	-520.85	-93.29
182	SLD 9	-90	175	1972	-3.89	-471.45	60.59
182	SLD 10	-101	134	1971	-3.91	-471.98	46.54
182	SLD 11	-103	-202	2125	-2.19	-480.8	-71.48
182	SLD 12	-115	-243	2124	-2.2	-481.33	-85.54
182	SLD 13	-201	69	1785	-3.04	-428.61	23.37
182	SLD 14	-212	28	1784	-3.05	-429.14	9.38
182	SLD 15	-205	-45	1831	-2.53	-431.41	-16.25
182	SLD 16	-216	-85	1830	-2.54	-431.94	-30.24
182	SLV 1	305	45	2882	-4.57	-642	15.24
182	SLV 2	280	-46	2880	-4.59	-643.2	-16.47
182	SLV 3	296	-212	2986	-3.41	-648.62	-74.8
182	SLV 4	270	-303	2984	-3.43	-649.81	-106.51
182	SLV 5	75	404	2213	-5.33	-529.45	140.85
182	SLV 6	49	312	2211	-5.36	-530.65	109.01
182	SLV 7	44	-453	2561	-1.46	-551.5	-159.28
182	SLV 8	19	-544	2559	-1.49	-552.7	-191.12
182	SLV 9	-132	454	1744	-4.83	-439.59	158.43
182	SLV 10	-158	362	1742	-4.85	-440.8	126.59
182	SLV 11	-162	-402	2092	-0.96	-461.65	-141.71
182	SLV 12	-188	-494	2090	-0.99	-462.85	-173.55
182	SLV 13	-384	213	1319	-2.89	-342.48	73.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLV 14	-410	122	1316	-2.91	-343.68	42.11
182	SLV 15	-393	-44	1423	-1.73	-349.1	-16.23
182	SLV 16	-419	-135	1421	-1.75	-350.3	-47.93
182	CRTFP Ux+	0	0	0	0	0	0
182	CRTFP Ux-	0	0	0	0	0	0
182	CRTFP Uy+	0	0	0	0	0	0
182	CRTFP Uy-	0	0	0	0	0	0
185	SLU 1	-69	121	2844	3.42	-10.17	-4.04
185	SLU 2	-68	135	2841	3.33	-9.95	-4.03
185	SLU 3	-69	121	2844	3.42	-10.17	-4.04
185	SLU 4	-69	130	2842	3.37	-10.04	-4.04
185	SLU 5	-68	135	2841	3.33	-9.95	-4.03
185	SLU 6	-69	121	2844	3.42	-10.17	-4.04
185	SLU 7	-69	130	2842	3.37	-10.04	-4.04
185	SLU 8	-69	121	2844	3.42	-10.17	-4.04
185	SLU 9	-69	130	2842	3.37	-10.04	-4.04
185	SLU 10	-75	155	3505	3.53	-11.5	-4.17
185	SLU 11	-75	141	3508	3.62	-11.72	-4.18
185	SLU 12	-75	149	3507	3.57	-11.59	-4.18
185	SLU 13	-75	155	3505	3.53	-11.5	-4.17
185	SLU 14	-75	141	3508	3.62	-11.72	-4.18
185	SLU 15	-75	149	3507	3.57	-11.59	-4.18
185	SLU 16	-75	141	3508	3.62	-11.72	-4.18
185	SLU 17	-75	149	3507	3.57	-11.59	-4.18
185	SLU 18	-78	149	3793	3.7	-12.38	-4.24
185	SLU 19	-78	158	3791	3.65	-12.25	-4.24
185	SLU 20	-78	149	3793	3.7	-12.38	-4.24
185	SLU 21	-78	158	3791	3.65	-12.25	-4.24
185	SLU 22	-75	136	3312	3.55	-11.49	-4.25
185	SLU 23	-75	151	3310	3.46	-11.27	-4.24
185	SLU 24	-75	136	3312	3.55	-11.49	-4.25
185	SLU 25	-75	145	3311	3.5	-11.36	-4.24
185	SLU 26	-75	151	3310	3.46	-11.27	-4.24
185	SLU 27	-75	136	3312	3.55	-11.49	-4.25
185	SLU 28	-75	145	3311	3.5	-11.36	-4.24
185	SLU 29	-75	136	3312	3.55	-11.49	-4.25
185	SLU 30	-75	145	3311	3.5	-11.36	-4.24
185	SLU 31	-82	170	3974	3.66	-12.81	-4.38
185	SLU 32	-82	156	3977	3.75	-13.03	-4.39
185	SLU 33	-82	165	3975	3.7	-12.9	-4.38
185	SLU 34	-82	170	3974	3.66	-12.81	-4.38
185	SLU 35	-82	156	3977	3.75	-13.03	-4.39
185	SLU 36	-82	165	3975	3.7	-12.9	-4.38
185	SLU 37	-82	156	3977	3.75	-13.03	-4.39
185	SLU 38	-82	165	3975	3.7	-12.9	-4.38
185	SLU 39	-85	164	4262	3.83	-13.69	-4.45
185	SLU 40	-85	173	4260	3.78	-13.56	-4.44
185	SLU 41	-85	164	4262	3.83	-13.69	-4.45
185	SLU 42	-85	173	4260	3.78	-13.56	-4.44
185	SLU 43	-87	152	3536	4.4	-12.77	-5.18
185	SLU 44	-87	166	3533	4.32	-12.55	-5.17
185	SLU 45	-87	152	3536	4.4	-12.77	-5.18
185	SLU 46	-87	161	3535	4.35	-12.64	-5.18
185	SLU 47	-87	166	3533	4.32	-12.55	-5.17
185	SLU 48	-87	152	3536	4.4	-12.77	-5.18
185	SLU 49	-87	161	3535	4.35	-12.64	-5.18
185	SLU 50	-87	152	3536	4.4	-12.77	-5.18
185	SLU 51	-87	161	3535	4.35	-12.64	-5.18
185	SLU 52	-94	186	4198	4.51	-14.1	-5.31
185	SLU 53	-94	172	4201	4.6	-14.32	-5.32
185	SLU 54	-94	180	4199	4.55	-14.19	-5.32
185	SLU 55	-94	186	4198	4.51	-14.1	-5.31
185	SLU 56	-94	172	4201	4.6	-14.32	-5.32
185	SLU 57	-94	180	4199	4.55	-14.19	-5.32
185	SLU 58	-94	172	4201	4.6	-14.32	-5.32
185	SLU 59	-94	180	4199	4.55	-14.19	-5.32
185	SLU 60	-97	180	4486	4.69	-14.98	-5.38
185	SLU 61	-97	189	4484	4.63	-14.85	-5.38
185	SLU 62	-97	180	4486	4.69	-14.98	-5.38
185	SLU 63	-97	189	4484	4.63	-14.85	-5.38
185	SLU 64	-93	167	4005	4.53	-14.09	-5.39
185	SLU 65	-93	182	4002	4.45	-13.87	-5.38
185	SLU 66	-93	167	4005	4.53	-14.09	-5.39
185	SLU 67	-93	176	4003	4.48	-13.96	-5.38
185	SLU 68	-93	182	4002	4.45	-13.87	-5.38
185	SLU 69	-93	167	4005	4.53	-14.09	-5.39
185	SLU 70	-93	176	4003	4.48	-13.96	-5.38
185	SLU 71	-93	167	4005	4.53	-14.09	-5.39
185	SLU 72	-93	176	4003	4.48	-13.96	-5.38
185	SLU 73	-100	201	4667	4.64	-15.41	-5.52
185	SLU 74	-100	187	4669	4.73	-15.63	-5.53
185	SLU 75	-100	196	4668	4.68	-15.5	-5.52
185	SLU 76	-100	201	4667	4.64	-15.41	-5.52
185	SLU 77	-100	187	4669	4.73	-15.63	-5.53
185	SLU 78	-100	196	4668	4.68	-15.5	-5.52
185	SLU 79	-100	187	4669	4.73	-15.63	-5.53
185	SLU 80	-100	196	4668	4.68	-15.5	-5.52
185	SLU 81	-103	195	4954	4.81	-16.29	-5.59
185	SLU 82	-103	204	4952	4.76	-16.16	-5.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLU 83	-103	195	4954	4.81	-16.29	-5.59
185	SLU 84	-103	204	4952	4.76	-16.16	-5.58
185	SLE RA 1	-70	125	2978	3.46	-10.55	-4.1
185	SLE RA 2	-70	135	2976	3.4	-10.4	-4.09
185	SLE RA 3	-70	125	2978	3.46	-10.55	-4.1
185	SLE RA 4	-70	131	2976	3.42	-10.46	-4.1
185	SLE RA 5	-70	135	2976	3.4	-10.4	-4.09
185	SLE RA 6	-70	125	2978	3.46	-10.55	-4.1
185	SLE RA 7	-70	131	2976	3.42	-10.46	-4.1
185	SLE RA 8	-70	125	2978	3.46	-10.55	-4.1
185	SLE RA 9	-70	131	2976	3.42	-10.46	-4.1
185	SLE RA 10	-75	148	3419	3.53	-11.43	-4.19
185	SLE RA 11	-75	138	3421	3.59	-11.58	-4.19
185	SLE RA 12	-75	144	3420	3.55	-11.49	-4.19
185	SLE RA 13	-75	148	3419	3.53	-11.43	-4.19
185	SLE RA 14	-75	138	3421	3.59	-11.58	-4.19
185	SLE RA 15	-75	144	3420	3.55	-11.49	-4.19
185	SLE RA 16	-75	138	3421	3.59	-11.58	-4.19
185	SLE RA 17	-75	144	3420	3.55	-11.49	-4.19
185	SLE RA 18	-77	144	3611	3.65	-12.02	-4.23
185	SLE RA 19	-77	150	3609	3.61	-11.93	-4.23
185	SLE RA 20	-77	144	3611	3.65	-12.02	-4.23
185	SLE RA 21	-77	150	3609	3.61	-11.93	-4.23
185	SLE FR 1	-70	125	2978	3.46	-10.55	-4.1
185	SLE FR 2	-70	127	2977	3.45	-10.52	-4.1
185	SLE FR 3	-70	125	2978	3.46	-10.55	-4.1
185	SLE FR 4	-72	133	3167	3.5	-10.96	-4.14
185	SLE FR 5	-72	131	3167	3.51	-10.99	-4.14
185	SLE FR 6	-74	135	3294	3.55	-11.28	-4.17
185	SLE QP 1	-70	125	2978	3.46	-10.55	-4.1
185	SLE QP 2	-72	131	3167	3.51	-10.99	-4.14
185	SLD 1	190	182	2945	3.41	6.36	-4.84
185	SLD 2	172	201	2949	3.44	6.32	-3.83
185	SLD 3	200	39	2980	4.29	4.59	-5.26
185	SLD 4	182	58	2984	4.32	4.55	-4.25
185	SLD 5	-4	356	3045	2.14	-3.09	-4.07
185	SLD 6	-22	375	3049	2.17	-3.12	-3.05
185	SLD 7	32	-120	3164	5.07	-8.99	-5.47
185	SLD 8	14	-101	3168	5.1	-9.03	-4.45
185	SLD 9	-159	362	3167	1.93	-12.95	-3.83
185	SLD 10	-177	382	3171	1.96	-12.99	-2.81
185	SLD 11	-123	-114	3286	4.86	-18.86	-5.22
185	SLD 12	-141	-94	3290	4.89	-18.89	-4.21
185	SLD 13	-327	203	3351	2.71	-26.53	-4.03
185	SLD 14	-345	223	3355	2.73	-26.56	-3.02
185	SLD 15	-316	60	3386	3.59	-28.3	-4.45
185	SLD 16	-334	80	3390	3.61	-28.33	-3.44
185	SLV 1	522	246	2662	3.29	28.37	-5.75
185	SLV 2	482	290	2671	3.35	28.29	-3.46
185	SLV 3	547	-78	2743	5.28	24.34	-6.7
185	SLV 4	506	-34	2752	5.34	24.26	-4.42
185	SLV 5	83	642	2890	0.4	6.96	-3.98
185	SLV 6	43	686	2899	0.46	6.88	-1.68
185	SLV 7	165	-439	3159	7.05	-6.47	-7.16
185	SLV 8	124	-395	3169	7.11	-6.55	-4.87
185	SLV 9	-269	656	3166	-0.08	-15.43	-3.41
185	SLV 10	-309	701	3176	-0.02	-15.5	-1.12
185	SLV 11	-187	-425	3436	6.57	-28.86	-6.6
185	SLV 12	-228	-380	3445	6.63	-28.94	-4.3
185	SLV 13	-651	296	3583	1.68	-46.24	-3.86
185	SLV 14	-692	340	3592	1.74	-46.32	-1.57
185	SLV 15	-627	-29	3664	3.68	-50.27	-4.82
185	SLV 16	-667	16	3673	3.74	-50.35	-2.53
185	CRTFP Ux+	0	0	0	0	0	0
185	CRTFP Ux-	0	0	0	0	0	0
185	CRTFP Uy+	0	0	0	0	0	0
185	CRTFP Uy-	0	0	0	0	0	0
188	SLU 1	-20	-96	1762	-0.29	93.5	23.83
188	SLU 2	-19	-84	1756	-0.35	93.56	20.82
188	SLU 3	-20	-96	1762	-0.29	93.5	23.83
188	SLU 4	-19	-89	1758	-0.32	93.54	22.02
188	SLU 5	-19	-84	1756	-0.35	93.56	20.82
188	SLU 6	-20	-96	1762	-0.29	93.5	23.83
188	SLU 7	-19	-89	1758	-0.32	93.54	22.02
188	SLU 8	-20	-96	1762	-0.29	93.5	23.83
188	SLU 9	-19	-89	1758	-0.32	93.54	22.02
188	SLU 10	-26	-104	2040	-0.48	100.49	25.89
188	SLU 11	-26	-116	2046	-0.42	100.43	28.89
188	SLU 12	-26	-109	2042	-0.45	100.46	27.09
188	SLU 13	-26	-104	2040	-0.48	100.49	25.89
188	SLU 14	-26	-116	2046	-0.42	100.43	28.89
188	SLU 15	-26	-109	2042	-0.45	100.46	27.09
188	SLU 16	-26	-116	2046	-0.42	100.43	28.89
188	SLU 17	-26	-109	2042	-0.45	100.46	27.09
188	SLU 18	-29	-125	2168	-0.48	103.4	31.06
188	SLU 19	-29	-118	2164	-0.51	103.43	29.26
188	SLU 20	-29	-125	2168	-0.48	103.4	31.06
188	SLU 21	-29	-118	2164	-0.51	103.43	29.26
188	SLU 22	-24	-111	1983	-0.39	98.79	27.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLU 23	-24	-99	1976	-0.44	98.85	24.48
188	SLU 24	-24	-111	1983	-0.39	98.79	27.49
188	SLU 25	-24	-103	1979	-0.42	98.83	25.68
188	SLU 26	-24	-99	1976	-0.44	98.85	24.48
188	SLU 27	-24	-111	1983	-0.39	98.79	27.49
188	SLU 28	-24	-103	1979	-0.42	98.83	25.68
188	SLU 29	-24	-111	1983	-0.39	98.79	27.49
188	SLU 30	-24	-103	1979	-0.42	98.83	25.68
188	SLU 31	-30	-119	2260	-0.58	105.78	29.55
188	SLU 32	-31	-131	2267	-0.52	105.72	32.55
188	SLU 33	-31	-124	2263	-0.55	105.75	30.75
188	SLU 34	-30	-119	2260	-0.58	105.78	29.55
188	SLU 35	-31	-131	2267	-0.52	105.72	32.55
188	SLU 36	-31	-124	2263	-0.55	105.75	30.75
188	SLU 37	-31	-131	2267	-0.52	105.72	32.55
188	SLU 38	-31	-124	2263	-0.55	105.75	30.75
188	SLU 39	-34	-140	2389	-0.57	108.69	34.72
188	SLU 40	-34	-132	2385	-0.61	108.72	32.92
188	SLU 41	-34	-140	2389	-0.57	108.69	34.72
188	SLU 42	-34	-132	2385	-0.61	108.72	32.92
188	SLU 43	-24	-120	2215	-0.34	119.74	29.72
188	SLU 44	-23	-108	2209	-0.4	119.8	26.71
188	SLU 45	-24	-120	2215	-0.34	119.74	29.72
188	SLU 46	-23	-112	2211	-0.38	119.77	27.92
188	SLU 47	-23	-108	2209	-0.4	119.8	26.71
188	SLU 48	-24	-120	2215	-0.34	119.74	29.72
188	SLU 49	-23	-112	2211	-0.38	119.77	27.92
188	SLU 50	-24	-120	2215	-0.34	119.74	29.72
188	SLU 51	-23	-112	2211	-0.38	119.77	27.92
188	SLU 52	-30	-128	2493	-0.53	126.72	31.78
188	SLU 53	-31	-140	2499	-0.47	126.66	34.79
188	SLU 54	-30	-133	2495	-0.51	126.7	32.98
188	SLU 55	-30	-128	2493	-0.53	126.72	31.78
188	SLU 56	-31	-140	2499	-0.47	126.66	34.79
188	SLU 57	-30	-133	2495	-0.51	126.7	32.98
188	SLU 58	-31	-140	2499	-0.47	126.66	34.79
188	SLU 59	-30	-133	2495	-0.51	126.7	32.98
188	SLU 60	-34	-149	2621	-0.53	129.63	36.96
188	SLU 61	-33	-141	2617	-0.56	129.67	35.15
188	SLU 62	-34	-149	2621	-0.53	129.63	36.96
188	SLU 63	-33	-141	2617	-0.56	129.67	35.15
188	SLU 64	-29	-134	2436	-0.44	125.03	33.38
188	SLU 65	-28	-122	2429	-0.5	125.09	30.37
188	SLU 66	-29	-134	2436	-0.44	125.03	33.38
188	SLU 67	-28	-127	2432	-0.47	125.06	31.58
188	SLU 68	-28	-122	2429	-0.5	125.09	30.37
188	SLU 69	-29	-134	2436	-0.44	125.03	33.38
188	SLU 70	-28	-127	2432	-0.47	125.06	31.58
188	SLU 71	-29	-134	2436	-0.44	125.03	33.38
188	SLU 72	-28	-127	2432	-0.47	125.06	31.58
188	SLU 73	-35	-143	2713	-0.63	132.01	35.44
188	SLU 74	-36	-155	2720	-0.57	131.96	38.45
188	SLU 75	-35	-147	2716	-0.61	131.99	36.64
188	SLU 76	-35	-143	2713	-0.63	132.01	35.44
188	SLU 77	-36	-155	2720	-0.57	131.96	38.45
188	SLU 78	-35	-147	2716	-0.61	131.99	36.64
188	SLU 79	-36	-155	2720	-0.57	131.96	38.45
188	SLU 80	-35	-147	2716	-0.61	131.99	36.64
188	SLU 81	-39	-163	2842	-0.63	134.92	40.62
188	SLU 82	-38	-156	2838	-0.66	134.96	38.81
188	SLU 83	-39	-163	2842	-0.63	134.92	40.62
188	SLU 84	-38	-156	2838	-0.66	134.96	38.81
188	SLE RA 1	-21	-100	1825	-0.32	95.01	24.87
188	SLE RA 2	-20	-92	1821	-0.35	95.05	22.87
188	SLE RA 3	-21	-100	1825	-0.32	95.01	24.87
188	SLE RA 4	-21	-95	1823	-0.34	95.04	23.67
188	SLE RA 5	-20	-92	1821	-0.35	95.05	22.87
188	SLE RA 6	-21	-100	1825	-0.32	95.01	24.87
188	SLE RA 7	-21	-95	1823	-0.34	95.04	23.67
188	SLE RA 8	-21	-100	1825	-0.32	95.01	24.87
188	SLE RA 9	-21	-95	1823	-0.34	95.04	23.67
188	SLE RA 10	-25	-106	2010	-0.44	99.67	26.25
188	SLE RA 11	-26	-114	2015	-0.4	99.63	28.25
188	SLE RA 12	-25	-109	2012	-0.43	99.65	27.05
188	SLE RA 13	-25	-106	2010	-0.44	99.67	26.25
188	SLE RA 14	-26	-114	2015	-0.4	99.63	28.25
188	SLE RA 15	-25	-109	2012	-0.43	99.65	27.05
188	SLE RA 16	-26	-114	2015	-0.4	99.63	28.25
188	SLE RA 17	-25	-109	2012	-0.43	99.65	27.05
188	SLE RA 18	-28	-119	2096	-0.44	101.61	29.7
188	SLE RA 19	-27	-115	2093	-0.46	101.63	28.49
188	SLE RA 20	-28	-119	2096	-0.44	101.61	29.7
188	SLE RA 21	-27	-115	2093	-0.46	101.63	28.49
188	SLE FR 1	-21	-100	1825	-0.32	95.01	24.87
188	SLE FR 2	-21	-98	1824	-0.32	95.02	24.47
188	SLE FR 3	-21	-100	1825	-0.32	95.01	24.87
188	SLE FR 4	-23	-104	1905	-0.36	97	25.92
188	SLE FR 5	-23	-106	1906	-0.35	96.99	26.32
188	SLE FR 6	-24	-110	1960	-0.38	98.31	27.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLE QP 1	-21	-100	1825	-0.32	95.01	24.87
188	SLE QP 2	-23	-106	1906	-0.35	96.99	26.32
188	SLD 1	44	-32	1628	-0.8	79.87	7.46
188	SLD 2	36	8	1628	-0.79	79.82	-2.47
188	SLD 3	40	-147	1692	-0.23	82.96	36.01
188	SLD 4	32	-106	1692	-0.22	82.9	26.08
188	SLD 5	6	76	1725	-1.36	87.19	-19.14
188	SLD 6	-3	116	1725	-1.35	87.14	-29.12
188	SLD 7	-7	-306	1940	0.55	97.48	76.03
188	SLD 8	-15	-265	1940	0.55	97.43	66.05
188	SLD 9	-31	54	1873	-1.26	96.56	-13.41
188	SLD 10	-39	94	1873	-1.25	96.5	-23.39
188	SLD 11	-43	-328	2088	0.64	106.84	81.77
188	SLD 12	-52	-287	2088	0.65	106.79	71.78
188	SLD 13	-78	-105	2121	-0.49	111.08	26.56
188	SLD 14	-86	-65	2120	-0.48	111.03	16.63
188	SLD 15	-82	-220	2185	0.08	114.17	55.12
188	SLD 16	-90	-180	2185	0.09	114.11	45.18
188	SLV 1	129	61	1273	-1.37	53.84	-16.5
188	SLV 2	111	152	1272	-1.35	53.72	-39.02
188	SLV 3	121	-198	1419	-0.07	60.85	48.32
188	SLV 4	102	-107	1419	-0.05	60.73	25.8
188	SLV 5	42	306	1494	-2.63	73.45	-76.9
188	SLV 6	23	397	1494	-2.61	73.33	-99.52
188	SLV 7	14	-559	1982	1.69	96.83	139.16
188	SLV 8	-5	-468	1982	1.71	96.71	116.54
188	SLV 9	-41	256	1831	-2.42	97.28	-63.9
188	SLV 10	-60	347	1830	-2.4	97.16	-86.51
188	SLV 11	-69	-609	2319	1.9	120.65	152.16
188	SLV 12	-88	-518	2318	1.92	120.53	129.55
188	SLV 13	-148	-104	2394	-0.65	133.25	26.84
188	SLV 14	-167	-14	2394	-0.63	133.14	4.33
188	SLV 15	-156	-364	2540	0.64	140.27	91.66
188	SLV 16	-175	-273	2540	0.66	140.15	69.15
188	CRTFP Ux+	0	0	0	0	0	0
188	CRTFP Ux-	0	0	0	0	0	0
188	CRTFP Uy+	0	0	0	0	0	0
188	CRTFP Uy-	0	0	0	0	0	0
189	SLU 1	-38	-41	1888	-2.16	-402.04	-14.78
189	SLU 2	-38	-28	1883	-2.22	-402.01	-10.22
189	SLU 3	-38	-41	1888	-2.16	-402.04	-14.78
189	SLU 4	-38	-33	1885	-2.2	-402.03	-12.05
189	SLU 5	-38	-28	1883	-2.22	-402.01	-10.22
189	SLU 6	-38	-41	1888	-2.16	-402.04	-14.78
189	SLU 7	-38	-33	1885	-2.2	-402.03	-12.05
189	SLU 8	-38	-41	1888	-2.16	-402.04	-14.78
189	SLU 9	-38	-33	1885	-2.2	-402.03	-12.05
189	SLU 10	-39	-34	2246	-2.84	-471.11	-12.7
189	SLU 11	-39	-47	2251	-2.78	-471.14	-17.26
189	SLU 12	-39	-40	2248	-2.81	-471.12	-14.52
189	SLU 13	-39	-34	2246	-2.84	-471.11	-12.7
189	SLU 14	-39	-47	2251	-2.78	-471.14	-17.26
189	SLU 15	-39	-40	2248	-2.81	-471.12	-14.52
189	SLU 16	-39	-47	2251	-2.78	-471.14	-17.26
189	SLU 17	-39	-40	2248	-2.81	-471.12	-14.52
189	SLU 18	-40	-50	2406	-3.04	-500.75	-18.32
189	SLU 19	-40	-43	2403	-3.08	-500.73	-15.59
189	SLU 20	-40	-50	2406	-3.04	-500.75	-18.32
189	SLU 21	-40	-43	2403	-3.08	-500.73	-15.59
189	SLU 22	-40	-46	2139	-2.62	-451.73	-16.76
189	SLU 23	-40	-33	2134	-2.69	-451.7	-12.2
189	SLU 24	-40	-46	2139	-2.62	-451.73	-16.76
189	SLU 25	-40	-38	2136	-2.66	-451.71	-14.02
189	SLU 26	-40	-33	2134	-2.69	-451.7	-12.2
189	SLU 27	-40	-46	2139	-2.62	-451.73	-16.76
189	SLU 28	-40	-38	2136	-2.66	-451.71	-14.02
189	SLU 29	-40	-46	2139	-2.62	-451.73	-16.76
189	SLU 30	-40	-38	2136	-2.66	-451.71	-14.02
189	SLU 31	-41	-40	2497	-3.3	-520.79	-14.68
189	SLU 32	-41	-53	2502	-3.24	-520.82	-19.23
189	SLU 33	-41	-45	2499	-3.27	-520.8	-16.5
189	SLU 34	-41	-40	2497	-3.3	-520.79	-14.68
189	SLU 35	-41	-53	2502	-3.24	-520.82	-19.23
189	SLU 36	-41	-45	2499	-3.27	-520.8	-16.5
189	SLU 37	-41	-53	2502	-3.24	-520.82	-19.23
189	SLU 38	-41	-45	2499	-3.27	-520.8	-16.5
189	SLU 39	-41	-56	2657	-3.5	-550.43	-20.3
189	SLU 40	-41	-48	2654	-3.54	-550.41	-17.56
189	SLU 41	-41	-56	2657	-3.5	-550.43	-20.3
189	SLU 42	-41	-48	2654	-3.54	-550.41	-17.56
189	SLU 43	-49	-51	2369	-2.65	-505.62	-18.54
189	SLU 44	-49	-38	2363	-2.71	-505.59	-13.98
189	SLU 45	-49	-51	2369	-2.65	-505.62	-18.54
189	SLU 46	-49	-43	2366	-2.69	-505.6	-15.8
189	SLU 47	-49	-38	2363	-2.71	-505.59	-13.98
189	SLU 48	-49	-51	2369	-2.65	-505.62	-18.54
189	SLU 49	-49	-43	2366	-2.69	-505.6	-15.8
189	SLU 50	-49	-51	2369	-2.65	-505.62	-18.54
189	SLU 51	-49	-43	2366	-2.69	-505.6	-15.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLU 52	-50	-45	2726	-3.33	-574.68	-16.46
189	SLU 53	-50	-58	2731	-3.27	-574.71	-21.02
189	SLU 54	-50	-50	2728	-3.3	-574.7	-18.28
189	SLU 55	-50	-45	2726	-3.33	-574.68	-16.46
189	SLU 56	-50	-58	2731	-3.27	-574.71	-21.02
189	SLU 57	-50	-50	2728	-3.3	-574.7	-18.28
189	SLU 58	-50	-58	2731	-3.27	-574.71	-21.02
189	SLU 59	-50	-50	2728	-3.3	-574.7	-18.28
189	SLU 60	-50	-61	2887	-3.53	-604.32	-22.08
189	SLU 61	-51	-53	2883	-3.57	-604.31	-19.34
189	SLU 62	-50	-61	2887	-3.53	-604.32	-22.08
189	SLU 63	-51	-53	2883	-3.57	-604.31	-19.34
189	SLU 64	-50	-56	2620	-3.11	-555.31	-20.51
189	SLU 65	-51	-43	2614	-3.18	-555.28	-15.96
189	SLU 66	-50	-56	2620	-3.11	-555.31	-20.51
189	SLU 67	-51	-49	2617	-3.15	-555.29	-17.78
189	SLU 68	-51	-43	2614	-3.18	-555.28	-15.96
189	SLU 69	-50	-56	2620	-3.11	-555.31	-20.51
189	SLU 70	-51	-49	2617	-3.15	-555.29	-17.78
189	SLU 71	-50	-56	2620	-3.11	-555.31	-20.51
189	SLU 72	-51	-49	2617	-3.15	-555.29	-17.78
189	SLU 73	-52	-50	2977	-3.79	-624.37	-18.43
189	SLU 74	-51	-63	2982	-3.73	-624.4	-22.99
189	SLU 75	-52	-55	2979	-3.76	-624.38	-20.26
189	SLU 76	-52	-50	2977	-3.79	-624.37	-18.43
189	SLU 77	-51	-63	2982	-3.73	-624.4	-22.99
189	SLU 78	-52	-55	2979	-3.76	-624.38	-20.26
189	SLU 79	-51	-63	2982	-3.73	-624.4	-22.99
189	SLU 80	-52	-55	2979	-3.76	-624.38	-20.26
189	SLU 81	-52	-66	3138	-3.99	-654.01	-24.05
189	SLU 82	-52	-58	3134	-4.03	-653.99	-21.32
189	SLU 83	-52	-66	3138	-3.99	-654.01	-24.05
189	SLU 84	-52	-58	3134	-4.03	-653.99	-21.32
189	SLE RA 1	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE RA 2	-39	-33	1957	-2.34	-416.22	-12.31
189	SLE RA 3	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE RA 4	-39	-37	1958	-2.32	-416.23	-13.52
189	SLE RA 5	-39	-33	1957	-2.34	-416.22	-12.31
189	SLE RA 6	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE RA 7	-39	-37	1958	-2.32	-416.23	-13.52
189	SLE RA 8	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE RA 9	-39	-37	1958	-2.32	-416.23	-13.52
189	SLE RA 10	-39	-38	2198	-2.74	-462.28	-13.96
189	SLE RA 11	-39	-47	2202	-2.7	-462.3	-17
189	SLE RA 12	-39	-42	2200	-2.73	-462.29	-15.17
189	SLE RA 13	-39	-38	2198	-2.74	-462.28	-13.96
189	SLE RA 14	-39	-47	2202	-2.7	-462.3	-17
189	SLE RA 15	-39	-42	2200	-2.73	-462.29	-15.17
189	SLE RA 16	-39	-47	2202	-2.7	-462.3	-17
189	SLE RA 17	-39	-42	2200	-2.73	-462.29	-15.17
189	SLE RA 18	-39	-49	2305	-2.88	-482.04	-17.71
189	SLE RA 19	-40	-44	2303	-2.9	-482.03	-15.88
189	SLE RA 20	-39	-49	2305	-2.88	-482.04	-17.71
189	SLE RA 21	-40	-44	2303	-2.9	-482.03	-15.88
189	SLE FR 1	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE FR 2	-38	-40	1959	-2.3	-416.23	-14.74
189	SLE FR 3	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE FR 4	-39	-42	2063	-2.48	-435.98	-15.45
189	SLE FR 5	-39	-44	2064	-2.47	-435.98	-16.05
189	SLE FR 6	-39	-45	2133	-2.59	-449.14	-16.53
189	SLE QP 1	-38	-42	1960	-2.29	-416.24	-15.35
189	SLE QP 2	-39	-44	2064	-2.47	-435.98	-16.05
189	SLD 1	123	-4	2368	-2.97	-490.32	-2.1
189	SLD 2	108	-44	2367	-2.98	-490.79	-16.08
189	SLD 3	118	-117	2431	-2.39	-495.53	-41.72
189	SLD 4	103	-157	2429	-2.41	-496	-55.71
189	SLD 5	22	153	2060	-3.49	-444.21	53.16
189	SLD 6	8	113	2059	-3.5	-444.68	39.11
189	SLD 7	6	-223	2269	-1.57	-461.59	-78.93
189	SLD 8	-9	-264	2268	-1.58	-462.06	-92.98
189	SLD 9	-69	175	1859	-3.36	-409.9	60.87
189	SLD 10	-83	135	1858	-3.37	-410.37	46.82
189	SLD 11	-85	-201	2068	-1.44	-427.28	-71.22
189	SLD 12	-100	-242	2067	-1.45	-427.75	-85.27
189	SLD 13	-181	69	1698	-2.53	-375.96	23.6
189	SLD 14	-195	29	1696	-2.54	-376.43	9.62
189	SLD 15	-186	-44	1760	-1.96	-381.17	-16.03
189	SLD 16	-200	-84	1759	-1.97	-381.64	-30.01
189	SLV 1	328	47	2755	-3.61	-559.57	15.68
189	SLV 2	295	-45	2752	-3.64	-560.63	-16.02
189	SLV 3	317	-210	2897	-2.3	-571.53	-74.38
189	SLV 4	284	-301	2894	-2.32	-572.58	-106.07
189	SLV 5	100	405	2056	-4.79	-454.55	141.21
189	SLV 6	67	313	2053	-4.82	-455.61	109.37
189	SLV 7	62	-451	2530	-0.42	-494.4	-158.97
189	SLV 8	29	-543	2527	-0.45	-495.47	-190.8
189	SLV 9	-106	455	1600	-4.49	-376.49	158.7
189	SLV 10	-139	363	1597	-4.52	-377.56	126.86
189	SLV 11	-145	-401	2074	-0.12	-416.35	-141.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLV 12	-178	-493	2071	-0.15	-417.41	-173.32
189	SLV 13	-361	213	1233	-2.61	-299.38	73.97
189	SLV 14	-394	122	1230	-2.64	-300.43	42.27
189	SLV 15	-373	-44	1375	-1.3	-311.33	-16.09
189	SLV 16	-406	-135	1372	-1.33	-312.39	-47.78
189	CRTFP Ux+	0	0	0	0	0	0
189	CRTFP Ux-	0	0	0	0	0	0
189	CRTFP Uy+	0	0	0	0	0	0
189	CRTFP Uy-	0	0	0	0	0	0
192	SLU 1	-45	122	2946	3.01	-10.86	-4.64
192	SLU 2	-45	137	2940	2.89	-10.63	-4.63
192	SLU 3	-45	122	2946	3.01	-10.86	-4.64
192	SLU 4	-45	131	2942	2.94	-10.72	-4.64
192	SLU 5	-45	137	2940	2.89	-10.63	-4.63
192	SLU 6	-45	122	2946	3.01	-10.86	-4.64
192	SLU 7	-45	131	2942	2.94	-10.72	-4.64
192	SLU 8	-45	122	2946	3.01	-10.86	-4.64
192	SLU 9	-45	131	2942	2.94	-10.72	-4.64
192	SLU 10	-51	156	3609	2.95	-12.21	-4.85
192	SLU 11	-51	141	3615	3.07	-12.44	-4.86
192	SLU 12	-51	150	3611	3	-12.3	-4.85
192	SLU 13	-51	156	3609	2.95	-12.21	-4.85
192	SLU 14	-51	141	3615	3.07	-12.44	-4.86
192	SLU 15	-51	150	3611	3	-12.3	-4.85
192	SLU 16	-51	141	3615	3.07	-12.44	-4.86
192	SLU 17	-51	150	3611	3	-12.3	-4.85
192	SLU 18	-53	150	3901	3.09	-13.11	-4.95
192	SLU 19	-53	158	3898	3.02	-12.98	-4.94
192	SLU 20	-53	150	3901	3.09	-13.11	-4.95
192	SLU 21	-53	158	3898	3.02	-12.98	-4.94
192	SLU 22	-50	137	3418	3.06	-12.24	-4.91
192	SLU 23	-50	152	3412	2.95	-12.02	-4.9
192	SLU 24	-50	137	3418	3.06	-12.24	-4.91
192	SLU 25	-50	146	3414	2.99	-12.11	-4.91
192	SLU 26	-50	152	3412	2.95	-12.02	-4.9
192	SLU 27	-50	137	3418	3.06	-12.24	-4.91
192	SLU 28	-50	146	3414	2.99	-12.11	-4.91
192	SLU 29	-50	137	3418	3.06	-12.24	-4.91
192	SLU 30	-50	146	3414	2.99	-12.11	-4.91
192	SLU 31	-56	171	4080	3	-13.6	-5.12
192	SLU 32	-56	156	4086	3.12	-13.82	-5.13
192	SLU 33	-56	165	4083	3.05	-13.69	-5.12
192	SLU 34	-56	171	4080	3	-13.6	-5.12
192	SLU 35	-56	156	4086	3.12	-13.82	-5.13
192	SLU 36	-56	165	4083	3.05	-13.69	-5.12
192	SLU 37	-56	156	4086	3.12	-13.82	-5.13
192	SLU 38	-56	165	4083	3.05	-13.69	-5.12
192	SLU 39	-58	165	4373	3.14	-14.5	-5.22
192	SLU 40	-58	173	4369	3.07	-14.36	-5.22
192	SLU 41	-58	165	4373	3.14	-14.5	-5.22
192	SLU 42	-58	173	4369	3.07	-14.36	-5.22
192	SLU 43	-57	153	3668	3.9	-13.64	-5.94
192	SLU 44	-57	168	3662	3.78	-13.42	-5.93
192	SLU 45	-57	153	3668	3.9	-13.64	-5.94
192	SLU 46	-57	162	3665	3.83	-13.51	-5.93
192	SLU 47	-57	168	3662	3.78	-13.42	-5.93
192	SLU 48	-57	153	3668	3.9	-13.64	-5.94
192	SLU 49	-57	162	3665	3.83	-13.51	-5.93
192	SLU 50	-57	153	3668	3.9	-13.64	-5.94
192	SLU 51	-57	162	3665	3.83	-13.51	-5.93
192	SLU 52	-62	187	4331	3.83	-15	-6.14
192	SLU 53	-63	173	4337	3.95	-15.22	-6.16
192	SLU 54	-63	181	4333	3.88	-15.09	-6.15
192	SLU 55	-62	187	4331	3.83	-15	-6.14
192	SLU 56	-63	173	4337	3.95	-15.22	-6.16
192	SLU 57	-63	181	4333	3.88	-15.09	-6.15
192	SLU 58	-63	173	4337	3.95	-15.22	-6.16
192	SLU 59	-63	181	4333	3.88	-15.09	-6.15
192	SLU 60	-65	181	4623	3.97	-15.9	-6.25
192	SLU 61	-65	190	4620	3.9	-15.76	-6.24
192	SLU 62	-65	181	4623	3.97	-15.9	-6.25
192	SLU 63	-65	190	4620	3.9	-15.76	-6.24
192	SLU 64	-62	168	4140	3.95	-15.02	-6.21
192	SLU 65	-62	183	4134	3.83	-14.8	-6.2
192	SLU 66	-62	168	4140	3.95	-15.02	-6.21
192	SLU 67	-62	177	4136	3.88	-14.89	-6.21
192	SLU 68	-62	183	4134	3.83	-14.8	-6.2
192	SLU 69	-62	168	4140	3.95	-15.02	-6.21
192	SLU 70	-62	177	4136	3.88	-14.89	-6.21
192	SLU 71	-62	168	4140	3.95	-15.02	-6.21
192	SLU 72	-62	177	4136	3.88	-14.89	-6.21
192	SLU 73	-68	202	4802	3.89	-16.38	-6.42
192	SLU 74	-68	188	4808	4	-16.6	-6.43
192	SLU 75	-68	196	4805	3.93	-16.47	-6.42
192	SLU 76	-68	202	4802	3.89	-16.38	-6.42
192	SLU 77	-68	188	4808	4	-16.6	-6.43
192	SLU 78	-68	196	4805	3.93	-16.47	-6.42
192	SLU 79	-68	188	4808	4	-16.6	-6.43
192	SLU 80	-68	196	4805	3.93	-16.47	-6.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	SLU 81	-70	196	5095	4.03	-17.28	-6.52
192	SLU 82	-70	205	5091	3.96	-17.15	-6.51
192	SLU 83	-70	196	5095	4.03	-17.28	-6.52
192	SLU 84	-70	205	5091	3.96	-17.15	-6.51
192	SLE RA 1	-47	126	3081	3.03	-11.25	-4.72
192	SLE RA 2	-46	136	3077	2.95	-11.1	-4.71
192	SLE RA 3	-47	126	3081	3.03	-11.25	-4.72
192	SLE RA 4	-46	132	3078	2.98	-11.16	-4.72
192	SLE RA 5	-46	136	3077	2.95	-11.1	-4.71
192	SLE RA 6	-47	126	3081	3.03	-11.25	-4.72
192	SLE RA 7	-46	132	3078	2.98	-11.16	-4.72
192	SLE RA 8	-47	126	3081	3.03	-11.25	-4.72
192	SLE RA 9	-46	132	3078	2.98	-11.16	-4.72
192	SLE RA 10	-50	149	3523	2.98	-12.16	-4.86
192	SLE RA 11	-50	139	3527	3.06	-12.31	-4.86
192	SLE RA 12	-50	145	3524	3.02	-12.22	-4.86
192	SLE RA 13	-50	149	3523	2.98	-12.16	-4.86
192	SLE RA 14	-50	139	3527	3.06	-12.31	-4.86
192	SLE RA 15	-50	145	3524	3.02	-12.22	-4.86
192	SLE RA 16	-50	139	3527	3.06	-12.31	-4.86
192	SLE RA 17	-50	145	3524	3.02	-12.22	-4.86
192	SLE RA 18	-52	145	3718	3.08	-12.76	-4.93
192	SLE RA 19	-52	150	3715	3.03	-12.67	-4.92
192	SLE RA 20	-52	145	3718	3.08	-12.76	-4.93
192	SLE RA 21	-52	150	3715	3.03	-12.67	-4.92
192	SLE FR 1	-47	126	3081	3.03	-11.25	-4.72
192	SLE FR 2	-47	128	3080	3.01	-11.22	-4.72
192	SLE FR 3	-47	126	3081	3.03	-11.25	-4.72
192	SLE FR 4	-48	134	3271	3.03	-11.67	-4.78
192	SLE FR 5	-48	132	3272	3.04	-11.7	-4.78
192	SLE FR 6	-49	135	3399	3.05	-12.01	-4.82
192	SLE QP 1	-47	126	3081	3.03	-11.25	-4.72
192	SLE QP 2	-48	132	3272	3.04	-11.7	-4.78
192	SLD 1	217	204	3042	2.73	5.7	-5.63
192	SLD 2	194	224	3047	2.74	5.66	-4.58
192	SLD 3	229	61	3110	3.88	3.85	-6.08
192	SLD 4	206	81	3115	3.88	3.81	-5.03
192	SLD 5	21	363	3099	1.21	-3.66	-4.72
192	SLD 6	-2	383	3103	1.22	-3.7	-3.66
192	SLD 7	61	-113	3324	5.02	-9.83	-6.23
192	SLD 8	38	-93	3329	5.03	-9.88	-5.17
192	SLD 9	-135	357	3215	1.05	-13.53	-4.39
192	SLD 10	-158	376	3219	1.06	-13.58	-3.34
192	SLD 11	-95	-120	3440	4.86	-19.71	-5.9
192	SLD 12	-118	-100	3445	4.87	-19.75	-4.84
192	SLD 13	-303	182	3429	2.2	-27.22	-4.54
192	SLD 14	-326	202	3434	2.21	-27.26	-3.48
192	SLD 15	-291	40	3497	3.34	-29.07	-4.99
192	SLD 16	-314	59	3501	3.35	-29.11	-3.94
192	SLV 1	555	297	2751	2.34	27.8	-6.73
192	SLV 2	502	341	2761	2.36	27.7	-4.34
192	SLV 3	582	-27	2905	4.94	23.58	-7.76
192	SLV 4	530	17	2915	4.95	23.49	-5.37
192	SLV 5	109	658	2879	-1.11	6.57	-4.65
192	SLV 6	57	702	2889	-1.1	6.47	-2.25
192	SLV 7	201	-424	3391	7.54	-7.47	-8.07
192	SLV 8	149	-379	3402	7.56	-7.57	-5.68
192	SLV 9	-245	642	3142	-1.48	-15.84	-3.89
192	SLV 10	-297	687	3153	-1.46	-15.94	-1.49
192	SLV 11	-153	-439	3654	7.18	-29.88	-7.31
192	SLV 12	-206	-394	3665	7.2	-29.98	-4.92
192	SLV 13	-626	246	3629	1.13	-46.9	-4.19
192	SLV 14	-679	291	3639	1.15	-46.99	-1.81
192	SLV 15	-599	-78	3782	3.73	-51.11	-5.22
192	SLV 16	-651	-33	3793	3.74	-51.21	-2.83
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
196	SLU 1	-14	-96	1759	0.07	109.53	23.87
196	SLU 2	-13	-84	1750	0.01	109.33	20.87
196	SLU 3	-14	-96	1759	0.07	109.53	23.87
196	SLU 4	-13	-89	1754	0.04	109.41	22.07
196	SLU 5	-13	-84	1750	0.01	109.33	20.87
196	SLU 6	-14	-96	1759	0.07	109.53	23.87
196	SLU 7	-13	-89	1754	0.04	109.41	22.07
196	SLU 8	-14	-96	1759	0.07	109.53	23.87
196	SLU 9	-13	-89	1754	0.04	109.41	22.07
196	SLU 10	-19	-105	2031	-0.05	119.15	25.93
196	SLU 11	-20	-117	2040	0.01	119.35	28.93
196	SLU 12	-20	-110	2035	-0.03	119.23	27.13
196	SLU 13	-19	-105	2031	-0.05	119.15	25.93
196	SLU 14	-20	-117	2040	0.01	119.35	28.93
196	SLU 15	-20	-110	2035	-0.03	119.23	27.13
196	SLU 16	-20	-117	2040	0.01	119.35	28.93
196	SLU 17	-20	-110	2035	-0.03	119.23	27.13
196	SLU 18	-23	-125	2160	-0.02	123.55	31.1
196	SLU 19	-23	-118	2155	-0.06	123.43	29.3
196	SLU 20	-23	-125	2160	-0.02	123.55	31.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLU 21	-23	-118	2155	-0.06	123.43	29.3
196	SLU 22	-18	-111	1977	0.03	117.01	27.53
196	SLU 23	-17	-99	1969	-0.04	116.82	24.53
196	SLU 24	-18	-111	1977	0.03	117.01	27.53
196	SLU 25	-18	-104	1972	-0.01	116.9	25.73
196	SLU 26	-17	-99	1969	-0.04	116.82	24.53
196	SLU 27	-18	-111	1977	0.03	117.01	27.53
196	SLU 28	-18	-104	1972	-0.01	116.9	25.73
196	SLU 29	-18	-111	1977	0.03	117.01	27.53
196	SLU 30	-18	-104	1972	-0.01	116.9	25.73
196	SLU 31	-24	-119	2250	-0.1	126.63	29.6
196	SLU 32	-25	-131	2258	-0.04	126.83	32.6
196	SLU 33	-24	-124	2253	-0.08	126.71	30.8
196	SLU 34	-24	-119	2250	-0.1	126.63	29.6
196	SLU 35	-25	-131	2258	-0.04	126.83	32.6
196	SLU 36	-24	-124	2253	-0.08	126.71	30.8
196	SLU 37	-25	-131	2258	-0.04	126.83	32.6
196	SLU 38	-24	-124	2253	-0.08	126.71	30.8
196	SLU 39	-28	-140	2378	-0.07	131.04	34.77
196	SLU 40	-27	-133	2373	-0.1	130.92	32.97
196	SLU 41	-28	-140	2378	-0.07	131.04	34.77
196	SLU 42	-27	-133	2373	-0.1	130.92	32.97
196	SLU 43	-16	-120	2211	0.11	139.82	29.77
196	SLU 44	-15	-108	2203	0.05	139.63	26.77
196	SLU 45	-16	-120	2211	0.11	139.82	29.77
196	SLU 46	-16	-113	2206	0.08	139.71	27.97
196	SLU 47	-15	-108	2203	0.05	139.63	26.77
196	SLU 48	-16	-120	2211	0.11	139.82	29.77
196	SLU 49	-16	-113	2206	0.08	139.71	27.97
196	SLU 50	-16	-120	2211	0.11	139.82	29.77
196	SLU 51	-16	-113	2206	0.08	139.71	27.97
196	SLU 52	-22	-129	2484	-0.02	149.44	31.84
196	SLU 53	-23	-141	2492	0.05	149.64	34.84
196	SLU 54	-22	-133	2487	0.01	149.52	33.04
196	SLU 55	-22	-129	2484	-0.02	149.44	31.84
196	SLU 56	-23	-141	2492	0.05	149.64	34.84
196	SLU 57	-22	-133	2487	0.01	149.52	33.04
196	SLU 58	-23	-141	2492	0.05	149.64	34.84
196	SLU 59	-22	-133	2487	0.01	149.52	33.04
196	SLU 60	-26	-149	2613	0.02	153.85	37.01
196	SLU 61	-25	-142	2608	-0.02	153.73	35.21
196	SLU 62	-26	-149	2613	0.02	153.85	37.01
196	SLU 63	-25	-142	2608	-0.02	153.73	35.21
196	SLU 64	-21	-135	2430	0.07	147.31	33.44
196	SLU 65	-20	-123	2421	0	147.11	30.44
196	SLU 66	-21	-135	2430	0.07	147.31	33.44
196	SLU 67	-20	-128	2425	0.03	147.19	31.64
196	SLU 68	-20	-123	2421	0	147.11	30.44
196	SLU 69	-21	-135	2430	0.07	147.31	33.44
196	SLU 70	-20	-128	2425	0.03	147.19	31.64
196	SLU 71	-21	-135	2430	0.07	147.31	33.44
196	SLU 72	-20	-128	2425	0.03	147.19	31.64
196	SLU 73	-27	-143	2702	-0.06	156.93	35.5
196	SLU 74	-27	-155	2711	0	157.12	38.5
196	SLU 75	-27	-148	2706	-0.04	157.01	36.7
196	SLU 76	-27	-143	2702	-0.06	156.93	35.5
196	SLU 77	-27	-155	2711	0	157.12	38.5
196	SLU 78	-27	-148	2706	-0.04	157.01	36.7
196	SLU 79	-27	-155	2711	0	157.12	38.5
196	SLU 80	-27	-148	2706	-0.04	157.01	36.7
196	SLU 81	-30	-164	2831	-0.03	161.33	40.67
196	SLU 82	-30	-157	2826	-0.07	161.21	38.87
196	SLU 83	-30	-164	2831	-0.03	161.33	40.67
196	SLU 84	-30	-157	2826	-0.07	161.21	38.87
196	SLE RA 1	-15	-101	1821	0.06	111.67	24.92
196	SLE RA 2	-14	-93	1816	0.02	111.54	22.91
196	SLE RA 3	-15	-101	1821	0.06	111.67	24.92
196	SLE RA 4	-15	-96	1818	0.04	111.59	23.72
196	SLE RA 5	-14	-93	1816	0.02	111.54	22.91
196	SLE RA 6	-15	-101	1821	0.06	111.67	24.92
196	SLE RA 7	-15	-96	1818	0.04	111.59	23.72
196	SLE RA 8	-15	-101	1821	0.06	111.67	24.92
196	SLE RA 9	-15	-96	1818	0.04	111.59	23.72
196	SLE RA 10	-19	-106	2003	-0.02	118.08	26.29
196	SLE RA 11	-19	-114	2008	0.02	118.21	28.29
196	SLE RA 12	-19	-109	2005	-0.01	118.13	27.09
196	SLE RA 13	-19	-106	2003	-0.02	118.08	26.29
196	SLE RA 14	-19	-114	2008	0.02	118.21	28.29
196	SLE RA 15	-19	-109	2005	-0.01	118.13	27.09
196	SLE RA 16	-19	-114	2008	0.02	118.21	28.29
196	SLE RA 17	-19	-109	2005	-0.01	118.13	27.09
196	SLE RA 18	-21	-120	2089	0	121.02	29.74
196	SLE RA 19	-21	-115	2085	-0.03	120.94	28.54
196	SLE RA 20	-21	-120	2089	0	121.02	29.74
196	SLE RA 21	-21	-115	2085	-0.03	120.94	28.54
196	SLE FR 1	-15	-101	1821	0.06	111.67	24.92
196	SLE FR 2	-15	-99	1820	0.05	111.64	24.52
196	SLE FR 3	-15	-101	1821	0.06	111.67	24.92
196	SLE FR 4	-17	-105	1900	0.03	114.45	25.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLE FR 5	-17	-106	1901	0.04	114.47	26.36
196	SLE FR 6	-18	-110	1955	0.03	116.34	27.33
196	SLE QP 1	-15	-101	1821	0.06	111.67	24.92
196	SLE QP 2	-17	-106	1901	0.04	114.47	26.36
196	SLD 1	65	-33	1608	-0.51	96.08	7.57
196	SLD 2	54	7	1608	-0.5	96.05	-2.34
196	SLD 3	62	-147	1691	0.11	101.69	36.07
196	SLD 4	51	-107	1691	0.12	101.65	26.16
196	SLD 5	17	75	1688	-1.07	100.47	-19.01
196	SLD 6	6	115	1688	-1.06	100.44	-28.96
196	SLD 7	6	-306	1964	1.01	119.15	75.99
196	SLD 8	-5	-266	1964	1.02	119.11	66.04
196	SLD 9	-29	53	1839	-0.93	109.83	-13.31
196	SLD 10	-40	93	1839	-0.92	109.8	-23.26
196	SLD 11	-39	-328	2115	1.15	128.51	81.69
196	SLD 12	-50	-287	2115	1.16	128.48	71.73
196	SLD 13	-85	-106	2112	-0.04	127.29	26.56
196	SLD 14	-96	-66	2112	-0.03	127.26	16.66
196	SLD 15	-88	-220	2194	0.59	132.9	55.06
196	SLD 16	-99	-180	2195	0.6	132.86	45.16
196	SLV 1	170	60	1234	-1.22	69.12	-16.31
196	SLV 2	145	151	1235	-1.19	69.04	-38.76
196	SLV 3	162	-199	1423	0.2	81.84	48.39
196	SLV 4	137	-109	1423	0.22	81.76	25.94
196	SLV 5	59	305	1416	-2.5	81.6	-76.66
196	SLV 6	34	396	1416	-2.47	81.52	-99.2
196	SLV 7	34	-559	2043	2.23	124	139
196	SLV 8	9	-468	2043	2.26	123.93	116.45
196	SLV 9	-43	255	1759	-2.17	105.02	-63.73
196	SLV 10	-68	346	1760	-2.15	104.94	-86.28
196	SLV 11	-68	-609	2386	2.56	147.42	151.93
196	SLV 12	-93	-518	2387	2.58	147.35	129.38
196	SLV 13	-171	-104	2380	-0.14	147.18	26.79
196	SLV 14	-196	-14	2380	-0.12	147.11	4.34
196	SLV 15	-179	-363	2568	1.28	159.9	91.49
196	SLV 16	-204	-273	2568	1.3	159.83	69.03
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	-19	-40	1834	-1.3	-367	-14.54
197	SLU 2	-20	-27	1827	-1.38	-366.47	-9.99
197	SLU 3	-19	-40	1834	-1.3	-367	-14.54
197	SLU 4	-20	-32	1830	-1.35	-366.68	-11.81
197	SLU 5	-20	-27	1827	-1.38	-366.47	-9.99
197	SLU 6	-19	-40	1834	-1.3	-367	-14.54
197	SLU 7	-20	-32	1830	-1.35	-366.68	-11.81
197	SLU 8	-19	-40	1834	-1.3	-367	-14.54
197	SLU 9	-20	-32	1830	-1.35	-366.68	-11.81
197	SLU 10	-19	-34	2173	-1.8	-426.33	-12.43
197	SLU 11	-19	-47	2180	-1.73	-426.86	-16.98
197	SLU 12	-19	-39	2176	-1.77	-426.54	-14.25
197	SLU 13	-19	-34	2173	-1.8	-426.33	-12.43
197	SLU 14	-19	-47	2180	-1.73	-426.86	-16.98
197	SLU 15	-19	-39	2176	-1.77	-426.54	-14.25
197	SLU 16	-19	-47	2180	-1.73	-426.86	-16.98
197	SLU 17	-19	-39	2176	-1.77	-426.54	-14.25
197	SLU 18	-19	-50	2329	-1.91	-452.52	-18.03
197	SLU 19	-19	-42	2325	-1.95	-452.2	-15.3
197	SLU 20	-19	-50	2329	-1.91	-452.52	-18.03
197	SLU 21	-19	-42	2325	-1.95	-452.2	-15.3
197	SLU 22	-19	-45	2073	-1.63	-409.82	-16.48
197	SLU 23	-20	-32	2066	-1.7	-409.3	-11.93
197	SLU 24	-19	-45	2073	-1.63	-409.82	-16.48
197	SLU 25	-20	-37	2069	-1.67	-409.51	-13.75
197	SLU 26	-20	-32	2066	-1.7	-409.3	-11.93
197	SLU 27	-19	-45	2073	-1.63	-409.82	-16.48
197	SLU 28	-20	-37	2069	-1.67	-409.51	-13.75
197	SLU 29	-19	-45	2073	-1.63	-409.82	-16.48
197	SLU 30	-20	-37	2069	-1.67	-409.51	-13.75
197	SLU 31	-20	-39	2412	-2.13	-469.16	-14.37
197	SLU 32	-19	-52	2419	-2.05	-469.68	-18.92
197	SLU 33	-19	-44	2415	-2.1	-469.37	-16.19
197	SLU 34	-20	-39	2412	-2.13	-469.16	-14.37
197	SLU 35	-19	-52	2419	-2.05	-469.68	-18.92
197	SLU 36	-19	-44	2415	-2.1	-469.37	-16.19
197	SLU 37	-19	-52	2419	-2.05	-469.68	-18.92
197	SLU 38	-19	-44	2415	-2.1	-469.37	-16.19
197	SLU 39	-19	-55	2568	-2.24	-495.34	-19.97
197	SLU 40	-19	-47	2563	-2.28	-495.02	-17.24
197	SLU 41	-19	-55	2568	-2.24	-495.34	-19.97
197	SLU 42	-19	-47	2563	-2.28	-495.02	-17.24
197	SLU 43	-25	-50	2302	-1.58	-462.41	-18.23
197	SLU 44	-26	-37	2295	-1.66	-461.89	-13.68
197	SLU 45	-25	-50	2302	-1.58	-462.41	-18.23
197	SLU 46	-25	-42	2298	-1.63	-462.1	-15.5
197	SLU 47	-26	-37	2295	-1.66	-461.89	-13.68
197	SLU 48	-25	-50	2302	-1.58	-462.41	-18.23
197	SLU 49	-25	-42	2298	-1.63	-462.1	-15.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 50	-25	-50	2302	-1.58	-462.41	-18.23
197	SLU 51	-25	-42	2298	-1.63	-462.1	-15.5
197	SLU 52	-25	-44	2642	-2.08	-521.75	-16.12
197	SLU 53	-25	-57	2649	-2.01	-522.28	-20.67
197	SLU 54	-25	-49	2645	-2.05	-521.96	-17.94
197	SLU 55	-25	-44	2642	-2.08	-521.75	-16.12
197	SLU 56	-25	-57	2649	-2.01	-522.28	-20.67
197	SLU 57	-25	-49	2645	-2.05	-521.96	-17.94
197	SLU 58	-25	-57	2649	-2.01	-522.28	-20.67
197	SLU 59	-25	-49	2645	-2.05	-521.96	-17.94
197	SLU 60	-24	-60	2797	-2.19	-547.93	-21.72
197	SLU 61	-25	-52	2793	-2.23	-547.62	-18.99
197	SLU 62	-24	-60	2797	-2.19	-547.93	-21.72
197	SLU 63	-25	-52	2793	-2.23	-547.62	-18.99
197	SLU 64	-25	-55	2541	-1.91	-505.24	-20.17
197	SLU 65	-26	-42	2534	-1.98	-504.71	-15.62
197	SLU 66	-25	-55	2541	-1.91	-505.24	-20.17
197	SLU 67	-26	-47	2537	-1.95	-504.92	-17.44
197	SLU 68	-26	-42	2534	-1.98	-504.71	-15.62
197	SLU 69	-25	-55	2541	-1.91	-505.24	-20.17
197	SLU 70	-26	-47	2537	-1.95	-504.92	-17.44
197	SLU 71	-25	-55	2541	-1.91	-505.24	-20.17
197	SLU 72	-26	-47	2537	-1.95	-504.92	-17.44
197	SLU 73	-25	-49	2880	-2.41	-564.58	-18.07
197	SLU 74	-25	-62	2888	-2.33	-565.1	-22.62
197	SLU 75	-25	-54	2883	-2.38	-564.79	-19.89
197	SLU 76	-25	-49	2880	-2.41	-564.58	-18.07
197	SLU 77	-25	-62	2888	-2.33	-565.1	-22.62
197	SLU 78	-25	-54	2883	-2.38	-564.79	-19.89
197	SLU 79	-25	-62	2888	-2.33	-565.1	-22.62
197	SLU 80	-25	-54	2883	-2.38	-564.79	-19.89
197	SLU 81	-25	-65	3036	-2.51	-590.76	-23.66
197	SLU 82	-25	-57	3032	-2.56	-590.44	-20.93
197	SLU 83	-25	-65	3036	-2.51	-590.76	-23.66
197	SLU 84	-25	-57	3032	-2.56	-590.44	-20.93
197	SLE RA 1	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE RA 2	-20	-33	1898	-1.45	-378.88	-12.06
197	SLE RA 3	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE RA 4	-20	-36	1899	-1.43	-379.02	-13.27
197	SLE RA 5	-20	-33	1898	-1.45	-378.88	-12.06
197	SLE RA 6	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE RA 7	-20	-36	1899	-1.43	-379.02	-13.27
197	SLE RA 8	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE RA 9	-20	-36	1899	-1.43	-379.02	-13.27
197	SLE RA 10	-19	-37	2128	-1.73	-418.79	-13.69
197	SLE RA 11	-19	-46	2133	-1.68	-419.14	-16.72
197	SLE RA 12	-19	-41	2130	-1.71	-418.93	-14.9
197	SLE RA 13	-19	-37	2128	-1.73	-418.79	-13.69
197	SLE RA 14	-19	-46	2133	-1.68	-419.14	-16.72
197	SLE RA 15	-19	-41	2130	-1.71	-418.93	-14.9
197	SLE RA 16	-19	-46	2133	-1.68	-419.14	-16.72
197	SLE RA 17	-19	-41	2130	-1.71	-418.93	-14.9
197	SLE RA 18	-19	-48	2232	-1.8	-436.24	-17.42
197	SLE RA 19	-19	-43	2229	-1.83	-436.03	-15.6
197	SLE RA 20	-19	-48	2232	-1.8	-436.24	-17.42
197	SLE RA 21	-19	-43	2229	-1.83	-436.03	-15.6
197	SLE FR 1	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE FR 2	-19	-40	1901	-1.41	-379.16	-14.48
197	SLE FR 3	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE FR 4	-19	-42	2000	-1.53	-396.27	-15.18
197	SLE FR 5	-19	-43	2001	-1.52	-396.34	-15.79
197	SLE FR 6	-19	-45	2067	-1.6	-407.74	-16.25
197	SLE QP 1	-19	-41	1902	-1.4	-379.23	-15.09
197	SLE QP 2	-19	-43	2001	-1.52	-396.34	-15.79
197	SLD 1	139	-3	2293	-1.89	-443.75	-1.79
197	SLD 2	121	-43	2291	-1.9	-444.12	-15.77
197	SLD 3	146	-116	2375	-1.23	-453.04	-41.4
197	SLD 4	128	-156	2373	-1.24	-453.4	-55.37
197	SLD 5	24	154	1966	-2.62	-396.35	53.4
197	SLD 6	6	114	1964	-2.63	-396.72	39.36
197	SLD 7	47	-222	2238	-0.43	-427.3	-78.61
197	SLD 8	29	-263	2236	-0.44	-427.66	-92.65
197	SLD 9	-68	176	1767	-2.6	-365.01	61.07
197	SLD 10	-86	136	1765	-2.61	-365.38	47.03
197	SLD 11	-45	-200	2039	-0.4	-395.95	-70.93
197	SLD 12	-62	-241	2037	-0.41	-396.32	-84.98
197	SLD 13	-167	70	1630	-1.8	-339.27	23.79
197	SLD 14	-185	29	1628	-1.81	-339.63	9.82
197	SLD 15	-160	-43	1711	-1.14	-348.55	-15.81
197	SLD 16	-178	-83	1710	-1.15	-348.92	-29.79
197	SLV 1	340	48	2663	-2.35	-504.29	16.03
197	SLV 2	300	-43	2660	-2.38	-505.12	-15.65
197	SLV 3	356	-209	2848	-0.86	-525.41	-73.97
197	SLV 4	316	-300	2845	-0.88	-526.24	-105.65
197	SLV 5	79	405	1920	-4.03	-396.4	141.4
197	SLV 6	38	314	1917	-4.05	-397.23	109.59
197	SLV 7	132	-450	2538	0.96	-466.8	-158.58
197	SLV 8	91	-542	2534	0.93	-467.63	-190.39
197	SLV 9	-130	455	1469	-3.97	-325.04	158.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLV 10	-170	363	1465	-3.99	-325.87	127
197	SLV 11	-77	-400	2086	1.02	-395.44	-141.17
197	SLV 12	-117	-492	2082	0.99	-396.27	-172.98
197	SLV 13	-355	213	1158	-2.16	-266.43	74.07
197	SLV 14	-395	122	1154	-2.18	-267.26	42.39
197	SLV 15	-339	-43	1343	-0.66	-287.55	-15.93
197	SLV 16	-379	-135	1339	-0.68	-288.38	-47.61
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	-19	123	3036	2.64	-11.55	-5.03
200	SLU 2	-19	137	3026	2.5	-11.31	-5
200	SLU 3	-19	123	3036	2.64	-11.55	-5.03
200	SLU 4	-19	132	3030	2.55	-11.41	-5.01
200	SLU 5	-19	137	3026	2.5	-11.31	-5
200	SLU 6	-19	123	3036	2.64	-11.55	-5.03
200	SLU 7	-19	132	3030	2.55	-11.41	-5.01
200	SLU 8	-19	123	3036	2.64	-11.55	-5.03
200	SLU 9	-19	132	3030	2.55	-11.41	-5.01
200	SLU 10	-23	156	3693	2.4	-12.93	-5.29
200	SLU 11	-23	142	3704	2.54	-13.16	-5.31
200	SLU 12	-23	150	3698	2.45	-13.02	-5.29
200	SLU 13	-23	156	3693	2.4	-12.93	-5.29
200	SLU 14	-23	142	3704	2.54	-13.16	-5.31
200	SLU 15	-23	150	3698	2.45	-13.02	-5.29
200	SLU 16	-23	142	3704	2.54	-13.16	-5.31
200	SLU 17	-23	150	3698	2.45	-13.02	-5.29
200	SLU 18	-25	150	3990	2.5	-13.85	-5.43
200	SLU 19	-25	159	3984	2.41	-13.71	-5.42
200	SLU 20	-25	150	3990	2.5	-13.85	-5.43
200	SLU 21	-25	159	3984	2.41	-13.71	-5.42
200	SLU 22	-23	138	3507	2.6	-13	-5.35
200	SLU 23	-22	152	3497	2.47	-12.76	-5.33
200	SLU 24	-23	138	3507	2.6	-13	-5.35
200	SLU 25	-22	146	3501	2.52	-12.86	-5.34
200	SLU 26	-22	152	3497	2.47	-12.76	-5.33
200	SLU 27	-23	138	3507	2.6	-13	-5.35
200	SLU 28	-22	146	3501	2.52	-12.86	-5.34
200	SLU 29	-23	138	3507	2.6	-13	-5.35
200	SLU 30	-22	146	3501	2.52	-12.86	-5.34
200	SLU 31	-27	171	4165	2.37	-14.38	-5.61
200	SLU 32	-27	156	4175	2.51	-14.61	-5.63
200	SLU 33	-27	165	4169	2.42	-14.47	-5.62
200	SLU 34	-27	171	4165	2.37	-14.38	-5.61
200	SLU 35	-27	156	4175	2.51	-14.61	-5.63
200	SLU 36	-27	165	4169	2.42	-14.47	-5.62
200	SLU 37	-27	156	4175	2.51	-14.61	-5.63
200	SLU 38	-27	165	4169	2.42	-14.47	-5.62
200	SLU 39	-29	165	4462	2.46	-15.3	-5.75
200	SLU 40	-29	173	4456	2.38	-15.16	-5.74
200	SLU 41	-29	165	4462	2.46	-15.3	-5.75
200	SLU 42	-29	173	4456	2.38	-15.16	-5.74
200	SLU 43	-24	155	3785	3.44	-14.52	-6.42
200	SLU 44	-23	169	3775	3.3	-14.28	-6.4
200	SLU 45	-24	155	3785	3.44	-14.52	-6.42
200	SLU 46	-24	163	3779	3.35	-14.38	-6.41
200	SLU 47	-23	169	3775	3.3	-14.28	-6.4
200	SLU 48	-24	155	3785	3.44	-14.52	-6.42
200	SLU 49	-24	163	3779	3.35	-14.38	-6.41
200	SLU 50	-24	155	3785	3.44	-14.52	-6.42
200	SLU 51	-24	163	3779	3.35	-14.38	-6.41
200	SLU 52	-28	188	4442	3.2	-15.89	-6.68
200	SLU 53	-28	173	4453	3.34	-16.13	-6.7
200	SLU 54	-28	182	4446	3.26	-15.99	-6.69
200	SLU 55	-28	188	4442	3.2	-15.89	-6.68
200	SLU 56	-28	173	4453	3.34	-16.13	-6.7
200	SLU 57	-28	182	4446	3.26	-15.99	-6.69
200	SLU 58	-28	173	4453	3.34	-16.13	-6.7
200	SLU 59	-28	182	4446	3.26	-15.99	-6.69
200	SLU 60	-30	182	4739	3.3	-16.82	-6.82
200	SLU 61	-30	190	4733	3.21	-16.68	-6.81
200	SLU 62	-30	182	4739	3.3	-16.82	-6.82
200	SLU 63	-30	190	4733	3.21	-16.68	-6.81
200	SLU 64	-27	169	4256	3.41	-15.97	-6.75
200	SLU 65	-27	184	4246	3.27	-15.73	-6.73
200	SLU 66	-27	169	4256	3.41	-15.97	-6.75
200	SLU 67	-27	178	4250	3.32	-15.83	-6.73
200	SLU 68	-27	184	4246	3.27	-15.73	-6.73
200	SLU 69	-27	169	4256	3.41	-15.97	-6.75
200	SLU 70	-27	178	4250	3.32	-15.83	-6.73
200	SLU 71	-27	169	4256	3.41	-15.97	-6.75
200	SLU 72	-27	178	4250	3.32	-15.83	-6.73
200	SLU 73	-31	203	4914	3.17	-17.34	-7.01
200	SLU 74	-31	188	4924	3.31	-17.58	-7.03
200	SLU 75	-31	197	4918	3.22	-17.44	-7.02
200	SLU 76	-31	203	4914	3.17	-17.34	-7.01
200	SLU 77	-31	188	4924	3.31	-17.58	-7.03
200	SLU 78	-31	197	4918	3.22	-17.44	-7.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLU 79	-31	188	4924	3.31	-17.58	-7.03
200	SLU 80	-31	197	4918	3.22	-17.44	-7.02
200	SLU 81	-33	196	5211	3.27	-18.27	-7.15
200	SLU 82	-33	205	5204	3.18	-18.13	-7.14
200	SLU 83	-33	196	5211	3.27	-18.27	-7.15
200	SLU 84	-33	205	5204	3.18	-18.13	-7.14
200	SLE RA 1	-20	127	3170	2.63	-11.96	-5.12
200	SLE RA 2	-20	137	3164	2.53	-11.81	-5.1
200	SLE RA 3	-20	127	3170	2.63	-11.96	-5.12
200	SLE RA 4	-20	133	3166	2.57	-11.87	-5.11
200	SLE RA 5	-20	137	3164	2.53	-11.81	-5.1
200	SLE RA 6	-20	127	3170	2.63	-11.96	-5.12
200	SLE RA 7	-20	133	3166	2.57	-11.87	-5.11
200	SLE RA 8	-20	127	3170	2.63	-11.96	-5.12
200	SLE RA 9	-20	133	3166	2.57	-11.87	-5.11
200	SLE RA 10	-23	149	3609	2.47	-12.88	-5.29
200	SLE RA 11	-23	140	3616	2.56	-13.04	-5.31
200	SLE RA 12	-23	145	3612	2.51	-12.94	-5.3
200	SLE RA 13	-23	149	3609	2.47	-12.88	-5.29
200	SLE RA 14	-23	140	3616	2.56	-13.04	-5.31
200	SLE RA 15	-23	145	3612	2.51	-12.94	-5.3
200	SLE RA 16	-23	140	3616	2.56	-13.04	-5.31
200	SLE RA 17	-23	145	3612	2.51	-12.94	-5.3
200	SLE RA 18	-24	145	3807	2.53	-13.5	-5.39
200	SLE RA 19	-24	151	3803	2.48	-13.4	-5.38
200	SLE RA 20	-24	145	3807	2.53	-13.5	-5.39
200	SLE RA 21	-24	151	3803	2.48	-13.4	-5.38
200	SLE FR 1	-20	127	3170	2.63	-11.96	-5.12
200	SLE FR 2	-20	129	3169	2.61	-11.93	-5.12
200	SLE FR 3	-20	127	3170	2.63	-11.96	-5.12
200	SLE FR 4	-21	134	3360	2.58	-12.39	-5.2
200	SLE FR 5	-21	132	3361	2.6	-12.42	-5.2
200	SLE FR 6	-22	136	3489	2.58	-12.73	-5.25
200	SLE QP 1	-20	127	3170	2.63	-11.96	-5.12
200	SLE QP 2	-21	132	3361	2.6	-12.42	-5.2
200	SLD 1	249	205	3119	2.13	5.07	-6.21
200	SLD 2	220	225	3123	2.12	5.02	-5.11
200	SLD 3	262	62	3226	3.47	3.13	-6.71
200	SLD 4	234	82	3231	3.47	3.08	-5.61
200	SLD 5	49	364	3124	0.42	-4.21	-5.12
200	SLD 6	20	384	3129	0.41	-4.26	-4.02
200	SLD 7	95	-112	3482	4.91	-10.68	-6.8
200	SLD 8	66	-92	3486	4.9	-10.74	-5.7
200	SLD 9	-109	357	3236	0.3	-14.11	-4.7
200	SLD 10	-137	377	3241	0.29	-14.16	-3.59
200	SLD 11	-63	-119	3594	4.79	-20.58	-6.38
200	SLD 12	-92	-99	3598	4.78	-20.64	-5.27
200	SLD 13	-277	183	3492	1.73	-27.93	-4.78
200	SLD 14	-305	203	3497	1.72	-27.98	-3.69
200	SLD 15	-263	40	3599	3.08	-29.87	-5.29
200	SLD 16	-291	60	3604	3.07	-29.92	-4.19
200	SLV 1	592	298	2811	1.53	27.28	-7.51
200	SLV 2	527	342	2821	1.51	27.16	-5.03
200	SLV 3	623	-26	3054	4.59	22.86	-8.66
200	SLV 4	559	18	3065	4.57	22.74	-6.17
200	SLV 5	138	658	2823	-2.35	6.23	-5.03
200	SLV 6	73	703	2833	-2.37	6.11	-2.53
200	SLV 7	242	-423	3635	7.84	-8.49	-8.85
200	SLV 8	177	-378	3646	7.82	-8.61	-6.35
200	SLV 9	-220	643	3077	-2.62	-16.23	-4.04
200	SLV 10	-285	688	3088	-2.64	-16.35	-1.55
200	SLV 11	-116	-438	3889	7.57	-30.96	-7.87
200	SLV 12	-181	-393	3900	7.55	-31.07	-5.37
200	SLV 13	-601	247	3658	0.63	-47.59	-4.23
200	SLV 14	-666	291	3668	0.61	-47.71	-1.74
200	SLV 15	-570	-78	3901	3.68	-52.01	-5.37
200	SLV 16	-635	-33	3912	3.67	-52.13	-2.88
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
204	SLU 1	-5	-97	1768	0.57	134.66	23.89
204	SLU 2	-5	-85	1758	0.5	134.06	20.89
204	SLU 3	-5	-97	1768	0.57	134.66	23.89
204	SLU 4	-5	-90	1762	0.53	134.3	22.09
204	SLU 5	-5	-85	1758	0.5	134.06	20.89
204	SLU 6	-5	-97	1768	0.57	134.66	23.89
204	SLU 7	-5	-90	1762	0.53	134.3	22.09
204	SLU 8	-5	-97	1768	0.57	134.66	23.89
204	SLU 9	-5	-90	1762	0.53	134.3	22.09
204	SLU 10	-10	-105	2038	0.52	148.4	25.95
204	SLU 11	-11	-117	2049	0.6	148.99	28.94
204	SLU 12	-11	-110	2042	0.55	148.64	27.15
204	SLU 13	-10	-105	2038	0.52	148.4	25.95
204	SLU 14	-11	-117	2049	0.6	148.99	28.94
204	SLU 15	-11	-110	2042	0.55	148.64	27.15
204	SLU 16	-11	-117	2049	0.6	148.99	28.94
204	SLU 17	-11	-110	2042	0.55	148.64	27.15
204	SLU 18	-13	-126	2169	0.61	155.14	31.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLU 19	-13	-119	2163	0.56	154.78	29.32
204	SLU 20	-13	-126	2169	0.61	155.14	31.11
204	SLU 21	-13	-119	2163	0.56	154.78	29.32
204	SLU 22	-9	-112	1986	0.59	145.59	27.55
204	SLU 23	-8	-100	1976	0.52	144.99	24.56
204	SLU 24	-9	-112	1986	0.59	145.59	27.55
204	SLU 25	-9	-104	1980	0.55	145.23	25.76
204	SLU 26	-8	-100	1976	0.52	144.99	24.56
204	SLU 27	-9	-112	1986	0.59	145.59	27.55
204	SLU 28	-9	-104	1980	0.55	145.23	25.76
204	SLU 29	-9	-112	1986	0.59	145.59	27.55
204	SLU 30	-9	-104	1980	0.55	145.23	25.76
204	SLU 31	-14	-120	2256	0.54	159.33	29.62
204	SLU 32	-15	-132	2267	0.62	159.92	32.61
204	SLU 33	-14	-125	2260	0.57	159.57	30.81
204	SLU 34	-14	-120	2256	0.54	159.33	29.62
204	SLU 35	-15	-132	2267	0.62	159.92	32.61
204	SLU 36	-14	-125	2260	0.57	159.57	30.81
204	SLU 37	-15	-132	2267	0.62	159.92	32.61
204	SLU 38	-14	-125	2260	0.57	159.57	30.81
204	SLU 39	-17	-141	2387	0.63	166.07	34.78
204	SLU 40	-17	-134	2381	0.58	165.71	32.98
204	SLU 41	-17	-141	2387	0.63	166.07	34.78
204	SLU 42	-17	-134	2381	0.58	165.71	32.98
204	SLU 43	-6	-121	2224	0.73	171.31	29.8
204	SLU 44	-5	-109	2214	0.66	170.72	26.8
204	SLU 45	-6	-121	2224	0.73	171.31	29.8
204	SLU 46	-5	-114	2218	0.69	170.95	28
204	SLU 47	-5	-109	2214	0.66	170.72	26.8
204	SLU 48	-6	-121	2224	0.73	171.31	29.8
204	SLU 49	-5	-114	2218	0.69	170.95	28
204	SLU 50	-6	-121	2224	0.73	171.31	29.8
204	SLU 51	-5	-114	2218	0.69	170.95	28
204	SLU 52	-11	-129	2494	0.69	185.05	31.86
204	SLU 53	-11	-141	2504	0.76	185.65	34.85
204	SLU 54	-11	-134	2498	0.72	185.29	33.06
204	SLU 55	-11	-129	2494	0.69	185.05	31.86
204	SLU 56	-11	-141	2504	0.76	185.65	34.85
204	SLU 57	-11	-134	2498	0.72	185.29	33.06
204	SLU 58	-11	-141	2504	0.76	185.65	34.85
204	SLU 59	-11	-134	2498	0.72	185.29	33.06
204	SLU 60	-14	-150	2625	0.77	191.79	37.02
204	SLU 61	-13	-143	2618	0.73	191.43	35.22
204	SLU 62	-14	-150	2625	0.77	191.79	37.02
204	SLU 63	-13	-143	2618	0.73	191.43	35.22
204	SLU 64	-9	-136	2442	0.76	182.24	33.46
204	SLU 65	-9	-124	2432	0.68	181.65	30.47
204	SLU 66	-9	-136	2442	0.76	182.24	33.46
204	SLU 67	-9	-128	2436	0.71	181.88	31.67
204	SLU 68	-9	-124	2432	0.68	181.65	30.47
204	SLU 69	-9	-136	2442	0.76	182.24	33.46
204	SLU 70	-9	-128	2436	0.71	181.88	31.67
204	SLU 71	-9	-136	2442	0.76	182.24	33.46
204	SLU 72	-9	-128	2436	0.71	181.88	31.67
204	SLU 73	-14	-144	2712	0.71	195.98	35.53
204	SLU 74	-15	-156	2722	0.78	196.57	38.52
204	SLU 75	-15	-149	2716	0.74	196.22	36.72
204	SLU 76	-14	-144	2712	0.71	195.98	35.53
204	SLU 77	-15	-156	2722	0.78	196.57	38.52
204	SLU 78	-15	-149	2716	0.74	196.22	36.72
204	SLU 79	-15	-156	2722	0.78	196.57	38.52
204	SLU 80	-15	-149	2716	0.74	196.22	36.72
204	SLU 81	-17	-165	2843	0.79	202.72	40.69
204	SLU 82	-17	-157	2836	0.75	202.36	38.89
204	SLU 83	-17	-165	2843	0.79	202.72	40.69
204	SLU 84	-17	-157	2836	0.75	202.36	38.89
204	SLE RA 1	-6	-101	1831	0.58	137.78	24.93
204	SLE RA 2	-6	-93	1824	0.53	137.39	22.94
204	SLE RA 3	-6	-101	1831	0.58	137.78	24.93
204	SLE RA 4	-6	-96	1826	0.55	137.54	23.74
204	SLE RA 5	-6	-93	1824	0.53	137.39	22.94
204	SLE RA 6	-6	-101	1831	0.58	137.78	24.93
204	SLE RA 7	-6	-96	1826	0.55	137.54	23.74
204	SLE RA 8	-6	-101	1831	0.58	137.78	24.93
204	SLE RA 9	-6	-96	1826	0.55	137.54	23.74
204	SLE RA 10	-10	-107	2011	0.55	146.94	26.31
204	SLE RA 11	-10	-115	2017	0.59	147.34	28.31
204	SLE RA 12	-10	-110	2013	0.56	147.1	27.11
204	SLE RA 13	-10	-107	2011	0.55	146.94	26.31
204	SLE RA 14	-10	-115	2017	0.59	147.34	28.31
204	SLE RA 15	-10	-110	2013	0.56	147.1	27.11
204	SLE RA 16	-10	-115	2017	0.59	147.34	28.31
204	SLE RA 17	-10	-110	2013	0.56	147.1	27.11
204	SLE RA 18	-12	-120	2098	0.6	151.43	29.75
204	SLE RA 19	-11	-116	2093	0.57	151.2	28.55
204	SLE RA 20	-12	-120	2098	0.6	151.43	29.75
204	SLE RA 21	-11	-116	2093	0.57	151.2	28.55
204	SLE FR 1	-6	-101	1831	0.58	137.78	24.93
204	SLE FR 2	-6	-99	1829	0.57	137.7	24.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLE FR 3	-6	-101	1831	0.58	137.78	24.93
204	SLE FR 4	-8	-105	1909	0.57	141.8	25.98
204	SLE FR 5	-8	-107	1911	0.58	141.88	26.38
204	SLE FR 6	-9	-111	1964	0.59	144.61	27.34
204	SLE QP 1	-6	-101	1831	0.58	137.78	24.93
204	SLE QP 2	-8	-107	1911	0.58	141.88	26.38
204	SLD 1	91	-34	1599	-0.1	119.96	7.69
204	SLD 2	77	6	1599	-0.09	119.96	-2.19
204	SLD 3	88	-148	1702	0.59	129.27	36.12
204	SLD 4	74	-108	1702	0.6	129.27	26.25
204	SLD 5	32	74	1661	-0.68	121.18	-18.88
204	SLD 6	18	114	1661	-0.67	121.18	-28.8
204	SLD 7	21	-306	2004	1.64	152.22	75.91
204	SLD 8	7	-266	2005	1.65	152.22	65.99
204	SLD 9	-23	52	1817	-0.48	131.54	-13.23
204	SLD 10	-37	92	1817	-0.47	131.54	-23.15
204	SLD 11	-34	-328	2160	1.84	162.58	81.56
204	SLD 12	-48	-288	2161	1.85	162.58	71.64
204	SLD 13	-90	-106	2119	0.57	154.49	26.51
204	SLD 14	-104	-66	2119	0.58	154.49	16.63
204	SLD 15	-93	-220	2222	1.26	163.8	54.94
204	SLD 16	-107	-180	2223	1.27	163.8	45.07
204	SLV 1	217	58	1202	-0.98	89.48	-16.06
204	SLV 2	186	149	1203	-0.96	89.49	-38.44
204	SLV 3	210	-200	1436	0.6	110.63	48.5
204	SLV 4	178	-110	1437	0.62	110.63	26.12
204	SLV 5	83	303	1342	-2.29	94.09	-76.38
204	SLV 6	51	394	1343	-2.27	94.1	-98.86
204	SLV 7	57	-559	2123	2.98	164.57	138.8
204	SLV 8	25	-468	2124	3	164.57	116.33
204	SLV 9	-41	255	1697	-1.83	119.18	-63.57
204	SLV 10	-73	345	1698	-1.81	119.19	-86.05
204	SLV 11	-67	-608	2478	3.43	189.66	151.62
204	SLV 12	-99	-517	2479	3.46	189.67	129.14
204	SLV 13	-194	-104	2384	0.54	173.12	26.64
204	SLV 14	-226	-13	2385	0.57	173.13	4.26
204	SLV 15	-202	-363	2618	2.12	194.27	91.2
204	SLV 16	-233	-272	2619	2.15	194.27	68.82
204	CRTFP Ux+	0	0	0	0	0	0
204	CRTFP Ux-	0	0	0	0	0	0
204	CRTFP Uy+	0	0	0	0	0	0
204	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	0	-39	1809	-0.29	-354.47	-14.31
205	SLU 2	-1	-26	1799	-0.38	-353.24	-9.78
205	SLU 3	0	-39	1809	-0.29	-354.47	-14.31
205	SLU 4	-1	-31	1803	-0.34	-353.73	-11.59
205	SLU 5	-1	-26	1799	-0.38	-353.24	-9.78
205	SLU 6	0	-39	1809	-0.29	-354.47	-14.31
205	SLU 7	-1	-31	1803	-0.34	-353.73	-11.59
205	SLU 8	0	-39	1809	-0.29	-354.47	-14.31
205	SLU 9	-1	-31	1803	-0.34	-353.73	-11.59
205	SLU 10	1	-33	2136	-0.58	-408.97	-12.19
205	SLU 11	2	-46	2146	-0.49	-410.21	-16.73
205	SLU 12	1	-38	2140	-0.54	-409.47	-14
205	SLU 13	1	-33	2136	-0.58	-408.97	-12.19
205	SLU 14	2	-46	2146	-0.49	-410.21	-16.73
205	SLU 15	1	-38	2140	-0.54	-409.47	-14
205	SLU 16	2	-46	2146	-0.49	-410.21	-16.73
205	SLU 17	1	-38	2140	-0.54	-409.47	-14
205	SLU 18	3	-49	2290	-0.58	-434.09	-17.76
205	SLU 19	2	-41	2284	-0.63	-433.35	-15.04
205	SLU 20	3	-49	2290	-0.58	-434.09	-17.76
205	SLU 21	2	-41	2284	-0.63	-433.35	-15.04
205	SLU 22	1	-44	2040	-0.46	-393.98	-16.23
205	SLU 23	0	-32	2031	-0.54	-392.74	-11.69
205	SLU 24	1	-44	2040	-0.46	-393.98	-16.23
205	SLU 25	1	-37	2034	-0.51	-393.23	-13.5
205	SLU 26	0	-32	2031	-0.54	-392.74	-11.69
205	SLU 27	1	-44	2040	-0.46	-393.98	-16.23
205	SLU 28	1	-37	2034	-0.51	-393.23	-13.5
205	SLU 29	1	-44	2040	-0.46	-393.98	-16.23
205	SLU 30	1	-37	2034	-0.51	-393.23	-13.5
205	SLU 31	2	-38	2367	-0.74	-448.47	-14.1
205	SLU 32	3	-51	2377	-0.66	-449.71	-18.64
205	SLU 33	3	-43	2371	-0.71	-448.97	-15.92
205	SLU 34	2	-38	2367	-0.74	-448.47	-14.1
205	SLU 35	3	-51	2377	-0.66	-449.71	-18.64
205	SLU 36	3	-43	2371	-0.71	-448.97	-15.92
205	SLU 37	3	-51	2377	-0.66	-449.71	-18.64
205	SLU 38	3	-43	2371	-0.71	-448.97	-15.92
205	SLU 39	4	-54	2521	-0.75	-473.59	-19.67
205	SLU 40	3	-46	2515	-0.8	-472.85	-16.95
205	SLU 41	4	-54	2521	-0.75	-473.59	-19.67
205	SLU 42	3	-46	2515	-0.8	-472.85	-16.95
205	SLU 43	-1	-49	2273	-0.32	-447.27	-17.95
205	SLU 44	-2	-36	2263	-0.41	-446.04	-13.41
205	SLU 45	-1	-49	2273	-0.32	-447.27	-17.95
205	SLU 46	-1	-41	2267	-0.37	-446.53	-15.23
205	SLU 47	-2	-36	2263	-0.41	-446.04	-13.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 48	-1	-49	2273	-0.32	-447.27	-17.95
205	SLU 49	-1	-41	2267	-0.37	-446.53	-15.23
205	SLU 50	-1	-49	2273	-0.32	-447.27	-17.95
205	SLU 51	-1	-41	2267	-0.37	-446.53	-15.23
205	SLU 52	0	-43	2600	-0.61	-501.77	-15.83
205	SLU 53	1	-56	2609	-0.52	-503.01	-20.37
205	SLU 54	1	-48	2604	-0.57	-502.26	-17.64
205	SLU 55	0	-43	2600	-0.61	-501.77	-15.83
205	SLU 56	1	-56	2609	-0.52	-503.01	-20.37
205	SLU 57	1	-48	2604	-0.57	-502.26	-17.64
205	SLU 58	1	-56	2609	-0.52	-503.01	-20.37
205	SLU 59	1	-48	2604	-0.57	-502.26	-17.64
205	SLU 60	2	-59	2754	-0.61	-526.89	-21.4
205	SLU 61	2	-51	2748	-0.66	-526.15	-18.68
205	SLU 62	2	-59	2754	-0.61	-526.89	-21.4
205	SLU 63	2	-51	2748	-0.66	-526.15	-18.68
205	SLU 64	1	-54	2504	-0.49	-486.77	-19.86
205	SLU 65	0	-41	2494	-0.57	-485.54	-15.33
205	SLU 66	1	-54	2504	-0.49	-486.77	-19.86
205	SLU 67	0	-47	2498	-0.54	-486.03	-17.14
205	SLU 68	0	-41	2494	-0.57	-485.54	-15.33
205	SLU 69	1	-54	2504	-0.49	-486.77	-19.86
205	SLU 70	0	-47	2498	-0.54	-486.03	-17.14
205	SLU 71	1	-54	2504	-0.49	-486.77	-19.86
205	SLU 72	0	-47	2498	-0.54	-486.03	-17.14
205	SLU 73	2	-48	2831	-0.77	-541.27	-17.74
205	SLU 74	3	-61	2840	-0.69	-542.51	-22.28
205	SLU 75	2	-53	2835	-0.74	-541.77	-19.56
205	SLU 76	2	-48	2831	-0.77	-541.27	-17.74
205	SLU 77	3	-61	2840	-0.69	-542.51	-22.28
205	SLU 78	2	-53	2835	-0.74	-541.77	-19.56
205	SLU 79	3	-61	2840	-0.69	-542.51	-22.28
205	SLU 80	2	-53	2835	-0.74	-541.77	-19.56
205	SLU 81	3	-64	2985	-0.78	-566.39	-23.31
205	SLU 82	3	-56	2979	-0.83	-565.65	-20.59
205	SLU 83	3	-64	2985	-0.78	-566.39	-23.31
205	SLU 84	3	-56	2979	-0.83	-565.65	-20.59
205	SLE RA 1	0	-41	1875	-0.34	-365.76	-14.86
205	SLE RA 2	0	-32	1869	-0.4	-364.94	-11.84
205	SLE RA 3	0	-41	1875	-0.34	-365.76	-14.86
205	SLE RA 4	0	-35	1871	-0.37	-365.27	-13.05
205	SLE RA 5	0	-32	1869	-0.4	-364.94	-11.84
205	SLE RA 6	0	-41	1875	-0.34	-365.76	-14.86
205	SLE RA 7	0	-35	1871	-0.37	-365.27	-13.05
205	SLE RA 8	0	-41	1875	-0.34	-365.76	-14.86
205	SLE RA 9	0	-35	1871	-0.37	-365.27	-13.05
205	SLE RA 10	1	-37	2093	-0.53	-402.09	-13.44
205	SLE RA 11	1	-45	2100	-0.47	-402.92	-16.47
205	SLE RA 12	1	-40	2096	-0.51	-402.42	-14.65
205	SLE RA 13	1	-37	2093	-0.53	-402.09	-13.44
205	SLE RA 14	1	-45	2100	-0.47	-402.92	-16.47
205	SLE RA 15	1	-40	2096	-0.51	-402.42	-14.65
205	SLE RA 16	1	-45	2100	-0.47	-402.92	-16.47
205	SLE RA 17	1	-40	2096	-0.51	-402.42	-14.65
205	SLE RA 18	2	-47	2196	-0.53	-418.84	-17.16
205	SLE RA 19	2	-42	2192	-0.56	-418.34	-15.34
205	SLE RA 20	2	-47	2196	-0.53	-418.84	-17.16
205	SLE RA 21	2	-42	2192	-0.56	-418.34	-15.34
205	SLE FR 1	0	-41	1875	-0.34	-365.76	-14.86
205	SLE FR 2	0	-39	1874	-0.35	-365.6	-14.26
205	SLE FR 3	0	-41	1875	-0.34	-365.76	-14.86
205	SLE FR 4	1	-41	1970	-0.41	-381.52	-14.94
205	SLE FR 5	1	-43	1971	-0.4	-381.68	-15.55
205	SLE FR 6	1	-44	2035	-0.44	-392.3	-16.01
205	SLE QP 1	0	-41	1875	-0.34	-365.76	-14.86
205	SLE QP 2	1	-43	1971	-0.4	-381.68	-15.55
205	SLD 1	162	-2	2255	-0.54	-425.92	-1.53
205	SLD 2	141	-42	2253	-0.55	-426.15	-15.49
205	SLD 3	171	-115	2359	0.21	-441.1	-41.08
205	SLD 4	150	-155	2357	0.2	-441.33	-55.04
205	SLD 5	42	155	1900	-1.59	-371.85	53.56
205	SLD 6	21	114	1898	-1.59	-372.09	39.53
205	SLD 7	74	-221	2245	0.93	-422.45	-78.27
205	SLD 8	52	-262	2243	0.93	-422.68	-92.3
205	SLD 9	-51	176	1699	-1.72	-340.69	61.2
205	SLD 10	-72	136	1698	-1.73	-340.92	47.17
205	SLD 11	-20	-199	2044	0.8	-391.28	-70.63
205	SLD 12	-41	-240	2042	0.79	-391.52	-84.65
205	SLD 13	-149	70	1586	-1	-322.04	23.94
205	SLD 14	-170	30	1584	-1.01	-322.27	9.98
205	SLD 15	-140	-43	1689	-0.24	-337.21	-15.6
205	SLD 16	-161	-83	1687	-0.25	-337.45	-29.57
205	SLV 1	367	49	2616	-0.73	-482.42	16.31
205	SLV 2	320	-42	2612	-0.75	-482.94	-15.33
205	SLV 3	389	-207	2851	0.98	-516.89	-73.56
205	SLV 4	341	-298	2846	0.96	-517.41	-105.2
205	SLV 5	95	406	1810	-3.1	-359.44	141.46
205	SLV 6	47	314	1806	-3.12	-359.97	109.67
205	SLV 7	166	-449	2593	2.63	-474.34	-158.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV 8	118	-540	2588	2.61	-474.87	-189.89
205	SLV 9	-117	455	1354	-3.4	-288.5	158.79
205	SLV 10	-165	363	1350	-3.42	-289.03	127.01
205	SLV 11	-46	-399	2137	2.32	-403.4	-140.77
205	SLV 12	-94	-491	2132	2.3	-403.93	-172.56
205	SLV 13	-340	213	1096	-1.76	-245.95	74.11
205	SLV 14	-387	122	1092	-1.78	-246.48	42.46
205	SLV 15	-318	-43	1331	-0.04	-280.42	-15.77
205	SLV 16	-366	-134	1327	-0.06	-280.95	-47.41
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
208	SLU 1	8	123	3116	2.43	-12.25	-5.19
208	SLU 2	8	138	3101	2.27	-12	-5.16
208	SLU 3	8	123	3116	2.43	-12.25	-5.19
208	SLU 4	8	132	3107	2.33	-12.1	-5.17
208	SLU 5	8	138	3101	2.27	-12	-5.16
208	SLU 6	8	123	3116	2.43	-12.25	-5.19
208	SLU 7	8	132	3107	2.33	-12.1	-5.17
208	SLU 8	8	123	3116	2.43	-12.25	-5.19
208	SLU 9	8	132	3107	2.33	-12.1	-5.17
208	SLU 10	6	156	3764	2.05	-13.64	-5.5
208	SLU 11	6	142	3778	2.2	-13.89	-5.53
208	SLU 12	6	151	3770	2.11	-13.74	-5.51
208	SLU 13	6	156	3764	2.05	-13.64	-5.5
208	SLU 14	6	142	3778	2.2	-13.89	-5.53
208	SLU 15	6	151	3770	2.11	-13.74	-5.51
208	SLU 16	6	142	3778	2.2	-13.89	-5.53
208	SLU 17	6	151	3770	2.11	-13.74	-5.51
208	SLU 18	5	150	4062	2.11	-14.59	-5.68
208	SLU 19	5	159	4054	2.01	-14.44	-5.66
208	SLU 20	5	150	4062	2.11	-14.59	-5.68
208	SLU 21	5	159	4054	2.01	-14.44	-5.66
208	SLU 22	7	138	3585	2.33	-13.76	-5.56
208	SLU 23	7	153	3571	2.17	-13.52	-5.53
208	SLU 24	7	138	3585	2.33	-13.76	-5.56
208	SLU 25	7	147	3577	2.23	-13.62	-5.54
208	SLU 26	7	153	3571	2.17	-13.52	-5.53
208	SLU 27	7	138	3585	2.33	-13.76	-5.56
208	SLU 28	7	147	3577	2.23	-13.62	-5.54
208	SLU 29	7	138	3585	2.33	-13.76	-5.56
208	SLU 30	7	147	3577	2.23	-13.62	-5.54
208	SLU 31	4	171	4233	1.95	-15.16	-5.87
208	SLU 32	4	156	4248	2.11	-15.4	-5.9
208	SLU 33	4	165	4239	2.01	-15.26	-5.88
208	SLU 34	4	171	4233	1.95	-15.16	-5.87
208	SLU 35	4	156	4248	2.11	-15.4	-5.9
208	SLU 36	4	165	4239	2.01	-15.26	-5.88
208	SLU 37	4	156	4248	2.11	-15.4	-5.9
208	SLU 38	4	165	4239	2.01	-15.26	-5.88
208	SLU 39	3	164	4532	2.01	-16.11	-6.05
208	SLU 40	3	173	4523	1.92	-15.96	-6.03
208	SLU 41	3	164	4532	2.01	-16.11	-6.05
208	SLU 42	3	173	4523	1.92	-15.96	-6.03
208	SLU 43	11	156	3889	3.19	-15.4	-6.63
208	SLU 44	12	170	3875	3.03	-15.16	-6.59
208	SLU 45	11	156	3889	3.19	-15.4	-6.63
208	SLU 46	11	164	3881	3.09	-15.25	-6.61
208	SLU 47	12	170	3875	3.03	-15.16	-6.59
208	SLU 48	11	156	3889	3.19	-15.4	-6.63
208	SLU 49	11	164	3881	3.09	-15.25	-6.61
208	SLU 50	11	156	3889	3.19	-15.4	-6.63
208	SLU 51	11	164	3881	3.09	-15.25	-6.61
208	SLU 52	9	189	4537	2.81	-16.8	-6.93
208	SLU 53	9	174	4552	2.97	-17.04	-6.97
208	SLU 54	9	183	4543	2.87	-16.89	-6.95
208	SLU 55	9	189	4537	2.81	-16.8	-6.93
208	SLU 56	9	174	4552	2.97	-17.04	-6.97
208	SLU 57	9	183	4543	2.87	-16.89	-6.95
208	SLU 58	9	174	4552	2.97	-17.04	-6.97
208	SLU 59	9	183	4543	2.87	-16.89	-6.95
208	SLU 60	8	182	4836	2.87	-17.74	-7.11
208	SLU 61	8	191	4827	2.78	-17.6	-7.09
208	SLU 62	8	182	4836	2.87	-17.74	-7.11
208	SLU 63	8	191	4827	2.78	-17.6	-7.09
208	SLU 64	10	170	4359	3.09	-16.92	-6.99
208	SLU 65	10	185	4344	2.93	-16.67	-6.96
208	SLU 66	10	170	4359	3.09	-16.92	-6.99
208	SLU 67	10	179	4350	3	-16.77	-6.97
208	SLU 68	10	185	4344	2.93	-16.67	-6.96
208	SLU 69	10	170	4359	3.09	-16.92	-6.99
208	SLU 70	10	179	4350	3	-16.77	-6.97
208	SLU 71	10	170	4359	3.09	-16.92	-6.99
208	SLU 72	10	179	4350	3	-16.77	-6.97
208	SLU 73	7	203	5007	2.71	-18.31	-7.3
208	SLU 74	7	189	5022	2.87	-18.56	-7.33
208	SLU 75	7	197	5013	2.77	-18.41	-7.31
208	SLU 76	7	203	5007	2.71	-18.31	-7.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
208	SLU 77	7	189	5022	2.87	-18.56	-7.33
208	SLU 78	7	197	5013	2.77	-18.41	-7.31
208	SLU 79	7	189	5022	2.87	-18.56	-7.33
208	SLU 80	7	197	5013	2.77	-18.41	-7.31
208	SLU 81	6	196	5306	2.77	-19.26	-7.48
208	SLU 82	6	205	5297	2.68	-19.11	-7.46
208	SLU 83	6	196	5306	2.77	-19.26	-7.48
208	SLU 84	6	205	5297	2.68	-19.11	-7.46
208	SLE RA 1	8	128	3250	2.4	-12.68	-5.3
208	SLE RA 2	8	137	3240	2.29	-12.52	-5.28
208	SLE RA 3	8	128	3250	2.4	-12.68	-5.3
208	SLE RA 4	8	133	3244	2.34	-12.58	-5.28
208	SLE RA 5	8	137	3240	2.29	-12.52	-5.28
208	SLE RA 6	8	128	3250	2.4	-12.68	-5.3
208	SLE RA 7	8	133	3244	2.34	-12.58	-5.28
208	SLE RA 8	8	128	3250	2.4	-12.68	-5.3
208	SLE RA 9	8	133	3244	2.34	-12.58	-5.28
208	SLE RA 10	6	150	3682	2.15	-13.61	-5.5
208	SLE RA 11	6	140	3692	2.25	-13.77	-5.53
208	SLE RA 12	6	146	3686	2.19	-13.68	-5.51
208	SLE RA 13	6	150	3682	2.15	-13.61	-5.5
208	SLE RA 14	6	140	3692	2.25	-13.77	-5.53
208	SLE RA 15	6	146	3686	2.19	-13.68	-5.51
208	SLE RA 16	6	140	3692	2.25	-13.77	-5.53
208	SLE RA 17	6	146	3686	2.19	-13.68	-5.51
208	SLE RA 18	5	145	3881	2.19	-14.24	-5.62
208	SLE RA 19	6	151	3875	2.12	-14.14	-5.61
208	SLE RA 20	5	145	3881	2.19	-14.24	-5.62
208	SLE RA 21	6	151	3875	2.12	-14.14	-5.61
208	SLE FR 1	8	128	3250	2.4	-12.68	-5.3
208	SLE FR 2	8	130	3248	2.38	-12.65	-5.29
208	SLE FR 3	8	128	3250	2.4	-12.68	-5.3
208	SLE FR 4	7	135	3437	2.31	-13.12	-5.39
208	SLE FR 5	7	133	3439	2.34	-13.15	-5.4
208	SLE FR 6	7	136	3566	2.29	-13.46	-5.46
208	SLE QP 1	8	128	3250	2.4	-12.68	-5.3
208	SLE QP 2	7	133	3439	2.34	-13.15	-5.4
208	SLD 1	283	206	3179	1.75	4.46	-6.53
208	SLD 2	249	225	3183	1.73	4.4	-5.39
208	SLD 3	298	63	3331	3.24	2.42	-7.11
208	SLD 4	264	83	3336	3.22	2.36	-5.97
208	SLD 5	78	364	3129	-0.09	-4.75	-5.26
208	SLD 6	44	384	3133	-0.11	-4.81	-4.12
208	SLD 7	130	-112	3637	4.87	-11.55	-7.19
208	SLD 8	96	-92	3641	4.86	-11.61	-6.04
208	SLD 9	-82	358	3238	-0.19	-14.68	-4.75
208	SLD 10	-116	377	3242	-0.2	-14.75	-3.6
208	SLD 11	-30	-118	3746	4.78	-21.49	-6.68
208	SLD 12	-64	-99	3750	4.76	-21.55	-5.53
208	SLD 13	-250	183	3543	1.45	-28.66	-4.82
208	SLD 14	-284	203	3547	1.43	-28.72	-3.68
208	SLD 15	-234	40	3695	2.94	-30.7	-5.4
208	SLD 16	-268	60	3700	2.92	-30.76	-4.26
208	SLV 1	633	299	2848	1.01	26.81	-8
208	SLV 2	556	343	2858	0.97	26.67	-5.41
208	SLV 3	669	-26	3195	4.4	22.17	-9.31
208	SLV 4	591	19	3204	4.36	22.03	-6.72
208	SLV 5	168	659	2734	-3.18	5.93	-5.1
208	SLV 6	90	703	2743	-3.22	5.79	-2.5
208	SLV 7	287	-422	3887	8.1	-9.54	-9.47
208	SLV 8	209	-377	3897	8.06	-9.68	-6.87
208	SLV 9	-195	643	2982	-3.39	-16.62	-3.92
208	SLV 10	-273	688	2991	-3.43	-16.76	-1.32
208	SLV 11	-76	-438	4135	7.89	-32.08	-8.29
208	SLV 12	-154	-393	4145	7.85	-32.22	-5.7
208	SLV 13	-577	247	3674	0.31	-48.33	-4.07
208	SLV 14	-655	291	3684	0.27	-48.47	-1.48
208	SLV 15	-541	-77	4021	3.7	-52.97	-5.38
208	SLV 16	-619	-33	4030	3.66	-53.11	-2.79
208	CRTFP Ux+	0	0	0	0	0	0
208	CRTFP Ux-	0	0	0	0	0	0
208	CRTFP Uy+	0	0	0	0	0	0
208	CRTFP Uy-	0	0	0	0	0	0
212	SLU 1	6	-97	1796	1.22	171.78	23.88
212	SLU 2	7	-85	1783	1.13	170.6	20.9
212	SLU 3	6	-97	1796	1.22	171.78	23.88
212	SLU 4	6	-90	1788	1.17	171.07	22.09
212	SLU 5	7	-85	1783	1.13	170.6	20.9
212	SLU 6	6	-97	1796	1.22	171.78	23.88
212	SLU 7	6	-90	1788	1.17	171.07	22.09
212	SLU 8	6	-97	1796	1.22	171.78	23.88
212	SLU 9	6	-90	1788	1.17	171.07	22.09
212	SLU 10	2	-106	2066	1.27	191.59	25.94
212	SLU 11	2	-118	2079	1.36	192.77	28.92
212	SLU 12	2	-110	2071	1.31	192.06	27.13
212	SLU 13	2	-106	2066	1.27	191.59	25.94
212	SLU 14	2	-118	2079	1.36	192.77	28.92
212	SLU 15	2	-110	2071	1.31	192.06	27.13
212	SLU 16	2	-118	2079	1.36	192.77	28.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLU 17	2	-110	2071	1.31	192.06	27.13
212	SLU 18	0	-126	2200	1.42	201.76	31.08
212	SLU 19	0	-119	2192	1.37	201.05	29.29
212	SLU 20	0	-126	2200	1.42	201.76	31.08
212	SLU 21	0	-119	2192	1.37	201.05	29.29
212	SLU 22	4	-112	2016	1.33	187.8	27.54
212	SLU 23	4	-100	2003	1.24	186.62	24.56
212	SLU 24	4	-112	2016	1.33	187.8	27.54
212	SLU 25	4	-105	2008	1.28	187.09	25.75
212	SLU 26	4	-100	2003	1.24	186.62	24.56
212	SLU 27	4	-112	2016	1.33	187.8	27.54
212	SLU 28	4	-105	2008	1.28	187.09	25.75
212	SLU 29	4	-112	2016	1.33	187.8	27.54
212	SLU 30	4	-105	2008	1.28	187.09	25.75
212	SLU 31	0	-120	2286	1.38	207.61	29.6
212	SLU 32	-1	-132	2299	1.47	208.79	32.58
212	SLU 33	-1	-125	2291	1.42	208.08	30.79
212	SLU 34	0	-120	2286	1.38	207.61	29.6
212	SLU 35	-1	-132	2299	1.47	208.79	32.58
212	SLU 36	-1	-125	2291	1.42	208.08	30.79
212	SLU 37	-1	-132	2299	1.47	208.79	32.58
212	SLU 38	-1	-125	2291	1.42	208.08	30.79
212	SLU 39	-3	-141	2420	1.53	217.78	34.74
212	SLU 40	-3	-134	2412	1.48	217.07	32.95
212	SLU 41	-3	-141	2420	1.53	217.78	34.74
212	SLU 42	-3	-134	2412	1.48	217.07	32.95
212	SLU 43	9	-121	2259	1.54	217.82	29.79
212	SLU 44	9	-109	2246	1.46	216.64	26.81
212	SLU 45	9	-121	2259	1.54	217.82	29.79
212	SLU 46	9	-114	2251	1.49	217.11	28
212	SLU 47	9	-109	2246	1.46	216.64	26.81
212	SLU 48	9	-121	2259	1.54	217.82	29.79
212	SLU 49	9	-114	2251	1.49	217.11	28
212	SLU 50	9	-121	2259	1.54	217.82	29.79
212	SLU 51	9	-114	2251	1.49	217.11	28
212	SLU 52	5	-130	2529	1.6	237.63	31.85
212	SLU 53	4	-142	2542	1.68	238.81	34.83
212	SLU 54	5	-134	2534	1.63	238.1	33.04
212	SLU 55	5	-130	2529	1.6	237.63	31.85
212	SLU 56	4	-142	2542	1.68	238.81	34.83
212	SLU 57	5	-134	2534	1.63	238.1	33.04
212	SLU 58	4	-142	2542	1.68	238.81	34.83
212	SLU 59	5	-134	2534	1.63	238.1	33.04
212	SLU 60	2	-150	2663	1.75	247.8	36.99
212	SLU 61	3	-143	2655	1.7	247.09	35.2
212	SLU 62	2	-150	2663	1.75	247.8	36.99
212	SLU 63	3	-143	2655	1.7	247.09	35.2
212	SLU 64	6	-136	2479	1.65	233.84	33.45
212	SLU 65	7	-124	2466	1.57	232.66	30.47
212	SLU 66	6	-136	2479	1.65	233.84	33.45
212	SLU 67	7	-129	2471	1.6	233.13	31.66
212	SLU 68	7	-124	2466	1.57	232.66	30.47
212	SLU 69	6	-136	2479	1.65	233.84	33.45
212	SLU 70	7	-129	2471	1.6	233.13	31.66
212	SLU 71	6	-136	2479	1.65	233.84	33.45
212	SLU 72	7	-129	2471	1.6	233.13	31.66
212	SLU 73	2	-144	2749	1.71	253.65	35.51
212	SLU 74	2	-156	2762	1.79	254.83	38.49
212	SLU 75	2	-149	2754	1.74	254.12	36.7
212	SLU 76	2	-144	2749	1.71	253.65	35.51
212	SLU 77	2	-156	2762	1.79	254.83	38.49
212	SLU 78	2	-149	2754	1.74	254.12	36.7
212	SLU 79	2	-156	2762	1.79	254.83	38.49
212	SLU 80	2	-149	2754	1.74	254.12	36.7
212	SLU 81	0	-165	2883	1.86	263.82	40.65
212	SLU 82	0	-158	2875	1.81	263.11	38.86
212	SLU 83	0	-165	2883	1.86	263.82	40.65
212	SLU 84	0	-158	2875	1.81	263.11	38.86
212	SLE RA 1	5	-101	1859	1.25	176.36	24.93
212	SLE RA 2	6	-93	1850	1.19	175.57	22.94
212	SLE RA 3	5	-101	1859	1.25	176.36	24.93
212	SLE RA 4	6	-97	1853	1.21	175.89	23.73
212	SLE RA 5	6	-93	1850	1.19	175.57	22.94
212	SLE RA 6	5	-101	1859	1.25	176.36	24.93
212	SLE RA 7	6	-97	1853	1.21	175.89	23.73
212	SLE RA 8	5	-101	1859	1.25	176.36	24.93
212	SLE RA 9	6	-97	1853	1.21	175.89	23.73
212	SLE RA 10	3	-107	2039	1.29	189.56	26.3
212	SLE RA 11	2	-115	2047	1.34	190.35	28.29
212	SLE RA 12	3	-110	2042	1.31	189.88	27.09
212	SLE RA 13	3	-107	2039	1.29	189.56	26.3
212	SLE RA 14	2	-115	2047	1.34	190.35	28.29
212	SLE RA 15	3	-110	2042	1.31	189.88	27.09
212	SLE RA 16	2	-115	2047	1.34	190.35	28.29
212	SLE RA 17	3	-110	2042	1.31	189.88	27.09
212	SLE RA 18	1	-121	2128	1.38	196.34	29.73
212	SLE RA 19	1	-116	2123	1.35	195.87	28.54
212	SLE RA 20	1	-121	2128	1.38	196.34	29.73
212	SLE RA 21	1	-116	2123	1.35	195.87	28.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLE FR 1	5	-101	1859	1.25	176.36	24.93
212	SLE FR 2	5	-100	1857	1.24	176.2	24.53
212	SLE FR 3	5	-101	1859	1.25	176.36	24.93
212	SLE FR 4	4	-106	1938	1.28	182.2	25.97
212	SLE FR 5	4	-107	1939	1.29	182.35	26.37
212	SLE FR 6	3	-111	1993	1.31	186.35	27.33
212	SLE QP 1	5	-101	1859	1.25	176.36	24.93
212	SLE QP 2	4	-107	1939	1.29	182.35	26.37
212	SLD 1	117	-35	1604	0.43	153.34	7.82
212	SLD 2	100	5	1605	0.45	153.4	-2.02
212	SLD 3	121	-149	1730	1.22	167.91	36.19
212	SLD 4	104	-109	1731	1.23	167.97	26.35
212	SLD 5	37	73	1647	-0.16	151.53	-18.75
212	SLD 6	20	113	1648	-0.15	151.59	-28.64
212	SLD 7	52	-306	2067	2.45	200.1	75.8
212	SLD 8	35	-266	2068	2.47	200.16	65.91
212	SLD 9	-26	52	1810	0.11	164.55	-13.18
212	SLD 10	-44	92	1811	0.12	164.61	-23.07
212	SLD 11	-12	-327	2230	2.73	213.11	81.37
212	SLD 12	-29	-287	2231	2.74	213.18	71.48
212	SLD 13	-96	-106	2148	1.34	196.73	26.39
212	SLD 14	-113	-66	2148	1.36	196.8	16.55
212	SLD 15	-91	-219	2274	2.13	211.3	54.75
212	SLD 16	-109	-180	2274	2.14	211.37	44.91
212	SLV 1	260	57	1178	-0.65	114.91	-15.73
212	SLV 2	220	147	1180	-0.62	115.05	-38.05
212	SLV 3	270	-201	1464	1.13	147.99	48.66
212	SLV 4	231	-111	1466	1.16	148.13	26.35
212	SLV 5	79	302	1276	-2.01	111.9	-76.07
212	SLV 6	39	393	1278	-1.98	112.04	-98.48
212	SLV 7	114	-559	2230	3.93	222.17	138.57
212	SLV 8	74	-468	2232	3.96	222.31	116.17
212	SLV 9	-66	254	1647	-1.39	142.4	-63.43
212	SLV 10	-105	345	1649	-1.36	142.54	-85.84
212	SLV 11	-31	-607	2600	4.55	252.67	151.21
212	SLV 12	-71	-516	2602	4.58	252.81	128.8
212	SLV 13	-223	-103	2413	1.41	216.58	26.39
212	SLV 14	-262	-13	2414	1.44	216.72	4.08
212	SLV 15	-212	-362	2699	3.2	249.66	90.78
212	SLV 16	-252	-271	2701	3.23	249.8	68.47
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
213	SLU 1	19	-39	1817	0.81	-367.21	-14.11
213	SLU 2	18	-26	1805	0.72	-365.01	-9.59
213	SLU 3	19	-39	1817	0.81	-367.21	-14.11
213	SLU 4	18	-31	1810	0.76	-365.89	-11.4
213	SLU 5	18	-26	1805	0.72	-365.01	-9.59
213	SLU 6	19	-39	1817	0.81	-367.21	-14.11
213	SLU 7	18	-31	1810	0.76	-365.89	-11.4
213	SLU 8	19	-39	1817	0.81	-367.21	-14.11
213	SLU 9	18	-31	1810	0.76	-365.89	-11.4
213	SLU 10	21	-32	2139	0.76	-422.25	-11.98
213	SLU 11	22	-45	2151	0.86	-424.45	-16.5
213	SLU 12	21	-38	2144	0.8	-423.13	-13.78
213	SLU 13	21	-32	2139	0.76	-422.25	-11.98
213	SLU 14	22	-45	2151	0.86	-424.45	-16.5
213	SLU 15	21	-38	2144	0.8	-423.13	-13.78
213	SLU 16	22	-45	2151	0.86	-424.45	-16.5
213	SLU 17	21	-38	2144	0.8	-423.13	-13.78
213	SLU 18	23	-48	2295	0.88	-448.98	-17.52
213	SLU 19	23	-40	2287	0.82	-447.66	-14.81
213	SLU 20	23	-48	2295	0.88	-448.98	-17.52
213	SLU 21	23	-40	2287	0.82	-447.66	-14.81
213	SLU 22	21	-44	2046	0.82	-407.31	-16
213	SLU 23	20	-31	2033	0.72	-405.1	-11.47
213	SLU 24	21	-44	2046	0.82	-407.31	-16
213	SLU 25	21	-36	2038	0.76	-405.98	-13.28
213	SLU 26	20	-31	2033	0.72	-405.1	-11.47
213	SLU 27	21	-44	2046	0.82	-407.31	-16
213	SLU 28	21	-36	2038	0.76	-405.98	-13.28
213	SLU 29	21	-44	2046	0.82	-407.31	-16
213	SLU 30	21	-36	2038	0.76	-405.98	-13.28
213	SLU 31	24	-38	2367	0.77	-462.34	-13.86
213	SLU 32	25	-51	2380	0.86	-464.55	-18.38
213	SLU 33	24	-43	2372	0.81	-463.22	-15.67
213	SLU 34	24	-38	2367	0.77	-462.34	-13.86
213	SLU 35	25	-51	2380	0.86	-464.55	-18.38
213	SLU 36	24	-43	2372	0.81	-463.22	-15.67
213	SLU 37	25	-51	2380	0.86	-464.55	-18.38
213	SLU 38	24	-43	2372	0.81	-463.22	-15.67
213	SLU 39	26	-53	2523	0.88	-489.08	-19.4
213	SLU 40	25	-46	2516	0.82	-487.75	-16.69
213	SLU 41	26	-53	2523	0.88	-489.08	-19.4
213	SLU 42	25	-46	2516	0.82	-487.75	-16.69
213	SLU 43	23	-48	2284	1.06	-463.63	-17.7
213	SLU 44	23	-35	2271	0.96	-461.42	-13.18
213	SLU 45	23	-48	2284	1.06	-463.63	-17.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLU 46	23	-41	2276	1	-462.31	-14.99
213	SLU 47	23	-35	2271	0.96	-461.42	-13.18
213	SLU 48	23	-48	2284	1.06	-463.63	-17.7
213	SLU 49	23	-41	2276	1	-462.31	-14.99
213	SLU 50	23	-48	2284	1.06	-463.63	-17.7
213	SLU 51	23	-41	2276	1	-462.31	-14.99
213	SLU 52	26	-42	2606	1	-518.66	-15.56
213	SLU 53	27	-55	2618	1.1	-520.87	-20.09
213	SLU 54	26	-47	2611	1.04	-519.55	-17.37
213	SLU 55	26	-42	2606	1	-518.66	-15.56
213	SLU 56	27	-55	2618	1.1	-520.87	-20.09
213	SLU 57	26	-47	2611	1.04	-519.55	-17.37
213	SLU 58	27	-55	2618	1.1	-520.87	-20.09
213	SLU 59	26	-47	2611	1.04	-519.55	-17.37
213	SLU 60	28	-58	2761	1.12	-545.4	-21.11
213	SLU 61	28	-50	2754	1.06	-544.08	-18.39
213	SLU 62	28	-58	2761	1.12	-545.4	-21.11
213	SLU 63	28	-50	2754	1.06	-544.08	-18.39
213	SLU 64	26	-54	2512	1.06	-503.72	-19.58
213	SLU 65	25	-41	2500	0.96	-501.52	-15.06
213	SLU 66	26	-54	2512	1.06	-503.72	-19.58
213	SLU 67	25	-46	2505	1	-502.4	-16.87
213	SLU 68	25	-41	2500	0.96	-501.52	-15.06
213	SLU 69	26	-54	2512	1.06	-503.72	-19.58
213	SLU 70	25	-46	2505	1	-502.4	-16.87
213	SLU 71	26	-54	2512	1.06	-503.72	-19.58
213	SLU 72	25	-46	2505	1	-502.4	-16.87
213	SLU 73	28	-47	2834	1.01	-558.76	-17.45
213	SLU 74	29	-60	2847	1.11	-560.96	-21.97
213	SLU 75	29	-53	2839	1.05	-559.64	-19.26
213	SLU 76	28	-47	2834	1.01	-558.76	-17.45
213	SLU 77	29	-60	2847	1.11	-560.96	-21.97
213	SLU 78	29	-53	2839	1.05	-559.64	-19.26
213	SLU 79	29	-60	2847	1.11	-560.96	-21.97
213	SLU 80	29	-53	2839	1.05	-559.64	-19.26
213	SLU 81	31	-63	2990	1.12	-585.49	-22.99
213	SLU 82	30	-55	2982	1.07	-584.17	-20.28
213	SLU 83	31	-63	2990	1.12	-585.49	-22.99
213	SLU 84	30	-55	2982	1.07	-584.17	-20.28
213	SLE RA 1	19	-40	1882	0.82	-378.67	-14.65
213	SLE RA 2	19	-31	1874	0.75	-377.2	-11.64
213	SLE RA 3	19	-40	1882	0.82	-378.67	-14.65
213	SLE RA 4	19	-35	1877	0.78	-377.79	-12.84
213	SLE RA 5	19	-31	1874	0.75	-377.2	-11.64
213	SLE RA 6	19	-40	1882	0.82	-378.67	-14.65
213	SLE RA 7	19	-35	1877	0.78	-377.79	-12.84
213	SLE RA 8	19	-40	1882	0.82	-378.67	-14.65
213	SLE RA 9	19	-35	1877	0.78	-377.79	-12.84
213	SLE RA 10	21	-36	2097	0.78	-415.36	-13.23
213	SLE RA 11	22	-45	2105	0.84	-416.83	-16.24
213	SLE RA 12	21	-39	2100	0.81	-415.95	-14.43
213	SLE RA 13	21	-36	2097	0.78	-415.36	-13.23
213	SLE RA 14	22	-45	2105	0.84	-416.83	-16.24
213	SLE RA 15	21	-39	2100	0.81	-415.95	-14.43
213	SLE RA 16	22	-45	2105	0.84	-416.83	-16.24
213	SLE RA 17	21	-39	2100	0.81	-415.95	-14.43
213	SLE RA 18	23	-46	2201	0.86	-433.18	-16.92
213	SLE RA 19	22	-41	2196	0.82	-432.3	-15.11
213	SLE RA 20	23	-46	2201	0.86	-433.18	-16.92
213	SLE RA 21	22	-41	2196	0.82	-432.3	-15.11
213	SLE FR 1	19	-40	1882	0.82	-378.67	-14.65
213	SLE FR 2	19	-38	1881	0.8	-378.37	-14.05
213	SLE FR 3	19	-40	1882	0.82	-378.67	-14.65
213	SLE FR 4	20	-40	1976	0.82	-394.73	-14.73
213	SLE FR 5	20	-42	1978	0.83	-395.02	-15.33
213	SLE FR 6	21	-43	2042	0.84	-405.92	-15.79
213	SLE QP 1	19	-40	1882	0.82	-378.67	-14.65
213	SLE QP 2	20	-42	1978	0.83	-395.02	-15.33
213	SLD 1	186	-2	2260	0.88	-440.31	-1.31
213	SLD 2	162	-42	2258	0.87	-440.37	-15.25
213	SLD 3	198	-114	2389	1.75	-463.53	-40.77
213	SLD 4	173	-154	2387	1.74	-463.59	-54.71
213	SLD 5	61	155	1868	-0.47	-373.36	53.64
213	SLD 6	36	115	1866	-0.48	-373.43	39.63
213	SLD 7	100	-220	2297	2.42	-450.77	-77.9
213	SLD 8	75	-261	2295	2.41	-450.84	-91.91
213	SLD 9	-35	177	1661	-0.76	-339.21	61.25
213	SLD 10	-59	136	1659	-0.77	-339.27	47.24
213	SLD 11	5	-199	2090	2.13	-416.61	-70.29
213	SLD 12	-20	-239	2087	2.13	-416.68	-84.3
213	SLD 13	-132	70	1569	-0.08	-326.45	24.05
213	SLD 14	-157	30	1567	-0.09	-326.52	10.11
213	SLD 15	-121	-42	1698	0.79	-349.67	-15.41
213	SLD 16	-145	-82	1696	0.78	-349.74	-29.36
213	SLV 1	397	50	2619	0.94	-498.07	16.55
213	SLV 2	341	-41	2614	0.92	-498.22	-15.06
213	SLV 3	423	-206	2911	2.91	-550.78	-73.13
213	SLV 4	368	-297	2906	2.89	-550.93	-104.74
213	SLV 5	112	405	1729	-2.12	-345.93	141.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLV 6	57	314	1725	-2.14	-346.08	109.63
213	SLV 7	201	-447	2702	4.45	-521.65	-157.56
213	SLV 8	146	-538	2697	4.43	-521.8	-189.3
213	SLV 9	-105	454	1259	-2.77	-268.24	158.63
213	SLV 10	-160	363	1254	-2.79	-268.4	126.89
213	SLV 11	-16	-398	2231	3.8	-443.96	-140.3
213	SLV 12	-71	-490	2226	3.78	-444.11	-172.04
213	SLV 13	-327	213	1050	-1.24	-239.11	74.07
213	SLV 14	-382	122	1045	-1.25	-239.26	42.47
213	SLV 15	-300	-43	1342	0.74	-291.82	-15.61
213	SLV 16	-356	-134	1337	0.72	-291.97	-47.21
213	CRTFP Ux+	0	0	0	0	0	0
213	CRTFP Ux-	0	0	0	0	0	0
213	CRTFP Uy+	0	0	0	0	0	0
213	CRTFP Uy-	0	0	0	0	0	0
216	SLU 1	36	124	3193	2.46	-12.96	-5.15
216	SLU 2	36	138	3173	2.29	-12.7	-5.1
216	SLU 3	36	124	3193	2.46	-12.96	-5.15
216	SLU 4	36	133	3181	2.36	-12.8	-5.12
216	SLU 5	36	138	3173	2.29	-12.7	-5.1
216	SLU 6	36	124	3193	2.46	-12.96	-5.15
216	SLU 7	36	133	3181	2.36	-12.8	-5.12
216	SLU 8	36	124	3193	2.46	-12.96	-5.15
216	SLU 9	36	133	3181	2.36	-12.8	-5.12
216	SLU 10	36	156	3827	2	-14.37	-5.49
216	SLU 11	36	142	3847	2.17	-14.63	-5.54
216	SLU 12	36	151	3835	2.07	-14.47	-5.51
216	SLU 13	36	156	3827	2	-14.37	-5.49
216	SLU 14	36	142	3847	2.17	-14.63	-5.54
216	SLU 15	36	151	3835	2.07	-14.47	-5.51
216	SLU 16	36	142	3847	2.17	-14.63	-5.54
216	SLU 17	36	151	3835	2.07	-14.47	-5.51
216	SLU 18	35	150	4128	2.04	-15.34	-5.71
216	SLU 19	35	158	4116	1.94	-15.19	-5.68
216	SLU 20	35	150	4128	2.04	-15.34	-5.71
216	SLU 21	35	158	4116	1.94	-15.19	-5.68
216	SLU 22	37	138	3659	2.33	-14.54	-5.55
216	SLU 23	37	153	3639	2.16	-14.29	-5.49
216	SLU 24	37	138	3659	2.33	-14.54	-5.55
216	SLU 25	37	147	3647	2.23	-14.39	-5.51
216	SLU 26	37	153	3639	2.16	-14.29	-5.49
216	SLU 27	37	138	3659	2.33	-14.54	-5.55
216	SLU 28	37	147	3647	2.23	-14.39	-5.51
216	SLU 29	37	138	3659	2.33	-14.54	-5.55
216	SLU 30	37	147	3647	2.23	-14.39	-5.51
216	SLU 31	36	171	4293	1.87	-15.96	-5.89
216	SLU 32	36	156	4313	2.04	-16.21	-5.94
216	SLU 33	36	165	4301	1.94	-16.06	-5.91
216	SLU 34	36	171	4293	1.87	-15.96	-5.89
216	SLU 35	36	156	4313	2.04	-16.21	-5.94
216	SLU 36	36	165	4301	1.94	-16.06	-5.91
216	SLU 37	36	156	4313	2.04	-16.21	-5.94
216	SLU 38	36	165	4301	1.94	-16.06	-5.91
216	SLU 39	36	164	4594	1.92	-16.93	-6.1
216	SLU 40	36	173	4582	1.81	-16.77	-6.07
216	SLU 41	36	164	4594	1.92	-16.93	-6.1
216	SLU 42	36	173	4582	1.81	-16.77	-6.07
216	SLU 43	47	156	3991	3.24	-16.3	-6.56
216	SLU 44	47	171	3971	3.07	-16.05	-6.5
216	SLU 45	47	156	3991	3.24	-16.3	-6.56
216	SLU 46	47	165	3979	3.14	-16.15	-6.52
216	SLU 47	47	171	3971	3.07	-16.05	-6.5
216	SLU 48	47	156	3991	3.24	-16.3	-6.56
216	SLU 49	47	165	3979	3.14	-16.15	-6.52
216	SLU 50	47	156	3991	3.24	-16.3	-6.56
216	SLU 51	47	165	3979	3.14	-16.15	-6.52
216	SLU 52	46	189	4625	2.78	-17.72	-6.89
216	SLU 53	46	174	4645	2.95	-17.97	-6.95
216	SLU 54	46	183	4633	2.85	-17.82	-6.92
216	SLU 55	46	189	4625	2.78	-17.72	-6.89
216	SLU 56	46	174	4645	2.95	-17.97	-6.95
216	SLU 57	46	183	4633	2.85	-17.82	-6.92
216	SLU 58	46	174	4645	2.95	-17.97	-6.95
216	SLU 59	46	183	4633	2.85	-17.82	-6.92
216	SLU 60	46	182	4926	2.82	-18.68	-7.11
216	SLU 61	46	191	4914	2.72	-18.53	-7.08
216	SLU 62	46	182	4926	2.82	-18.68	-7.11
216	SLU 63	46	191	4914	2.72	-18.53	-7.08
216	SLU 64	47	171	4457	3.11	-17.88	-6.95
216	SLU 65	47	185	4437	2.94	-17.63	-6.9
216	SLU 66	47	171	4457	3.11	-17.88	-6.95
216	SLU 67	47	179	4445	3.01	-17.73	-6.92
216	SLU 68	47	185	4437	2.94	-17.63	-6.9
216	SLU 69	47	171	4457	3.11	-17.88	-6.95
216	SLU 70	47	179	4445	3.01	-17.73	-6.92
216	SLU 71	47	171	4457	3.11	-17.88	-6.95
216	SLU 72	47	179	4445	3.01	-17.73	-6.92
216	SLU 73	47	203	5091	2.65	-19.3	-7.29
216	SLU 74	47	189	5111	2.82	-19.55	-7.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
216	SLU 75	47	197	5099	2.72	-19.4	-7.31
216	SLU 76	47	203	5091	2.65	-19.3	-7.29
216	SLU 77	47	189	5111	2.82	-19.55	-7.34
216	SLU 78	47	197	5099	2.72	-19.4	-7.31
216	SLU 79	47	189	5111	2.82	-19.55	-7.34
216	SLU 80	47	197	5099	2.72	-19.4	-7.31
216	SLU 81	47	196	5392	2.7	-20.27	-7.51
216	SLU 82	46	205	5380	2.6	-20.12	-7.48
216	SLU 83	47	196	5392	2.7	-20.27	-7.51
216	SLU 84	46	205	5380	2.6	-20.12	-7.48
216	SLE RA 1	36	128	3326	2.42	-13.41	-5.26
216	SLE RA 2	36	138	3313	2.31	-13.24	-5.23
216	SLE RA 3	36	128	3326	2.42	-13.41	-5.26
216	SLE RA 4	36	134	3318	2.35	-13.31	-5.24
216	SLE RA 5	36	138	3313	2.31	-13.24	-5.23
216	SLE RA 6	36	128	3326	2.42	-13.41	-5.26
216	SLE RA 7	36	134	3318	2.35	-13.31	-5.24
216	SLE RA 8	36	128	3326	2.42	-13.41	-5.26
216	SLE RA 9	36	134	3318	2.35	-13.31	-5.24
216	SLE RA 10	36	150	3749	2.11	-14.35	-5.49
216	SLE RA 11	36	140	3762	2.23	-14.52	-5.52
216	SLE RA 12	36	146	3754	2.16	-14.42	-5.5
216	SLE RA 13	36	150	3749	2.11	-14.35	-5.49
216	SLE RA 14	36	140	3762	2.23	-14.52	-5.52
216	SLE RA 15	36	146	3754	2.16	-14.42	-5.5
216	SLE RA 16	36	140	3762	2.23	-14.52	-5.52
216	SLE RA 17	36	146	3754	2.16	-14.42	-5.5
216	SLE RA 18	36	145	3949	2.15	-15	-5.63
216	SLE RA 19	36	151	3941	2.08	-14.9	-5.61
216	SLE RA 20	36	145	3949	2.15	-15	-5.63
216	SLE RA 21	36	151	3941	2.08	-14.9	-5.61
216	SLE FR 1	36	128	3326	2.42	-13.41	-5.26
216	SLE FR 2	36	130	3323	2.4	-13.37	-5.25
216	SLE FR 3	36	128	3326	2.42	-13.41	-5.26
216	SLE FR 4	36	135	3510	2.32	-13.85	-5.37
216	SLE FR 5	36	133	3513	2.34	-13.89	-5.37
216	SLE FR 6	36	137	3638	2.28	-14.2	-5.45
216	SLE QP 1	36	128	3326	2.42	-13.41	-5.26
216	SLE QP 2	36	133	3513	2.34	-13.89	-5.37
216	SLD 1	318	206	3231	1.67	3.86	-6.56
216	SLD 2	278	226	3235	1.65	3.79	-5.38
216	SLD 3	336	63	3433	3.28	1.72	-7.23
216	SLD 4	296	83	3436	3.25	1.65	-6.05
216	SLD 5	108	364	3121	-0.28	-5.28	-5.13
216	SLD 6	67	384	3125	-0.31	-5.35	-3.94
216	SLD 7	167	-111	3793	5.06	-12.43	-7.36
216	SLD 8	127	-91	3797	5.03	-12.5	-6.18
216	SLD 9	-55	358	3229	-0.36	-15.27	-4.57
216	SLD 10	-95	377	3232	-0.38	-15.34	-3.38
216	SLD 11	5	-118	3901	4.98	-22.42	-6.81
216	SLD 12	-35	-98	3904	4.96	-22.49	-5.62
216	SLD 13	-224	183	3589	1.42	-29.42	-4.7
216	SLD 14	-264	203	3593	1.4	-29.49	-3.52
216	SLD 15	-206	41	3791	3.03	-31.56	-5.37
216	SLD 16	-246	60	3795	3	-31.63	-4.19
216	SLV 1	676	299	2874	0.83	26.39	-8.09
216	SLV 2	585	344	2882	0.78	26.23	-5.41
216	SLV 3	717	-25	3332	4.47	21.51	-9.61
216	SLV 4	626	20	3340	4.42	21.35	-6.94
216	SLV 5	198	658	2624	-3.61	5.65	-4.82
216	SLV 6	107	703	2632	-3.67	5.49	-2.13
216	SLV 7	335	-421	4150	8.51	-10.61	-9.9
216	SLV 8	243	-376	4158	8.46	-10.77	-7.21
216	SLV 9	-171	643	2868	-3.78	-17	-3.54
216	SLV 10	-262	688	2876	-3.84	-17.16	-0.85
216	SLV 11	-34	-437	4394	8.34	-33.26	-8.61
216	SLV 12	-126	-392	4402	8.29	-33.42	-5.93
216	SLV 13	-554	247	3686	0.26	-49.12	-3.81
216	SLV 14	-645	291	3694	0.21	-49.28	-1.13
216	SLV 15	-513	-77	4144	3.9	-54	-5.33
216	SLV 16	-604	-33	4152	3.84	-54.16	-2.66
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
220	SLU 1	20	-97	1845	2.01	224.1	23.85
220	SLU 2	21	-86	1830	1.91	222.11	20.87
220	SLU 3	20	-97	1845	2.01	224.1	23.85
220	SLU 4	21	-90	1836	1.95	222.91	22.06
220	SLU 5	21	-86	1830	1.91	222.11	20.87
220	SLU 6	20	-97	1845	2.01	224.1	23.85
220	SLU 7	21	-90	1836	1.95	222.91	22.06
220	SLU 8	20	-97	1845	2.01	224.1	23.85
220	SLU 9	21	-90	1836	1.95	222.91	22.06
220	SLU 10	18	-106	2119	2.2	252.43	25.89
220	SLU 11	18	-118	2135	2.3	254.43	28.87
220	SLU 12	18	-111	2125	2.24	253.23	27.08
220	SLU 13	18	-106	2119	2.2	252.43	25.89
220	SLU 14	18	-118	2135	2.3	254.43	28.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
220	SLU 15	18	-111	2125	2.24	253.23	27.08
220	SLU 16	18	-118	2135	2.3	254.43	28.87
220	SLU 17	18	-111	2125	2.24	253.23	27.08
220	SLU 18	17	-127	2259	2.42	267.42	31.02
220	SLU 19	17	-119	2249	2.36	266.22	29.23
220	SLU 20	17	-127	2259	2.42	267.42	31.02
220	SLU 21	17	-119	2249	2.36	266.22	29.23
220	SLU 22	19	-112	2070	2.23	247.29	27.5
220	SLU 23	20	-100	2055	2.13	245.3	24.52
220	SLU 24	19	-112	2070	2.23	247.29	27.5
220	SLU 25	20	-105	2061	2.17	246.09	25.71
220	SLU 26	20	-100	2055	2.13	245.3	24.52
220	SLU 27	19	-112	2070	2.23	247.29	27.5
220	SLU 28	20	-105	2061	2.17	246.09	25.71
220	SLU 29	19	-112	2070	2.23	247.29	27.5
220	SLU 30	20	-105	2061	2.17	246.09	25.71
220	SLU 31	17	-121	2344	2.42	275.62	29.54
220	SLU 32	17	-133	2360	2.52	277.61	32.52
220	SLU 33	17	-125	2350	2.46	276.42	30.73
220	SLU 34	17	-121	2344	2.42	275.62	29.54
220	SLU 35	17	-133	2360	2.52	277.61	32.52
220	SLU 36	17	-125	2350	2.46	276.42	30.73
220	SLU 37	17	-133	2360	2.52	277.61	32.52
220	SLU 38	17	-125	2350	2.46	276.42	30.73
220	SLU 39	16	-141	2484	2.64	290.61	34.67
220	SLU 40	16	-134	2475	2.58	289.41	32.88
220	SLU 41	16	-141	2484	2.64	290.61	34.67
220	SLU 42	16	-134	2475	2.58	289.41	32.88
220	SLU 43	27	-122	2322	2.54	283.38	29.75
220	SLU 44	27	-110	2306	2.44	281.39	26.78
220	SLU 45	27	-122	2322	2.54	283.38	29.75
220	SLU 46	27	-114	2312	2.48	282.19	27.97
220	SLU 47	27	-110	2306	2.44	281.39	26.78
220	SLU 48	27	-122	2322	2.54	283.38	29.75
220	SLU 49	27	-114	2312	2.48	282.19	27.97
220	SLU 50	27	-122	2322	2.54	283.38	29.75
220	SLU 51	27	-114	2312	2.48	282.19	27.97
220	SLU 52	25	-130	2596	2.73	311.71	31.8
220	SLU 53	24	-142	2611	2.82	313.71	34.77
220	SLU 54	24	-135	2602	2.77	312.51	32.99
220	SLU 55	25	-130	2596	2.73	311.71	31.8
220	SLU 56	24	-142	2611	2.82	313.71	34.77
220	SLU 57	24	-135	2602	2.77	312.51	32.99
220	SLU 58	24	-142	2611	2.82	313.71	34.77
220	SLU 59	24	-135	2602	2.77	312.51	32.99
220	SLU 60	23	-151	2735	2.95	326.7	36.92
220	SLU 61	23	-144	2726	2.89	325.5	35.14
220	SLU 62	23	-151	2735	2.95	326.7	36.92
220	SLU 63	23	-144	2726	2.89	325.5	35.14
220	SLU 64	26	-136	2547	2.76	306.57	33.4
220	SLU 65	26	-125	2531	2.66	304.58	30.43
220	SLU 66	26	-136	2547	2.76	306.57	33.4
220	SLU 67	26	-129	2537	2.7	305.37	31.62
220	SLU 68	26	-125	2531	2.66	304.58	30.43
220	SLU 69	26	-136	2547	2.76	306.57	33.4
220	SLU 70	26	-129	2537	2.7	305.37	31.62
220	SLU 71	26	-136	2547	2.76	306.57	33.4
220	SLU 72	26	-129	2537	2.7	305.37	31.62
220	SLU 73	24	-145	2821	2.95	334.9	35.45
220	SLU 74	23	-157	2836	3.04	336.89	38.42
220	SLU 75	24	-150	2827	2.99	335.7	36.64
220	SLU 76	24	-145	2821	2.95	334.9	35.45
220	SLU 77	23	-157	2836	3.04	336.89	38.42
220	SLU 78	24	-150	2827	2.99	335.7	36.64
220	SLU 79	23	-157	2836	3.04	336.89	38.42
220	SLU 80	24	-150	2827	2.99	335.7	36.64
220	SLU 81	22	-166	2960	3.17	349.89	40.57
220	SLU 82	22	-158	2951	3.11	348.69	38.79
220	SLU 83	22	-166	2960	3.17	349.89	40.57
220	SLU 84	22	-158	2951	3.11	348.69	38.79
220	SLE RA 1	20	-102	1910	2.07	230.73	24.89
220	SLE RA 2	20	-94	1899	2.01	229.4	22.91
220	SLE RA 3	20	-102	1910	2.07	230.73	24.89
220	SLE RA 4	20	-97	1903	2.03	229.93	23.7
220	SLE RA 5	20	-94	1899	2.01	229.4	22.91
220	SLE RA 6	20	-102	1910	2.07	230.73	24.89
220	SLE RA 7	20	-97	1903	2.03	229.93	23.7
220	SLE RA 8	20	-102	1910	2.07	230.73	24.89
220	SLE RA 9	20	-97	1903	2.03	229.93	23.7
220	SLE RA 10	19	-107	2092	2.2	249.61	26.25
220	SLE RA 11	18	-115	2103	2.26	250.94	28.24
220	SLE RA 12	19	-110	2096	2.23	250.15	27.05
220	SLE RA 13	19	-107	2092	2.2	249.61	26.25
220	SLE RA 14	18	-115	2103	2.26	250.94	28.24
220	SLE RA 15	19	-110	2096	2.23	250.15	27.05
220	SLE RA 16	18	-115	2103	2.26	250.94	28.24
220	SLE RA 17	19	-110	2096	2.23	250.15	27.05
220	SLE RA 18	18	-121	2185	2.35	259.61	29.67
220	SLE RA 19	18	-116	2179	2.31	258.81	28.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
220	SLE RA 20	18	-121	2185	2.35	259.61	29.67
220	SLE RA 21	18	-116	2179	2.31	258.81	28.48
220	SLE FR 1	20	-102	1910	2.07	230.73	24.89
220	SLE FR 2	20	-100	1908	2.06	230.46	24.49
220	SLE FR 3	20	-102	1910	2.07	230.73	24.89
220	SLE FR 4	19	-106	1990	2.14	239.13	25.93
220	SLE FR 5	19	-108	1992	2.15	239.39	26.33
220	SLE FR 6	19	-111	2047	2.21	245.17	27.28
220	SLE QP 1	20	-102	1910	2.07	230.73	24.89
220	SLE QP 2	19	-108	1992	2.15	239.39	26.33
220	SLD 1	148	-36	1628	1.11	198.94	7.98
220	SLD 2	127	4	1630	1.12	199.08	-1.83
220	SLD 3	155	-149	1780	2	220.7	36.27
220	SLD 4	133	-110	1781	2.02	220.84	26.46
220	SLD 5	55	72	1652	0.48	194.2	-18.62
220	SLD 6	34	112	1654	0.5	194.35	-28.48
220	SLD 7	78	-306	2158	3.46	266.73	75.66
220	SLD 8	56	-266	2160	3.47	266.88	65.8
220	SLD 9	-17	51	1825	0.84	211.91	-13.15
220	SLD 10	-39	91	1826	0.85	212.05	-23.01
220	SLD 11	5	-327	2331	3.81	284.44	81.13
220	SLD 12	-16	-287	2332	3.83	284.58	71.27
220	SLD 13	-95	-105	2203	2.29	257.94	26.2
220	SLD 14	-116	-66	2204	2.31	258.09	16.38
220	SLD 15	-88	-219	2355	3.19	279.7	54.48
220	SLD 16	-109	-179	2356	3.2	279.85	44.67
220	SLV 1	311	55	1166	-0.22	146.74	-15.32
220	SLV 2	263	145	1169	-0.19	147.06	-37.56
220	SLV 3	327	-202	1511	1.81	196.15	48.89
220	SLV 4	278	-112	1514	1.84	196.47	26.65
220	SLV 5	101	301	1220	-1.64	136.54	-75.72
220	SLV 6	52	391	1223	-1.61	136.87	-98.06
220	SLV 7	152	-559	2370	5.11	301.25	138.31
220	SLV 8	103	-468	2373	5.14	301.57	115.98
220	SLV 9	-65	253	1612	-0.83	177.21	-63.32
220	SLV 10	-113	344	1615	-0.8	177.54	-85.66
220	SLV 11	-13	-606	2761	5.92	341.92	150.71
220	SLV 12	-62	-516	2764	5.95	342.24	128.37
220	SLV 13	-239	-103	2471	2.47	282.31	26
220	SLV 14	-288	-13	2474	2.5	282.63	3.76
220	SLV 15	-224	-360	2816	4.5	331.72	90.21
220	SLV 16	-272	-270	2819	4.53	332.04	67.97
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	37	-38	1860	1.96	-407.02	-13.93
221	SLU 2	36	-25	1844	1.85	-403.56	-9.43
221	SLU 3	37	-38	1860	1.96	-407.02	-13.93
221	SLU 4	36	-30	1851	1.9	-404.94	-11.23
221	SLU 5	36	-25	1844	1.85	-403.56	-9.43
221	SLU 6	37	-38	1860	1.96	-407.02	-13.93
221	SLU 7	36	-30	1851	1.9	-404.94	-11.23
221	SLU 8	37	-38	1860	1.96	-407.02	-13.93
221	SLU 9	36	-30	1851	1.9	-404.94	-11.23
221	SLU 10	40	-32	2184	2.15	-468.27	-11.79
221	SLU 11	41	-45	2200	2.26	-471.73	-16.29
221	SLU 12	41	-37	2190	2.19	-469.65	-13.59
221	SLU 13	40	-32	2184	2.15	-468.27	-11.79
221	SLU 14	41	-45	2200	2.26	-471.73	-16.29
221	SLU 15	41	-37	2190	2.19	-469.65	-13.59
221	SLU 16	41	-45	2200	2.26	-471.73	-16.29
221	SLU 17	41	-37	2190	2.19	-469.65	-13.59
221	SLU 18	43	-48	2345	2.39	-499.46	-17.3
221	SLU 19	42	-40	2336	2.32	-497.39	-14.6
221	SLU 20	43	-48	2345	2.39	-499.46	-17.3
221	SLU 21	42	-40	2336	2.32	-497.39	-14.6
221	SLU 22	41	-43	2092	2.15	-451.85	-15.79
221	SLU 23	40	-31	2076	2.04	-448.38	-11.28
221	SLU 24	41	-43	2092	2.15	-451.85	-15.79
221	SLU 25	40	-36	2082	2.08	-449.77	-13.09
221	SLU 26	40	-31	2076	2.04	-448.38	-11.28
221	SLU 27	41	-43	2092	2.15	-451.85	-15.79
221	SLU 28	40	-36	2082	2.08	-449.77	-13.09
221	SLU 29	41	-43	2092	2.15	-451.85	-15.79
221	SLU 30	40	-36	2082	2.08	-449.77	-13.09
221	SLU 31	44	-37	2415	2.33	-513.09	-13.65
221	SLU 32	45	-50	2431	2.44	-516.56	-18.15
221	SLU 33	44	-42	2422	2.38	-514.48	-15.45
221	SLU 34	44	-37	2415	2.33	-513.09	-13.65
221	SLU 35	45	-50	2431	2.44	-516.56	-18.15
221	SLU 36	44	-42	2422	2.38	-514.48	-15.45
221	SLU 37	45	-50	2431	2.44	-516.56	-18.15
221	SLU 38	44	-42	2422	2.38	-514.48	-15.45
221	SLU 39	47	-53	2577	2.57	-544.29	-19.16
221	SLU 40	46	-45	2567	2.5	-542.21	-16.46
221	SLU 41	47	-53	2577	2.57	-544.29	-19.16
221	SLU 42	46	-45	2567	2.5	-542.21	-16.46
221	SLU 43	47	-48	2339	2.49	-513.76	-17.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLU 44	46	-35	2323	2.38	-510.3	-12.97
221	SLU 45	47	-48	2339	2.49	-513.76	-17.47
221	SLU 46	46	-40	2329	2.42	-511.68	-14.77
221	SLU 47	46	-35	2323	2.38	-510.3	-12.97
221	SLU 48	47	-48	2339	2.49	-513.76	-17.47
221	SLU 49	46	-40	2329	2.42	-511.68	-14.77
221	SLU 50	47	-48	2339	2.49	-513.76	-17.47
221	SLU 51	46	-40	2329	2.42	-511.68	-14.77
221	SLU 52	50	-42	2663	2.68	-575.01	-15.33
221	SLU 53	51	-55	2678	2.79	-578.47	-19.83
221	SLU 54	50	-47	2669	2.72	-576.39	-17.13
221	SLU 55	50	-42	2663	2.68	-575.01	-15.33
221	SLU 56	51	-55	2678	2.79	-578.47	-19.83
221	SLU 57	50	-47	2669	2.72	-576.39	-17.13
221	SLU 58	51	-55	2678	2.79	-578.47	-19.83
221	SLU 59	50	-47	2669	2.72	-576.39	-17.13
221	SLU 60	53	-57	2824	2.91	-606.2	-20.84
221	SLU 61	52	-50	2814	2.85	-604.12	-18.14
221	SLU 62	53	-57	2824	2.91	-606.2	-20.84
221	SLU 63	52	-50	2814	2.85	-604.12	-18.14
221	SLU 64	50	-53	2570	2.67	-558.59	-19.33
221	SLU 65	49	-40	2555	2.56	-555.12	-14.83
221	SLU 66	50	-53	2570	2.67	-558.59	-19.33
221	SLU 67	50	-45	2561	2.61	-556.51	-16.63
221	SLU 68	49	-40	2555	2.56	-555.12	-14.83
221	SLU 69	50	-53	2570	2.67	-558.59	-19.33
221	SLU 70	50	-45	2561	2.61	-556.51	-16.63
221	SLU 71	50	-53	2570	2.67	-558.59	-19.33
221	SLU 72	50	-45	2561	2.61	-556.51	-16.63
221	SLU 73	54	-47	2894	2.86	-619.83	-17.19
221	SLU 74	55	-60	2910	2.97	-623.3	-21.69
221	SLU 75	54	-52	2900	2.9	-621.22	-18.99
221	SLU 76	54	-47	2894	2.86	-619.83	-17.19
221	SLU 77	55	-60	2910	2.97	-623.3	-21.69
221	SLU 78	54	-52	2900	2.9	-621.22	-18.99
221	SLU 79	55	-60	2910	2.97	-623.3	-21.69
221	SLU 80	54	-52	2900	2.9	-621.22	-18.99
221	SLU 81	56	-63	3055	3.1	-651.03	-22.7
221	SLU 82	56	-55	3046	3.03	-648.95	-20
221	SLU 83	56	-63	3055	3.1	-651.03	-22.7
221	SLU 84	56	-55	3046	3.03	-648.95	-20
221	SLE RA 1	38	-40	1926	2.02	-419.83	-14.46
221	SLE RA 2	37	-31	1916	1.94	-417.52	-11.46
221	SLE RA 3	38	-40	1926	2.02	-419.83	-14.46
221	SLE RA 4	37	-35	1920	1.97	-418.44	-12.66
221	SLE RA 5	37	-31	1916	1.94	-417.52	-11.46
221	SLE RA 6	38	-40	1926	2.02	-419.83	-14.46
221	SLE RA 7	37	-35	1920	1.97	-418.44	-12.66
221	SLE RA 8	38	-40	1926	2.02	-419.83	-14.46
221	SLE RA 9	37	-35	1920	1.97	-418.44	-12.66
221	SLE RA 10	40	-36	2142	2.14	-460.66	-13.03
221	SLE RA 11	41	-44	2153	2.21	-462.97	-16.03
221	SLE RA 12	40	-39	2146	2.17	-461.58	-14.23
221	SLE RA 13	40	-36	2142	2.14	-460.66	-13.03
221	SLE RA 14	41	-44	2153	2.21	-462.97	-16.03
221	SLE RA 15	40	-39	2146	2.17	-461.58	-14.23
221	SLE RA 16	41	-44	2153	2.21	-462.97	-16.03
221	SLE RA 17	40	-39	2146	2.17	-461.58	-14.23
221	SLE RA 18	42	-46	2250	2.3	-481.46	-16.71
221	SLE RA 19	42	-41	2243	2.26	-480.07	-14.91
221	SLE RA 20	42	-46	2250	2.3	-481.46	-16.71
221	SLE RA 21	42	-41	2243	2.26	-480.07	-14.91
221	SLE FR 1	38	-40	1926	2.02	-419.83	-14.46
221	SLE FR 2	38	-38	1924	2	-419.37	-13.86
221	SLE FR 3	38	-40	1926	2.02	-419.83	-14.46
221	SLE FR 4	39	-40	2021	2.09	-437.86	-14.53
221	SLE FR 5	39	-42	2023	2.1	-438.32	-15.13
221	SLE FR 6	40	-43	2088	2.16	-450.64	-15.58
221	SLE QP 1	38	-40	1926	2.02	-419.83	-14.46
221	SLE QP 2	39	-42	2023	2.1	-438.32	-15.13
221	SLD 1	210	-1	2310	2.35	-489.16	-1.11
221	SLD 2	182	-41	2308	2.34	-489.03	-15.03
221	SLD 3	224	-113	2468	3.34	-522.93	-40.46
221	SLD 4	195	-154	2465	3.33	-522.8	-54.38
221	SLD 5	79	155	1872	0.68	-402.4	53.67
221	SLD 6	51	115	1869	0.67	-402.27	39.68
221	SLD 7	125	-219	2396	3.98	-514.96	-77.51
221	SLD 8	97	-260	2393	3.97	-514.83	-91.5
221	SLD 9	-19	176	1653	0.23	-361.81	61.23
221	SLD 10	-47	136	1651	0.22	-361.68	47.24
221	SLD 11	27	-198	2177	3.54	-474.37	-69.95
221	SLD 12	-1	-238	2175	3.53	-474.23	-83.93
221	SLD 13	-117	70	1581	0.87	-353.84	24.12
221	SLD 14	-145	30	1579	0.86	-353.71	10.19
221	SLD 15	-104	-42	1739	1.86	-387.61	-15.24
221	SLD 16	-132	-82	1736	1.85	-387.48	-29.16
221	SLV 1	427	50	2675	2.67	-553.88	16.75
221	SLV 2	363	-41	2669	2.65	-553.59	-14.81
221	SLV 3	458	-205	3032	4.92	-630.54	-72.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLV 4	395	-296	3026	4.9	-630.24	-104.24
221	SLV 5	131	405	1679	-1.14	-356.84	141.18
221	SLV 6	67	314	1674	-1.16	-356.54	109.49
221	SLV 7	235	-446	2869	6.37	-612.35	-156.92
221	SLV 8	171	-537	2864	6.35	-612.05	-188.61
221	SLV 9	-92	454	1183	-2.15	-264.59	158.35
221	SLV 10	-156	362	1177	-2.16	-264.29	126.65
221	SLV 11	12	-397	2373	5.36	-520.1	-139.75
221	SLV 12	-52	-488	2367	5.34	-519.8	-171.45
221	SLV 13	-316	213	1020	-0.7	-246.4	73.97
221	SLV 14	-380	122	1015	-0.71	-246.1	42.41
221	SLV 15	-285	-43	1377	1.55	-323.05	-15.46
221	SLV 16	-349	-134	1372	1.54	-322.75	-47.02
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
224	SLU 1	63	124	3276	2.81	-13.69	-4.88
224	SLU 2	63	139	3250	2.62	-13.42	-4.81
224	SLU 3	63	124	3276	2.81	-13.69	-4.88
224	SLU 4	63	133	3260	2.7	-13.53	-4.84
224	SLU 5	63	139	3250	2.62	-13.42	-4.81
224	SLU 6	63	124	3276	2.81	-13.69	-4.88
224	SLU 7	63	133	3260	2.7	-13.53	-4.84
224	SLU 8	63	124	3276	2.81	-13.69	-4.88
224	SLU 9	63	133	3260	2.7	-13.53	-4.84
224	SLU 10	65	156	3895	2.35	-15.12	-5.25
224	SLU 11	65	142	3921	2.53	-15.39	-5.32
224	SLU 12	65	151	3906	2.42	-15.23	-5.27
224	SLU 13	65	156	3895	2.35	-15.12	-5.25
224	SLU 14	65	142	3921	2.53	-15.39	-5.32
224	SLU 15	65	151	3906	2.42	-15.23	-5.27
224	SLU 16	65	142	3921	2.53	-15.39	-5.32
224	SLU 17	65	151	3906	2.42	-15.23	-5.27
224	SLU 18	65	149	4197	2.41	-16.12	-5.5
224	SLU 19	65	158	4182	2.3	-15.96	-5.46
224	SLU 20	65	149	4197	2.41	-16.12	-5.5
224	SLU 21	65	158	4182	2.3	-15.96	-5.46
224	SLU 22	66	138	3738	2.7	-15.34	-5.3
224	SLU 23	66	153	3712	2.52	-15.08	-5.23
224	SLU 24	66	138	3738	2.7	-15.34	-5.3
224	SLU 25	66	147	3723	2.59	-15.18	-5.26
224	SLU 26	66	153	3712	2.52	-15.08	-5.23
224	SLU 27	66	138	3738	2.7	-15.34	-5.3
224	SLU 28	66	147	3723	2.59	-15.18	-5.26
224	SLU 29	66	138	3738	2.7	-15.34	-5.3
224	SLU 30	66	147	3723	2.59	-15.18	-5.26
224	SLU 31	67	171	4358	2.24	-16.78	-5.66
224	SLU 32	68	156	4383	2.42	-17.04	-5.74
224	SLU 33	67	165	4368	2.32	-16.88	-5.69
224	SLU 34	67	171	4358	2.24	-16.78	-5.66
224	SLU 35	68	156	4383	2.42	-17.04	-5.74
224	SLU 36	67	165	4368	2.32	-16.88	-5.69
224	SLU 37	68	156	4383	2.42	-17.04	-5.74
224	SLU 38	67	165	4368	2.32	-16.88	-5.69
224	SLU 39	68	164	4660	2.31	-17.77	-5.92
224	SLU 40	68	172	4644	2.2	-17.61	-5.88
224	SLU 41	68	164	4660	2.31	-17.77	-5.92
224	SLU 42	68	172	4644	2.2	-17.61	-5.88
224	SLU 43	81	156	4100	3.68	-17.23	-6.2
224	SLU 44	81	171	4074	3.5	-16.96	-6.13
224	SLU 45	81	156	4100	3.68	-17.23	-6.2
224	SLU 46	81	165	4085	3.57	-17.07	-6.16
224	SLU 47	81	171	4074	3.5	-16.96	-6.13
224	SLU 48	81	156	4100	3.68	-17.23	-6.2
224	SLU 49	81	165	4085	3.57	-17.07	-6.16
224	SLU 50	81	156	4100	3.68	-17.23	-6.2
224	SLU 51	81	165	4085	3.57	-17.07	-6.16
224	SLU 52	83	189	4720	3.23	-18.66	-6.57
224	SLU 53	83	174	4745	3.41	-18.93	-6.64
224	SLU 54	83	183	4730	3.3	-18.77	-6.6
224	SLU 55	83	189	4720	3.23	-18.66	-6.57
224	SLU 56	83	174	4745	3.41	-18.93	-6.64
224	SLU 57	83	183	4730	3.3	-18.77	-6.6
224	SLU 58	83	174	4745	3.41	-18.93	-6.64
224	SLU 59	83	183	4730	3.3	-18.77	-6.6
224	SLU 60	83	182	5022	3.29	-19.66	-6.83
224	SLU 61	83	190	5006	3.18	-19.5	-6.78
224	SLU 62	83	182	5022	3.29	-19.66	-6.83
224	SLU 63	83	190	5006	3.18	-19.5	-6.78
224	SLU 64	84	171	4562	3.58	-18.88	-6.62
224	SLU 65	84	185	4537	3.4	-18.62	-6.55
224	SLU 66	84	171	4562	3.58	-18.88	-6.62
224	SLU 67	84	179	4547	3.47	-18.72	-6.58
224	SLU 68	84	185	4537	3.4	-18.62	-6.55
224	SLU 69	84	171	4562	3.58	-18.88	-6.62
224	SLU 70	84	179	4547	3.47	-18.72	-6.58
224	SLU 71	84	171	4562	3.58	-18.88	-6.62
224	SLU 72	84	179	4547	3.47	-18.72	-6.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
224	SLU 73	85	203	5182	3.12	-20.32	-6.99
224	SLU 74	86	188	5207	3.3	-20.58	-7.06
224	SLU 75	85	197	5192	3.19	-20.42	-7.01
224	SLU 76	85	203	5182	3.12	-20.32	-6.99
224	SLU 77	86	188	5207	3.3	-20.58	-7.06
224	SLU 78	85	197	5192	3.19	-20.42	-7.01
224	SLU 79	86	188	5207	3.3	-20.58	-7.06
224	SLU 80	85	197	5192	3.19	-20.42	-7.01
224	SLU 81	86	196	5484	3.18	-21.31	-7.25
224	SLU 82	86	205	5469	3.07	-21.15	-7.2
224	SLU 83	86	196	5484	3.18	-21.31	-7.25
224	SLU 84	86	205	5469	3.07	-21.15	-7.2
224	SLE RA 1	64	128	3408	2.78	-14.16	-5
224	SLE RA 2	64	138	3391	2.66	-13.98	-4.95
224	SLE RA 3	64	128	3408	2.78	-14.16	-5
224	SLE RA 4	64	134	3398	2.7	-14.05	-4.97
224	SLE RA 5	64	138	3391	2.66	-13.98	-4.95
224	SLE RA 6	64	128	3408	2.78	-14.16	-5
224	SLE RA 7	64	134	3398	2.7	-14.05	-4.97
224	SLE RA 8	64	128	3408	2.78	-14.16	-5
224	SLE RA 9	64	134	3398	2.7	-14.05	-4.97
224	SLE RA 10	65	150	3821	2.47	-15.12	-5.24
224	SLE RA 11	65	140	3838	2.59	-15.29	-5.29
224	SLE RA 12	65	146	3828	2.52	-15.19	-5.26
224	SLE RA 13	65	150	3821	2.47	-15.12	-5.24
224	SLE RA 14	65	140	3838	2.59	-15.29	-5.29
224	SLE RA 15	65	146	3828	2.52	-15.19	-5.26
224	SLE RA 16	65	140	3838	2.59	-15.29	-5.29
224	SLE RA 17	65	146	3828	2.52	-15.19	-5.26
224	SLE RA 18	65	145	4022	2.51	-15.78	-5.42
224	SLE RA 19	65	151	4012	2.44	-15.67	-5.39
224	SLE RA 20	65	145	4022	2.51	-15.78	-5.42
224	SLE RA 21	65	151	4012	2.44	-15.67	-5.39
224	SLE FR 1	64	128	3408	2.78	-14.16	-5
224	SLE FR 2	64	130	3404	2.75	-14.13	-4.99
224	SLE FR 3	64	128	3408	2.78	-14.16	-5
224	SLE FR 4	64	135	3589	2.67	-14.61	-5.12
224	SLE FR 5	64	133	3592	2.7	-14.65	-5.13
224	SLE FR 6	65	137	3715	2.64	-14.97	-5.21
224	SLE QP 1	64	128	3408	2.78	-14.16	-5
224	SLE QP 2	64	133	3592	2.7	-14.65	-5.13
224	SLD 1	352	206	3286	1.75	3.26	-6.25
224	SLD 2	306	226	3289	1.72	3.19	-5.04
224	SLD 3	373	64	3540	3.46	1.01	-7.04
224	SLD 4	327	83	3543	3.43	0.93	-5.83
224	SLD 5	135	364	3114	-0.17	-5.82	-4.7
224	SLD 6	89	384	3117	-0.2	-5.9	-3.49
224	SLD 7	205	-111	3961	5.52	-13.35	-7.31
224	SLD 8	159	-91	3964	5.5	-13.43	-6.1
224	SLD 9	-30	357	3220	-0.1	-15.87	-4.16
224	SLD 10	-76	377	3223	-0.13	-15.95	-2.94
224	SLD 11	40	-118	4068	5.59	-23.39	-6.77
224	SLD 12	-7	-98	4070	5.56	-23.47	-5.55
224	SLD 13	-198	183	3641	1.97	-30.22	-4.43
224	SLD 14	-245	203	3644	1.94	-30.3	-3.22
224	SLD 15	-177	41	3895	3.67	-32.48	-5.21
224	SLD 16	-224	60	3898	3.65	-32.56	-4
224	SLV 1	719	299	2898	0.54	25.99	-7.71
224	SLV 2	614	344	2904	0.47	25.82	-4.96
224	SLV 3	766	-24	3475	4.42	20.86	-9.48
224	SLV 4	662	20	3481	4.35	20.69	-6.74
224	SLV 5	226	658	2506	-3.81	5.39	-4.17
224	SLV 6	120	703	2512	-3.87	5.21	-1.42
224	SLV 7	384	-420	4430	9.12	-11.71	-10.09
224	SLV 8	279	-375	4436	9.05	-11.89	-7.34
224	SLV 9	-150	642	2748	-3.66	-17.4	-2.92
224	SLV 10	-255	687	2754	-3.72	-17.58	-0.16
224	SLV 11	8	-436	4672	9.27	-34.51	-8.84
224	SLV 12	-97	-391	4678	9.2	-34.68	-6.08
224	SLV 13	-533	246	3703	1.04	-49.98	-3.52
224	SLV 14	-638	291	3710	0.98	-50.16	-0.77
224	SLV 15	-485	-77	4281	4.92	-55.11	-5.29
224	SLV 16	-590	-33	4287	4.86	-55.29	-2.55
224	CRTFP Ux+	0	0	0	0	0	0
224	CRTFP Ux-	0	0	0	0	0	0
224	CRTFP Uy+	0	0	0	0	0	0
224	CRTFP Uy-	0	0	0	0	0	0
228	SLU 1	38	-98	1922	2.93	295.06	23.79
228	SLU 2	38	-86	1903	2.82	291.99	20.82
228	SLU 3	38	-98	1922	2.93	295.06	23.79
228	SLU 4	38	-90	1910	2.87	293.22	22.01
228	SLU 5	38	-86	1903	2.82	291.99	20.82
228	SLU 6	38	-98	1922	2.93	295.06	23.79
228	SLU 7	38	-90	1910	2.87	293.22	22.01
228	SLU 8	38	-98	1922	2.93	295.06	23.79
228	SLU 9	38	-90	1910	2.87	293.22	22.01
228	SLU 10	38	-106	2204	3.27	334.92	25.81
228	SLU 11	38	-118	2222	3.38	337.99	28.78
228	SLU 12	38	-111	2211	3.32	336.15	27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
228	SLU 13	38	-106	2204	3.27	334.92	25.81
228	SLU 14	38	-118	2222	3.38	337.99	28.78
228	SLU 15	38	-111	2211	3.32	336.15	27
228	SLU 16	38	-118	2222	3.38	337.99	28.78
228	SLU 17	38	-111	2211	3.32	336.15	27
228	SLU 18	38	-127	2351	3.58	356.39	30.91
228	SLU 19	38	-120	2340	3.51	354.55	29.13
228	SLU 20	38	-127	2351	3.58	356.39	30.91
228	SLU 21	38	-120	2340	3.51	354.55	29.13
228	SLU 22	39	-112	2155	3.28	327.96	27.42
228	SLU 23	39	-101	2137	3.17	324.88	24.46
228	SLU 24	39	-112	2155	3.28	327.96	27.42
228	SLU 25	39	-105	2144	3.21	326.11	25.64
228	SLU 26	39	-101	2137	3.17	324.88	24.46
228	SLU 27	39	-112	2155	3.28	327.96	27.42
228	SLU 28	39	-105	2144	3.21	326.11	25.64
228	SLU 29	39	-112	2155	3.28	327.96	27.42
228	SLU 30	39	-105	2144	3.21	326.11	25.64
228	SLU 31	39	-121	2438	3.62	367.81	29.44
228	SLU 32	39	-133	2456	3.73	370.89	32.41
228	SLU 33	39	-126	2445	3.67	369.04	30.63
228	SLU 34	39	-121	2438	3.62	367.81	29.44
228	SLU 35	39	-133	2456	3.73	370.89	32.41
228	SLU 36	39	-126	2445	3.67	369.04	30.63
228	SLU 37	39	-133	2456	3.73	370.89	32.41
228	SLU 38	39	-126	2445	3.67	369.04	30.63
228	SLU 39	39	-141	2585	3.92	389.29	34.54
228	SLU 40	39	-134	2574	3.86	387.44	32.77
228	SLU 41	39	-141	2585	3.92	389.29	34.54
228	SLU 42	39	-134	2574	3.86	387.44	32.77
228	SLU 43	49	-122	2418	3.69	372.31	29.68
228	SLU 44	49	-110	2399	3.58	369.23	26.72
228	SLU 45	49	-122	2418	3.69	372.31	29.68
228	SLU 46	49	-115	2407	3.63	370.46	27.9
228	SLU 47	49	-110	2399	3.58	369.23	26.72
228	SLU 48	49	-122	2418	3.69	372.31	29.68
228	SLU 49	49	-115	2407	3.63	370.46	27.9
228	SLU 50	49	-122	2418	3.69	372.31	29.68
228	SLU 51	49	-115	2407	3.63	370.46	27.9
228	SLU 52	49	-130	2700	4.04	412.16	31.7
228	SLU 53	49	-142	2719	4.14	415.23	34.67
228	SLU 54	49	-135	2707	4.08	413.39	32.89
228	SLU 55	49	-130	2700	4.04	412.16	31.7
228	SLU 56	49	-142	2719	4.14	415.23	34.67
228	SLU 57	49	-135	2707	4.08	413.39	32.89
228	SLU 58	49	-142	2719	4.14	415.23	34.67
228	SLU 59	49	-135	2707	4.08	413.39	32.89
228	SLU 60	49	-151	2848	4.34	433.63	36.8
228	SLU 61	49	-144	2836	4.27	431.79	35.03
228	SLU 62	49	-151	2848	4.34	433.63	36.8
228	SLU 63	49	-144	2836	4.27	431.79	35.03
228	SLU 64	50	-137	2652	4.04	405.2	33.31
228	SLU 65	50	-125	2633	3.93	402.13	30.35
228	SLU 66	50	-137	2652	4.04	405.2	33.31
228	SLU 67	50	-130	2640	3.98	403.36	31.53
228	SLU 68	50	-125	2633	3.93	402.13	30.35
228	SLU 69	50	-137	2652	4.04	405.2	33.31
228	SLU 70	50	-130	2640	3.98	403.36	31.53
228	SLU 71	50	-137	2652	4.04	405.2	33.31
228	SLU 72	50	-130	2640	3.98	403.36	31.53
228	SLU 73	50	-145	2934	4.38	445.05	35.33
228	SLU 74	50	-157	2952	4.49	448.13	38.3
228	SLU 75	50	-150	2941	4.43	446.28	36.52
228	SLU 76	50	-145	2934	4.38	445.05	35.33
228	SLU 77	50	-157	2952	4.49	448.13	38.3
228	SLU 78	50	-150	2941	4.43	446.28	36.52
228	SLU 79	50	-157	2952	4.49	448.13	38.3
228	SLU 80	50	-150	2941	4.43	446.28	36.52
228	SLU 81	50	-166	3081	4.68	466.53	40.44
228	SLU 82	50	-159	3070	4.62	464.68	38.66
228	SLU 83	50	-166	3081	4.68	466.53	40.44
228	SLU 84	50	-159	3070	4.62	464.68	38.66
228	SLE RA 1	38	-102	1988	3.03	304.46	24.83
228	SLE RA 2	38	-94	1976	2.96	302.41	22.85
228	SLE RA 3	38	-102	1988	3.03	304.46	24.83
228	SLE RA 4	38	-97	1981	2.99	303.23	23.64
228	SLE RA 5	38	-94	1976	2.96	302.41	22.85
228	SLE RA 6	38	-102	1988	3.03	304.46	24.83
228	SLE RA 7	38	-97	1981	2.99	303.23	23.64
228	SLE RA 8	38	-102	1988	3.03	304.46	24.83
228	SLE RA 9	38	-97	1981	2.99	303.23	23.64
228	SLE RA 10	38	-107	2176	3.26	331.03	26.17
228	SLE RA 11	38	-115	2189	3.33	333.08	28.15
228	SLE RA 12	38	-111	2181	3.29	331.85	26.97
228	SLE RA 13	38	-107	2176	3.26	331.03	26.17
228	SLE RA 14	38	-115	2189	3.33	333.08	28.15
228	SLE RA 15	38	-111	2181	3.29	331.85	26.97
228	SLE RA 16	38	-115	2189	3.33	333.08	28.15
228	SLE RA 17	38	-111	2181	3.29	331.85	26.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
228	SLE RA 18	38	-121	2275	3.46	345.35	29.58
228	SLE RA 19	38	-116	2267	3.42	344.12	28.39
228	SLE RA 20	38	-121	2275	3.46	345.35	29.58
228	SLE RA 21	38	-116	2267	3.42	344.12	28.39
228	SLE FR 1	38	-102	1988	3.03	304.46	24.83
228	SLE FR 2	38	-100	1986	3.02	304.05	24.43
228	SLE FR 3	38	-102	1988	3.03	304.46	24.83
228	SLE FR 4	38	-106	2072	3.15	316.32	25.86
228	SLE FR 5	38	-108	2074	3.16	316.73	26.25
228	SLE FR 6	38	-112	2132	3.25	324.91	27.2
228	SLE QP 1	38	-102	1988	3.03	304.46	24.83
228	SLE QP 2	38	-108	2074	3.16	316.73	26.25
228	SLD 1	180	-37	1675	1.9	259.97	8.17
228	SLD 2	154	3	1677	1.92	260.22	-1.61
228	SLD 3	190	-150	1856	2.91	291.25	36.37
228	SLD 4	165	-110	1858	2.93	291.5	26.58
228	SLD 5	74	72	1679	1.24	252.18	-18.49
228	SLD 6	49	111	1681	1.26	252.43	-28.32
228	SLD 7	108	-306	2283	4.62	356.44	75.5
228	SLD 8	83	-266	2285	4.63	356.69	65.67
228	SLD 9	-6	51	1864	1.69	276.77	-13.16
228	SLD 10	-31	91	1865	1.71	277.02	-23
228	SLD 11	28	-327	2468	5.06	381.03	80.82
228	SLD 12	2	-287	2469	5.08	381.28	70.99
228	SLD 13	-88	-105	2290	3.39	341.95	25.92
228	SLD 14	-113	-65	2292	3.41	342.2	16.13
228	SLD 15	-78	-218	2472	4.4	373.23	54.12
228	SLD 16	-103	-179	2473	4.42	373.48	44.33
228	SLV 1	360	54	1168	0.3	187.54	-14.8
228	SLV 2	302	144	1172	0.34	188.11	-36.98
228	SLV 3	383	-204	1580	2.6	258.57	49.21
228	SLV 4	325	-114	1584	2.64	259.14	27.03
228	SLV 5	120	299	1177	-1.19	170.04	-75.33
228	SLV 6	62	390	1181	-1.16	170.61	-97.61
228	SLV 7	197	-558	2549	6.46	406.81	138.03
228	SLV 8	139	-468	2553	6.5	407.38	115.75
228	SLV 9	-62	253	1596	-0.18	226.08	-63.25
228	SLV 10	-120	343	1600	-0.14	226.64	-85.53
228	SLV 11	14	-605	2968	7.48	462.85	150.11
228	SLV 12	-43	-515	2972	7.51	463.41	127.84
228	SLV 13	-249	-102	2565	3.68	374.32	25.48
228	SLV 14	-306	-12	2569	3.72	374.88	3.29
228	SLV 15	-226	-359	2977	5.98	445.35	89.49
228	SLV 16	-283	-269	2980	6.02	445.92	67.3
228	CRTFP Ux+	0	0	0	0	0	0
228	CRTFP Ux-	0	0	0	0	0	0
228	CRTFP Uy+	0	0	0	0	0	0
228	CRTFP Uy-	0	0	0	0	0	0
229	SLU 1	53	-38	1939	3.1	-475.1	-13.76
229	SLU 2	52	-25	1919	2.98	-470.07	-9.28
229	SLU 3	53	-38	1939	3.1	-475.1	-13.76
229	SLU 4	53	-30	1927	3.03	-472.08	-11.07
229	SLU 5	52	-25	1919	2.98	-470.07	-9.28
229	SLU 6	53	-38	1939	3.1	-475.1	-13.76
229	SLU 7	53	-30	1927	3.03	-472.08	-11.07
229	SLU 8	53	-38	1939	3.1	-475.1	-13.76
229	SLU 9	53	-30	1927	3.03	-472.08	-11.07
229	SLU 10	57	-32	2272	3.52	-548.39	-11.62
229	SLU 11	58	-45	2291	3.64	-553.43	-16.1
229	SLU 12	58	-37	2280	3.57	-550.41	-13.41
229	SLU 13	57	-32	2272	3.52	-548.39	-11.62
229	SLU 14	58	-45	2291	3.64	-553.43	-16.1
229	SLU 15	58	-37	2280	3.57	-550.41	-13.41
229	SLU 16	58	-45	2291	3.64	-553.43	-16.1
229	SLU 17	58	-37	2280	3.57	-550.41	-13.41
229	SLU 18	60	-47	2442	3.88	-587	-17.1
229	SLU 19	60	-40	2431	3.8	-583.97	-14.41
229	SLU 20	60	-47	2442	3.88	-587	-17.1
229	SLU 21	60	-40	2431	3.8	-583.97	-14.41
229	SLU 22	58	-43	2179	3.46	-528.91	-15.59
229	SLU 23	57	-30	2159	3.33	-523.88	-11.12
229	SLU 24	58	-43	2179	3.46	-528.91	-15.59
229	SLU 25	57	-35	2167	3.38	-525.89	-12.91
229	SLU 26	57	-30	2159	3.33	-523.88	-11.12
229	SLU 27	58	-43	2179	3.46	-528.91	-15.59
229	SLU 28	57	-35	2167	3.38	-525.89	-12.91
229	SLU 29	58	-43	2179	3.46	-528.91	-15.59
229	SLU 30	57	-35	2167	3.38	-525.89	-12.91
229	SLU 31	62	-37	2512	3.88	-602.2	-13.45
229	SLU 32	63	-50	2531	4	-607.24	-17.93
229	SLU 33	62	-42	2520	3.93	-604.22	-15.24
229	SLU 34	62	-37	2512	3.88	-602.2	-13.45
229	SLU 35	63	-50	2531	4	-607.24	-17.93
229	SLU 36	62	-42	2520	3.93	-604.22	-15.24
229	SLU 37	63	-50	2531	4	-607.24	-17.93
229	SLU 38	62	-42	2520	3.93	-604.22	-15.24
229	SLU 39	65	-53	2682	4.23	-640.81	-18.93
229	SLU 40	65	-45	2671	4.16	-637.79	-16.25
229	SLU 41	65	-53	2682	4.23	-640.81	-18.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
229	SLU 42	65	-45	2671	4.16	-637.79	-16.25
229	SLU 43	68	-47	2438	3.91	-599.18	-17.26
229	SLU 44	67	-35	2419	3.78	-594.15	-12.78
229	SLU 45	68	-47	2438	3.91	-599.18	-17.26
229	SLU 46	67	-40	2427	3.83	-596.16	-14.57
229	SLU 47	67	-35	2419	3.78	-594.15	-12.78
229	SLU 48	68	-47	2438	3.91	-599.18	-17.26
229	SLU 49	67	-40	2427	3.83	-596.16	-14.57
229	SLU 50	68	-47	2438	3.91	-599.18	-17.26
229	SLU 51	67	-40	2427	3.83	-596.16	-14.57
229	SLU 52	72	-41	2771	4.33	-672.47	-15.12
229	SLU 53	73	-54	2791	4.45	-677.51	-19.6
229	SLU 54	72	-46	2779	4.38	-674.49	-16.91
229	SLU 55	72	-41	2771	4.33	-672.47	-15.12
229	SLU 56	73	-54	2791	4.45	-677.51	-19.6
229	SLU 57	72	-46	2779	4.38	-674.49	-16.91
229	SLU 58	73	-54	2791	4.45	-677.51	-19.6
229	SLU 59	72	-46	2779	4.38	-674.49	-16.91
229	SLU 60	75	-57	2942	4.69	-711.08	-20.6
229	SLU 61	74	-49	2930	4.61	-708.06	-17.91
229	SLU 62	75	-57	2942	4.69	-711.08	-20.6
229	SLU 63	74	-49	2930	4.61	-708.06	-17.91
229	SLU 64	72	-53	2678	4.26	-652.99	-19.09
229	SLU 65	71	-40	2659	4.14	-647.96	-14.61
229	SLU 66	72	-53	2678	4.26	-652.99	-19.09
229	SLU 67	72	-45	2666	4.19	-649.97	-16.41
229	SLU 68	71	-40	2659	4.14	-647.96	-14.61
229	SLU 69	72	-53	2678	4.26	-652.99	-19.09
229	SLU 70	72	-45	2666	4.19	-649.97	-16.41
229	SLU 71	72	-53	2678	4.26	-652.99	-19.09
229	SLU 72	72	-45	2666	4.19	-649.97	-16.41
229	SLU 73	76	-46	3011	4.68	-726.28	-16.95
229	SLU 74	77	-59	3031	4.81	-731.32	-21.43
229	SLU 75	77	-52	3019	4.73	-728.3	-18.74
229	SLU 76	76	-46	3011	4.68	-726.28	-16.95
229	SLU 77	77	-59	3031	4.81	-731.32	-21.43
229	SLU 78	77	-52	3019	4.73	-728.3	-18.74
229	SLU 79	77	-59	3031	4.81	-731.32	-21.43
229	SLU 80	77	-52	3019	4.73	-728.3	-18.74
229	SLU 81	79	-62	3182	5.04	-764.89	-22.43
229	SLU 82	79	-54	3170	4.97	-761.87	-19.75
229	SLU 83	79	-62	3182	5.04	-764.89	-22.43
229	SLU 84	79	-54	3170	4.97	-761.87	-19.75
229	SLE RA 1	55	-39	2007	3.2	-490.48	-14.28
229	SLE RA 2	54	-31	1994	3.12	-487.12	-11.3
229	SLE RA 3	55	-39	2007	3.2	-490.48	-14.28
229	SLE RA 4	54	-34	2000	3.15	-488.46	-12.49
229	SLE RA 5	54	-31	1994	3.12	-487.12	-11.3
229	SLE RA 6	55	-39	2007	3.2	-490.48	-14.28
229	SLE RA 7	54	-34	2000	3.15	-488.46	-12.49
229	SLE RA 8	55	-39	2007	3.2	-490.48	-14.28
229	SLE RA 9	54	-34	2000	3.15	-488.46	-12.49
229	SLE RA 10	57	-35	2230	3.48	-539.34	-12.86
229	SLE RA 11	58	-44	2242	3.56	-542.69	-15.84
229	SLE RA 12	58	-39	2235	3.52	-540.68	-14.05
229	SLE RA 13	57	-35	2230	3.48	-539.34	-12.86
229	SLE RA 14	58	-44	2242	3.56	-542.69	-15.84
229	SLE RA 15	58	-39	2235	3.52	-540.68	-14.05
229	SLE RA 16	58	-44	2242	3.56	-542.69	-15.84
229	SLE RA 17	58	-39	2235	3.52	-540.68	-14.05
229	SLE RA 18	59	-46	2343	3.72	-565.07	-16.51
229	SLE RA 19	59	-41	2335	3.67	-563.06	-14.72
229	SLE RA 20	59	-46	2343	3.72	-565.07	-16.51
229	SLE RA 21	59	-41	2335	3.67	-563.06	-14.72
229	SLE FR 1	55	-39	2007	3.2	-490.48	-14.28
229	SLE FR 2	54	-38	2005	3.18	-489.81	-13.69
229	SLE FR 3	55	-39	2007	3.2	-490.48	-14.28
229	SLE FR 4	56	-40	2105	3.34	-512.18	-14.36
229	SLE FR 5	56	-41	2108	3.36	-512.86	-14.95
229	SLE FR 6	57	-43	2175	3.46	-527.78	-15.4
229	SLE QP 1	55	-39	2007	3.2	-490.48	-14.28
229	SLE QP 2	56	-41	2108	3.36	-512.86	-14.95
229	SLD 1	233	-1	2406	3.8	-573.89	-0.92
229	SLD 2	201	-41	2403	3.79	-573.53	-14.82
229	SLD 3	248	-113	2596	4.92	-621.06	-40.14
229	SLD 4	216	-153	2593	4.91	-620.7	-54.04
229	SLD 5	98	155	1910	1.79	-459.75	53.64
229	SLD 6	65	115	1907	1.79	-459.39	39.67
229	SLD 7	147	-218	2543	5.53	-616.99	-77.09
229	SLD 8	115	-259	2541	5.52	-616.62	-91.06
229	SLD 9	-3	176	1675	1.2	-409.09	61.16
229	SLD 10	-35	136	1673	1.19	-408.72	47.19
229	SLD 11	47	-197	2309	4.93	-566.32	-69.58
229	SLD 12	14	-237	2306	4.92	-565.96	-83.55
229	SLD 13	-104	70	1623	1.8	-405.01	24.14
229	SLD 14	-136	30	1620	1.8	-404.65	10.23
229	SLD 15	-89	-42	1813	2.92	-452.18	-15.08
229	SLD 16	-121	-82	1810	2.92	-451.82	-28.99
229	SLV 1	457	51	2783	4.35	-651.46	16.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
229	SLV 2	385	-40	2777	4.33	-650.64	-14.57
229	SLV 3	491	-204	3215	6.89	-758.54	-72.18
229	SLV 4	419	-295	3209	6.88	-757.72	-103.69
229	SLV 5	150	404	1659	-0.19	-392.31	140.89
229	SLV 6	78	313	1653	-0.21	-391.49	109.24
229	SLV 7	264	-444	3096	8.28	-749.26	-156.2
229	SLV 8	191	-535	3090	8.26	-748.44	-187.85
229	SLV 9	-79	453	1126	-1.55	-277.27	157.94
229	SLV 10	-152	362	1120	-1.57	-276.45	126.3
229	SLV 11	34	-396	2563	6.93	-634.22	-139.15
229	SLV 12	-38	-487	2557	6.91	-633.4	-170.8
229	SLV 13	-307	212	1007	-0.16	-267.99	73.79
229	SLV 14	-379	121	1001	-0.18	-267.17	42.28
229	SLV 15	-273	-43	1439	2.38	-375.07	-15.34
229	SLV 16	-345	-133	1433	2.36	-374.25	-46.85
229	CRTFP Ux+	0	0	0	0	0	0
229	CRTFP Ux-	0	0	0	0	0	0
229	CRTFP Uy+	0	0	0	0	0	0
229	CRTFP Uy-	0	0	0	0	0	0
232	SLU 1	88	124	3376	3.57	-14.46	-4.4
232	SLU 2	88	138	3345	3.38	-14.18	-4.3
232	SLU 3	88	124	3376	3.57	-14.46	-4.4
232	SLU 4	88	133	3357	3.46	-14.29	-4.34
232	SLU 5	88	138	3345	3.38	-14.18	-4.3
232	SLU 6	88	124	3376	3.57	-14.46	-4.4
232	SLU 7	88	133	3357	3.46	-14.29	-4.34
232	SLU 8	88	124	3376	3.57	-14.46	-4.4
232	SLU 9	88	133	3357	3.46	-14.29	-4.34
232	SLU 10	92	156	3983	3.23	-15.92	-4.77
232	SLU 11	92	142	4014	3.42	-16.19	-4.87
232	SLU 12	92	150	3995	3.3	-16.03	-4.81
232	SLU 13	92	156	3983	3.23	-15.92	-4.77
232	SLU 14	92	142	4014	3.42	-16.19	-4.87
232	SLU 15	92	150	3995	3.3	-16.03	-4.81
232	SLU 16	92	142	4014	3.42	-16.19	-4.87
232	SLU 17	92	150	3995	3.3	-16.03	-4.81
232	SLU 18	94	149	4288	3.35	-16.94	-5.07
232	SLU 19	94	158	4269	3.24	-16.77	-5.01
232	SLU 20	94	149	4288	3.35	-16.94	-5.07
232	SLU 21	94	158	4269	3.24	-16.77	-5.01
232	SLU 22	93	138	3836	3.57	-16.18	-4.83
232	SLU 23	93	153	3805	3.37	-15.91	-4.73
232	SLU 24	93	138	3836	3.57	-16.18	-4.83
232	SLU 25	93	147	3817	3.45	-16.02	-4.77
232	SLU 26	93	153	3805	3.37	-15.91	-4.73
232	SLU 27	93	138	3836	3.57	-16.18	-4.83
232	SLU 28	93	147	3817	3.45	-16.02	-4.77
232	SLU 29	93	138	3836	3.57	-16.18	-4.83
232	SLU 30	93	147	3817	3.45	-16.02	-4.77
232	SLU 31	97	170	4443	3.22	-17.64	-5.2
232	SLU 32	97	156	4475	3.41	-17.92	-5.3
232	SLU 33	97	164	4456	3.3	-17.75	-5.24
232	SLU 34	97	170	4443	3.22	-17.64	-5.2
232	SLU 35	97	156	4475	3.41	-17.92	-5.3
232	SLU 36	97	164	4456	3.3	-17.75	-5.24
232	SLU 37	97	156	4475	3.41	-17.92	-5.3
232	SLU 38	97	164	4456	3.3	-17.75	-5.24
232	SLU 39	99	163	4748	3.35	-18.66	-5.5
232	SLU 40	99	172	4729	3.23	-18.5	-5.44
232	SLU 41	99	163	4748	3.35	-18.66	-5.5
232	SLU 42	99	172	4729	3.23	-18.5	-5.44
232	SLU 43	113	156	4231	4.65	-18.2	-5.57
232	SLU 44	112	171	4200	4.46	-17.92	-5.47
232	SLU 45	113	156	4231	4.65	-18.2	-5.57
232	SLU 46	113	165	4212	4.53	-18.04	-5.51
232	SLU 47	112	171	4200	4.46	-17.92	-5.47
232	SLU 48	113	156	4231	4.65	-18.2	-5.57
232	SLU 49	113	165	4212	4.53	-18.04	-5.51
232	SLU 50	113	156	4231	4.65	-18.2	-5.57
232	SLU 51	113	165	4212	4.53	-18.04	-5.51
232	SLU 52	116	188	4838	4.3	-19.66	-5.94
232	SLU 53	117	174	4869	4.5	-19.94	-6.04
232	SLU 54	117	183	4850	4.38	-19.77	-5.98
232	SLU 55	116	188	4838	4.3	-19.66	-5.94
232	SLU 56	117	174	4869	4.5	-19.94	-6.04
232	SLU 57	117	183	4850	4.38	-19.77	-5.98
232	SLU 58	117	174	4869	4.5	-19.94	-6.04
232	SLU 59	117	183	4850	4.38	-19.77	-5.98
232	SLU 60	119	181	5143	4.43	-20.68	-6.24
232	SLU 61	118	190	5124	4.31	-20.52	-6.18
232	SLU 62	119	181	5143	4.43	-20.68	-6.24
232	SLU 63	118	190	5124	4.31	-20.52	-6.18
232	SLU 64	118	170	4691	4.64	-19.93	-6
232	SLU 65	117	185	4660	4.45	-19.65	-5.9
232	SLU 66	118	170	4691	4.64	-19.93	-6
232	SLU 67	118	179	4673	4.53	-19.76	-5.94
232	SLU 68	117	185	4660	4.45	-19.65	-5.9
232	SLU 69	118	170	4691	4.64	-19.93	-6
232	SLU 70	118	179	4673	4.53	-19.76	-5.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLU 71	118	170	4691	4.64	-19.93	-6
232	SLU 72	118	179	4673	4.53	-19.76	-5.94
232	SLU 73	121	202	5298	4.29	-21.39	-6.37
232	SLU 74	122	188	5330	4.49	-21.66	-6.47
232	SLU 75	122	197	5311	4.37	-21.5	-6.41
232	SLU 76	121	202	5298	4.29	-21.39	-6.37
232	SLU 77	122	188	5330	4.49	-21.66	-6.47
232	SLU 78	122	197	5311	4.37	-21.5	-6.41
232	SLU 79	122	188	5330	4.49	-21.66	-6.47
232	SLU 80	122	197	5311	4.37	-21.5	-6.41
232	SLU 81	124	196	5603	4.42	-22.41	-6.67
232	SLU 82	123	204	5584	4.31	-22.24	-6.61
232	SLU 83	124	196	5603	4.42	-22.41	-6.67
232	SLU 84	123	204	5584	4.31	-22.24	-6.61
232	SLE RA 1	90	128	3508	3.57	-14.95	-4.52
232	SLE RA 2	89	138	3487	3.44	-14.77	-4.45
232	SLE RA 3	90	128	3508	3.57	-14.95	-4.52
232	SLE RA 4	89	134	3495	3.5	-14.84	-4.48
232	SLE RA 5	89	138	3487	3.44	-14.77	-4.45
232	SLE RA 6	90	128	3508	3.57	-14.95	-4.52
232	SLE RA 7	89	134	3495	3.5	-14.84	-4.48
232	SLE RA 8	90	128	3508	3.57	-14.95	-4.52
232	SLE RA 9	89	134	3495	3.5	-14.84	-4.48
232	SLE RA 10	92	149	3912	3.34	-15.92	-4.77
232	SLE RA 11	92	140	3933	3.47	-16.11	-4.83
232	SLE RA 12	92	145	3920	3.39	-16	-4.79
232	SLE RA 13	92	149	3912	3.34	-15.92	-4.77
232	SLE RA 14	92	140	3933	3.47	-16.11	-4.83
232	SLE RA 15	92	145	3920	3.39	-16	-4.79
232	SLE RA 16	92	140	3933	3.47	-16.11	-4.83
232	SLE RA 17	92	145	3920	3.39	-16	-4.79
232	SLE RA 18	94	145	4115	3.43	-16.6	-4.97
232	SLE RA 19	93	151	4103	3.35	-16.49	-4.93
232	SLE RA 20	94	145	4115	3.43	-16.6	-4.97
232	SLE RA 21	93	151	4103	3.35	-16.49	-4.93
232	SLE FR 1	90	128	3508	3.57	-14.95	-4.52
232	SLE FR 2	90	130	3503	3.55	-14.91	-4.51
232	SLE FR 3	90	128	3508	3.57	-14.95	-4.52
232	SLE FR 4	91	135	3686	3.5	-15.41	-4.64
232	SLE FR 5	91	133	3690	3.53	-15.45	-4.65
232	SLE FR 6	92	136	3812	3.5	-15.78	-4.74
232	SLE QP 1	90	128	3508	3.57	-14.95	-4.52
232	SLE QP 2	91	133	3690	3.53	-15.45	-4.65
232	SLD 1	384	206	3356	2.51	2.65	-5.58
232	SLD 2	332	226	3358	2.48	2.57	-4.36
232	SLD 3	409	64	3667	4.35	0.28	-6.49
232	SLD 4	356	83	3668	4.32	0.19	-5.27
232	SLD 5	160	364	3118	0.45	-6.38	-3.98
232	SLD 6	108	384	3120	0.42	-6.47	-2.75
232	SLD 7	242	-110	4153	6.57	-14.3	-7.02
232	SLD 8	189	-91	4155	6.54	-14.39	-5.79
232	SLD 9	-7	357	3225	0.52	-16.5	-3.52
232	SLD 10	-60	377	3227	0.49	-16.59	-2.29
232	SLD 11	74	-117	4260	6.64	-24.42	-6.55
232	SLD 12	21	-98	4262	6.61	-24.51	-5.32
232	SLD 13	-175	183	3712	2.74	-31.08	-4.04
232	SLD 14	-227	202	3713	2.71	-31.17	-2.82
232	SLD 15	-150	40	4022	4.58	-33.46	-4.95
232	SLD 16	-203	60	4024	4.54	-33.54	-3.73
232	SLV 1	758	299	2932	1.22	25.62	-6.78
232	SLV 2	639	344	2936	1.15	25.42	-4.01
232	SLV 3	813	-24	3637	5.39	20.22	-8.85
232	SLV 4	695	21	3641	5.32	20.02	-6.07
232	SLV 5	249	657	2392	-3.46	5.13	-3.14
232	SLV 6	129	702	2396	-3.53	4.94	-0.35
232	SLV 7	434	-420	4742	10.43	-12.87	-10.02
232	SLV 8	314	-375	4746	10.36	-13.06	-7.23
232	SLV 9	-133	641	2634	-3.31	-17.83	-2.07
232	SLV 10	-252	686	2638	-3.38	-18.02	0.71
232	SLV 11	52	-436	4984	10.59	-35.83	-8.96
232	SLV 12	-67	-391	4988	10.52	-36.03	-6.17
232	SLV 13	-513	245	3739	1.74	-50.92	-3.23
232	SLV 14	-632	290	3743	1.67	-51.11	-0.46
232	SLV 15	-458	-78	4444	5.91	-56.32	-5.3
232	SLV 16	-576	-33	4448	5.84	-56.51	-2.53
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
236	SLU 1	49	-84	1733	-45.94	328.47	21.89
236	SLU 2	49	-74	1714	-45.49	324.72	19.33
236	SLU 3	49	-84	1733	-45.94	328.47	21.89
236	SLU 4	49	-78	1722	-45.67	326.22	20.35
236	SLU 5	49	-74	1714	-45.49	324.72	19.33
236	SLU 6	49	-84	1733	-45.94	328.47	21.89
236	SLU 7	49	-78	1722	-45.67	326.22	20.35
236	SLU 8	49	-84	1733	-45.94	328.47	21.89
236	SLU 9	49	-78	1722	-45.67	326.22	20.35
236	SLU 10	51	-91	1986	-52.68	374.91	23.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 11	52	-101	2004	-53.13	378.66	26.23
236	SLU 12	51	-95	1993	-52.86	376.41	24.7
236	SLU 13	51	-91	1986	-52.68	374.91	23.68
236	SLU 14	52	-101	2004	-53.13	378.66	26.23
236	SLU 15	51	-95	1993	-52.86	376.41	24.7
236	SLU 16	52	-101	2004	-53.13	378.66	26.23
236	SLU 17	51	-95	1993	-52.86	376.41	24.7
236	SLU 18	53	-109	2121	-56.21	400.17	28.09
236	SLU 19	52	-103	2109	-55.94	397.92	26.56
236	SLU 20	53	-109	2121	-56.21	400.17	28.09
236	SLU 21	52	-103	2109	-55.94	397.92	26.56
236	SLU 22	52	-97	1944	-51.52	367	25.09
236	SLU 23	52	-86	1925	-51.07	363.25	22.54
236	SLU 24	52	-97	1944	-51.52	367	25.09
236	SLU 25	52	-90	1932	-51.25	364.75	23.56
236	SLU 26	52	-86	1925	-51.07	363.25	22.54
236	SLU 27	52	-97	1944	-51.52	367	25.09
236	SLU 28	52	-90	1932	-51.25	364.75	23.56
236	SLU 29	52	-97	1944	-51.52	367	25.09
236	SLU 30	52	-90	1932	-51.25	364.75	23.56
236	SLU 31	54	-104	2196	-58.26	413.44	26.88
236	SLU 32	55	-114	2215	-58.71	417.19	29.43
236	SLU 33	54	-108	2204	-58.44	414.94	27.9
236	SLU 34	54	-104	2196	-58.26	413.44	26.88
236	SLU 35	55	-114	2215	-58.71	417.19	29.43
236	SLU 36	54	-108	2204	-58.44	414.94	27.9
236	SLU 37	55	-114	2215	-58.71	417.19	29.43
236	SLU 38	54	-108	2204	-58.44	414.94	27.9
236	SLU 39	56	-121	2331	-61.79	438.7	31.3
236	SLU 40	55	-115	2320	-61.52	436.45	29.76
236	SLU 41	56	-121	2331	-61.79	438.7	31.3
236	SLU 42	55	-115	2320	-61.52	436.45	29.76
236	SLU 43	63	-105	2181	-57.81	413.8	27.35
236	SLU 44	62	-94	2162	-57.36	410.06	24.8
236	SLU 45	63	-105	2181	-57.81	413.8	27.35
236	SLU 46	63	-99	2169	-57.54	411.55	25.82
236	SLU 47	62	-94	2162	-57.36	410.06	24.8
236	SLU 48	63	-105	2181	-57.81	413.8	27.35
236	SLU 49	63	-99	2169	-57.54	411.55	25.82
236	SLU 50	63	-105	2181	-57.81	413.8	27.35
236	SLU 51	63	-99	2169	-57.54	411.55	25.82
236	SLU 52	65	-112	2433	-64.54	460.24	29.15
236	SLU 53	65	-122	2452	-64.99	463.99	31.7
236	SLU 54	65	-116	2441	-64.72	461.74	30.17
236	SLU 55	65	-112	2433	-64.54	460.24	29.15
236	SLU 56	65	-122	2452	-64.99	463.99	31.7
236	SLU 57	65	-116	2441	-64.72	461.74	30.17
236	SLU 58	65	-122	2452	-64.99	463.99	31.7
236	SLU 59	65	-116	2441	-64.72	461.74	30.17
236	SLU 60	66	-130	2568	-68.07	485.5	33.56
236	SLU 61	66	-123	2557	-67.8	483.25	32.03
236	SLU 62	66	-130	2568	-68.07	485.5	33.56
236	SLU 63	66	-123	2557	-67.8	483.25	32.03
236	SLU 64	66	-117	2391	-63.39	452.33	30.56
236	SLU 65	65	-107	2373	-62.94	448.59	28
236	SLU 66	66	-117	2391	-63.39	452.33	30.56
236	SLU 67	66	-111	2380	-63.12	450.08	29.03
236	SLU 68	65	-107	2373	-62.94	448.59	28
236	SLU 69	66	-117	2391	-63.39	452.33	30.56
236	SLU 70	66	-111	2380	-63.12	450.08	29.03
236	SLU 71	66	-117	2391	-63.39	452.33	30.56
236	SLU 72	66	-111	2380	-63.12	450.08	29.03
236	SLU 73	68	-125	2644	-70.13	498.77	32.35
236	SLU 74	68	-135	2663	-70.58	502.52	34.9
236	SLU 75	68	-129	2651	-70.31	500.27	33.37
236	SLU 76	68	-125	2644	-70.13	498.77	32.35
236	SLU 77	68	-135	2663	-70.58	502.52	34.9
236	SLU 78	68	-129	2651	-70.31	500.27	33.37
236	SLU 79	68	-135	2663	-70.58	502.52	34.9
236	SLU 80	68	-129	2651	-70.31	500.27	33.37
236	SLU 81	69	-142	2779	-73.66	524.03	36.76
236	SLU 82	69	-136	2768	-73.39	521.78	35.23
236	SLU 83	69	-142	2779	-73.66	524.03	36.76
236	SLU 84	69	-136	2768	-73.39	521.78	35.23
236	SLE RA 1	50	-88	1793	-47.54	339.48	22.8
236	SLE RA 2	50	-81	1781	-47.24	336.98	21.1
236	SLE RA 3	50	-88	1793	-47.54	339.48	22.8
236	SLE RA 4	50	-83	1786	-47.36	337.98	21.78
236	SLE RA 5	50	-81	1781	-47.24	336.98	21.1
236	SLE RA 6	50	-88	1793	-47.54	339.48	22.8
236	SLE RA 7	50	-83	1786	-47.36	337.98	21.78
236	SLE RA 8	50	-88	1793	-47.54	339.48	22.8
236	SLE RA 9	50	-83	1786	-47.36	337.98	21.78
236	SLE RA 10	51	-92	1962	-52.03	370.44	24
236	SLE RA 11	52	-99	1974	-52.33	372.94	25.7
236	SLE RA 12	51	-95	1967	-52.15	371.44	24.68
236	SLE RA 13	51	-92	1962	-52.03	370.44	24
236	SLE RA 14	52	-99	1974	-52.33	372.94	25.7
236	SLE RA 15	51	-95	1967	-52.15	371.44	24.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLE RA 16	52	-99	1974	-52.33	372.94	25.7
236	SLE RA 17	51	-95	1967	-52.15	371.44	24.68
236	SLE RA 18	52	-104	2052	-54.38	387.28	26.94
236	SLE RA 19	52	-100	2044	-54.2	385.78	25.92
236	SLE RA 20	52	-104	2052	-54.38	387.28	26.94
236	SLE RA 21	52	-100	2044	-54.2	385.78	25.92
236	SLE FR 1	50	-88	1793	-47.54	339.48	22.8
236	SLE FR 2	50	-86	1791	-47.48	338.98	22.46
236	SLE FR 3	50	-88	1793	-47.54	339.48	22.8
236	SLE FR 4	51	-91	1868	-49.53	353.32	23.7
236	SLE FR 5	51	-92	1871	-49.59	353.82	24.04
236	SLE FR 6	51	-96	1922	-50.96	363.38	24.87
236	SLE QP 1	50	-88	1793	-47.54	339.48	22.8
236	SLE QP 2	51	-92	1871	-49.59	353.82	24.04
236	SLD 1	179	-32	1495	-40.01	287.58	11.82
236	SLD 2	154	2	1497	-40.06	287.9	2.69
236	SLD 3	191	-129	1677	-44.38	324.23	36.3
236	SLD 4	166	-95	1679	-44.42	324.55	27.18
236	SLD 5	80	61	1481	-40.08	278.25	-13.55
236	SLD 6	54	95	1483	-40.12	278.58	-22.72
236	SLD 7	120	-263	2088	-54.63	400.41	68.08
236	SLD 8	95	-229	2090	-54.67	400.73	58.91
236	SLD 9	6	44	1652	-44.5	306.9	-10.82
236	SLD 10	-19	78	1654	-44.55	307.23	-19.99
236	SLD 11	47	-280	2258	-59.05	429.06	70.8
236	SLD 12	22	-246	2260	-59.1	429.38	61.64
236	SLD 13	-65	-90	2063	-54.76	383.09	20.9
236	SLD 14	-90	-56	2065	-54.8	383.41	11.78
236	SLD 15	-52	-187	2245	-59.12	419.73	45.39
236	SLD 16	-78	-153	2247	-59.16	420.06	36.27
236	SLV 1	342	45	1017	-27.85	203.36	-3.78
236	SLV 2	285	122	1022	-27.95	204.1	-24.46
236	SLV 3	370	-175	1431	-37.77	286.59	51.81
236	SLV 4	313	-98	1435	-37.86	287.32	31.13
236	SLV 5	116	256	987	-28	182.2	-61.33
236	SLV 6	59	333	991	-28.09	182.93	-82.1
236	SLV 7	209	-479	2364	-61.04	459.62	123.96
236	SLV 8	152	-401	2368	-61.14	460.35	103.2
236	SLV 9	-50	216	1374	-38.04	247.28	-55.11
236	SLV 10	-108	294	1378	-38.13	248.02	-75.88
236	SLV 11	43	-518	2751	-71.08	524.7	130.18
236	SLV 12	-15	-441	2755	-71.18	525.44	109.42
236	SLV 13	-212	-87	2307	-61.31	420.31	16.95
236	SLV 14	-269	-10	2311	-61.41	421.05	-3.72
236	SLV 15	-184	-307	2720	-71.23	503.54	72.54
236	SLV 16	-241	-230	2724	-71.32	504.27	51.86
236	CRTFP Ux+	0	0	0	0	0	0
236	CRTFP Ux-	0	0	0	0	0	0
236	CRTFP Uy+	0	0	0	0	0	0
236	CRTFP Uy-	0	0	0	0	0	0
237	SLU 1	57	-32	1752	-46.34	-485.56	-10
237	SLU 2	57	-21	1732	-45.87	-479.72	-6.18
237	SLU 3	57	-32	1752	-46.34	-485.56	-10
237	SLU 4	57	-26	1740	-46.06	-482.06	-7.71
237	SLU 5	57	-21	1732	-45.87	-479.72	-6.18
237	SLU 6	57	-32	1752	-46.34	-485.56	-10
237	SLU 7	57	-26	1740	-46.06	-482.06	-7.71
237	SLU 8	57	-32	1752	-46.34	-485.56	-10
237	SLU 9	57	-26	1740	-46.06	-482.06	-7.71
237	SLU 10	61	-27	2051	-54.29	-562.86	-8.04
237	SLU 11	62	-38	2071	-54.75	-568.7	-11.86
237	SLU 12	61	-31	2059	-54.47	-565.19	-9.57
237	SLU 13	61	-27	2051	-54.29	-562.86	-8.04
237	SLU 14	62	-38	2071	-54.75	-568.7	-11.86
237	SLU 15	61	-31	2059	-54.47	-565.19	-9.57
237	SLU 16	62	-38	2071	-54.75	-568.7	-11.86
237	SLU 17	61	-31	2059	-54.47	-565.19	-9.57
237	SLU 18	63	-40	2207	-58.36	-604.33	-12.66
237	SLU 19	63	-34	2195	-58.08	-600.82	-10.37
237	SLU 20	63	-40	2207	-58.36	-604.33	-12.66
237	SLU 21	63	-34	2195	-58.08	-600.82	-10.37
237	SLU 22	62	-37	1969	-52.06	-542.4	-11.42
237	SLU 23	61	-26	1949	-51.6	-536.56	-7.61
237	SLU 24	62	-37	1969	-52.06	-542.4	-11.42
237	SLU 25	61	-30	1957	-51.78	-538.9	-9.13
237	SLU 26	61	-26	1949	-51.6	-536.56	-7.61
237	SLU 27	62	-37	1969	-52.06	-542.4	-11.42
237	SLU 28	61	-30	1957	-51.78	-538.9	-9.13
237	SLU 29	62	-37	1969	-52.06	-542.4	-11.42
237	SLU 30	61	-30	1957	-51.78	-538.9	-9.13
237	SLU 31	66	-31	2267	-60.01	-619.69	-9.47
237	SLU 32	66	-42	2287	-60.48	-625.53	-13.28
237	SLU 33	66	-36	2275	-60.2	-622.03	-10.99
237	SLU 34	66	-31	2267	-60.01	-619.69	-9.47
237	SLU 35	66	-42	2287	-60.48	-625.53	-13.28
237	SLU 36	66	-36	2275	-60.2	-622.03	-10.99
237	SLU 37	66	-42	2287	-60.48	-625.53	-13.28
237	SLU 38	66	-36	2275	-60.2	-622.03	-10.99
237	SLU 39	68	-45	2424	-64.09	-661.16	-14.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLU 40	68	-38	2412	-63.81	-657.66	-11.79
237	SLU 41	68	-45	2424	-64.09	-661.16	-14.08
237	SLU 42	68	-38	2412	-63.81	-657.66	-11.79
237	SLU 43	72	-41	2204	-58.28	-611.75	-12.51
237	SLU 44	72	-30	2184	-57.81	-605.91	-8.69
237	SLU 45	72	-41	2204	-58.28	-611.75	-12.51
237	SLU 46	72	-34	2192	-58	-608.24	-10.22
237	SLU 47	72	-30	2184	-57.81	-605.91	-8.69
237	SLU 48	72	-41	2204	-58.28	-611.75	-12.51
237	SLU 49	72	-34	2192	-58	-608.24	-10.22
237	SLU 50	72	-41	2204	-58.28	-611.75	-12.51
237	SLU 51	72	-34	2192	-58	-608.24	-10.22
237	SLU 52	77	-35	2502	-66.23	-689.04	-10.55
237	SLU 53	77	-46	2522	-66.69	-694.88	-14.37
237	SLU 54	77	-40	2510	-66.41	-691.38	-12.08
237	SLU 55	77	-35	2502	-66.23	-689.04	-10.55
237	SLU 56	77	-46	2522	-66.69	-694.88	-14.37
237	SLU 57	77	-40	2510	-66.41	-691.38	-12.08
237	SLU 58	77	-46	2522	-66.69	-694.88	-14.37
237	SLU 59	77	-40	2510	-66.41	-691.38	-12.08
237	SLU 60	79	-49	2659	-70.3	-730.51	-15.17
237	SLU 61	79	-42	2647	-70.02	-727.01	-12.88
237	SLU 62	79	-49	2659	-70.3	-730.51	-15.17
237	SLU 63	79	-42	2647	-70.02	-727.01	-12.88
237	SLU 64	77	-45	2420	-64	-668.58	-13.93
237	SLU 65	77	-34	2400	-63.53	-662.74	-10.12
237	SLU 66	77	-45	2420	-64	-668.58	-13.93
237	SLU 67	77	-38	2408	-63.72	-665.08	-11.64
237	SLU 68	77	-34	2400	-63.53	-662.74	-10.12
237	SLU 69	77	-45	2420	-64	-668.58	-13.93
237	SLU 70	77	-38	2408	-63.72	-665.08	-11.64
237	SLU 71	77	-45	2420	-64	-668.58	-13.93
237	SLU 72	77	-38	2408	-63.72	-665.08	-11.64
237	SLU 73	81	-40	2719	-71.95	-745.88	-11.98
237	SLU 74	82	-51	2739	-72.42	-751.72	-15.79
237	SLU 75	81	-44	2727	-72.14	-748.21	-13.5
237	SLU 76	81	-40	2719	-71.95	-745.88	-11.98
237	SLU 77	82	-51	2739	-72.42	-751.72	-15.79
237	SLU 78	81	-44	2727	-72.14	-748.21	-13.5
237	SLU 79	82	-51	2739	-72.42	-751.72	-15.79
237	SLU 80	81	-44	2727	-72.14	-748.21	-13.5
237	SLU 81	84	-53	2875	-76.02	-787.35	-16.59
237	SLU 82	83	-46	2863	-75.74	-783.84	-14.3
237	SLU 83	84	-53	2875	-76.02	-787.35	-16.59
237	SLU 84	83	-46	2863	-75.74	-783.84	-14.3
237	SLE RA 1	58	-34	1814	-47.97	-501.8	-10.4
237	SLE RA 2	58	-26	1801	-47.66	-497.91	-7.86
237	SLE RA 3	58	-34	1814	-47.97	-501.8	-10.4
237	SLE RA 4	58	-29	1806	-47.79	-499.47	-8.88
237	SLE RA 5	58	-26	1801	-47.66	-497.91	-7.86
237	SLE RA 6	58	-34	1814	-47.97	-501.8	-10.4
237	SLE RA 7	58	-29	1806	-47.79	-499.47	-8.88
237	SLE RA 8	58	-34	1814	-47.97	-501.8	-10.4
237	SLE RA 9	58	-29	1806	-47.79	-499.47	-8.88
237	SLE RA 10	61	-30	2013	-53.27	-553.33	-9.1
237	SLE RA 11	61	-37	2026	-53.58	-557.23	-11.64
237	SLE RA 12	61	-33	2018	-53.4	-554.89	-10.12
237	SLE RA 13	61	-30	2013	-53.27	-553.33	-9.1
237	SLE RA 14	61	-37	2026	-53.58	-557.23	-11.64
237	SLE RA 15	61	-33	2018	-53.4	-554.89	-10.12
237	SLE RA 16	61	-37	2026	-53.58	-557.23	-11.64
237	SLE RA 17	61	-33	2018	-53.4	-554.89	-10.12
237	SLE RA 18	63	-39	2117	-55.99	-580.98	-12.18
237	SLE RA 19	62	-35	2110	-55.8	-578.64	-10.65
237	SLE RA 20	63	-39	2117	-55.99	-580.98	-12.18
237	SLE RA 21	62	-35	2110	-55.8	-578.64	-10.65
237	SLE FR 1	58	-34	1814	-47.97	-501.8	-10.4
237	SLE FR 2	58	-32	1811	-47.91	-501.02	-9.9
237	SLE FR 3	58	-34	1814	-47.97	-501.8	-10.4
237	SLE FR 4	60	-34	1902	-50.32	-524.78	-10.43
237	SLE FR 5	60	-35	1905	-50.38	-525.56	-10.94
237	SLE FR 6	60	-36	1966	-51.98	-541.39	-11.29
237	SLE QP 1	58	-34	1814	-47.97	-501.8	-10.4
237	SLE QP 2	60	-35	1905	-50.38	-525.56	-10.94
237	SLD 1	216	0	2173	-57.49	-589.79	19.57
237	SLD 2	185	-35	2171	-57.42	-589.27	6.77
237	SLD 3	229	-96	2365	-62.07	-643.52	-13.65
237	SLD 4	198	-131	2363	-62.01	-642.99	-26.45
237	SLD 5	98	133	1695	-45.58	-463.53	53.11
237	SLD 6	67	98	1693	-45.52	-463	40.25
237	SLD 7	141	-187	2335	-60.86	-642.61	-57.63
237	SLD 8	110	-221	2333	-60.79	-642.09	-70.49
237	SLD 9	9	151	1477	-39.96	-409.02	48.61
237	SLD 10	-21	116	1475	-39.9	-408.5	35.76
237	SLD 11	52	-169	2117	-55.24	-588.11	-62.13
237	SLD 12	21	-203	2115	-55.17	-587.59	-74.98
237	SLD 13	-79	60	1447	-38.75	-408.12	4.58
237	SLD 14	-110	26	1445	-38.69	-407.59	-8.22
237	SLD 15	-66	-36	1639	-43.33	-461.84	-28.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLD 16	-97	-70	1637	-43.27	-461.32	-41.44
237	SLV 1	415	44	2513	-66.51	-671.33	58.4
237	SLV 2	345	-34	2508	-66.37	-670.14	29.4
237	SLV 3	444	-174	2949	-76.91	-793.3	-17.1
237	SLV 4	375	-252	2944	-76.77	-792.12	-46.1
237	SLV 5	146	346	1428	-39.49	-384.71	134.59
237	SLV 6	77	268	1423	-39.35	-383.51	105.46
237	SLV 7	244	-380	2881	-74.17	-791.3	-117.08
237	SLV 8	174	-458	2876	-74.02	-790.1	-146.21
237	SLV 9	-55	388	934	-26.74	-261.01	124.34
237	SLV 10	-125	309	929	-26.59	-259.82	95.21
237	SLV 11	43	-339	2387	-61.41	-667.6	-127.33
237	SLV 12	-27	-417	2382	-61.26	-666.4	-156.46
237	SLV 13	-256	181	866	-23.99	-259	24.23
237	SLV 14	-325	104	861	-23.84	-257.81	-4.77
237	SLV 15	-226	-37	1302	-34.39	-380.97	-51.27
237	SLV 16	-296	-114	1297	-34.24	-379.78	-80.28
237	CRTFP Ux+	0	0	0	0	0	0
237	CRTFP Ux-	0	0	0	0	0	0
237	CRTFP Uy+	0	0	0	0	0	0
237	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	93	106	2988	-80.43	-13.04	-0.46
240	SLU 2	92	118	2956	-79.67	-12.79	-0.38
240	SLU 3	93	106	2988	-80.43	-13.04	-0.46
240	SLU 4	92	113	2969	-79.98	-12.89	-0.41
240	SLU 5	92	118	2956	-79.67	-12.79	-0.38
240	SLU 6	93	106	2988	-80.43	-13.04	-0.46
240	SLU 7	92	113	2969	-79.98	-12.89	-0.41
240	SLU 8	93	106	2988	-80.43	-13.04	-0.46
240	SLU 9	92	113	2969	-79.98	-12.89	-0.41
240	SLU 10	98	133	3500	-94.8	-14.31	-0.63
240	SLU 11	98	120	3532	-95.56	-14.56	-0.71
240	SLU 12	98	128	3513	-95.1	-14.41	-0.66
240	SLU 13	98	133	3500	-94.8	-14.31	-0.63
240	SLU 14	98	120	3532	-95.56	-14.56	-0.71
240	SLU 15	98	128	3513	-95.1	-14.41	-0.66
240	SLU 16	98	120	3532	-95.56	-14.56	-0.71
240	SLU 17	98	128	3513	-95.1	-14.41	-0.66
240	SLU 18	101	127	3765	-102.04	-15.21	-0.81
240	SLU 19	100	134	3746	-101.59	-15.06	-0.77
240	SLU 20	101	127	3765	-102.04	-15.21	-0.81
240	SLU 21	100	134	3746	-101.59	-15.06	-0.77
240	SLU 22	99	118	3383	-91.35	-14.58	-0.64
240	SLU 23	98	130	3351	-90.59	-14.33	-0.56
240	SLU 24	99	118	3383	-91.35	-14.58	-0.64
240	SLU 25	98	125	3364	-90.89	-14.43	-0.59
240	SLU 26	98	130	3351	-90.59	-14.33	-0.56
240	SLU 27	99	118	3383	-91.35	-14.58	-0.64
240	SLU 28	98	125	3364	-90.89	-14.43	-0.59
240	SLU 29	99	118	3383	-91.35	-14.58	-0.64
240	SLU 30	98	125	3364	-90.89	-14.43	-0.59
240	SLU 31	104	145	3895	-105.72	-15.86	-0.81
240	SLU 32	105	132	3927	-106.48	-16.1	-0.89
240	SLU 33	104	140	3908	-106.02	-15.96	-0.84
240	SLU 34	104	145	3895	-105.72	-15.86	-0.81
240	SLU 35	105	132	3927	-106.48	-16.1	-0.89
240	SLU 36	104	140	3908	-106.02	-15.96	-0.84
240	SLU 37	105	132	3927	-106.48	-16.1	-0.89
240	SLU 38	104	140	3908	-106.02	-15.96	-0.84
240	SLU 39	107	139	4161	-112.96	-16.76	-0.99
240	SLU 40	106	146	4141	-112.51	-16.61	-0.95
240	SLU 41	107	139	4161	-112.96	-16.76	-0.99
240	SLU 42	106	146	4141	-112.51	-16.61	-0.95
240	SLU 43	119	133	3749	-100.82	-16.42	-0.53
240	SLU 44	118	145	3717	-100.06	-16.17	-0.46
240	SLU 45	119	133	3749	-100.82	-16.42	-0.53
240	SLU 46	118	141	3730	-100.36	-16.27	-0.49
240	SLU 47	118	145	3717	-100.06	-16.17	-0.46
240	SLU 48	119	133	3749	-100.82	-16.42	-0.53
240	SLU 49	118	141	3730	-100.36	-16.27	-0.49
240	SLU 50	119	133	3749	-100.82	-16.42	-0.53
240	SLU 51	118	141	3730	-100.36	-16.27	-0.49
240	SLU 52	123	160	4261	-115.18	-17.69	-0.71
240	SLU 53	124	148	4293	-115.95	-17.94	-0.78
240	SLU 54	124	155	4274	-115.49	-17.79	-0.74
240	SLU 55	123	160	4261	-115.18	-17.69	-0.71
240	SLU 56	124	148	4293	-115.95	-17.94	-0.78
240	SLU 57	124	155	4274	-115.49	-17.79	-0.74
240	SLU 58	124	148	4293	-115.95	-17.94	-0.78
240	SLU 59	124	155	4274	-115.49	-17.79	-0.74
240	SLU 60	127	154	4527	-122.43	-18.59	-0.89
240	SLU 61	126	162	4507	-121.97	-18.45	-0.84
240	SLU 62	127	154	4527	-122.43	-18.59	-0.89
240	SLU 63	126	162	4507	-121.97	-18.45	-0.84
240	SLU 64	125	145	4144	-111.74	-17.96	-0.71
240	SLU 65	124	157	4112	-110.98	-17.72	-0.63
240	SLU 66	125	145	4144	-111.74	-17.96	-0.71
240	SLU 67	124	153	4125	-111.28	-17.81	-0.67
240	SLU 68	124	157	4112	-110.98	-17.72	-0.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLU 69	125	145	4144	-111.74	-17.96	-0.71
240	SLU 70	124	153	4125	-111.28	-17.81	-0.67
240	SLU 71	125	145	4144	-111.74	-17.96	-0.71
240	SLU 72	124	153	4125	-111.28	-17.81	-0.67
240	SLU 73	129	172	4656	-126.1	-19.24	-0.88
240	SLU 74	130	160	4688	-126.87	-19.48	-0.96
240	SLU 75	130	167	4669	-126.41	-19.34	-0.92
240	SLU 76	129	172	4656	-126.1	-19.24	-0.88
240	SLU 77	130	160	4688	-126.87	-19.48	-0.96
240	SLU 78	130	167	4669	-126.41	-19.34	-0.92
240	SLU 79	130	160	4688	-126.87	-19.48	-0.96
240	SLU 80	130	167	4669	-126.41	-19.34	-0.92
240	SLU 81	133	166	4922	-133.35	-20.14	-1.07
240	SLU 82	132	174	4902	-132.89	-19.99	-1.02
240	SLU 83	133	166	4922	-133.35	-20.14	-1.07
240	SLU 84	132	174	4902	-132.89	-19.99	-1.02
240	SLE RA 1	95	109	3101	-83.55	-13.48	-0.51
240	SLE RA 2	94	117	3080	-83.04	-13.31	-0.46
240	SLE RA 3	95	109	3101	-83.55	-13.48	-0.51
240	SLE RA 4	94	114	3088	-83.25	-13.38	-0.48
240	SLE RA 5	94	117	3080	-83.04	-13.31	-0.46
240	SLE RA 6	95	109	3101	-83.55	-13.48	-0.51
240	SLE RA 7	94	114	3088	-83.25	-13.38	-0.48
240	SLE RA 8	95	109	3101	-83.55	-13.48	-0.51
240	SLE RA 9	94	114	3088	-83.25	-13.38	-0.48
240	SLE RA 10	98	127	3443	-93.13	-14.33	-0.62
240	SLE RA 11	98	119	3464	-93.64	-14.49	-0.67
240	SLE RA 12	98	124	3451	-93.33	-14.39	-0.64
240	SLE RA 13	98	127	3443	-93.13	-14.33	-0.62
240	SLE RA 14	98	119	3464	-93.64	-14.49	-0.67
240	SLE RA 15	98	124	3451	-93.33	-14.39	-0.64
240	SLE RA 16	98	119	3464	-93.64	-14.49	-0.67
240	SLE RA 17	98	124	3451	-93.33	-14.39	-0.64
240	SLE RA 18	100	123	3619	-97.96	-14.93	-0.75
240	SLE RA 19	100	128	3606	-97.66	-14.83	-0.72
240	SLE RA 20	100	123	3619	-97.96	-14.93	-0.75
240	SLE RA 21	100	128	3606	-97.66	-14.83	-0.72
240	SLE FR 1	95	109	3101	-83.55	-13.48	-0.51
240	SLE FR 2	95	111	3097	-83.45	-13.45	-0.5
240	SLE FR 3	95	109	3101	-83.55	-13.48	-0.51
240	SLE FR 4	96	115	3252	-87.77	-13.88	-0.57
240	SLE FR 5	96	113	3257	-87.88	-13.91	-0.58
240	SLE FR 6	97	116	3360	-90.76	-14.2	-0.63
240	SLE QP 1	95	109	3101	-83.55	-13.48	-0.51
240	SLE QP 2	96	113	3257	-87.88	-13.91	-0.58
240	SLD 1	350	176	2946	-79.89	1.79	6.2
240	SLD 2	301	192	2947	-79.93	1.71	5.81
240	SLD 3	374	54	3260	-87.39	-0.34	5.91
240	SLD 4	325	71	3260	-87.43	-0.42	5.52
240	SLD 5	153	310	2688	-74.09	-5.93	2.03
240	SLD 6	103	327	2689	-74.13	-6.01	1.64
240	SLD 7	234	-94	3733	-99.09	-13.06	1.07
240	SLD 8	184	-77	3733	-99.13	-13.14	0.67
240	SLD 9	9	304	2780	-76.62	-14.69	-1.83
240	SLD 10	-41	321	2781	-76.66	-14.77	-2.23
240	SLD 11	89	-100	3825	-101.62	-21.82	-2.8
240	SLD 12	39	-84	3825	-101.66	-21.9	-3.19
240	SLD 13	-132	155	3253	-88.32	-27.4	-6.68
240	SLD 14	-182	172	3254	-88.36	-27.48	-7.07
240	SLD 15	-108	34	3566	-95.82	-29.54	-6.97
240	SLD 16	-158	51	3567	-95.86	-29.62	-7.36
240	SLV 1	674	255	2552	-69.74	21.73	14.83
240	SLV 2	561	293	2553	-69.83	21.55	13.94
240	SLV 3	729	-21	3263	-86.78	16.87	14.16
240	SLV 4	616	18	3265	-86.87	16.69	13.27
240	SLV 5	226	560	1965	-56.57	4.21	5.38
240	SLV 6	113	599	1967	-56.66	4.03	4.48
240	SLV 7	409	-358	4337	-113.35	-11.98	3.14
240	SLV 8	295	-320	4339	-113.44	-12.17	2.24
240	SLV 9	-103	546	2174	-62.31	-15.66	-3.4
240	SLV 10	-216	585	2176	-62.4	-15.84	-4.29
240	SLV 11	80	-372	4546	-119.09	-31.86	-5.64
240	SLV 12	-34	-334	4548	-119.19	-32.04	-6.53
240	SLV 13	-423	209	3248	-88.88	-44.51	-14.42
240	SLV 14	-536	247	3250	-88.97	-44.7	-15.32
240	SLV 15	-369	-67	3960	-105.92	-49.37	-15.1
240	SLV 16	-481	-28	3962	-106.01	-49.55	-15.99
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	0
240	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	93	-45	2780	-613.84	-611.65	10.38
267	SLU 2	93	-28	2747	-607.32	-604.09	14.22
267	SLU 3	93	-45	2780	-613.84	-611.65	10.38
267	SLU 4	93	-35	2761	-609.93	-607.12	12.69
267	SLU 5	93	-28	2747	-607.32	-604.09	14.22
267	SLU 6	93	-45	2780	-613.84	-611.65	10.38
267	SLU 7	93	-35	2761	-609.93	-607.12	12.69
267	SLU 8	93	-45	2780	-613.84	-611.65	10.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLU 9	93	-35	2761	-609.93	-607.12	12.69
267	SLU 10	100	-37	3257	-719.52	-713.58	13.82
267	SLU 11	100	-53	3289	-726.04	-721.14	9.98
267	SLU 12	100	-43	3270	-722.12	-716.61	12.29
267	SLU 13	100	-37	3257	-719.52	-713.58	13.82
267	SLU 14	100	-53	3289	-726.04	-721.14	9.98
267	SLU 15	100	-43	3270	-722.12	-716.61	12.29
267	SLU 16	100	-53	3289	-726.04	-721.14	9.98
267	SLU 17	100	-43	3270	-722.12	-716.61	12.29
267	SLU 18	103	-57	3507	-774.12	-768.07	9.81
267	SLU 19	103	-47	3488	-770.21	-763.53	12.11
267	SLU 20	103	-57	3507	-774.12	-768.07	9.81
267	SLU 21	103	-47	3488	-770.21	-763.53	12.11
267	SLU 22	101	-51	3125	-689.88	-686.18	10.49
267	SLU 23	100	-35	3093	-683.36	-678.62	14.34
267	SLU 24	101	-51	3125	-689.88	-686.18	10.49
267	SLU 25	100	-41	3106	-685.97	-681.65	12.8
267	SLU 26	100	-35	3093	-683.36	-678.62	14.34
267	SLU 27	101	-51	3125	-689.88	-686.18	10.49
267	SLU 28	100	-41	3106	-685.97	-681.65	12.8
267	SLU 29	101	-51	3125	-689.88	-686.18	10.49
267	SLU 30	100	-41	3106	-685.97	-681.65	12.8
267	SLU 31	107	-43	3602	-795.56	-788.12	13.94
267	SLU 32	107	-60	3634	-802.08	-795.68	10.09
267	SLU 33	107	-50	3615	-798.17	-791.14	12.4
267	SLU 34	107	-43	3602	-795.56	-788.12	13.94
267	SLU 35	107	-60	3634	-802.08	-795.68	10.09
267	SLU 36	107	-50	3615	-798.17	-791.14	12.4
267	SLU 37	107	-60	3634	-802.08	-795.68	10.09
267	SLU 38	107	-50	3615	-798.17	-791.14	12.4
267	SLU 39	110	-64	3852	-850.16	-842.6	9.92
267	SLU 40	110	-54	3833	-846.25	-838.07	12.23
267	SLU 41	110	-64	3852	-850.16	-842.6	9.92
267	SLU 42	110	-54	3833	-846.25	-838.07	12.23
267	SLU 43	119	-56	3496	-771.92	-769.59	13.45
267	SLU 44	119	-39	3463	-765.4	-762.03	17.3
267	SLU 45	119	-56	3496	-771.92	-769.59	13.45
267	SLU 46	119	-46	3476	-768.01	-765.06	15.76
267	SLU 47	119	-39	3463	-765.4	-762.03	17.3
267	SLU 48	119	-56	3496	-771.92	-769.59	13.45
267	SLU 49	119	-46	3476	-768.01	-765.06	15.76
267	SLU 50	119	-56	3496	-771.92	-769.59	13.45
267	SLU 51	119	-46	3476	-768.01	-765.06	15.76
267	SLU 52	126	-48	3972	-877.6	-871.53	16.9
267	SLU 53	126	-65	4005	-884.12	-879.09	13.05
267	SLU 54	126	-55	3985	-880.21	-874.55	15.36
267	SLU 55	126	-48	3972	-877.6	-871.53	16.9
267	SLU 56	126	-65	4005	-884.12	-879.09	13.05
267	SLU 57	126	-55	3985	-880.21	-874.55	15.36
267	SLU 58	126	-65	4005	-884.12	-879.09	13.05
267	SLU 59	126	-55	3985	-880.21	-874.55	15.36
267	SLU 60	129	-68	4223	-932.2	-926.01	12.88
267	SLU 61	129	-58	4203	-928.29	-921.47	15.19
267	SLU 62	129	-68	4223	-932.2	-926.01	12.88
267	SLU 63	129	-58	4203	-928.29	-921.47	15.19
267	SLU 64	126	-63	3841	-847.97	-844.12	13.57
267	SLU 65	126	-46	3808	-841.44	-836.56	17.41
267	SLU 66	126	-63	3841	-847.97	-844.12	13.57
267	SLU 67	126	-53	3821	-844.05	-839.59	15.88
267	SLU 68	126	-46	3808	-841.44	-836.56	17.41
267	SLU 69	126	-63	3841	-847.97	-844.12	13.57
267	SLU 70	126	-53	3821	-844.05	-839.59	15.88
267	SLU 71	126	-63	3841	-847.97	-844.12	13.57
267	SLU 72	126	-53	3821	-844.05	-839.59	15.88
267	SLU 73	133	-54	4317	-953.64	-946.06	17.01
267	SLU 74	133	-71	4350	-960.16	-953.62	13.17
267	SLU 75	133	-61	4330	-956.25	-949.08	15.47
267	SLU 76	133	-54	4317	-953.64	-946.06	17.01
267	SLU 77	133	-71	4350	-960.16	-953.62	13.17
267	SLU 78	133	-61	4330	-956.25	-949.08	15.47
267	SLU 79	133	-71	4350	-960.16	-953.62	13.17
267	SLU 80	133	-61	4330	-956.25	-949.08	15.47
267	SLU 81	136	-75	4568	-1008.24	-1000.54	13
267	SLU 82	136	-65	4549	-1004.33	-996.01	15.3
267	SLU 83	136	-75	4568	-1008.24	-1000.54	13
267	SLU 84	136	-65	4549	-1004.33	-996.01	15.3
267	SLE RA 1	95	-47	2879	-635.57	-632.95	10.41
267	SLE RA 2	95	-36	2857	-631.22	-627.91	12.98
267	SLE RA 3	95	-47	2879	-635.57	-632.95	10.41
267	SLE RA 4	95	-40	2866	-632.96	-629.92	11.95
267	SLE RA 5	95	-36	2857	-631.22	-627.91	12.98
267	SLE RA 6	95	-47	2879	-635.57	-632.95	10.41
267	SLE RA 7	95	-40	2866	-632.96	-629.92	11.95
267	SLE RA 8	95	-47	2879	-635.57	-632.95	10.41
267	SLE RA 9	95	-40	2866	-632.96	-629.92	11.95
267	SLE RA 10	100	-41	3196	-706.02	-700.9	12.71
267	SLE RA 11	100	-52	3218	-710.37	-705.94	10.14
267	SLE RA 12	100	-46	3205	-707.76	-702.92	11.68
267	SLE RA 13	100	-41	3196	-706.02	-700.9	12.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLE RA 14	100	-52	3218	-710.37	-705.94	10.14
267	SLE RA 15	100	-46	3205	-707.76	-702.92	11.68
267	SLE RA 16	100	-52	3218	-710.37	-705.94	10.14
267	SLE RA 17	100	-46	3205	-707.76	-702.92	11.68
267	SLE RA 18	102	-55	3363	-742.42	-737.23	10.03
267	SLE RA 19	102	-48	3350	-739.81	-734.2	11.57
267	SLE RA 20	102	-55	3363	-742.42	-737.23	10.03
267	SLE RA 21	102	-48	3350	-739.81	-734.2	11.57
267	SLE FR 1	95	-47	2879	-635.57	-632.95	10.41
267	SLE FR 2	95	-44	2874	-634.7	-631.94	10.92
267	SLE FR 3	95	-47	2879	-635.57	-632.95	10.41
267	SLE FR 4	97	-47	3020	-666.75	-663.22	10.81
267	SLE FR 5	97	-49	3024	-667.62	-664.23	10.3
267	SLE FR 6	99	-51	3121	-688.99	-685.09	10.22
267	SLE QP 1	95	-47	2879	-635.57	-632.95	10.41
267	SLE QP 2	97	-49	3024	-667.62	-664.23	10.3
267	SLD 1	336	5	3460	-766.11	-751.66	81.55
267	SLD 2	288	-48	3456	-765.2	-750.84	57.83
267	SLD 3	355	-140	3782	-830.66	-822.61	51.04
267	SLD 4	307	-193	3778	-829.75	-821.79	27.32
267	SLD 5	157	206	2669	-599.59	-583.14	86.3
267	SLD 6	109	152	2665	-598.68	-582.32	62.47
267	SLD 7	220	-278	3740	-814.76	-819.64	-15.4
267	SLD 8	172	-331	3736	-813.84	-818.81	-39.22
267	SLD 9	23	233	2312	-521.41	-509.65	59.82
267	SLD 10	-26	179	2308	-520.49	-508.82	35.99
267	SLD 11	86	-250	3383	-736.57	-746.14	-41.88
267	SLD 12	37	-304	3379	-735.66	-745.32	-65.71
267	SLD 13	-112	95	2271	-505.5	-506.67	-6.73
267	SLD 14	-160	42	2267	-504.59	-505.85	-30.44
267	SLD 15	-93	-50	2592	-570.05	-577.62	-37.24
267	SLD 16	-141	-103	2588	-569.14	-576.8	-60.95
267	SLV 1	640	74	4014	-891.1	-862.57	172.48
267	SLV 2	530	-47	4005	-889.04	-860.72	118.73
267	SLV 3	683	-256	4743	-1037.63	-1023.65	103.04
267	SLV 4	573	-376	4734	-1035.57	-1021.79	49.29
267	SLV 5	233	530	2218	-513.15	-480.09	183.2
267	SLV 6	123	409	2209	-511.08	-478.23	129.21
267	SLV 7	377	-568	4649	-1001.59	-1017	-48.27
267	SLV 8	267	-689	4640	-999.52	-1015.14	-102.25
267	SLV 9	-72	591	1409	-335.73	-313.32	122.85
267	SLV 10	-182	470	1399	-333.66	-311.46	68.86
267	SLV 11	72	-507	3839	-824.16	-850.23	-108.62
267	SLV 12	-39	-628	3830	-822.1	-848.37	-162.61
267	SLV 13	-378	278	1314	-299.68	-306.67	-28.69
267	SLV 14	-488	157	1305	-297.62	-304.81	-82.45
267	SLV 15	-335	-51	2043	-446.21	-467.74	-98.13
267	SLV 16	-445	-172	2034	-444.15	-465.89	-151.89
267	CRTFP Ux+	0	0	0	0.01	0.01	0
267	CRTFP Ux-	0	0	0	-0.01	-0.01	0
267	CRTFP Uy+	0	0	0	-0.01	-0.01	0
267	CRTFP Uy-	0	0	0	0.01	0.01	0
269	SLU 1	61	-33	1775	-481.6	-45.83	19.83
269	SLU 2	60	-23	1754	-476.13	-45.28	19.98
269	SLU 3	61	-33	1775	-481.6	-45.83	19.83
269	SLU 4	60	-27	1762	-478.32	-45.5	19.92
269	SLU 5	60	-23	1754	-476.13	-45.28	19.98
269	SLU 6	61	-33	1775	-481.6	-45.83	19.83
269	SLU 7	60	-27	1762	-478.32	-45.5	19.92
269	SLU 8	61	-33	1775	-481.6	-45.83	19.83
269	SLU 9	60	-27	1762	-478.32	-45.5	19.92
269	SLU 10	65	-28	2075	-560.55	-53.41	21.46
269	SLU 11	65	-39	2096	-566.02	-53.97	21.32
269	SLU 12	65	-32	2084	-562.74	-53.64	21.41
269	SLU 13	65	-28	2075	-560.55	-53.41	21.46
269	SLU 14	65	-39	2096	-566.02	-53.97	21.32
269	SLU 15	65	-32	2084	-562.74	-53.64	21.41
269	SLU 16	65	-39	2096	-566.02	-53.97	21.32
269	SLU 17	65	-32	2084	-562.74	-53.64	21.41
269	SLU 18	67	-41	2234	-602.2	-57.46	21.96
269	SLU 19	67	-35	2221	-598.92	-57.12	22.04
269	SLU 20	67	-41	2234	-602.2	-57.46	21.96
269	SLU 21	67	-35	2221	-598.92	-57.12	22.04
269	SLU 22	65	-38	1993	-538.68	-51.39	21.37
269	SLU 23	65	-27	1972	-533.22	-50.84	21.51
269	SLU 24	65	-38	1993	-538.68	-51.39	21.37
269	SLU 25	65	-31	1981	-535.4	-51.06	21.45
269	SLU 26	65	-27	1972	-533.22	-50.84	21.51
269	SLU 27	65	-38	1993	-538.68	-51.39	21.37
269	SLU 28	65	-31	1981	-535.4	-51.06	21.45
269	SLU 29	65	-38	1993	-538.68	-51.39	21.37
269	SLU 30	65	-31	1981	-535.4	-51.06	21.45
269	SLU 31	70	-32	2294	-617.64	-58.97	23
269	SLU 32	70	-43	2314	-623.1	-59.53	22.86
269	SLU 33	70	-37	2302	-619.82	-59.19	22.94
269	SLU 34	70	-32	2294	-617.64	-58.97	23
269	SLU 35	70	-43	2314	-623.1	-59.53	22.86
269	SLU 36	70	-37	2302	-619.82	-59.19	22.94
269	SLU 37	70	-43	2314	-623.1	-59.53	22.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLU 38	70	-37	2302	-619.82	-59.19	22.94
269	SLU 39	72	-46	2452	-659.28	-63.01	23.49
269	SLU 40	72	-39	2440	-656	-62.68	23.58
269	SLU 41	72	-46	2452	-659.28	-63.01	23.49
269	SLU 42	72	-39	2440	-656	-62.68	23.58
269	SLU 43	77	-42	2232	-606.51	-57.68	25.26
269	SLU 44	77	-31	2211	-601.04	-57.12	25.4
269	SLU 45	77	-42	2232	-606.51	-57.68	25.26
269	SLU 46	77	-35	2220	-603.23	-57.34	25.34
269	SLU 47	77	-31	2211	-601.04	-57.12	25.4
269	SLU 48	77	-42	2232	-606.51	-57.68	25.26
269	SLU 49	77	-35	2220	-603.23	-57.34	25.34
269	SLU 50	77	-42	2232	-606.51	-57.68	25.26
269	SLU 51	77	-35	2220	-603.23	-57.34	25.34
269	SLU 52	82	-37	2533	-685.46	-65.26	26.89
269	SLU 53	82	-47	2553	-690.93	-65.81	26.74
269	SLU 54	82	-41	2541	-687.65	-65.48	26.83
269	SLU 55	82	-37	2533	-685.46	-65.26	26.89
269	SLU 56	82	-47	2553	-690.93	-65.81	26.74
269	SLU 57	82	-41	2541	-687.65	-65.48	26.83
269	SLU 58	82	-47	2553	-690.93	-65.81	26.74
269	SLU 59	82	-41	2541	-687.65	-65.48	26.83
269	SLU 60	84	-50	2691	-727.11	-69.3	27.38
269	SLU 61	84	-43	2679	-723.83	-68.97	27.47
269	SLU 62	84	-50	2691	-727.11	-69.3	27.38
269	SLU 63	84	-43	2679	-723.83	-68.97	27.47
269	SLU 64	82	-46	2450	-663.59	-63.23	26.79
269	SLU 65	82	-35	2430	-658.12	-62.68	26.94
269	SLU 66	82	-46	2450	-663.59	-63.23	26.79
269	SLU 67	82	-40	2438	-660.31	-62.9	26.88
269	SLU 68	82	-35	2430	-658.12	-62.68	26.94
269	SLU 69	82	-46	2450	-663.59	-63.23	26.79
269	SLU 70	82	-40	2438	-660.31	-62.9	26.88
269	SLU 71	82	-46	2450	-663.59	-63.23	26.79
269	SLU 72	82	-40	2438	-660.31	-62.9	26.88
269	SLU 73	86	-41	2751	-742.54	-70.82	28.42
269	SLU 74	87	-52	2772	-748.01	-71.37	28.28
269	SLU 75	87	-45	2760	-744.73	-71.04	28.36
269	SLU 76	86	-41	2751	-742.54	-70.82	28.42
269	SLU 77	87	-52	2772	-748.01	-71.37	28.28
269	SLU 78	87	-45	2760	-744.73	-71.04	28.36
269	SLU 79	87	-52	2772	-748.01	-71.37	28.28
269	SLU 80	87	-45	2760	-744.73	-71.04	28.36
269	SLU 81	89	-54	2910	-784.19	-74.86	28.92
269	SLU 82	89	-48	2897	-780.91	-74.52	29
269	SLU 83	89	-54	2910	-784.19	-74.86	28.92
269	SLU 84	89	-48	2897	-780.91	-74.52	29
269	SLE RA 1	62	-35	1837	-497.91	-47.42	20.27
269	SLE RA 2	62	-27	1823	-494.26	-47.05	20.37
269	SLE RA 3	62	-35	1837	-497.91	-47.42	20.27
269	SLE RA 4	62	-30	1829	-495.72	-47.2	20.33
269	SLE RA 5	62	-27	1823	-494.26	-47.05	20.37
269	SLE RA 6	62	-35	1837	-497.91	-47.42	20.27
269	SLE RA 7	62	-30	1829	-495.72	-47.2	20.33
269	SLE RA 8	62	-35	1837	-497.91	-47.42	20.27
269	SLE RA 9	62	-30	1829	-495.72	-47.2	20.33
269	SLE RA 10	65	-31	2038	-550.54	-52.47	21.36
269	SLE RA 11	65	-38	2051	-554.19	-52.84	21.26
269	SLE RA 12	65	-34	2043	-552	-52.62	21.32
269	SLE RA 13	65	-31	2038	-550.54	-52.47	21.36
269	SLE RA 14	65	-38	2051	-554.19	-52.84	21.26
269	SLE RA 15	65	-34	2043	-552	-52.62	21.32
269	SLE RA 16	65	-38	2051	-554.19	-52.84	21.26
269	SLE RA 17	65	-34	2043	-552	-52.62	21.32
269	SLE RA 18	67	-40	2143	-578.31	-55.17	21.69
269	SLE RA 19	66	-36	2135	-576.12	-54.95	21.75
269	SLE RA 20	67	-40	2143	-578.31	-55.17	21.69
269	SLE RA 21	66	-36	2135	-576.12	-54.95	21.75
269	SLE FR 1	62	-35	1837	-497.91	-47.42	20.27
269	SLE FR 2	62	-33	1834	-497.18	-47.35	20.29
269	SLE FR 3	62	-35	1837	-497.91	-47.42	20.27
269	SLE FR 4	63	-35	1926	-521.3	-49.67	20.72
269	SLE FR 5	63	-36	1929	-522.03	-49.74	20.7
269	SLE FR 6	64	-37	1990	-538.11	-51.29	20.98
269	SLE QP 1	62	-35	1837	-497.91	-47.42	20.27
269	SLE QP 2	63	-36	1929	-522.03	-49.74	20.7
269	SLD 1	224	-1	2195	-598.82	-55.94	76.58
269	SLD 2	192	-36	2192	-598	-55.88	64.78
269	SLD 3	237	-97	2393	-645.27	-60.98	79.19
269	SLD 4	205	-132	2390	-644.45	-60.92	67.39
269	SLD 5	102	132	1709	-474.9	-43.99	37.66
269	SLD 6	70	98	1707	-474.09	-43.93	25.81
269	SLD 7	147	-188	2369	-629.73	-60.77	46.36
269	SLD 8	115	-223	2367	-628.92	-60.71	34.51
269	SLD 9	12	150	1491	-415.14	-38.78	6.89
269	SLD 10	-20	116	1488	-414.32	-38.72	-4.97
269	SLD 11	56	-170	2151	-569.97	-55.56	15.59
269	SLD 12	24	-204	2148	-569.16	-55.5	3.73
269	SLD 13	-78	59	1467	-399.6	-38.57	-26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLD 14	-110	25	1465	-398.79	-38.51	-37.79
269	SLD 15	-65	-37	1665	-446.05	-43.6	-23.39
269	SLD 16	-97	-71	1663	-445.24	-43.54	-35.18
269	SLV 1	427	43	2533	-696.26	-63.81	147.64
269	SLV 2	355	-34	2527	-694.42	-63.67	120.9
269	SLV 3	458	-175	2982	-801.72	-75.24	153.69
269	SLV 4	386	-253	2976	-799.88	-75.1	126.95
269	SLV 5	152	346	1430	-414.99	-36.67	59.02
269	SLV 6	79	268	1425	-413.14	-36.54	32.16
269	SLV 7	253	-382	2928	-766.54	-74.78	79.19
269	SLV 8	181	-460	2923	-764.69	-74.64	52.33
269	SLV 9	-54	387	935	-279.36	-24.85	-10.94
269	SLV 10	-126	309	929	-277.52	-24.71	-37.8
269	SLV 11	47	-341	2433	-630.92	-62.95	9.23
269	SLV 12	-25	-418	2427	-629.07	-62.81	-17.62
269	SLV 13	-259	180	881	-244.18	-24.38	-85.56
269	SLV 14	-331	103	876	-242.34	-24.25	-112.29
269	SLV 15	-228	-38	1331	-349.64	-35.81	-79.5
269	SLV 16	-300	-115	1325	-347.8	-35.68	-106.24
269	CRTFP Ux+	0	0	0	0.01	0	0
269	CRTFP Ux-	0	0	0	-0.01	0	0
269	CRTFP Uy+	0	0	0	0	0	0
269	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	71	-44	1926	-448.25	4.8	24.23
270	SLU 2	70	-32	1903	-442.18	4.78	24.02
270	SLU 3	71	-44	1926	-448.25	4.8	24.23
270	SLU 4	70	-37	1912	-444.61	4.79	24.1
270	SLU 5	70	-32	1903	-442.18	4.78	24.02
270	SLU 6	71	-44	1926	-448.25	4.8	24.23
270	SLU 7	70	-37	1912	-444.61	4.79	24.1
270	SLU 8	71	-44	1926	-448.25	4.8	24.23
270	SLU 9	70	-37	1912	-444.61	4.79	24.1
270	SLU 10	76	-38	2245	-515.97	5.86	25.94
270	SLU 11	76	-50	2268	-522.05	5.89	26.15
270	SLU 12	76	-43	2254	-518.4	5.88	26.02
270	SLU 13	76	-38	2245	-515.97	5.86	25.94
270	SLU 14	76	-50	2268	-522.05	5.89	26.15
270	SLU 15	76	-43	2254	-518.4	5.88	26.02
270	SLU 16	76	-50	2268	-522.05	5.89	26.15
270	SLU 17	76	-43	2254	-518.4	5.88	26.02
270	SLU 18	78	-52	2415	-553.67	6.36	26.97
270	SLU 19	78	-45	2401	-550.03	6.34	26.84
270	SLU 20	78	-52	2415	-553.67	6.36	26.97
270	SLU 21	78	-45	2401	-550.03	6.34	26.84
270	SLU 22	76	-49	2160	-498.11	5.5	26.16
270	SLU 23	76	-37	2137	-492.04	5.47	25.95
270	SLU 24	76	-49	2160	-498.11	5.5	26.16
270	SLU 25	76	-42	2146	-494.47	5.48	26.04
270	SLU 26	76	-37	2137	-492.04	5.47	25.95
270	SLU 27	76	-49	2160	-498.11	5.5	26.16
270	SLU 28	76	-42	2146	-494.47	5.48	26.04
270	SLU 29	76	-49	2160	-498.11	5.5	26.16
270	SLU 30	76	-42	2146	-494.47	5.48	26.04
270	SLU 31	81	-43	2479	-565.83	6.56	27.87
270	SLU 32	82	-54	2502	-571.91	6.59	28.08
270	SLU 33	81	-47	2488	-568.26	6.57	27.96
270	SLU 34	81	-43	2479	-565.83	6.56	27.87
270	SLU 35	82	-54	2502	-571.91	6.59	28.08
270	SLU 36	81	-47	2488	-568.26	6.57	27.96
270	SLU 37	82	-54	2502	-571.91	6.59	28.08
270	SLU 38	81	-47	2488	-568.26	6.57	27.96
270	SLU 39	84	-56	2649	-603.53	7.06	28.91
270	SLU 40	84	-50	2635	-599.89	7.04	28.78
270	SLU 41	84	-56	2649	-603.53	7.06	28.91
270	SLU 42	84	-50	2635	-599.89	7.04	28.78
270	SLU 43	90	-56	2424	-565.63	6	30.83
270	SLU 44	89	-44	2401	-559.56	5.98	30.62
270	SLU 45	90	-56	2424	-565.63	6	30.83
270	SLU 46	90	-49	2410	-561.99	5.99	30.7
270	SLU 47	89	-44	2401	-559.56	5.98	30.62
270	SLU 48	90	-56	2424	-565.63	6	30.83
270	SLU 49	90	-49	2410	-561.99	5.99	30.7
270	SLU 50	90	-56	2424	-565.63	6	30.83
270	SLU 51	90	-49	2410	-561.99	5.99	30.7
270	SLU 52	95	-50	2743	-633.35	7.07	32.54
270	SLU 53	95	-61	2766	-639.43	7.09	32.75
270	SLU 54	95	-54	2752	-635.78	7.08	32.62
270	SLU 55	95	-50	2743	-633.35	7.07	32.54
270	SLU 56	95	-61	2766	-639.43	7.09	32.75
270	SLU 57	95	-54	2752	-635.78	7.08	32.62
270	SLU 58	95	-61	2766	-639.43	7.09	32.75
270	SLU 59	95	-54	2752	-635.78	7.08	32.62
270	SLU 60	98	-63	2913	-671.05	7.56	33.57
270	SLU 61	97	-57	2899	-667.41	7.54	33.45
270	SLU 62	98	-63	2913	-671.05	7.56	33.57
270	SLU 63	97	-57	2899	-667.41	7.54	33.45
270	SLU 64	95	-60	2658	-615.49	6.7	32.77
270	SLU 65	95	-49	2635	-609.42	6.67	32.56
270	SLU 66	95	-60	2658	-615.49	6.7	32.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLU 67	95	-53	2644	-611.85	6.68	32.64
270	SLU 68	95	-49	2635	-609.42	6.67	32.56
270	SLU 69	95	-60	2658	-615.49	6.7	32.77
270	SLU 70	95	-53	2644	-611.85	6.68	32.64
270	SLU 71	95	-60	2658	-615.49	6.7	32.77
270	SLU 72	95	-53	2644	-611.85	6.68	32.64
270	SLU 73	100	-54	2977	-683.21	7.76	34.48
270	SLU 74	101	-66	3000	-689.29	7.79	34.69
270	SLU 75	101	-59	2986	-685.64	7.77	34.56
270	SLU 76	100	-54	2977	-683.21	7.76	34.48
270	SLU 77	101	-66	3000	-689.29	7.79	34.69
270	SLU 78	101	-59	2986	-685.64	7.77	34.56
270	SLU 79	101	-66	3000	-689.29	7.79	34.69
270	SLU 80	101	-59	2986	-685.64	7.77	34.56
270	SLU 81	103	-68	3146	-720.92	8.26	35.51
270	SLU 82	103	-61	3133	-717.27	8.24	35.39
270	SLU 83	103	-68	3146	-720.92	8.26	35.51
270	SLU 84	103	-61	3133	-717.27	8.24	35.39
270	SLE RA 1	72	-45	1993	-462.5	5	24.78
270	SLE RA 2	72	-38	1978	-458.45	4.98	24.64
270	SLE RA 3	72	-45	1993	-462.5	5	24.78
270	SLE RA 4	72	-41	1984	-460.07	4.99	24.7
270	SLE RA 5	72	-38	1978	-458.45	4.98	24.64
270	SLE RA 6	72	-45	1993	-462.5	5	24.78
270	SLE RA 7	72	-41	1984	-460.07	4.99	24.7
270	SLE RA 8	72	-45	1993	-462.5	5	24.78
270	SLE RA 9	72	-41	1984	-460.07	4.99	24.7
270	SLE RA 10	75	-41	2206	-507.64	5.71	25.92
270	SLE RA 11	76	-49	2221	-511.7	5.73	26.06
270	SLE RA 12	76	-44	2212	-509.26	5.72	25.98
270	SLE RA 13	75	-41	2206	-507.64	5.71	25.92
270	SLE RA 14	76	-49	2221	-511.7	5.73	26.06
270	SLE RA 15	76	-44	2212	-509.26	5.72	25.98
270	SLE RA 16	76	-49	2221	-511.7	5.73	26.06
270	SLE RA 17	76	-44	2212	-509.26	5.72	25.98
270	SLE RA 18	77	-51	2319	-532.78	6.04	26.61
270	SLE RA 19	77	-46	2310	-530.35	6.03	26.53
270	SLE RA 20	77	-51	2319	-532.78	6.04	26.61
270	SLE RA 21	77	-46	2310	-530.35	6.03	26.53
270	SLE FR 1	72	-45	1993	-462.5	5	24.78
270	SLE FR 2	72	-44	1990	-461.69	5	24.75
270	SLE FR 3	72	-45	1993	-462.5	5	24.78
270	SLE FR 4	74	-45	2088	-482.77	5.31	25.3
270	SLE FR 5	74	-47	2091	-483.58	5.31	25.33
270	SLE FR 6	75	-48	2156	-497.64	5.52	25.69
270	SLE QP 1	72	-45	1993	-462.5	5	24.78
270	SLE QP 2	74	-47	2091	-483.58	5.31	25.33
270	SLD 1	260	-10	2350	-551.22	7.06	89.51
270	SLD 2	223	-46	2348	-550.36	7.05	76.91
270	SLD 3	276	-117	2561	-591.98	7.72	95.14
270	SLD 4	239	-152	2559	-591.12	7.71	82.54
270	SLD 5	119	139	1849	-442.36	4.84	40.48
270	SLD 6	82	103	1847	-441.5	4.83	27.83
270	SLD 7	171	-217	2553	-578.22	7.04	59.25
270	SLD 8	134	-253	2551	-577.36	7.03	46.59
270	SLD 9	13	160	1631	-389.81	3.6	4.06
270	SLD 10	-24	124	1629	-388.95	3.58	-8.59
270	SLD 11	66	-197	2335	-525.67	5.8	22.83
270	SLD 12	29	-233	2332	-524.81	5.79	10.17
270	SLD 13	-92	59	1623	-376.04	2.92	-31.89
270	SLD 14	-129	23	1620	-375.19	2.91	-44.48
270	SLD 15	-76	-48	1834	-416.8	3.58	-26.26
270	SLD 16	-113	-84	1832	-415.95	3.57	-38.85
270	SLV 1	498	37	2679	-637.01	9.27	171.17
270	SLV 2	414	-44	2674	-635.07	9.25	142.62
270	SLV 3	533	-206	3159	-729.6	10.77	183.98
270	SLV 4	450	-287	3153	-727.67	10.75	155.43
270	SLV 5	176	375	1543	-389.85	4.24	59.7
270	SLV 6	92	294	1537	-387.91	4.21	31.03
270	SLV 7	296	-434	3140	-698.51	9.23	102.41
270	SLV 8	211	-516	3134	-696.57	9.21	73.74
270	SLV 9	-64	422	1047	-270.6	1.42	-23.08
270	SLV 10	-148	341	1042	-268.65	1.39	-51.75
270	SLV 11	56	-388	2645	-579.26	6.42	19.63
270	SLV 12	-29	-469	2639	-577.32	6.39	-9.05
270	SLV 13	-302	193	1029	-239.5	-0.12	-104.77
270	SLV 14	-386	112	1023	-237.56	-0.15	-133.33
270	SLV 15	-266	-50	1508	-332.09	1.38	-91.96
270	SLV 16	-350	-131	1502	-330.16	1.35	-120.51
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	71	-46	1809	-357.32	3.64	24.34
271	SLU 2	70	-36	1786	-351.36	3.62	24.12
271	SLU 3	71	-46	1809	-357.32	3.64	24.34
271	SLU 4	70	-40	1795	-353.75	3.63	24.21
271	SLU 5	70	-36	1786	-351.36	3.62	24.12
271	SLU 6	71	-46	1809	-357.32	3.64	24.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLU 7	70	-40	1795	-353.75	3.63	24.21
271	SLU 8	71	-46	1809	-357.32	3.64	24.34
271	SLU 9	70	-40	1795	-353.75	3.63	24.21
271	SLU 10	75	-40	2101	-405.3	4.45	26.04
271	SLU 11	76	-50	2124	-411.26	4.48	26.26
271	SLU 12	76	-44	2110	-407.69	4.46	26.13
271	SLU 13	75	-40	2101	-405.3	4.45	26.04
271	SLU 14	76	-50	2124	-411.26	4.48	26.26
271	SLU 15	76	-44	2110	-407.69	4.46	26.13
271	SLU 16	76	-50	2124	-411.26	4.48	26.26
271	SLU 17	76	-44	2110	-407.69	4.46	26.13
271	SLU 18	78	-52	2258	-434.38	4.83	27.09
271	SLU 19	78	-46	2245	-430.8	4.82	26.96
271	SLU 20	78	-52	2258	-434.38	4.83	27.09
271	SLU 21	78	-46	2245	-430.8	4.82	26.96
271	SLU 22	76	-50	2025	-393.8	4.17	26.28
271	SLU 23	76	-40	2003	-387.84	4.15	26.06
271	SLU 24	76	-50	2025	-393.8	4.17	26.28
271	SLU 25	76	-44	2012	-390.22	4.15	26.15
271	SLU 26	76	-40	2003	-387.84	4.15	26.06
271	SLU 27	76	-50	2025	-393.8	4.17	26.28
271	SLU 28	76	-44	2012	-390.22	4.15	26.15
271	SLU 29	76	-50	2025	-393.8	4.17	26.28
271	SLU 30	76	-44	2012	-390.22	4.15	26.15
271	SLU 31	81	-44	2317	-441.78	4.98	27.98
271	SLU 32	81	-54	2340	-447.74	5	28.2
271	SLU 33	81	-48	2326	-444.16	4.99	28.07
271	SLU 34	81	-44	2317	-441.78	4.98	27.98
271	SLU 35	81	-54	2340	-447.74	5	28.2
271	SLU 36	81	-48	2326	-444.16	4.99	28.07
271	SLU 37	81	-54	2340	-447.74	5	28.2
271	SLU 38	81	-48	2326	-444.16	4.99	28.07
271	SLU 39	84	-56	2475	-470.86	5.36	29.03
271	SLU 40	83	-50	2461	-467.28	5.34	28.9
271	SLU 41	84	-56	2475	-470.86	5.36	29.03
271	SLU 42	83	-50	2461	-467.28	5.34	28.9
271	SLU 43	90	-59	2278	-452.01	4.56	30.98
271	SLU 44	89	-48	2255	-446.05	4.54	30.76
271	SLU 45	90	-59	2278	-452.01	4.56	30.98
271	SLU 46	89	-53	2264	-448.44	4.54	30.85
271	SLU 47	89	-48	2255	-446.05	4.54	30.76
271	SLU 48	90	-59	2278	-452.01	4.56	30.98
271	SLU 49	89	-53	2264	-448.44	4.54	30.85
271	SLU 50	90	-59	2278	-452.01	4.56	30.98
271	SLU 51	89	-53	2264	-448.44	4.54	30.85
271	SLU 52	95	-53	2569	-499.99	5.37	32.68
271	SLU 53	95	-63	2592	-505.95	5.39	32.9
271	SLU 54	95	-57	2578	-502.38	5.38	32.77
271	SLU 55	95	-53	2569	-499.99	5.37	32.68
271	SLU 56	95	-63	2592	-505.95	5.39	32.9
271	SLU 57	95	-57	2578	-502.38	5.38	32.77
271	SLU 58	95	-63	2592	-505.95	5.39	32.9
271	SLU 59	95	-57	2578	-502.38	5.38	32.77
271	SLU 60	98	-65	2727	-529.07	5.75	33.73
271	SLU 61	97	-58	2713	-525.49	5.73	33.59
271	SLU 62	98	-65	2727	-529.07	5.75	33.73
271	SLU 63	97	-58	2713	-525.49	5.73	33.59
271	SLU 64	95	-63	2494	-488.49	5.08	32.92
271	SLU 65	95	-52	2471	-482.53	5.06	32.7
271	SLU 66	95	-63	2494	-488.49	5.08	32.92
271	SLU 67	95	-56	2480	-484.91	5.07	32.79
271	SLU 68	95	-52	2471	-482.53	5.06	32.7
271	SLU 69	95	-63	2494	-488.49	5.08	32.92
271	SLU 70	95	-56	2480	-484.91	5.07	32.79
271	SLU 71	95	-63	2494	-488.49	5.08	32.92
271	SLU 72	95	-56	2480	-484.91	5.07	32.79
271	SLU 73	100	-56	2786	-536.47	5.89	34.62
271	SLU 74	101	-67	2808	-542.43	5.91	34.84
271	SLU 75	100	-60	2795	-538.85	5.9	34.71
271	SLU 76	100	-56	2786	-536.47	5.89	34.62
271	SLU 77	101	-67	2808	-542.43	5.91	34.84
271	SLU 78	100	-60	2795	-538.85	5.9	34.71
271	SLU 79	101	-67	2808	-542.43	5.91	34.84
271	SLU 80	100	-60	2795	-538.85	5.9	34.71
271	SLU 81	103	-68	2943	-565.55	6.27	35.67
271	SLU 82	103	-62	2930	-561.97	6.26	35.53
271	SLU 83	103	-68	2943	-565.55	6.27	35.67
271	SLU 84	103	-62	2930	-561.97	6.26	35.53
271	SLE RA 1	72	-47	1871	-367.74	3.79	24.9
271	SLE RA 2	72	-40	1856	-363.77	3.78	24.75
271	SLE RA 3	72	-47	1871	-367.74	3.79	24.9
271	SLE RA 4	72	-43	1862	-365.36	3.78	24.81
271	SLE RA 5	72	-40	1856	-363.77	3.78	24.75
271	SLE RA 6	72	-47	1871	-367.74	3.79	24.9
271	SLE RA 7	72	-43	1862	-365.36	3.78	24.81
271	SLE RA 8	72	-47	1871	-367.74	3.79	24.9
271	SLE RA 9	72	-43	1862	-365.36	3.78	24.81
271	SLE RA 10	75	-43	2065	-399.73	4.33	26.03
271	SLE RA 11	76	-50	2081	-403.7	4.35	26.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLE RA 12	76	-46	2071	-401.32	4.34	26.09
271	SLE RA 13	75	-43	2065	-399.73	4.33	26.03
271	SLE RA 14	76	-50	2081	-403.7	4.35	26.18
271	SLE RA 15	76	-46	2071	-401.32	4.34	26.09
271	SLE RA 16	76	-50	2081	-403.7	4.35	26.18
271	SLE RA 17	76	-46	2071	-401.32	4.34	26.09
271	SLE RA 18	77	-51	2170	-419.12	4.59	26.73
271	SLE RA 19	77	-47	2161	-416.73	4.58	26.64
271	SLE RA 20	77	-51	2170	-419.12	4.59	26.73
271	SLE RA 21	77	-47	2161	-416.73	4.58	26.64
271	SLE FR 1	72	-47	1871	-367.74	3.79	24.9
271	SLE FR 2	72	-46	1868	-366.95	3.79	24.87
271	SLE FR 3	72	-47	1871	-367.74	3.79	24.9
271	SLE FR 4	74	-47	1958	-382.36	4.03	25.42
271	SLE FR 5	74	-48	1961	-383.16	4.03	25.45
271	SLE FR 6	75	-49	2021	-393.43	4.19	25.81
271	SLE QP 1	72	-47	1871	-367.74	3.79	24.9
271	SLE QP 2	74	-48	1961	-383.16	4.03	25.45
271	SLD 1	260	-15	2172	-431.77	5.57	89.8
271	SLD 2	223	-46	2169	-431.03	5.56	77.18
271	SLD 3	276	-115	2366	-461.6	6.1	95.52
271	SLD 4	239	-147	2363	-460.85	6.09	82.9
271	SLD 5	119	126	1730	-352.76	3.7	40.52
271	SLD 6	81	94	1728	-352.01	3.69	27.84
271	SLD 7	172	-210	2377	-452.19	5.45	59.6
271	SLD 8	135	-242	2375	-451.44	5.44	46.91
271	SLD 9	13	145	1546	-314.87	2.62	3.98
271	SLD 10	-24	113	1544	-314.12	2.61	-8.7
271	SLD 11	66	-191	2193	-414.3	4.37	23.05
271	SLD 12	29	-223	2191	-413.55	4.36	10.37
271	SLD 13	-92	50	1558	-305.46	1.97	-32.01
271	SLD 14	-129	18	1556	-304.71	1.97	-44.63
271	SLD 15	-76	-51	1752	-335.29	2.5	-26.29
271	SLD 16	-113	-82	1750	-334.54	2.49	-38.91
271	SLV 1	498	29	2439	-493.37	7.53	171.68
271	SLV 2	414	-43	2434	-491.68	7.51	143.07
271	SLV 3	534	-200	2880	-561.23	8.72	184.7
271	SLV 4	450	-272	2875	-559.54	8.7	156.09
271	SLV 5	175	347	1438	-313.9	3.28	59.64
271	SLV 6	91	275	1433	-312.2	3.26	30.91
271	SLV 7	296	-416	2907	-540.1	7.25	103.04
271	SLV 8	212	-488	2902	-538.4	7.23	74.31
271	SLV 9	-65	391	1020	-227.92	0.83	-23.42
271	SLV 10	-149	319	1015	-226.22	0.81	-52.15
271	SLV 11	56	-372	2489	-454.11	4.8	19.98
271	SLV 12	-28	-444	2484	-452.41	4.78	-8.75
271	SLV 13	-303	175	1047	-206.77	-0.64	-105.2
271	SLV 14	-387	103	1042	-205.08	-0.66	-133.81
271	SLV 15	-267	-54	1487	-274.63	0.55	-92.18
271	SLV 16	-351	-126	1482	-272.94	0.53	-120.79
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	70	-45	1724	-292.49	2.55	24.45
272	SLU 2	70	-36	1702	-286.56	2.53	24.22
272	SLU 3	70	-45	1724	-292.49	2.55	24.45
272	SLU 4	70	-40	1711	-288.93	2.54	24.31
272	SLU 5	70	-36	1702	-286.56	2.53	24.22
272	SLU 6	70	-45	1724	-292.49	2.55	24.45
272	SLU 7	70	-40	1711	-288.93	2.54	24.31
272	SLU 8	70	-45	1724	-292.49	2.55	24.45
272	SLU 9	70	-40	1711	-288.93	2.54	24.31
272	SLU 10	75	-39	1996	-326.39	3.11	26.14
272	SLU 11	76	-48	2018	-332.31	3.13	26.36
272	SLU 12	76	-42	2005	-328.75	3.12	26.23
272	SLU 13	75	-39	1996	-326.39	3.11	26.14
272	SLU 14	76	-48	2018	-332.31	3.13	26.36
272	SLU 15	76	-42	2005	-328.75	3.12	26.23
272	SLU 16	76	-48	2018	-332.31	3.13	26.36
272	SLU 17	76	-42	2005	-328.75	3.12	26.23
272	SLU 18	78	-49	2144	-349.37	3.38	27.19
272	SLU 19	78	-43	2131	-345.82	3.37	27.05
272	SLU 20	78	-49	2144	-349.37	3.38	27.19
272	SLU 21	78	-43	2131	-345.82	3.37	27.05
272	SLU 22	76	-48	1928	-319.51	2.9	26.38
272	SLU 23	75	-39	1905	-313.59	2.88	26.16
272	SLU 24	76	-48	1928	-319.51	2.9	26.38
272	SLU 25	76	-43	1914	-315.96	2.89	26.25
272	SLU 26	75	-39	1905	-313.59	2.88	26.16
272	SLU 27	76	-48	1928	-319.51	2.9	26.38
272	SLU 28	76	-43	1914	-315.96	2.89	26.25
272	SLU 29	76	-48	1928	-319.51	2.9	26.38
272	SLU 30	76	-43	1914	-315.96	2.89	26.25
272	SLU 31	81	-41	2200	-353.41	3.47	28.07
272	SLU 32	81	-50	2222	-359.33	3.49	28.3
272	SLU 33	81	-45	2209	-355.78	3.48	28.17
272	SLU 34	81	-41	2200	-353.41	3.47	28.07
272	SLU 35	81	-50	2222	-359.33	3.49	28.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLU 36	81	-45	2209	-355.78	3.48	28.17
272	SLU 37	81	-50	2222	-359.33	3.49	28.3
272	SLU 38	81	-45	2209	-355.78	3.48	28.17
272	SLU 39	84	-51	2348	-376.4	3.74	29.12
272	SLU 40	83	-46	2335	-372.84	3.73	28.99
272	SLU 41	84	-51	2348	-376.4	3.74	29.12
272	SLU 42	83	-46	2335	-372.84	3.73	28.99
272	SLU 43	90	-58	2171	-370.97	3.19	31.11
272	SLU 44	89	-49	2149	-365.04	3.17	30.89
272	SLU 45	90	-58	2171	-370.97	3.19	31.11
272	SLU 46	89	-53	2158	-367.41	3.18	30.98
272	SLU 47	89	-49	2149	-365.04	3.17	30.89
272	SLU 48	90	-58	2171	-370.97	3.19	31.11
272	SLU 49	89	-53	2158	-367.41	3.18	30.98
272	SLU 50	90	-58	2171	-370.97	3.19	31.11
272	SLU 51	89	-53	2158	-367.41	3.18	30.98
272	SLU 52	95	-51	2443	-404.87	3.76	32.81
272	SLU 53	95	-61	2466	-410.79	3.77	33.03
272	SLU 54	95	-55	2452	-407.23	3.76	32.9
272	SLU 55	95	-51	2443	-404.87	3.76	32.81
272	SLU 56	95	-61	2466	-410.79	3.77	33.03
272	SLU 57	95	-55	2452	-407.23	3.76	32.9
272	SLU 58	95	-61	2466	-410.79	3.77	33.03
272	SLU 59	95	-55	2452	-407.23	3.76	32.9
272	SLU 60	97	-62	2592	-427.85	4.03	33.85
272	SLU 61	97	-56	2578	-424.3	4.01	33.72
272	SLU 62	97	-62	2592	-427.85	4.03	33.85
272	SLU 63	97	-56	2578	-424.3	4.01	33.72
272	SLU 64	95	-61	2375	-397.99	3.54	33.05
272	SLU 65	95	-52	2353	-392.07	3.53	32.83
272	SLU 66	95	-61	2375	-397.99	3.54	33.05
272	SLU 67	95	-55	2362	-394.44	3.53	32.92
272	SLU 68	95	-52	2353	-392.07	3.53	32.83
272	SLU 69	95	-61	2375	-397.99	3.54	33.05
272	SLU 70	95	-55	2362	-394.44	3.53	32.92
272	SLU 71	95	-61	2375	-397.99	3.54	33.05
272	SLU 72	95	-55	2362	-394.44	3.53	32.92
272	SLU 73	100	-54	2647	-431.89	4.11	34.74
272	SLU 74	101	-63	2669	-437.81	4.13	34.97
272	SLU 75	100	-58	2656	-434.26	4.12	34.83
272	SLU 76	100	-54	2647	-431.89	4.11	34.74
272	SLU 77	101	-63	2669	-437.81	4.13	34.97
272	SLU 78	100	-58	2656	-434.26	4.12	34.83
272	SLU 79	101	-63	2669	-437.81	4.13	34.97
272	SLU 80	100	-58	2656	-434.26	4.12	34.83
272	SLU 81	103	-64	2795	-454.88	4.38	35.79
272	SLU 82	103	-59	2782	-451.32	4.37	35.66
272	SLU 83	103	-64	2795	-454.88	4.38	35.79
272	SLU 84	103	-59	2782	-451.32	4.37	35.66
272	SLE RA 1	72	-46	1782	-300.21	2.65	25
272	SLE RA 2	72	-40	1767	-296.26	2.64	24.85
272	SLE RA 3	72	-46	1782	-300.21	2.65	25
272	SLE RA 4	72	-43	1773	-297.84	2.64	24.91
272	SLE RA 5	72	-40	1767	-296.26	2.64	24.85
272	SLE RA 6	72	-46	1782	-300.21	2.65	25
272	SLE RA 7	72	-43	1773	-297.84	2.64	24.91
272	SLE RA 8	72	-46	1782	-300.21	2.65	25
272	SLE RA 9	72	-43	1773	-297.84	2.64	24.91
272	SLE RA 10	75	-42	1964	-322.81	3.03	26.13
272	SLE RA 11	76	-48	1978	-326.75	3.04	26.28
272	SLE RA 12	75	-44	1969	-324.39	3.03	26.19
272	SLE RA 13	75	-42	1964	-322.81	3.03	26.13
272	SLE RA 14	76	-48	1978	-326.75	3.04	26.28
272	SLE RA 15	75	-44	1969	-324.39	3.03	26.19
272	SLE RA 16	76	-48	1978	-326.75	3.04	26.28
272	SLE RA 17	75	-44	1969	-324.39	3.03	26.19
272	SLE RA 18	77	-48	2062	-338.13	3.21	26.83
272	SLE RA 19	77	-45	2054	-335.76	3.2	26.74
272	SLE RA 20	77	-48	2062	-338.13	3.21	26.83
272	SLE RA 21	77	-45	2054	-335.76	3.2	26.74
272	SLE FR 1	72	-46	1782	-300.21	2.65	25
272	SLE FR 2	72	-45	1779	-299.42	2.65	24.97
272	SLE FR 3	72	-46	1782	-300.21	2.65	25
272	SLE FR 4	74	-46	1863	-310.79	2.81	25.52
272	SLE FR 5	74	-47	1866	-311.58	2.82	25.55
272	SLE FR 6	75	-47	1922	-319.17	2.93	25.91
272	SLE QP 1	72	-46	1782	-300.21	2.65	25
272	SLE QP 2	74	-47	1866	-311.58	2.82	25.55
272	SLD 1	260	-15	2034	-344.64	4.17	90.06
272	SLD 2	223	-43	2032	-344.04	4.17	77.41
272	SLD 3	277	-110	2215	-366.59	4.56	95.85
272	SLD 4	240	-137	2213	-365.99	4.56	83.2
272	SLD 5	118	115	1643	-288.42	2.64	40.57
272	SLD 6	81	88	1641	-287.81	2.63	27.86
272	SLD 7	172	-199	2246	-361.59	3.93	59.88
272	SLD 8	135	-227	2244	-360.99	3.93	47.17
272	SLD 9	12	133	1489	-262.18	1.71	3.92
272	SLD 10	-25	105	1487	-261.58	1.7	-8.79
272	SLD 11	66	-181	2092	-335.36	3	23.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
272	SLD 12	29	-209	2090	-334.75	3	10.52
272	SLD 13	-92	43	1520	-257.18	1.07	-32.11
272	SLD 14	-129	16	1518	-256.58	1.07	-44.76
272	SLD 15	-76	-51	1701	-279.13	1.46	-26.32
272	SLD 16	-113	-78	1699	-278.53	1.46	-38.96
272	SLV 1	498	25	2247	-386.43	5.9	172.14
272	SLV 2	414	-38	2242	-385.07	5.88	143.47
272	SLV 3	535	-189	2658	-436.5	6.78	185.32
272	SLV 4	451	-252	2653	-435.14	6.77	156.65
272	SLV 5	175	321	1359	-258.57	2.41	59.63
272	SLV 6	91	259	1354	-257.2	2.39	30.83
272	SLV 7	297	-392	2729	-425.49	5.35	103.57
272	SLV 8	213	-455	2724	-424.12	5.33	74.77
272	SLV 9	-66	361	1009	-199.05	0.3	-23.68
272	SLV 10	-150	299	1004	-197.68	0.28	-52.48
272	SLV 11	57	-352	2378	-365.97	3.24	20.26
272	SLV 12	-28	-415	2374	-364.6	3.22	-8.54
272	SLV 13	-304	158	1079	-188.02	-1.14	-105.55
272	SLV 14	-388	96	1075	-186.67	-1.15	-134.23
272	SLV 15	-267	-56	1490	-238.1	-0.25	-92.37
272	SLV 16	-351	-118	1486	-236.74	-0.27	-121.05
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	70	-42	1670	-250.97	1.55	24.54
273	SLU 2	70	-34	1648	-245.11	1.53	24.31
273	SLU 3	70	-42	1670	-250.97	1.55	24.54
273	SLU 4	70	-37	1656	-247.45	1.54	24.4
273	SLU 5	70	-34	1648	-245.11	1.53	24.31
273	SLU 6	70	-42	1670	-250.97	1.55	24.54
273	SLU 7	70	-37	1656	-247.45	1.54	24.4
273	SLU 8	70	-42	1670	-250.97	1.55	24.54
273	SLU 9	70	-37	1656	-247.45	1.54	24.4
273	SLU 10	75	-34	1928	-275.97	1.89	26.22
273	SLU 11	76	-42	1950	-281.84	1.9	26.45
273	SLU 12	75	-38	1937	-278.32	1.89	26.31
273	SLU 13	75	-34	1928	-275.97	1.89	26.22
273	SLU 14	76	-42	1950	-281.84	1.9	26.45
273	SLU 15	75	-38	1937	-278.32	1.89	26.31
273	SLU 16	76	-42	1950	-281.84	1.9	26.45
273	SLU 17	75	-38	1937	-278.32	1.89	26.31
273	SLU 18	78	-43	2071	-295.07	2.06	27.27
273	SLU 19	78	-38	2058	-291.55	2.05	27.13
273	SLU 20	78	-43	2071	-295.07	2.06	27.27
273	SLU 21	78	-38	2058	-291.55	2.05	27.13
273	SLU 22	76	-43	1866	-272.08	1.75	26.47
273	SLU 23	75	-35	1844	-266.22	1.73	26.24
273	SLU 24	76	-43	1866	-272.08	1.75	26.47
273	SLU 25	76	-38	1852	-268.56	1.74	26.33
273	SLU 26	75	-35	1844	-266.22	1.73	26.24
273	SLU 27	76	-43	1866	-272.08	1.75	26.47
273	SLU 28	76	-38	1852	-268.56	1.74	26.33
273	SLU 29	76	-43	1866	-272.08	1.75	26.47
273	SLU 30	76	-38	1852	-268.56	1.74	26.33
273	SLU 31	81	-36	2124	-297.08	2.09	28.15
273	SLU 32	81	-44	2146	-302.95	2.11	28.38
273	SLU 33	81	-39	2133	-299.43	2.1	28.24
273	SLU 34	81	-36	2124	-297.08	2.09	28.15
273	SLU 35	81	-44	2146	-302.95	2.11	28.38
273	SLU 36	81	-39	2133	-299.43	2.1	28.24
273	SLU 37	81	-44	2146	-302.95	2.11	28.38
273	SLU 38	81	-39	2133	-299.43	2.1	28.24
273	SLU 39	83	-44	2267	-316.18	2.26	29.2
273	SLU 40	83	-39	2254	-312.66	2.25	29.06
273	SLU 41	83	-44	2267	-316.18	2.26	29.2
273	SLU 42	83	-39	2254	-312.66	2.25	29.06
273	SLU 43	90	-54	2103	-319.03	1.94	31.24
273	SLU 44	89	-46	2081	-313.16	1.92	31.01
273	SLU 45	90	-54	2103	-319.03	1.94	31.24
273	SLU 46	89	-49	2090	-315.51	1.93	31.1
273	SLU 47	89	-46	2081	-313.16	1.92	31.01
273	SLU 48	90	-54	2103	-319.03	1.94	31.24
273	SLU 49	89	-49	2090	-315.51	1.93	31.1
273	SLU 50	90	-54	2103	-319.03	1.94	31.24
273	SLU 51	89	-49	2090	-315.51	1.93	31.1
273	SLU 52	94	-47	2362	-344.03	2.28	32.92
273	SLU 53	95	-55	2384	-349.89	2.3	33.15
273	SLU 54	95	-50	2371	-346.37	2.29	33.01
273	SLU 55	94	-47	2362	-344.03	2.28	32.92
273	SLU 56	95	-55	2384	-349.89	2.3	33.15
273	SLU 57	95	-50	2371	-346.37	2.29	33.01
273	SLU 58	95	-55	2384	-349.89	2.3	33.15
273	SLU 59	95	-50	2371	-346.37	2.29	33.01
273	SLU 60	97	-55	2504	-363.12	2.45	33.97
273	SLU 61	97	-50	2491	-359.6	2.44	33.83
273	SLU 62	97	-55	2504	-363.12	2.45	33.97
273	SLU 63	97	-50	2491	-359.6	2.44	33.83
273	SLU 64	95	-55	2299	-340.14	2.14	33.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLU 65	95	-47	2277	-334.27	2.12	32.94
273	SLU 66	95	-55	2299	-340.14	2.14	33.17
273	SLU 67	95	-51	2286	-336.62	2.13	33.03
273	SLU 68	95	-47	2277	-334.27	2.12	32.94
273	SLU 69	95	-55	2299	-340.14	2.14	33.17
273	SLU 70	95	-51	2286	-336.62	2.13	33.03
273	SLU 71	95	-55	2299	-340.14	2.14	33.17
273	SLU 72	95	-51	2286	-336.62	2.13	33.03
273	SLU 73	100	-48	2558	-365.14	2.48	34.85
273	SLU 74	100	-56	2580	-371	2.5	35.08
273	SLU 75	100	-51	2567	-367.48	2.49	34.94
273	SLU 76	100	-48	2558	-365.14	2.48	34.85
273	SLU 77	100	-56	2580	-371	2.5	35.08
273	SLU 78	100	-51	2567	-367.48	2.49	34.94
273	SLU 79	100	-56	2580	-371	2.5	35.08
273	SLU 80	100	-51	2567	-367.48	2.49	34.94
273	SLU 81	103	-56	2700	-384.23	2.65	35.9
273	SLU 82	102	-51	2687	-380.71	2.64	35.76
273	SLU 83	103	-56	2700	-384.23	2.65	35.9
273	SLU 84	102	-51	2687	-380.71	2.64	35.76
273	SLE RA 1	72	-42	1726	-257	1.6	25.09
273	SLE RA 2	72	-37	1711	-253.09	1.59	24.94
273	SLE RA 3	72	-42	1726	-257	1.6	25.09
273	SLE RA 4	72	-39	1717	-254.66	1.6	25
273	SLE RA 5	72	-37	1711	-253.09	1.59	24.94
273	SLE RA 6	72	-42	1726	-257	1.6	25.09
273	SLE RA 7	72	-39	1717	-254.66	1.6	25
273	SLE RA 8	72	-42	1726	-257	1.6	25.09
273	SLE RA 9	72	-39	1717	-254.66	1.6	25
273	SLE RA 10	75	-37	1898	-273.67	1.83	26.21
273	SLE RA 11	76	-43	1913	-277.58	1.84	26.36
273	SLE RA 12	75	-39	1904	-275.23	1.84	26.27
273	SLE RA 13	75	-37	1898	-273.67	1.83	26.21
273	SLE RA 14	76	-43	1913	-277.58	1.84	26.36
273	SLE RA 15	75	-39	1904	-275.23	1.84	26.27
273	SLE RA 16	76	-43	1913	-277.58	1.84	26.36
273	SLE RA 17	75	-39	1904	-275.23	1.84	26.27
273	SLE RA 18	77	-43	1993	-286.4	1.95	26.91
273	SLE RA 19	77	-40	1984	-284.05	1.94	26.82
273	SLE RA 20	77	-43	1993	-286.4	1.95	26.91
273	SLE RA 21	77	-40	1984	-284.05	1.94	26.82
273	SLE FR 1	72	-42	1726	-257	1.6	25.09
273	SLE FR 2	72	-41	1723	-256.22	1.6	25.06
273	SLE FR 3	72	-42	1726	-257	1.6	25.09
273	SLE FR 4	73	-41	1803	-265.04	1.7	25.61
273	SLE FR 5	74	-42	1806	-265.82	1.71	25.64
273	SLE FR 6	75	-42	1859	-271.7	1.77	26
273	SLE QP 1	72	-42	1726	-257	1.6	25.09
273	SLE QP 2	74	-42	1806	-265.82	1.71	25.64
273	SLD 1	261	-13	1935	-285.98	2.92	90.28
273	SLD 2	224	-36	1933	-285.58	2.91	77.61
273	SLD 3	277	-101	2107	-302.82	3.18	96.13
273	SLD 4	240	-124	2105	-302.43	3.17	83.46
273	SLD 5	118	108	1585	-246.46	1.68	40.63
273	SLD 6	81	85	1583	-246.06	1.67	27.89
273	SLD 7	172	-185	2157	-302.61	2.54	60.12
273	SLD 8	135	-209	2155	-302.21	2.54	47.38
273	SLD 9	12	124	1456	-229.44	0.87	3.89
273	SLD 10	-25	100	1455	-229.04	0.87	-8.85
273	SLD 11	66	-169	2028	-285.58	1.74	23.38
273	SLD 12	29	-193	2027	-285.18	1.74	10.64
273	SLD 13	-93	40	1507	-229.22	0.24	-32.18
273	SLD 14	-130	16	1505	-228.82	0.24	-44.86
273	SLD 15	-76	-48	1678	-246.07	0.5	-26.34
273	SLD 16	-114	-72	1676	-245.67	0.5	-39.01
273	SLV 1	499	25	2099	-311.34	4.45	172.54
273	SLV 2	415	-28	2095	-310.44	4.44	143.81
273	SLV 3	536	-175	2489	-349.93	5.04	185.84
273	SLV 4	452	-228	2485	-349.03	5.03	157.11
273	SLV 5	174	300	1304	-221.28	1.64	59.65
273	SLV 6	90	246	1300	-220.37	1.63	30.79
273	SLV 7	298	-367	2603	-349.89	3.61	103.99
273	SLV 8	214	-420	2599	-348.98	3.6	75.14
273	SLV 9	-67	335	1012	-182.66	-0.18	-23.86
273	SLV 10	-151	282	1008	-181.76	-0.19	-52.72
273	SLV 11	57	-331	2312	-311.27	1.78	20.48
273	SLV 12	-27	-384	2307	-310.37	1.78	-8.38
273	SLV 13	-305	144	1127	-182.62	-1.62	-105.84
273	SLV 14	-389	90	1123	-181.72	-1.63	-134.57
273	SLV 15	-268	-56	1517	-221.2	-1.03	-92.54
273	SLV 16	-351	-110	1512	-220.3	-1.04	-121.27
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
274	SLU 1	70	-36	1643	-230.13	0.65	24.62
274	SLU 2	70	-29	1622	-224.4	0.63	24.39
274	SLU 3	70	-36	1643	-230.13	0.65	24.62
274	SLU 4	70	-32	1630	-226.69	0.64	24.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLU 5	70	-29	1622	-224.4	0.63	24.39
274	SLU 6	70	-36	1643	-230.13	0.65	24.62
274	SLU 7	70	-32	1630	-226.69	0.64	24.48
274	SLU 8	70	-36	1643	-230.13	0.65	24.62
274	SLU 9	70	-32	1630	-226.69	0.64	24.48
274	SLU 10	75	-28	1896	-250.91	0.78	26.29
274	SLU 11	76	-35	1917	-256.64	0.8	26.52
274	SLU 12	75	-30	1904	-253.21	0.79	26.38
274	SLU 13	75	-28	1896	-250.91	0.78	26.29
274	SLU 14	76	-35	1917	-256.64	0.8	26.52
274	SLU 15	75	-30	1904	-253.21	0.79	26.38
274	SLU 16	76	-35	1917	-256.64	0.8	26.52
274	SLU 17	75	-30	1904	-253.21	0.79	26.38
274	SLU 18	78	-34	2034	-268.01	0.87	27.33
274	SLU 19	78	-30	2022	-264.57	0.86	27.19
274	SLU 20	78	-34	2034	-268.01	0.87	27.33
274	SLU 21	78	-30	2022	-264.57	0.86	27.19
274	SLU 22	76	-36	1836	-248.48	0.71	26.54
274	SLU 23	75	-29	1814	-242.75	0.69	26.31
274	SLU 24	76	-36	1836	-248.48	0.71	26.54
274	SLU 25	75	-32	1823	-245.05	0.7	26.4
274	SLU 26	75	-29	1814	-242.75	0.69	26.31
274	SLU 27	76	-36	1836	-248.48	0.71	26.54
274	SLU 28	75	-32	1823	-245.05	0.7	26.4
274	SLU 29	76	-36	1836	-248.48	0.71	26.54
274	SLU 30	75	-32	1823	-245.05	0.7	26.4
274	SLU 31	81	-27	2088	-269.27	0.85	28.21
274	SLU 32	81	-34	2110	-275	0.86	28.44
274	SLU 33	81	-30	2097	-271.56	0.85	28.3
274	SLU 34	81	-27	2088	-269.27	0.85	28.21
274	SLU 35	81	-34	2110	-275	0.86	28.44
274	SLU 36	81	-30	2097	-271.56	0.85	28.3
274	SLU 37	81	-34	2110	-275	0.86	28.44
274	SLU 38	81	-30	2097	-271.56	0.85	28.3
274	SLU 39	83	-34	2227	-286.36	0.93	29.25
274	SLU 40	83	-29	2214	-282.93	0.92	29.11
274	SLU 41	83	-34	2227	-286.36	0.93	29.25
274	SLU 42	83	-29	2214	-282.93	0.92	29.11
274	SLU 43	90	-47	2070	-292.87	0.82	31.35
274	SLU 44	89	-40	2049	-287.14	0.81	31.12
274	SLU 45	90	-47	2070	-292.87	0.82	31.35
274	SLU 46	89	-43	2057	-289.44	0.81	31.21
274	SLU 47	89	-40	2049	-287.14	0.81	31.12
274	SLU 48	90	-47	2070	-292.87	0.82	31.35
274	SLU 49	89	-43	2057	-289.44	0.81	31.21
274	SLU 50	90	-47	2070	-292.87	0.82	31.35
274	SLU 51	89	-43	2057	-289.44	0.81	31.21
274	SLU 52	94	-38	2322	-313.66	0.96	33.02
274	SLU 53	95	-45	2344	-319.39	0.98	33.25
274	SLU 54	95	-41	2331	-315.95	0.96	33.11
274	SLU 55	94	-38	2322	-313.66	0.96	33.02
274	SLU 56	95	-45	2344	-319.39	0.98	33.25
274	SLU 57	95	-41	2331	-315.95	0.96	33.11
274	SLU 58	95	-45	2344	-319.39	0.98	33.25
274	SLU 59	95	-41	2331	-315.95	0.96	33.11
274	SLU 60	97	-45	2461	-330.75	1.04	34.06
274	SLU 61	97	-41	2449	-327.32	1.03	33.92
274	SLU 62	97	-45	2461	-330.75	1.04	34.06
274	SLU 63	97	-41	2449	-327.32	1.03	33.92
274	SLU 64	95	-47	2263	-311.23	0.89	33.27
274	SLU 65	94	-40	2241	-305.5	0.87	33.04
274	SLU 66	95	-47	2263	-311.23	0.89	33.27
274	SLU 67	95	-43	2250	-307.79	0.88	33.13
274	SLU 68	94	-40	2241	-305.5	0.87	33.04
274	SLU 69	95	-47	2263	-311.23	0.89	33.27
274	SLU 70	95	-43	2250	-307.79	0.88	33.13
274	SLU 71	95	-47	2263	-311.23	0.89	33.27
274	SLU 72	95	-43	2250	-307.79	0.88	33.13
274	SLU 73	100	-38	2515	-332.02	1.02	34.94
274	SLU 74	100	-45	2537	-337.74	1.04	35.17
274	SLU 75	100	-41	2524	-334.31	1.03	35.03
274	SLU 76	100	-38	2515	-332.02	1.02	34.94
274	SLU 77	100	-45	2537	-337.74	1.04	35.17
274	SLU 78	100	-41	2524	-334.31	1.03	35.03
274	SLU 79	100	-45	2537	-337.74	1.04	35.17
274	SLU 80	100	-41	2524	-334.31	1.03	35.03
274	SLU 81	103	-44	2654	-349.11	1.1	35.98
274	SLU 82	102	-40	2641	-345.67	1.09	35.84
274	SLU 83	103	-44	2654	-349.11	1.1	35.98
274	SLU 84	102	-40	2641	-345.67	1.09	35.84
274	SLE RA 1	72	-36	1698	-235.37	0.67	25.17
274	SLE RA 2	72	-31	1684	-231.55	0.66	25.02
274	SLE RA 3	72	-36	1698	-235.37	0.67	25.17
274	SLE RA 4	72	-33	1690	-233.08	0.66	25.08
274	SLE RA 5	72	-31	1684	-231.55	0.66	25.02
274	SLE RA 6	72	-36	1698	-235.37	0.67	25.17
274	SLE RA 7	72	-33	1690	-233.08	0.66	25.08
274	SLE RA 8	72	-36	1698	-235.37	0.67	25.17
274	SLE RA 9	72	-33	1690	-233.08	0.66	25.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLE RA 10	75	-30	1866	-249.23	0.76	26.28
274	SLE RA 11	75	-35	1881	-253.05	0.77	26.43
274	SLE RA 12	75	-32	1872	-250.76	0.76	26.34
274	SLE RA 13	75	-30	1866	-249.23	0.76	26.28
274	SLE RA 14	75	-35	1881	-253.05	0.77	26.43
274	SLE RA 15	75	-32	1872	-250.76	0.76	26.34
274	SLE RA 16	75	-35	1881	-253.05	0.77	26.43
274	SLE RA 17	75	-32	1872	-250.76	0.76	26.34
274	SLE RA 18	77	-35	1959	-260.63	0.81	26.98
274	SLE RA 19	77	-32	1950	-258.33	0.81	26.89
274	SLE RA 20	77	-35	1959	-260.63	0.81	26.98
274	SLE RA 21	77	-32	1950	-258.33	0.81	26.89
274	SLE FR 1	72	-36	1698	-235.37	0.67	25.17
274	SLE FR 2	72	-35	1695	-234.61	0.67	25.14
274	SLE FR 3	72	-36	1698	-235.37	0.67	25.17
274	SLE FR 4	73	-35	1774	-242.18	0.71	25.68
274	SLE FR 5	73	-36	1776	-242.95	0.71	25.71
274	SLE FR 6	74	-35	1829	-248	0.74	26.07
274	SLE QP 1	72	-36	1698	-235.37	0.67	25.17
274	SLE QP 2	73	-36	1776	-242.95	0.71	25.71
274	SLD 1	261	-7	1871	-252.36	1.81	90.47
274	SLD 2	223	-27	1869	-252.19	1.81	77.77
274	SLD 3	277	-90	2037	-266.51	1.95	96.36
274	SLD 4	240	-109	2035	-266.34	1.95	83.66
274	SLD 5	118	105	1554	-224.37	0.83	40.69
274	SLD 6	80	85	1552	-224.2	0.83	27.93
274	SLD 7	173	-170	2107	-271.53	1.3	60.31
274	SLD 8	135	-190	2105	-271.37	1.3	47.55
274	SLD 9	12	119	1448	-214.53	0.13	3.88
274	SLD 10	-26	99	1446	-214.36	0.12	-8.88
274	SLD 11	66	-156	2001	-261.69	0.6	23.5
274	SLD 12	29	-176	1999	-261.53	0.59	10.74
274	SLD 13	-93	38	1518	-219.55	-0.53	-32.23
274	SLD 14	-130	19	1516	-219.39	-0.53	-44.93
274	SLD 15	-77	-44	1684	-233.7	-0.39	-26.35
274	SLD 16	-114	-64	1682	-233.54	-0.39	-39.05
274	SLV 1	499	29	1991	-264.06	3.21	172.86
274	SLV 2	415	-16	1987	-263.68	3.2	144.08
274	SLV 3	536	-158	2368	-296.6	3.53	186.26
274	SLV 4	452	-203	2364	-296.22	3.52	157.47
274	SLV 5	174	284	1270	-200.07	0.98	59.68
274	SLV 6	89	239	1266	-199.69	0.97	30.77
274	SLV 7	299	-341	2527	-308.52	2.04	104.32
274	SLV 8	214	-386	2523	-308.14	2.04	75.41
274	SLV 9	-68	315	1030	-177.75	-0.61	-23.99
274	SLV 10	-152	270	1026	-177.38	-0.62	-52.9
274	SLV 11	58	-310	2286	-286.21	0.45	20.65
274	SLV 12	-27	-355	2282	-285.83	0.44	-8.26
274	SLV 13	-305	132	1189	-189.68	-2.1	-106.05
274	SLV 14	-389	87	1185	-189.3	-2.11	-134.83
274	SLV 15	-268	-55	1566	-222.21	-1.78	-92.66
274	SLV 16	-352	-100	1562	-221.84	-1.79	-121.44
274	CRTFP Ux+	0	0	0	0	0	0
274	CRTFP Ux-	0	0	0	0	0	0
274	CRTFP Uy+	0	0	0	0	0	0
274	CRTFP Uy-	0	0	0	0	0	0
275	SLU 1	70	-28	1642	-227.8	-0.14	24.69
275	SLU 2	70	-22	1621	-222.31	-0.16	24.46
275	SLU 3	70	-28	1642	-227.8	-0.14	24.69
275	SLU 4	70	-24	1630	-224.51	-0.15	24.55
275	SLU 5	70	-22	1621	-222.31	-0.16	24.46
275	SLU 6	70	-28	1642	-227.8	-0.14	24.69
275	SLU 7	70	-24	1630	-224.51	-0.15	24.55
275	SLU 8	70	-28	1642	-227.8	-0.14	24.69
275	SLU 9	70	-24	1630	-224.51	-0.15	24.55
275	SLU 10	75	-18	1894	-248.65	-0.2	26.34
275	SLU 11	76	-24	1915	-254.14	-0.18	26.56
275	SLU 12	75	-21	1903	-250.85	-0.19	26.43
275	SLU 13	75	-18	1894	-248.65	-0.2	26.34
275	SLU 14	76	-24	1915	-254.14	-0.18	26.56
275	SLU 15	75	-21	1903	-250.85	-0.19	26.43
275	SLU 16	76	-24	1915	-254.14	-0.18	26.56
275	SLU 17	75	-21	1903	-250.85	-0.19	26.43
275	SLU 18	78	-23	2032	-265.43	-0.19	27.37
275	SLU 19	77	-19	2020	-262.14	-0.2	27.23
275	SLU 20	78	-23	2032	-265.43	-0.19	27.37
275	SLU 21	77	-19	2020	-262.14	-0.2	27.23
275	SLU 22	76	-26	1835	-246.28	-0.21	26.59
275	SLU 23	75	-20	1814	-240.79	-0.23	26.37
275	SLU 24	76	-26	1835	-246.28	-0.21	26.59
275	SLU 25	75	-22	1823	-242.99	-0.22	26.46
275	SLU 26	75	-20	1814	-240.79	-0.23	26.37
275	SLU 27	76	-26	1835	-246.28	-0.21	26.59
275	SLU 28	75	-22	1823	-242.99	-0.22	26.46
275	SLU 29	76	-26	1835	-246.28	-0.21	26.59
275	SLU 30	75	-22	1823	-242.99	-0.22	26.46
275	SLU 31	80	-16	2087	-267.13	-0.26	28.24
275	SLU 32	81	-23	2108	-272.62	-0.24	28.47
275	SLU 33	81	-19	2096	-269.33	-0.25	28.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLU 34	80	-16	2087	-267.13	-0.26	28.24
275	SLU 35	81	-23	2108	-272.62	-0.24	28.47
275	SLU 36	81	-19	2096	-269.33	-0.25	28.33
275	SLU 37	81	-23	2108	-272.62	-0.24	28.47
275	SLU 38	81	-19	2096	-269.33	-0.25	28.33
275	SLU 39	83	-21	2225	-283.91	-0.26	29.27
275	SLU 40	83	-17	2213	-280.62	-0.27	29.14
275	SLU 41	83	-21	2225	-283.91	-0.26	29.27
275	SLU 42	83	-17	2213	-280.62	-0.27	29.14
275	SLU 43	90	-37	2069	-289.8	-0.16	31.44
275	SLU 44	89	-31	2048	-284.32	-0.18	31.22
275	SLU 45	90	-37	2069	-289.8	-0.16	31.44
275	SLU 46	89	-33	2056	-286.51	-0.17	31.31
275	SLU 47	89	-31	2048	-284.32	-0.18	31.22
275	SLU 48	90	-37	2069	-289.8	-0.16	31.44
275	SLU 49	89	-33	2056	-286.51	-0.17	31.31
275	SLU 50	90	-37	2069	-289.8	-0.16	31.44
275	SLU 51	89	-33	2056	-286.51	-0.17	31.31
275	SLU 52	94	-27	2321	-310.66	-0.22	33.1
275	SLU 53	95	-33	2342	-316.14	-0.2	33.32
275	SLU 54	94	-30	2329	-312.85	-0.21	33.19
275	SLU 55	94	-27	2321	-310.66	-0.22	33.1
275	SLU 56	95	-33	2342	-316.14	-0.2	33.32
275	SLU 57	94	-30	2329	-312.85	-0.21	33.19
275	SLU 58	95	-33	2342	-316.14	-0.2	33.32
275	SLU 59	94	-30	2329	-312.85	-0.21	33.19
275	SLU 60	97	-32	2459	-327.43	-0.21	34.12
275	SLU 61	97	-28	2446	-324.14	-0.23	33.99
275	SLU 62	97	-32	2459	-327.43	-0.21	34.12
275	SLU 63	97	-28	2446	-324.14	-0.23	33.99
275	SLU 64	95	-35	2262	-308.29	-0.23	33.35
275	SLU 65	94	-29	2241	-302.8	-0.25	33.12
275	SLU 66	95	-35	2262	-308.29	-0.23	33.35
275	SLU 67	95	-31	2249	-304.99	-0.24	33.21
275	SLU 68	94	-29	2241	-302.8	-0.25	33.12
275	SLU 69	95	-35	2262	-308.29	-0.23	33.35
275	SLU 70	95	-31	2249	-304.99	-0.24	33.21
275	SLU 71	95	-35	2262	-308.29	-0.23	33.35
275	SLU 72	95	-31	2249	-304.99	-0.24	33.21
275	SLU 73	100	-25	2514	-329.14	-0.28	35
275	SLU 74	100	-32	2535	-334.62	-0.26	35.22
275	SLU 75	100	-28	2522	-331.33	-0.27	35.09
275	SLU 76	100	-25	2514	-329.14	-0.28	35
275	SLU 77	100	-32	2535	-334.62	-0.26	35.22
275	SLU 78	100	-28	2522	-331.33	-0.27	35.09
275	SLU 79	100	-32	2535	-334.62	-0.26	35.22
275	SLU 80	100	-28	2522	-331.33	-0.27	35.09
275	SLU 81	102	-30	2652	-345.91	-0.28	36.03
275	SLU 82	102	-26	2639	-342.62	-0.29	35.89
275	SLU 83	102	-30	2652	-345.91	-0.28	36.03
275	SLU 84	102	-26	2639	-342.62	-0.29	35.89
275	SLE RA 1	72	-27	1697	-233.08	-0.16	25.23
275	SLE RA 2	71	-23	1683	-229.42	-0.17	25.08
275	SLE RA 3	72	-27	1697	-233.08	-0.16	25.23
275	SLE RA 4	72	-25	1689	-230.89	-0.17	25.14
275	SLE RA 5	71	-23	1683	-229.42	-0.17	25.08
275	SLE RA 6	72	-27	1697	-233.08	-0.16	25.23
275	SLE RA 7	72	-25	1689	-230.89	-0.17	25.14
275	SLE RA 8	72	-27	1697	-233.08	-0.16	25.23
275	SLE RA 9	72	-25	1689	-230.89	-0.17	25.14
275	SLE RA 10	75	-21	1865	-246.98	-0.2	26.33
275	SLE RA 11	75	-25	1879	-250.64	-0.18	26.48
275	SLE RA 12	75	-23	1871	-248.44	-0.19	26.39
275	SLE RA 13	75	-21	1865	-246.98	-0.2	26.33
275	SLE RA 14	75	-25	1879	-250.64	-0.18	26.48
275	SLE RA 15	75	-23	1871	-248.44	-0.19	26.39
275	SLE RA 16	75	-25	1879	-250.64	-0.18	26.48
275	SLE RA 17	75	-23	1871	-248.44	-0.19	26.39
275	SLE RA 18	77	-24	1957	-258.17	-0.19	27.02
275	SLE RA 19	77	-22	1949	-255.97	-0.2	26.93
275	SLE RA 20	77	-24	1957	-258.17	-0.19	27.02
275	SLE RA 21	77	-22	1949	-255.97	-0.2	26.93
275	SLE FR 1	72	-27	1697	-233.08	-0.16	25.23
275	SLE FR 2	72	-27	1695	-232.35	-0.16	25.2
275	SLE FR 3	72	-27	1697	-233.08	-0.16	25.23
275	SLE FR 4	73	-26	1773	-239.87	-0.17	25.74
275	SLE FR 5	73	-26	1775	-240.61	-0.17	25.77
275	SLE FR 6	74	-26	1827	-245.62	-0.18	26.13
275	SLE QP 1	72	-27	1697	-233.08	-0.16	25.23
275	SLE QP 2	73	-26	1775	-240.61	-0.17	25.77
275	SLD 1	260	1	1838	-241.19	0.86	90.6
275	SLD 2	223	-15	1836	-241.22	0.86	77.88
275	SLD 3	277	-77	2002	-254.72	0.9	96.52
275	SLD 4	240	-93	2000	-254.75	0.89	83.8
275	SLD 5	117	106	1546	-220.25	0.08	40.73
275	SLD 6	80	90	1544	-220.28	0.08	27.95
275	SLD 7	173	-154	2092	-265.35	0.21	60.44
275	SLD 8	136	-170	2091	-265.38	0.2	47.66
275	SLD 9	11	118	1460	-215.83	-0.55	3.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLD 10	-26	101	1458	-215.86	-0.55	-8.91
275	SLD 11	67	-143	2006	-260.93	-0.42	23.58
275	SLD 12	29	-159	2005	-260.96	-0.42	10.8
275	SLD 13	-93	40	1551	-226.46	-1.23	-32.26
275	SLD 14	-130	24	1549	-226.49	-1.24	-44.98
275	SLD 15	-77	-38	1715	-239.99	-1.2	-26.35
275	SLD 16	-114	-54	1713	-240.02	-1.2	-39.07
275	SLV 1	498	37	1916	-241.72	2.17	173.1
275	SLV 2	414	0	1913	-241.78	2.16	144.27
275	SLV 3	536	-140	2289	-272.84	2.25	186.55
275	SLV 4	452	-177	2285	-272.91	2.24	157.72
275	SLV 5	173	274	1255	-193.71	0.4	59.71
275	SLV 6	89	237	1251	-193.77	0.39	30.76
275	SLV 7	299	-316	2495	-297.46	0.69	104.56
275	SLV 8	215	-353	2491	-297.53	0.68	75.61
275	SLV 9	-68	300	1059	-183.68	-1.02	-24.07
275	SLV 10	-153	263	1056	-183.75	-1.03	-53.02
275	SLV 11	58	-290	2300	-287.44	-0.73	20.77
275	SLV 12	-26	-327	2296	-287.51	-0.74	-8.18
275	SLV 13	-306	124	1266	-208.3	-2.59	-106.18
275	SLV 14	-390	87	1262	-208.37	-2.59	-135.01
275	SLV 15	-268	-53	1638	-239.43	-2.5	-92.73
275	SLV 16	-352	-90	1634	-239.5	-2.51	-121.56
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	0	0
275	CRTFP Uy-	0	0	0	0	0	0
276	SLU 1	70	-18	1664	-242.38	-0.84	24.74
276	SLU 2	70	-12	1644	-237.2	-0.85	24.52
276	SLU 3	70	-18	1664	-242.38	-0.84	24.74
276	SLU 4	70	-14	1652	-239.27	-0.85	24.61
276	SLU 5	70	-12	1644	-237.2	-0.85	24.52
276	SLU 6	70	-18	1664	-242.38	-0.84	24.74
276	SLU 7	70	-14	1652	-239.27	-0.85	24.61
276	SLU 8	70	-18	1664	-242.38	-0.84	24.74
276	SLU 9	70	-14	1652	-239.27	-0.85	24.61
276	SLU 10	75	-7	1921	-267.26	-1.05	26.37
276	SLU 11	75	-12	1942	-272.43	-1.04	26.59
276	SLU 12	75	-9	1929	-269.33	-1.05	26.45
276	SLU 13	75	-7	1921	-267.26	-1.05	26.37
276	SLU 14	75	-12	1942	-272.43	-1.04	26.59
276	SLU 15	75	-9	1929	-269.33	-1.05	26.45
276	SLU 16	75	-12	1942	-272.43	-1.04	26.59
276	SLU 17	75	-9	1929	-269.33	-1.05	26.45
276	SLU 18	78	-10	2061	-285.31	-1.12	27.38
276	SLU 19	77	-7	2048	-282.21	-1.13	27.25
276	SLU 20	78	-10	2061	-285.31	-1.12	27.38
276	SLU 21	77	-7	2048	-282.21	-1.13	27.25
276	SLU 22	75	-14	1862	-263.68	-1.01	26.62
276	SLU 23	75	-9	1841	-258.51	-1.03	26.4
276	SLU 24	75	-14	1862	-263.68	-1.01	26.62
276	SLU 25	75	-11	1849	-260.58	-1.02	26.48
276	SLU 26	75	-9	1841	-258.51	-1.03	26.4
276	SLU 27	75	-14	1862	-263.68	-1.01	26.62
276	SLU 28	75	-11	1849	-260.58	-1.02	26.48
276	SLU 29	75	-14	1862	-263.68	-1.01	26.62
276	SLU 30	75	-11	1849	-260.58	-1.02	26.48
276	SLU 31	80	-3	2118	-288.56	-1.23	28.24
276	SLU 32	81	-9	2139	-293.74	-1.21	28.46
276	SLU 33	80	-5	2127	-290.63	-1.23	28.33
276	SLU 34	80	-3	2118	-288.56	-1.23	28.24
276	SLU 35	81	-9	2139	-293.74	-1.21	28.46
276	SLU 36	80	-5	2127	-290.63	-1.23	28.33
276	SLU 37	81	-9	2139	-293.74	-1.21	28.46
276	SLU 38	80	-5	2127	-290.63	-1.23	28.33
276	SLU 39	83	-7	2258	-306.62	-1.3	29.25
276	SLU 40	82	-3	2245	-303.51	-1.31	29.12
276	SLU 41	83	-7	2258	-306.62	-1.3	29.25
276	SLU 42	82	-3	2245	-303.51	-1.31	29.12
276	SLU 43	89	-24	2096	-307.78	-1.03	31.52
276	SLU 44	89	-18	2075	-302.61	-1.04	31.3
276	SLU 45	89	-24	2096	-307.78	-1.03	31.52
276	SLU 46	89	-21	2083	-304.68	-1.04	31.38
276	SLU 47	89	-18	2075	-302.61	-1.04	31.3
276	SLU 48	89	-24	2096	-307.78	-1.03	31.52
276	SLU 49	89	-21	2083	-304.68	-1.04	31.38
276	SLU 50	89	-24	2096	-307.78	-1.03	31.52
276	SLU 51	89	-21	2083	-304.68	-1.04	31.38
276	SLU 52	94	-13	2353	-332.66	-1.25	33.14
276	SLU 53	95	-19	2373	-337.84	-1.23	33.36
276	SLU 54	94	-15	2361	-334.73	-1.24	33.23
276	SLU 55	94	-13	2353	-332.66	-1.25	33.14
276	SLU 56	95	-19	2373	-337.84	-1.23	33.36
276	SLU 57	94	-15	2361	-334.73	-1.24	33.23
276	SLU 58	95	-19	2373	-337.84	-1.23	33.36
276	SLU 59	94	-15	2361	-334.73	-1.24	33.23
276	SLU 60	97	-16	2492	-350.72	-1.31	34.15
276	SLU 61	96	-13	2480	-347.61	-1.32	34.02
276	SLU 62	97	-16	2492	-350.72	-1.31	34.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
276	SLU 63	96	-13	2480	-347.61	-1.32	34.02
276	SLU 64	95	-21	2293	-329.09	-1.2	33.39
276	SLU 65	94	-15	2272	-323.92	-1.22	33.17
276	SLU 66	95	-21	2293	-329.09	-1.2	33.39
276	SLU 67	94	-17	2281	-325.99	-1.21	33.26
276	SLU 68	94	-15	2272	-323.92	-1.22	33.17
276	SLU 69	95	-21	2293	-329.09	-1.2	33.39
276	SLU 70	94	-17	2281	-325.99	-1.21	33.26
276	SLU 71	95	-21	2293	-329.09	-1.2	33.39
276	SLU 72	94	-17	2281	-325.99	-1.21	33.26
276	SLU 73	99	-10	2550	-353.97	-1.42	35.02
276	SLU 74	100	-15	2571	-359.14	-1.4	35.24
276	SLU 75	99	-12	2558	-356.04	-1.42	35.11
276	SLU 76	99	-10	2550	-353.97	-1.42	35.02
276	SLU 77	100	-15	2571	-359.14	-1.4	35.24
276	SLU 78	99	-12	2558	-356.04	-1.42	35.11
276	SLU 79	100	-15	2571	-359.14	-1.4	35.24
276	SLU 80	99	-12	2558	-356.04	-1.42	35.11
276	SLU 81	102	-13	2690	-372.02	-1.49	36.03
276	SLU 82	102	-10	2677	-368.92	-1.5	35.9
276	SLU 83	102	-13	2690	-372.02	-1.49	36.03
276	SLU 84	102	-10	2677	-368.92	-1.5	35.9
276	SLE RA 1	72	-17	1721	-248.46	-0.89	25.28
276	SLE RA 2	71	-13	1707	-245.02	-0.9	25.13
276	SLE RA 3	72	-17	1721	-248.46	-0.89	25.28
276	SLE RA 4	71	-14	1712	-246.39	-0.89	25.19
276	SLE RA 5	71	-13	1707	-245.02	-0.9	25.13
276	SLE RA 6	72	-17	1721	-248.46	-0.89	25.28
276	SLE RA 7	71	-14	1712	-246.39	-0.89	25.19
276	SLE RA 8	72	-17	1721	-248.46	-0.89	25.28
276	SLE RA 9	71	-14	1712	-246.39	-0.89	25.19
276	SLE RA 10	75	-9	1892	-265.05	-1.03	26.36
276	SLE RA 11	75	-13	1906	-268.5	-1.02	26.51
276	SLE RA 12	75	-11	1897	-266.43	-1.03	26.42
276	SLE RA 13	75	-9	1892	-265.05	-1.03	26.36
276	SLE RA 14	75	-13	1906	-268.5	-1.02	26.51
276	SLE RA 15	75	-11	1897	-266.43	-1.03	26.42
276	SLE RA 16	75	-13	1906	-268.5	-1.02	26.51
276	SLE RA 17	75	-11	1897	-266.43	-1.03	26.42
276	SLE RA 18	77	-12	1985	-277.09	-1.08	27.03
276	SLE RA 19	76	-9	1977	-275.02	-1.09	26.95
276	SLE RA 20	77	-12	1985	-277.09	-1.08	27.03
276	SLE RA 21	76	-9	1977	-275.02	-1.09	26.95
276	SLE FR 1	72	-17	1721	-248.46	-0.89	25.28
276	SLE FR 2	72	-16	1718	-247.77	-0.89	25.25
276	SLE FR 3	72	-17	1721	-248.46	-0.89	25.28
276	SLE FR 4	73	-14	1797	-256.36	-0.95	25.77
276	SLE FR 5	73	-15	1800	-257.05	-0.94	25.8
276	SLE FR 6	74	-14	1853	-262.77	-0.98	26.15
276	SLE QP 1	72	-17	1721	-248.46	-0.89	25.28
276	SLE QP 2	73	-15	1800	-257.05	-0.94	25.8
276	SLD 1	260	13	1831	-248.17	0.07	90.68
276	SLD 2	223	0	1830	-248.31	0.06	77.95
276	SLD 3	277	-62	1996	-263	-0.02	96.61
276	SLD 4	240	-75	1995	-263.14	-0.02	83.88
276	SLD 5	117	111	1559	-231.84	-0.51	40.76
276	SLD 6	80	98	1558	-231.99	-0.52	27.96
276	SLD 7	173	-138	2110	-281.28	-0.79	60.53
276	SLD 8	136	-151	2108	-281.42	-0.8	47.74
276	SLD 9	11	121	1492	-232.68	-1.09	3.87
276	SLD 10	-26	108	1490	-232.82	-1.1	-8.92
276	SLD 11	67	-129	2042	-282.11	-1.37	23.64
276	SLD 12	30	-142	2040	-282.26	-1.38	10.85
276	SLD 13	-94	44	1605	-250.96	-1.87	-32.28
276	SLD 14	-131	31	1604	-251.1	-1.87	-45.01
276	SLD 15	-77	-30	1770	-265.79	-1.95	-26.34
276	SLD 16	-114	-43	1769	-265.93	-1.95	-39.08
276	SLV 1	498	49	1870	-236.53	1.35	173.23
276	SLV 2	414	19	1867	-236.86	1.34	144.37
276	SLV 3	536	-121	2245	-270.52	1.16	186.73
276	SLV 4	452	-150	2242	-270.86	1.15	157.87
276	SLV 5	172	272	1254	-199.22	0.04	59.73
276	SLV 6	88	242	1250	-199.55	0.02	30.74
276	SLV 7	300	-294	2503	-312.54	-0.6	104.71
276	SLV 8	215	-324	2500	-312.87	-0.61	75.72
276	SLV 9	-69	293	1100	-201.23	-1.28	-24.12
276	SLV 10	-153	264	1096	-201.57	-1.29	-53.1
276	SLV 11	58	-273	2350	-314.55	-1.91	20.86
276	SLV 12	-26	-302	2346	-314.88	-1.92	-8.12
276	SLV 13	-306	120	1358	-243.25	-3.04	-106.26
276	SLV 14	-390	91	1355	-243.58	-3.05	-135.12
276	SLV 15	-268	-50	1733	-277.24	-3.23	-92.77
276	SLV 16	-351	-79	1729	-277.57	-3.24	-121.63
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	70	-5	1707	-272.32	-1.42	24.77
277	SLU 2	69	0	1686	-267.47	-1.44	24.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
277	SLU 3	70	-5	1707	-272.32	-1.42	24.77
277	SLU 4	70	-2	1694	-269.41	-1.43	24.64
277	SLU 5	69	0	1686	-267.47	-1.44	24.55
277	SLU 6	70	-5	1707	-272.32	-1.42	24.77
277	SLU 7	70	-2	1694	-269.41	-1.43	24.64
277	SLU 8	70	-5	1707	-272.32	-1.42	24.77
277	SLU 9	70	-2	1694	-269.41	-1.43	24.64
277	SLU 10	74	8	1973	-304.88	-1.78	26.36
277	SLU 11	75	2	1993	-309.73	-1.77	26.58
277	SLU 12	75	5	1981	-306.82	-1.78	26.45
277	SLU 13	74	8	1973	-304.88	-1.78	26.36
277	SLU 14	75	2	1993	-309.73	-1.77	26.58
277	SLU 15	75	5	1981	-306.82	-1.78	26.45
277	SLU 16	75	2	1993	-309.73	-1.77	26.58
277	SLU 17	75	5	1981	-306.82	-1.78	26.45
277	SLU 18	77	5	2116	-325.77	-1.92	27.35
277	SLU 19	77	8	2104	-322.85	-1.93	27.22
277	SLU 20	77	5	2116	-325.77	-1.92	27.35
277	SLU 21	77	8	2104	-322.85	-1.93	27.22
277	SLU 22	75	0	1911	-299.01	-1.7	26.62
277	SLU 23	75	5	1891	-294.16	-1.71	26.4
277	SLU 24	75	0	1911	-299.01	-1.7	26.62
277	SLU 25	75	3	1899	-296.1	-1.71	26.49
277	SLU 26	75	5	1891	-294.16	-1.71	26.4
277	SLU 27	75	0	1911	-299.01	-1.7	26.62
277	SLU 28	75	3	1899	-296.1	-1.71	26.49
277	SLU 29	75	0	1911	-299.01	-1.7	26.62
277	SLU 30	75	3	1899	-296.1	-1.71	26.49
277	SLU 31	80	12	2178	-331.56	-2.06	28.21
277	SLU 32	80	7	2198	-336.42	-2.05	28.42
277	SLU 33	80	10	2186	-333.51	-2.05	28.3
277	SLU 34	80	12	2178	-331.56	-2.06	28.21
277	SLU 35	80	7	2198	-336.42	-2.05	28.42
277	SLU 36	80	10	2186	-333.51	-2.05	28.3
277	SLU 37	80	7	2198	-336.42	-2.05	28.42
277	SLU 38	80	10	2186	-333.51	-2.05	28.3
277	SLU 39	82	10	2321	-352.45	-2.19	29.2
277	SLU 40	82	13	2309	-349.54	-2.2	29.07
277	SLU 41	82	10	2321	-352.45	-2.19	29.2
277	SLU 42	82	13	2309	-349.54	-2.2	29.07
277	SLU 43	89	-8	2148	-344.87	-1.76	31.57
277	SLU 44	89	-3	2128	-340.02	-1.77	31.35
277	SLU 45	89	-8	2148	-344.87	-1.76	31.57
277	SLU 46	89	-5	2136	-341.96	-1.76	31.44
277	SLU 47	89	-3	2128	-340.02	-1.77	31.35
277	SLU 48	89	-8	2148	-344.87	-1.76	31.57
277	SLU 49	89	-5	2136	-341.96	-1.76	31.44
277	SLU 50	89	-8	2148	-344.87	-1.76	31.57
277	SLU 51	89	-5	2136	-341.96	-1.76	31.44
277	SLU 52	94	4	2415	-377.43	-2.11	33.16
277	SLU 53	94	-1	2435	-382.28	-2.1	33.37
277	SLU 54	94	2	2423	-379.37	-2.11	33.25
277	SLU 55	94	4	2415	-377.43	-2.11	33.16
277	SLU 56	94	-1	2435	-382.28	-2.1	33.37
277	SLU 57	94	2	2423	-379.37	-2.11	33.25
277	SLU 58	94	-1	2435	-382.28	-2.1	33.37
277	SLU 59	94	2	2423	-379.37	-2.11	33.25
277	SLU 60	96	2	2558	-398.31	-2.25	34.15
277	SLU 61	96	5	2546	-395.4	-2.26	34.02
277	SLU 62	96	2	2558	-398.31	-2.25	34.15
277	SLU 63	96	5	2546	-395.4	-2.26	34.02
277	SLU 64	94	-4	2353	-371.56	-2.03	33.41
277	SLU 65	94	2	2333	-366.7	-2.04	33.2
277	SLU 66	94	-4	2353	-371.56	-2.03	33.41
277	SLU 67	94	0	2341	-368.65	-2.04	33.28
277	SLU 68	94	2	2333	-366.7	-2.04	33.2
277	SLU 69	94	-4	2353	-371.56	-2.03	33.41
277	SLU 70	94	0	2341	-368.65	-2.04	33.28
277	SLU 71	94	-4	2353	-371.56	-2.03	33.41
277	SLU 72	94	0	2341	-368.65	-2.04	33.28
277	SLU 73	99	9	2620	-404.11	-2.39	35.01
277	SLU 74	99	4	2640	-408.97	-2.38	35.22
277	SLU 75	99	7	2628	-406.05	-2.38	35.09
277	SLU 76	99	9	2620	-404.11	-2.39	35.01
277	SLU 77	99	4	2640	-408.97	-2.38	35.22
277	SLU 78	99	7	2628	-406.05	-2.38	35.09
277	SLU 79	99	4	2640	-408.97	-2.38	35.22
277	SLU 80	99	7	2628	-406.05	-2.38	35.09
277	SLU 81	102	7	2763	-425	-2.53	36
277	SLU 82	101	10	2751	-422.09	-2.53	35.87
277	SLU 83	102	7	2763	-425	-2.53	36
277	SLU 84	101	10	2751	-422.09	-2.53	35.87
277	SLE RA 1	71	-4	1765	-279.95	-1.5	25.3
277	SLE RA 2	71	0	1751	-276.71	-1.51	25.15
277	SLE RA 3	71	-4	1765	-279.95	-1.5	25.3
277	SLE RA 4	71	-2	1757	-278.01	-1.51	25.21
277	SLE RA 5	71	0	1751	-276.71	-1.51	25.15
277	SLE RA 6	71	-4	1765	-279.95	-1.5	25.3
277	SLE RA 7	71	-2	1757	-278.01	-1.51	25.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
277	SLE RA 8	71	-4	1765	-279.95	-1.5	25.3
277	SLE RA 9	71	-2	1757	-278.01	-1.51	25.21
277	SLE RA 10	74	5	1943	-301.65	-1.74	26.36
277	SLE RA 11	75	1	1956	-304.89	-1.73	26.5
277	SLE RA 12	75	3	1948	-302.95	-1.74	26.42
277	SLE RA 13	74	5	1943	-301.65	-1.74	26.36
277	SLE RA 14	75	1	1956	-304.89	-1.73	26.5
277	SLE RA 15	75	3	1948	-302.95	-1.74	26.42
277	SLE RA 16	75	1	1956	-304.89	-1.73	26.5
277	SLE RA 17	75	3	1948	-302.95	-1.74	26.42
277	SLE RA 18	76	3	2038	-315.58	-1.83	27.02
277	SLE RA 19	76	5	2030	-313.63	-1.84	26.93
277	SLE RA 20	76	3	2038	-315.58	-1.83	27.02
277	SLE RA 21	76	5	2030	-313.63	-1.84	26.93
277	SLE FR 1	71	-4	1765	-279.95	-1.5	25.3
277	SLE FR 2	71	-3	1762	-279.3	-1.5	25.27
277	SLE FR 3	71	-4	1765	-279.95	-1.5	25.3
277	SLE FR 4	73	-1	1844	-289.99	-1.6	25.78
277	SLE FR 5	73	-2	1847	-290.64	-1.6	25.81
277	SLE FR 6	74	0	1902	-297.76	-1.67	26.16
277	SLE QP 1	71	-4	1765	-279.95	-1.5	25.3
277	SLE QP 2	73	-2	1847	-290.64	-1.6	25.81
277	SLD 1	260	27	1847	-276.97	-0.59	90.71
277	SLD 2	223	18	1846	-277.15	-0.59	77.97
277	SLD 3	276	-46	2017	-294.98	-0.76	96.65
277	SLD 4	240	-55	2015	-295.16	-0.77	83.91
277	SLD 5	116	121	1591	-259.17	-1.03	40.76
277	SLD 6	79	111	1589	-259.35	-1.04	27.96
277	SLD 7	173	-122	2155	-319.18	-1.61	60.57
277	SLD 8	136	-132	2154	-319.36	-1.62	47.77
277	SLD 9	10	129	1540	-261.91	-1.58	3.86
277	SLD 10	-27	119	1539	-262.09	-1.59	-8.94
277	SLD 11	67	-115	2105	-321.93	-2.16	23.67
277	SLD 12	30	-125	2103	-322.11	-2.17	10.87
277	SLD 13	-94	52	1679	-286.12	-2.43	-32.28
277	SLD 14	-131	42	1677	-286.3	-2.44	-45.02
277	SLD 15	-77	-21	1848	-304.12	-2.61	-26.34
277	SLD 16	-114	-31	1847	-304.3	-2.61	-39.08
277	SLV 1	497	64	1847	-259.42	0.7	173.27
277	SLV 2	413	42	1844	-259.82	0.68	144.4
277	SLV 3	536	-101	2232	-300.52	0.3	186.8
277	SLV 4	452	-124	2229	-300.92	0.29	157.92
277	SLV 5	171	277	1265	-218.8	-0.31	59.71
277	SLV 6	87	255	1262	-219.2	-0.32	30.71
277	SLV 7	300	-275	2547	-355.79	-1.63	104.79
277	SLV 8	216	-298	2544	-356.2	-1.64	75.78
277	SLV 9	-70	294	1150	-225.08	-1.56	-24.16
277	SLV 10	-154	272	1147	-225.49	-1.58	-53.16
277	SLV 11	59	-258	2432	-362.07	-2.88	20.92
277	SLV 12	-25	-281	2429	-362.48	-2.9	-8.09
277	SLV 13	-306	120	1465	-280.35	-3.49	-106.29
277	SLV 14	-390	98	1462	-280.76	-3.5	-135.17
277	SLV 15	-267	-46	1850	-321.45	-3.89	-92.77
277	SLV 16	-351	-68	1847	-321.86	-3.9	-121.65
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	60	7	1515	-266.99	41.16	20.99
278	SLU 2	59	12	1497	-263.01	40.67	20.67
278	SLU 3	60	7	1515	-266.99	41.16	20.99
278	SLU 4	60	10	1504	-264.6	40.87	20.8
278	SLU 5	59	12	1497	-263.01	40.67	20.67
278	SLU 6	60	7	1515	-266.99	41.16	20.99
278	SLU 7	60	10	1504	-264.6	40.87	20.8
278	SLU 8	60	7	1515	-266.99	41.16	20.99
278	SLU 9	60	10	1504	-264.6	40.87	20.8
278	SLU 10	64	20	1755	-303.39	47.58	21.97
278	SLU 11	64	15	1772	-307.37	48.07	22.29
278	SLU 12	64	18	1762	-304.98	47.78	22.1
278	SLU 13	64	20	1755	-303.39	47.58	21.97
278	SLU 14	64	15	1772	-307.37	48.07	22.29
278	SLU 15	64	18	1762	-304.98	47.78	22.1
278	SLU 16	64	15	1772	-307.37	48.07	22.29
278	SLU 17	64	18	1762	-304.98	47.78	22.1
278	SLU 18	66	18	1882	-324.68	51.03	22.85
278	SLU 19	66	21	1872	-322.29	50.74	22.66
278	SLU 20	66	18	1882	-324.68	51.03	22.85
278	SLU 21	66	21	1872	-322.29	50.74	22.66
278	SLU 22	64	13	1699	-295.87	46.1	22.39
278	SLU 23	64	18	1682	-291.89	45.61	22.07
278	SLU 24	64	13	1699	-295.87	46.1	22.39
278	SLU 25	64	16	1689	-293.48	45.81	22.2
278	SLU 26	64	18	1682	-291.89	45.61	22.07
278	SLU 27	64	13	1699	-295.87	46.1	22.39
278	SLU 28	64	16	1689	-293.48	45.81	22.2
278	SLU 29	64	13	1699	-295.87	46.1	22.39
278	SLU 30	64	16	1689	-293.48	45.81	22.2
278	SLU 31	68	25	1939	-332.27	52.52	23.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLU 32	69	20	1957	-336.25	53.01	23.69
278	SLU 33	68	23	1946	-333.86	52.72	23.5
278	SLU 34	68	25	1939	-332.27	52.52	23.37
278	SLU 35	69	20	1957	-336.25	53.01	23.69
278	SLU 36	68	23	1946	-333.86	52.72	23.5
278	SLU 37	69	20	1957	-336.25	53.01	23.69
278	SLU 38	68	23	1946	-333.86	52.72	23.5
278	SLU 39	70	23	2067	-353.56	55.97	24.25
278	SLU 40	70	26	2057	-351.17	55.68	24.05
278	SLU 41	70	23	2067	-353.56	55.97	24.25
278	SLU 42	70	26	2057	-351.17	55.68	24.05
278	SLU 43	76	8	1906	-337.19	51.82	26.81
278	SLU 44	76	13	1888	-333.2	51.33	26.49
278	SLU 45	76	8	1906	-337.19	51.82	26.81
278	SLU 46	76	11	1895	-334.8	51.53	26.61
278	SLU 47	76	13	1888	-333.2	51.33	26.49
278	SLU 48	76	8	1906	-337.19	51.82	26.81
278	SLU 49	76	11	1895	-334.8	51.53	26.61
278	SLU 50	76	8	1906	-337.19	51.82	26.81
278	SLU 51	76	11	1895	-334.8	51.53	26.61
278	SLU 52	80	20	2146	-373.58	58.24	27.79
278	SLU 53	81	15	2163	-377.57	58.73	28.11
278	SLU 54	80	18	2153	-375.18	58.43	27.91
278	SLU 55	80	20	2146	-373.58	58.24	27.79
278	SLU 56	81	15	2163	-377.57	58.73	28.11
278	SLU 57	80	18	2153	-375.18	58.43	27.91
278	SLU 58	81	15	2163	-377.57	58.73	28.11
278	SLU 59	80	18	2153	-375.18	58.43	27.91
278	SLU 60	83	18	2274	-394.87	61.69	28.66
278	SLU 61	82	21	2263	-392.48	61.39	28.47
278	SLU 62	83	18	2274	-394.87	61.69	28.66
278	SLU 63	82	21	2263	-392.48	61.39	28.47
278	SLU 64	81	13	2090	-366.07	56.76	28.21
278	SLU 65	80	18	2073	-362.08	56.27	27.89
278	SLU 66	81	13	2090	-366.07	56.76	28.21
278	SLU 67	81	16	2080	-363.68	56.46	28.01
278	SLU 68	80	18	2073	-362.08	56.27	27.89
278	SLU 69	81	13	2090	-366.07	56.76	28.21
278	SLU 70	81	16	2080	-363.68	56.46	28.01
278	SLU 71	81	13	2090	-366.07	56.76	28.21
278	SLU 72	81	16	2080	-363.68	56.46	28.01
278	SLU 73	85	25	2330	-402.46	63.18	29.19
278	SLU 74	85	20	2348	-406.45	63.67	29.51
278	SLU 75	85	23	2337	-404.06	63.37	29.31
278	SLU 76	85	25	2330	-402.46	63.18	29.19
278	SLU 77	85	20	2348	-406.45	63.67	29.51
278	SLU 78	85	23	2337	-404.06	63.37	29.31
278	SLU 79	85	20	2348	-406.45	63.67	29.51
278	SLU 80	85	23	2337	-404.06	63.37	29.31
278	SLU 81	87	24	2458	-423.75	66.63	30.06
278	SLU 82	87	27	2448	-421.36	66.33	29.87
278	SLU 83	87	24	2458	-423.75	66.63	30.06
278	SLU 84	87	27	2448	-421.36	66.33	29.87
278	SLE RA 1	61	9	1567	-275.24	42.58	21.39
278	SLE RA 2	61	12	1556	-272.59	42.25	21.18
278	SLE RA 3	61	9	1567	-275.24	42.58	21.39
278	SLE RA 4	61	11	1560	-273.65	42.38	21.26
278	SLE RA 5	61	12	1556	-272.59	42.25	21.18
278	SLE RA 6	61	9	1567	-275.24	42.58	21.39
278	SLE RA 7	61	11	1560	-273.65	42.38	21.26
278	SLE RA 8	61	9	1567	-275.24	42.58	21.39
278	SLE RA 9	61	11	1560	-273.65	42.38	21.26
278	SLE RA 10	64	17	1727	-299.51	46.85	22.04
278	SLE RA 11	64	14	1739	-302.16	47.18	22.26
278	SLE RA 12	64	16	1732	-300.57	46.98	22.13
278	SLE RA 13	64	17	1727	-299.51	46.85	22.04
278	SLE RA 14	64	14	1739	-302.16	47.18	22.26
278	SLE RA 15	64	16	1732	-300.57	46.98	22.13
278	SLE RA 16	64	14	1739	-302.16	47.18	22.26
278	SLE RA 17	64	16	1732	-300.57	46.98	22.13
278	SLE RA 18	65	16	1813	-313.7	49.15	22.63
278	SLE RA 19	65	18	1806	-312.11	48.96	22.5
278	SLE RA 20	65	16	1813	-313.7	49.15	22.63
278	SLE RA 21	65	18	1806	-312.11	48.96	22.5
278	SLE FR 1	61	9	1567	-275.24	42.58	21.39
278	SLE FR 2	61	10	1565	-274.71	42.51	21.35
278	SLE FR 3	61	9	1567	-275.24	42.58	21.39
278	SLE FR 4	62	12	1639	-286.25	44.48	21.72
278	SLE FR 5	62	11	1641	-286.78	44.55	21.76
278	SLE FR 6	63	12	1690	-294.47	45.86	22.01
278	SLE QP 1	61	9	1567	-275.24	42.58	21.39
278	SLE QP 2	62	11	1641	-286.78	44.55	21.76
278	SLD 1	223	37	1616	-270.01	44.5	76.81
278	SLD 2	191	31	1615	-270.15	44.47	66
278	SLD 3	237	-25	1767	-289.22	48.57	83.57
278	SLD 4	206	-31	1766	-289.36	48.54	72.75
278	SLD 5	99	116	1405	-252.56	38.38	31.84
278	SLD 6	68	110	1404	-252.71	38.34	20.98
278	SLD 7	148	-92	1908	-316.6	51.94	54.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLD 8	116	-98	1908	-316.74	51.91	43.49
278	SLD 9	8	120	1374	-256.82	37.19	0.03
278	SLD 10	-23	114	1373	-256.96	37.16	-10.84
278	SLD 11	57	-88	1878	-320.85	50.75	22.54
278	SLD 12	25	-94	1877	-321	50.72	11.68
278	SLD 13	-81	53	1516	-284.2	40.56	-29.23
278	SLD 14	-113	47	1515	-284.34	40.53	-40.05
278	SLD 15	-66	-9	1667	-303.41	44.63	-22.48
278	SLD 16	-98	-15	1666	-303.55	44.59	-33.29
278	SLV 1	427	70	1584	-248.61	44.44	146.87
278	SLV 2	355	57	1582	-248.93	44.37	122.36
278	SLV 3	460	-71	1928	-292.35	53.68	162.21
278	SLV 4	388	-85	1926	-292.67	53.61	137.7
278	SLV 5	146	249	1104	-208.88	30.53	44.66
278	SLV 6	74	235	1102	-209.2	30.45	20.04
278	SLV 7	258	-224	2249	-354.67	61.33	95.79
278	SLV 8	185	-237	2246	-355	61.25	71.18
278	SLV 9	-61	260	1036	-218.56	27.84	-27.66
278	SLV 10	-133	246	1033	-218.89	27.77	-52.27
278	SLV 11	51	-213	2180	-364.36	58.64	23.48
278	SLV 12	-22	-227	2178	-364.68	58.57	-1.14
278	SLV 13	-263	107	1356	-280.89	35.49	-94.18
278	SLV 14	-335	93	1354	-281.21	35.42	-118.69
278	SLV 15	-230	-35	1700	-324.63	44.73	-78.84
278	SLV 16	-302	-48	1697	-324.95	44.66	-103.35
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	88	34	2317	-453.22	3.99	31.6
279	SLU 2	87	41	2291	-447.42	3.91	31.32
279	SLU 3	88	34	2317	-453.22	3.99	31.6
279	SLU 4	87	38	2302	-449.74	3.95	31.43
279	SLU 5	87	41	2291	-447.42	3.91	31.32
279	SLU 6	88	34	2317	-453.22	3.99	31.6
279	SLU 7	87	38	2302	-449.74	3.95	31.43
279	SLU 8	88	34	2317	-453.22	3.99	31.6
279	SLU 9	87	38	2302	-449.74	3.95	31.43
279	SLU 10	93	54	2692	-522.47	4.28	33.48
279	SLU 11	94	47	2718	-528.27	4.36	33.76
279	SLU 12	93	51	2702	-524.79	4.31	33.59
279	SLU 13	93	54	2692	-522.47	4.28	33.48
279	SLU 14	94	47	2718	-528.27	4.36	33.76
279	SLU 15	93	51	2702	-524.79	4.31	33.59
279	SLU 16	94	47	2718	-528.27	4.36	33.76
279	SLU 17	93	51	2702	-524.79	4.31	33.59
279	SLU 18	96	52	2889	-560.44	4.52	34.68
279	SLU 19	96	57	2874	-556.96	4.47	34.52
279	SLU 20	96	52	2889	-560.44	4.52	34.68
279	SLU 21	96	57	2874	-556.96	4.47	34.52
279	SLU 22	94	43	2605	-506.99	4.22	33.84
279	SLU 23	93	51	2579	-501.19	4.13	33.56
279	SLU 24	94	43	2605	-506.99	4.22	33.84
279	SLU 25	93	48	2590	-503.51	4.17	33.67
279	SLU 26	93	51	2579	-501.19	4.13	33.56
279	SLU 27	94	43	2605	-506.99	4.22	33.84
279	SLU 28	93	48	2590	-503.51	4.17	33.67
279	SLU 29	94	43	2605	-506.99	4.22	33.84
279	SLU 30	93	48	2590	-503.51	4.17	33.67
279	SLU 31	99	64	2980	-576.24	4.5	35.72
279	SLU 32	100	56	3005	-582.04	4.58	36
279	SLU 33	100	61	2990	-578.56	4.53	35.83
279	SLU 34	99	64	2980	-576.24	4.5	35.72
279	SLU 35	100	56	3005	-582.04	4.58	36
279	SLU 36	100	61	2990	-578.56	4.53	35.83
279	SLU 37	100	56	3005	-582.04	4.58	36
279	SLU 38	100	61	2990	-578.56	4.53	35.83
279	SLU 39	103	62	3177	-614.21	4.74	36.92
279	SLU 40	102	66	3161	-610.73	4.69	36.76
279	SLU 41	103	62	3177	-614.21	4.74	36.92
279	SLU 42	102	66	3161	-610.73	4.69	36.76
279	SLU 43	112	41	2914	-570.74	5.12	40.31
279	SLU 44	111	48	2888	-564.95	5.03	40.03
279	SLU 45	112	41	2914	-570.74	5.12	40.31
279	SLU 46	111	45	2898	-567.26	5.07	40.14
279	SLU 47	111	48	2888	-564.95	5.03	40.03
279	SLU 48	112	41	2914	-570.74	5.12	40.31
279	SLU 49	111	45	2898	-567.26	5.07	40.14
279	SLU 50	112	41	2914	-570.74	5.12	40.31
279	SLU 51	111	45	2898	-567.26	5.07	40.14
279	SLU 52	117	61	3288	-640	5.4	42.19
279	SLU 53	118	53	3314	-645.8	5.48	42.47
279	SLU 54	117	58	3298	-642.32	5.43	42.3
279	SLU 55	117	61	3288	-640	5.4	42.19
279	SLU 56	118	53	3314	-645.8	5.48	42.47
279	SLU 57	117	58	3298	-642.32	5.43	42.3
279	SLU 58	118	53	3314	-645.8	5.48	42.47
279	SLU 59	117	58	3298	-642.32	5.43	42.3
279	SLU 60	120	59	3486	-677.96	5.64	43.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLU 61	120	63	3470	-674.49	5.59	43.23
279	SLU 62	120	59	3486	-677.96	5.64	43.39
279	SLU 63	120	63	3470	-674.49	5.59	43.23
279	SLU 64	118	50	3202	-624.52	5.34	42.55
279	SLU 65	117	58	3176	-618.72	5.26	42.27
279	SLU 66	118	50	3202	-624.52	5.34	42.55
279	SLU 67	118	55	3186	-621.04	5.29	42.39
279	SLU 68	117	58	3176	-618.72	5.26	42.27
279	SLU 69	118	50	3202	-624.52	5.34	42.55
279	SLU 70	118	55	3186	-621.04	5.29	42.39
279	SLU 71	118	50	3202	-624.52	5.34	42.55
279	SLU 72	118	55	3186	-621.04	5.29	42.39
279	SLU 73	123	71	3576	-693.77	5.62	44.43
279	SLU 74	124	63	3602	-699.57	5.7	44.71
279	SLU 75	124	68	3586	-696.09	5.65	44.54
279	SLU 76	123	71	3576	-693.77	5.62	44.43
279	SLU 77	124	63	3602	-699.57	5.7	44.71
279	SLU 78	124	68	3586	-696.09	5.65	44.54
279	SLU 79	124	63	3602	-699.57	5.7	44.71
279	SLU 80	124	68	3586	-696.09	5.65	44.54
279	SLU 81	127	68	3773	-731.74	5.86	45.63
279	SLU 82	126	73	3758	-728.26	5.81	45.47
279	SLU 83	127	68	3773	-731.74	5.86	45.63
279	SLU 84	126	73	3758	-728.26	5.81	45.47
279	SLE RA 1	89	37	2400	-468.58	4.06	32.24
279	SLE RA 2	89	42	2382	-464.71	4	32.05
279	SLE RA 3	89	37	2400	-468.58	4.06	32.24
279	SLE RA 4	89	40	2389	-466.26	4.03	32.13
279	SLE RA 5	89	42	2382	-464.71	4	32.05
279	SLE RA 6	89	37	2400	-468.58	4.06	32.24
279	SLE RA 7	89	40	2389	-466.26	4.03	32.13
279	SLE RA 8	89	37	2400	-468.58	4.06	32.24
279	SLE RA 9	89	40	2389	-466.26	4.03	32.13
279	SLE RA 10	93	50	2649	-514.75	4.25	33.49
279	SLE RA 11	94	45	2666	-518.62	4.3	33.68
279	SLE RA 12	93	48	2656	-516.3	4.27	33.57
279	SLE RA 13	93	50	2649	-514.75	4.25	33.49
279	SLE RA 14	94	45	2666	-518.62	4.3	33.68
279	SLE RA 15	93	48	2656	-516.3	4.27	33.57
279	SLE RA 16	94	45	2666	-518.62	4.3	33.68
279	SLE RA 17	93	48	2656	-516.3	4.27	33.57
279	SLE RA 18	95	49	2781	-540.06	4.41	34.3
279	SLE RA 19	95	52	2770	-537.74	4.37	34.18
279	SLE RA 20	95	49	2781	-540.06	4.41	34.3
279	SLE RA 21	95	52	2770	-537.74	4.37	34.18
279	SLE FR 1	89	37	2400	-468.58	4.06	32.24
279	SLE FR 2	89	38	2396	-467.81	4.05	32.2
279	SLE FR 3	89	37	2400	-468.58	4.06	32.24
279	SLE FR 4	91	41	2510	-489.25	4.15	32.82
279	SLE FR 5	91	40	2514	-490.02	4.16	32.86
279	SLE FR 6	92	43	2590	-504.32	4.23	33.27
279	SLE QP 1	89	37	2400	-468.58	4.06	32.24
279	SLE QP 2	91	40	2514	-490.02	4.16	32.86
279	SLD 1	326	81	2435	-455.73	6.05	114.6
279	SLD 2	279	76	2434	-455.92	6.03	98.61
279	SLD 3	348	-12	2669	-491.39	6.3	122.4
279	SLD 4	301	-17	2668	-491.59	6.27	106.42
279	SLD 5	145	195	2135	-425.57	4.36	51.17
279	SLD 6	98	190	2134	-425.76	4.34	35.11
279	SLD 7	217	-114	2916	-544.46	5.18	77.19
279	SLD 8	171	-119	2915	-544.66	5.16	61.13
279	SLD 9	12	200	2113	-435.39	3.16	4.58
279	SLD 10	-35	195	2112	-435.58	3.14	-11.48
279	SLD 11	84	-109	2893	-554.28	3.98	30.6
279	SLD 12	37	-114	2892	-554.48	3.96	14.54
279	SLD 13	-119	97	2360	-488.46	2.05	-40.71
279	SLD 14	-165	92	2359	-488.65	2.03	-56.69
279	SLD 15	-97	5	2594	-524.13	2.3	-32.9
279	SLD 16	-144	0	2593	-524.32	2.27	-48.88
279	SLV 1	625	132	2335	-412.07	8.44	218.6
279	SLV 2	519	121	2332	-412.51	8.39	182.37
279	SLV 3	674	-78	2867	-493.17	9.01	236.36
279	SLV 4	568	-89	2864	-493.61	8.95	200.12
279	SLV 5	214	391	1655	-343.49	4.61	74.41
279	SLV 6	108	380	1652	-343.93	4.56	38.03
279	SLV 7	378	-311	3427	-613.81	6.49	133.59
279	SLV 8	272	-322	3425	-614.25	6.44	97.2
279	SLV 9	-90	402	1603	-365.8	1.89	-31.49
279	SLV 10	-195	391	1601	-366.24	1.84	-67.88
279	SLV 11	75	-299	3376	-636.12	3.77	27.69
279	SLV 12	-31	-310	3373	-636.56	3.72	-8.7
279	SLV 13	-386	170	2164	-486.44	-0.63	-134.41
279	SLV 14	-492	159	2161	-486.88	-0.68	-170.64
279	SLV 15	-337	-41	2695	-567.53	-0.07	-116.66
279	SLV 16	-442	-52	2693	-567.97	-0.12	-152.89
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

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLU 1	57	38	1578	-357.84	-45.13	21.25
280	SLU 2	56	43	1560	-353.96	-44.64	21.23
280	SLU 3	57	38	1578	-357.84	-45.13	21.25
280	SLU 4	57	41	1567	-355.51	-44.84	21.24
280	SLU 5	56	43	1560	-353.96	-44.64	21.23
280	SLU 6	57	38	1578	-357.84	-45.13	21.25
280	SLU 7	57	41	1567	-355.51	-44.84	21.24
280	SLU 8	57	38	1578	-357.84	-45.13	21.25
280	SLU 9	57	41	1567	-355.51	-44.84	21.24
280	SLU 10	60	52	1837	-416.11	-52.65	22.86
280	SLU 11	61	47	1854	-419.99	-53.14	22.88
280	SLU 12	61	50	1844	-417.66	-52.85	22.87
280	SLU 13	60	52	1837	-416.11	-52.65	22.86
280	SLU 14	61	47	1854	-419.99	-53.14	22.88
280	SLU 15	61	50	1844	-417.66	-52.85	22.87
280	SLU 16	61	47	1854	-419.99	-53.14	22.88
280	SLU 17	61	50	1844	-417.66	-52.85	22.87
280	SLU 18	63	51	1973	-446.63	-56.57	23.58
280	SLU 19	62	54	1963	-444.3	-56.28	23.56
280	SLU 20	63	51	1973	-446.63	-56.57	23.58
280	SLU 21	62	54	1963	-444.3	-56.28	23.56
280	SLU 22	61	45	1777	-402.45	-50.92	22.88
280	SLU 23	61	50	1760	-398.57	-50.43	22.86
280	SLU 24	61	45	1777	-402.45	-50.92	22.88
280	SLU 25	61	48	1767	-400.12	-50.62	22.87
280	SLU 26	61	50	1760	-398.57	-50.43	22.86
280	SLU 27	61	45	1777	-402.45	-50.92	22.88
280	SLU 28	61	48	1767	-400.12	-50.62	22.87
280	SLU 29	61	45	1777	-402.45	-50.92	22.88
280	SLU 30	61	48	1767	-400.12	-50.62	22.87
280	SLU 31	64	60	2037	-460.72	-58.44	24.48
280	SLU 32	65	54	2054	-464.6	-58.93	24.51
280	SLU 33	65	58	2044	-462.27	-58.63	24.49
280	SLU 34	64	60	2037	-460.72	-58.44	24.48
280	SLU 35	65	54	2054	-464.6	-58.93	24.51
280	SLU 36	65	58	2044	-462.27	-58.63	24.49
280	SLU 37	65	54	2054	-464.6	-58.93	24.51
280	SLU 38	65	58	2044	-462.27	-58.63	24.49
280	SLU 39	67	58	2172	-491.24	-62.36	25.21
280	SLU 40	66	62	2162	-488.91	-62.07	25.19
280	SLU 41	67	58	2172	-491.24	-62.36	25.21
280	SLU 42	66	62	2162	-488.91	-62.07	25.19
280	SLU 43	73	47	1982	-449.89	-56.69	27.07
280	SLU 44	72	52	1965	-446.02	-56.2	27.05
280	SLU 45	73	47	1982	-449.89	-56.69	27.07
280	SLU 46	72	50	1972	-447.57	-56.39	27.06
280	SLU 47	72	52	1965	-446.02	-56.2	27.05
280	SLU 48	73	47	1982	-449.89	-56.69	27.07
280	SLU 49	72	50	1972	-447.57	-56.39	27.06
280	SLU 50	73	47	1982	-449.89	-56.69	27.07
280	SLU 51	72	50	1972	-447.57	-56.39	27.06
280	SLU 52	76	61	2242	-508.17	-64.21	28.67
280	SLU 53	77	56	2259	-512.05	-64.7	28.7
280	SLU 54	76	59	2249	-509.72	-64.4	28.68
280	SLU 55	76	61	2242	-508.17	-64.21	28.67
280	SLU 56	77	56	2259	-512.05	-64.7	28.7
280	SLU 57	76	59	2249	-509.72	-64.4	28.68
280	SLU 58	77	56	2259	-512.05	-64.7	28.7
280	SLU 59	76	59	2249	-509.72	-64.4	28.68
280	SLU 60	78	60	2378	-538.68	-68.13	29.4
280	SLU 61	78	63	2367	-536.36	-67.84	29.38
280	SLU 62	78	60	2378	-538.68	-68.13	29.4
280	SLU 63	78	63	2367	-536.36	-67.84	29.38
280	SLU 64	77	54	2182	-494.5	-62.47	28.7
280	SLU 65	76	59	2165	-490.63	-61.98	28.67
280	SLU 66	77	54	2182	-494.5	-62.47	28.7
280	SLU 67	76	57	2172	-492.18	-62.18	28.68
280	SLU 68	76	59	2165	-490.63	-61.98	28.67
280	SLU 69	77	54	2182	-494.5	-62.47	28.7
280	SLU 70	76	57	2172	-492.18	-62.18	28.68
280	SLU 71	77	54	2182	-494.5	-62.47	28.7
280	SLU 72	76	57	2172	-492.18	-62.18	28.68
280	SLU 73	80	69	2441	-552.78	-69.99	30.3
280	SLU 74	81	63	2459	-556.66	-70.48	30.33
280	SLU 75	80	66	2448	-554.33	-70.19	30.31
280	SLU 76	80	69	2441	-552.78	-69.99	30.3
280	SLU 77	81	63	2459	-556.66	-70.48	30.33
280	SLU 78	80	66	2448	-554.33	-70.19	30.31
280	SLU 79	81	63	2459	-556.66	-70.48	30.33
280	SLU 80	80	66	2448	-554.33	-70.19	30.31
280	SLU 81	82	67	2577	-583.29	-73.91	31.02
280	SLU 82	82	70	2567	-580.97	-73.62	31.01
280	SLU 83	82	67	2577	-583.29	-73.91	31.02
280	SLU 84	82	70	2567	-580.97	-73.62	31.01
280	SLE RA 1	58	40	1635	-370.58	-46.78	21.72
280	SLE RA 2	58	43	1623	-368	-46.46	21.7
280	SLE RA 3	58	40	1635	-370.58	-46.78	21.72
280	SLE RA 4	58	42	1628	-369.03	-46.59	21.71
280	SLE RA 5	58	43	1623	-368	-46.46	21.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLE RA 6	58	40	1635	-370.58	-46.78	21.72
280	SLE RA 7	58	42	1628	-369.03	-46.59	21.71
280	SLE RA 8	58	40	1635	-370.58	-46.78	21.72
280	SLE RA 9	58	42	1628	-369.03	-46.59	21.71
280	SLE RA 10	60	50	1808	-409.43	-51.8	22.79
280	SLE RA 11	61	46	1819	-412.02	-52.12	22.8
280	SLE RA 12	61	48	1812	-410.47	-51.93	22.79
280	SLE RA 13	60	50	1808	-409.43	-51.8	22.79
280	SLE RA 14	61	46	1819	-412.02	-52.12	22.8
280	SLE RA 15	61	48	1812	-410.47	-51.93	22.79
280	SLE RA 16	61	46	1819	-412.02	-52.12	22.8
280	SLE RA 17	61	48	1812	-410.47	-51.93	22.79
280	SLE RA 18	62	49	1898	-429.78	-54.41	23.27
280	SLE RA 19	62	51	1891	-428.23	-54.22	23.26
280	SLE RA 20	62	49	1898	-429.78	-54.41	23.27
280	SLE RA 21	62	51	1891	-428.23	-54.22	23.26
280	SLE FR 1	58	40	1635	-370.58	-46.78	21.72
280	SLE FR 2	58	41	1632	-370.07	-46.72	21.72
280	SLE FR 3	58	40	1635	-370.58	-46.78	21.72
280	SLE FR 4	59	43	1711	-387.82	-49.01	22.18
280	SLE FR 5	59	43	1714	-388.34	-49.07	22.18
280	SLE FR 6	60	44	1766	-400.18	-50.6	22.49
280	SLE QP 1	58	40	1635	-370.58	-46.78	21.72
280	SLE QP 2	59	43	1714	-388.34	-49.07	22.18
280	SLD 1	212	78	1623	-359.32	-46.11	76.28
280	SLD 2	182	77	1623	-359.43	-46.1	65.75
280	SLD 3	226	16	1785	-389.19	-50.79	79.7
280	SLD 4	196	15	1784	-389.3	-50.78	69.17
280	SLD 5	94	147	1441	-334.29	-41.09	36.95
280	SLD 6	64	147	1441	-334.4	-41.08	26.36
280	SLD 7	142	-59	1980	-433.86	-56.69	48.33
280	SLD 8	111	-60	1980	-433.98	-56.68	37.75
280	SLD 9	7	145	1447	-342.71	-41.46	6.62
280	SLD 10	-23	144	1447	-342.82	-41.46	-3.96
280	SLD 11	55	-61	1986	-442.28	-57.06	18
280	SLD 12	24	-62	1986	-442.39	-57.06	7.42
280	SLD 13	-78	70	1643	-387.38	-47.36	-24.8
280	SLD 14	-108	69	1643	-387.49	-47.36	-35.33
280	SLD 15	-63	8	1805	-417.25	-52.04	-21.38
280	SLD 16	-94	7	1804	-417.36	-52.04	-31.92
280	SLV 1	407	123	1508	-322.42	-42.34	145.1
280	SLV 2	338	121	1507	-322.68	-42.32	121.23
280	SLV 3	439	-18	1874	-390.28	-52.97	152.91
280	SLV 4	370	-19	1873	-390.54	-52.95	129.04
280	SLV 5	139	280	1096	-265.54	-30.94	55.62
280	SLV 6	70	279	1095	-265.8	-30.92	31.64
280	SLV 7	246	-188	2319	-491.76	-66.36	81.66
280	SLV 8	177	-189	2318	-492.02	-66.35	57.68
280	SLV 9	-59	275	1109	-284.66	-31.8	-13.32
280	SLV 10	-128	273	1108	-284.92	-31.78	-37.29
280	SLV 11	49	-194	2333	-510.88	-67.22	12.72
280	SLV 12	-20	-195	2332	-511.14	-67.21	-11.25
280	SLV 13	-252	104	1554	-386.14	-45.19	-84.67
280	SLV 14	-321	103	1553	-386.4	-45.18	-108.55
280	SLV 15	-219	-36	1921	-454	-55.82	-76.86
280	SLV 16	-288	-38	1920	-454.26	-55.81	-100.73
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	66	59	1915	-484.99	-1.89	23.66
281	SLU 2	66	66	1894	-480.16	-1.87	23.46
281	SLU 3	66	59	1915	-484.99	-1.89	23.66
281	SLU 4	66	63	1902	-482.09	-1.88	23.54
281	SLU 5	66	66	1894	-480.16	-1.87	23.46
281	SLU 6	66	59	1915	-484.99	-1.89	23.66
281	SLU 7	66	63	1902	-482.09	-1.88	23.54
281	SLU 8	66	59	1915	-484.99	-1.89	23.66
281	SLU 9	66	63	1902	-482.09	-1.88	23.54
281	SLU 10	70	78	2234	-567.1	-2.35	25.01
281	SLU 11	71	71	2255	-571.93	-2.36	25.21
281	SLU 12	71	75	2243	-569.03	-2.35	25.09
281	SLU 13	70	78	2234	-567.1	-2.35	25.01
281	SLU 14	71	71	2255	-571.93	-2.36	25.21
281	SLU 15	71	75	2243	-569.03	-2.35	25.09
281	SLU 16	71	71	2255	-571.93	-2.36	25.21
281	SLU 17	71	75	2243	-569.03	-2.35	25.09
281	SLU 18	73	76	2401	-609.19	-2.57	25.88
281	SLU 19	72	80	2388	-606.29	-2.56	25.76
281	SLU 20	73	76	2401	-609.19	-2.57	25.88
281	SLU 21	72	80	2388	-606.29	-2.56	25.76
281	SLU 22	71	69	2161	-547.46	-2.25	25.3
281	SLU 23	70	75	2140	-542.63	-2.23	25.1
281	SLU 24	71	69	2161	-547.46	-2.25	25.3
281	SLU 25	71	73	2148	-544.56	-2.24	25.18
281	SLU 26	70	75	2140	-542.63	-2.23	25.1
281	SLU 27	71	69	2161	-547.46	-2.25	25.3
281	SLU 28	71	73	2148	-544.56	-2.24	25.18
281	SLU 29	71	69	2161	-547.46	-2.25	25.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLU 30	71	73	2148	-544.56	-2.24	25.18
281	SLU 31	75	87	2480	-629.57	-2.7	26.65
281	SLU 32	76	80	2501	-634.4	-2.72	26.85
281	SLU 33	75	84	2488	-631.5	-2.71	26.73
281	SLU 34	75	87	2480	-629.57	-2.7	26.65
281	SLU 35	76	80	2501	-634.4	-2.72	26.85
281	SLU 36	75	84	2488	-631.5	-2.71	26.73
281	SLU 37	76	80	2501	-634.4	-2.72	26.85
281	SLU 38	75	84	2488	-631.5	-2.71	26.73
281	SLU 39	77	85	2647	-671.67	-2.92	27.51
281	SLU 40	77	89	2634	-668.77	-2.91	27.39
281	SLU 41	77	85	2647	-671.67	-2.92	27.51
281	SLU 42	77	89	2634	-668.77	-2.91	27.39
281	SLU 43	85	74	2405	-609.07	-2.34	30.2
281	SLU 44	84	81	2384	-604.23	-2.32	30
281	SLU 45	85	74	2405	-609.07	-2.34	30.2
281	SLU 46	84	78	2393	-606.17	-2.33	30.08
281	SLU 47	84	81	2384	-604.23	-2.32	30
281	SLU 48	85	74	2405	-609.07	-2.34	30.2
281	SLU 49	84	78	2393	-606.17	-2.33	30.08
281	SLU 50	85	74	2405	-609.07	-2.34	30.2
281	SLU 51	84	78	2393	-606.17	-2.33	30.08
281	SLU 52	89	92	2724	-691.18	-2.79	31.55
281	SLU 53	89	86	2745	-696.01	-2.81	31.75
281	SLU 54	89	90	2733	-693.11	-2.8	31.63
281	SLU 55	89	92	2724	-691.18	-2.79	31.55
281	SLU 56	89	86	2745	-696.01	-2.81	31.75
281	SLU 57	89	90	2733	-693.11	-2.8	31.63
281	SLU 58	89	86	2745	-696.01	-2.81	31.75
281	SLU 59	89	90	2733	-693.11	-2.8	31.63
281	SLU 60	91	91	2891	-733.27	-3.01	32.42
281	SLU 61	91	95	2879	-730.37	-3	32.3
281	SLU 62	91	91	2891	-733.27	-3.01	32.42
281	SLU 63	91	95	2879	-730.37	-3	32.3
281	SLU 64	89	83	2651	-671.54	-2.69	31.84
281	SLU 65	89	90	2630	-666.71	-2.68	31.63
281	SLU 66	89	83	2651	-671.54	-2.69	31.84
281	SLU 67	89	87	2638	-668.64	-2.68	31.71
281	SLU 68	89	90	2630	-666.71	-2.68	31.63
281	SLU 69	89	83	2651	-671.54	-2.69	31.84
281	SLU 70	89	87	2638	-668.64	-2.68	31.71
281	SLU 71	89	83	2651	-671.54	-2.69	31.84
281	SLU 72	89	87	2638	-668.64	-2.68	31.71
281	SLU 73	93	102	2970	-753.65	-3.15	33.19
281	SLU 74	94	95	2991	-758.48	-3.17	33.39
281	SLU 75	94	99	2979	-755.58	-3.16	33.27
281	SLU 76	93	102	2970	-753.65	-3.15	33.19
281	SLU 77	94	95	2991	-758.48	-3.17	33.39
281	SLU 78	94	99	2979	-755.58	-3.16	33.27
281	SLU 79	94	95	2991	-758.48	-3.17	33.39
281	SLU 80	94	99	2979	-755.58	-3.16	33.27
281	SLU 81	96	100	3137	-795.74	-3.37	34.05
281	SLU 82	95	104	3124	-792.84	-3.36	33.93
281	SLU 83	96	100	3137	-795.74	-3.37	34.05
281	SLU 84	95	104	3124	-792.84	-3.36	33.93
281	SLE RA 1	68	62	1985	-502.84	-1.99	24.13
281	SLE RA 2	67	67	1971	-499.62	-1.98	24
281	SLE RA 3	68	62	1985	-502.84	-1.99	24.13
281	SLE RA 4	68	65	1977	-500.9	-1.99	24.05
281	SLE RA 5	67	67	1971	-499.62	-1.98	24
281	SLE RA 6	68	62	1985	-502.84	-1.99	24.13
281	SLE RA 7	68	65	1977	-500.9	-1.99	24.05
281	SLE RA 8	68	62	1985	-502.84	-1.99	24.13
281	SLE RA 9	68	65	1977	-500.9	-1.99	24.05
281	SLE RA 10	70	74	2198	-557.58	-2.3	25.03
281	SLE RA 11	71	70	2212	-560.8	-2.31	25.16
281	SLE RA 12	70	72	2204	-558.87	-2.3	25.08
281	SLE RA 13	70	74	2198	-557.58	-2.3	25.03
281	SLE RA 14	71	70	2212	-560.8	-2.31	25.16
281	SLE RA 15	70	72	2204	-558.87	-2.3	25.08
281	SLE RA 16	71	70	2212	-560.8	-2.31	25.16
281	SLE RA 17	70	72	2204	-558.87	-2.3	25.08
281	SLE RA 18	72	73	2309	-585.64	-2.44	25.61
281	SLE RA 19	72	76	2301	-583.71	-2.44	25.53
281	SLE RA 20	72	73	2309	-585.64	-2.44	25.61
281	SLE RA 21	72	76	2301	-583.71	-2.44	25.53
281	SLE FR 1	68	62	1985	-502.84	-1.99	24.13
281	SLE FR 2	68	63	1982	-502.19	-1.99	24.1
281	SLE FR 3	68	62	1985	-502.84	-1.99	24.13
281	SLE FR 4	69	66	2079	-527.03	-2.13	24.55
281	SLE FR 5	69	65	2082	-527.68	-2.13	24.57
281	SLE FR 6	70	67	2147	-544.24	-2.22	24.87
281	SLE QP 1	68	62	1985	-502.84	-1.99	24.13
281	SLE QP 2	69	65	2082	-527.68	-2.13	24.57
281	SLD 1	248	106	1954	-486.5	-1.15	86.92
281	SLD 2	212	108	1953	-486.64	-1.15	74.66
281	SLD 3	264	32	2152	-528.59	-1.44	92.7
281	SLD 4	229	34	2152	-528.73	-1.45	80.44
281	SLD 5	110	190	1742	-451.44	-1.39	38.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLD 6	74	192	1742	-451.58	-1.4	26.51
281	SLD 7	165	-59	2405	-591.74	-2.36	58.1
281	SLD 8	130	-57	2404	-591.88	-2.37	45.78
281	SLD 9	8	187	1760	-463.48	-1.89	3.37
281	SLD 10	-27	189	1760	-463.62	-1.9	-8.95
281	SLD 11	64	-61	2422	-603.78	-2.86	22.64
281	SLD 12	28	-59	2422	-603.92	-2.87	10.31
281	SLD 13	-91	97	2012	-526.63	-2.81	-31.29
281	SLD 14	-126	99	2012	-526.77	-2.82	-43.55
281	SLD 15	-74	22	2211	-568.72	-3.1	-25.51
281	SLD 16	-109	24	2211	-568.86	-3.11	-37.77
281	SLV 1	475	159	1790	-434.16	0.1	166.25
281	SLV 2	394	163	1789	-434.48	0.08	138.45
281	SLV 3	513	-11	2241	-529.76	-0.56	179.4
281	SLV 4	432	-6	2240	-530.08	-0.58	151.6
281	SLV 5	161	349	1310	-354.52	-0.45	56.92
281	SLV 6	81	353	1310	-354.84	-0.47	29
281	SLV 7	288	-216	2814	-673.18	-2.66	100.75
281	SLV 8	208	-211	2814	-673.5	-2.68	72.83
281	SLV 9	-69	342	1351	-381.86	-1.58	-23.69
281	SLV 10	-150	346	1350	-382.17	-1.6	-51.61
281	SLV 11	57	-222	2855	-700.52	-3.79	20.14
281	SLV 12	-23	-218	2854	-700.84	-3.81	-7.78
281	SLV 13	-294	137	1924	-525.28	-3.67	-102.45
281	SLV 14	-375	141	1923	-525.6	-3.69	-130.25
281	SLV 15	-256	-32	2375	-620.88	-4.34	-89.3
281	SLV 16	-337	-28	2375	-621.19	-4.36	-117.1
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	66	72	1987	-553.74	-1.63	23.49
282	SLU 2	66	80	1966	-548.45	-1.6	23.28
282	SLU 3	66	72	1987	-553.74	-1.63	23.49
282	SLU 4	66	77	1974	-550.57	-1.61	23.36
282	SLU 5	66	80	1966	-548.45	-1.6	23.28
282	SLU 6	66	72	1987	-553.74	-1.63	23.49
282	SLU 7	66	77	1974	-550.57	-1.61	23.36
282	SLU 8	66	72	1987	-553.74	-1.63	23.49
282	SLU 9	66	77	1974	-550.57	-1.61	23.36
282	SLU 10	70	91	2323	-650.1	-2	24.77
282	SLU 11	71	84	2344	-655.39	-2.02	24.97
282	SLU 12	70	88	2331	-652.22	-2.01	24.85
282	SLU 13	70	91	2323	-650.1	-2	24.77
282	SLU 14	71	84	2344	-655.39	-2.02	24.97
282	SLU 15	70	88	2331	-652.22	-2.01	24.85
282	SLU 16	71	84	2344	-655.39	-2.02	24.97
282	SLU 17	70	88	2331	-652.22	-2.01	24.85
282	SLU 18	72	89	2497	-698.95	-2.19	25.61
282	SLU 19	72	93	2484	-695.78	-2.17	25.49
282	SLU 20	72	89	2497	-698.95	-2.19	25.61
282	SLU 21	72	93	2484	-695.78	-2.17	25.49
282	SLU 22	71	82	2246	-626.87	-1.93	25.08
282	SLU 23	70	89	2224	-621.59	-1.91	24.87
282	SLU 24	71	82	2246	-626.87	-1.93	25.08
282	SLU 25	71	86	2233	-623.7	-1.91	24.95
282	SLU 26	70	89	2224	-621.59	-1.91	24.87
282	SLU 27	71	82	2246	-626.87	-1.93	25.08
282	SLU 28	71	86	2233	-623.7	-1.91	24.95
282	SLU 29	71	82	2246	-626.87	-1.93	25.08
282	SLU 30	71	86	2233	-623.7	-1.91	24.95
282	SLU 31	75	101	2581	-723.24	-2.3	26.36
282	SLU 32	75	93	2603	-728.52	-2.32	26.56
282	SLU 33	75	98	2590	-725.35	-2.31	26.44
282	SLU 34	75	101	2581	-723.24	-2.3	26.36
282	SLU 35	75	93	2603	-728.52	-2.32	26.56
282	SLU 36	75	98	2590	-725.35	-2.31	26.44
282	SLU 37	75	93	2603	-728.52	-2.32	26.56
282	SLU 38	75	98	2590	-725.35	-2.31	26.44
282	SLU 39	77	98	2756	-772.08	-2.49	27.2
282	SLU 40	77	103	2743	-768.91	-2.47	27.08
282	SLU 41	77	98	2756	-772.08	-2.49	27.2
282	SLU 42	77	103	2743	-768.91	-2.47	27.08
282	SLU 43	85	90	2495	-694.78	-2.01	29.99
282	SLU 44	84	98	2473	-689.5	-1.99	29.78
282	SLU 45	85	90	2495	-694.78	-2.01	29.99
282	SLU 46	84	95	2482	-691.61	-2	29.86
282	SLU 47	84	98	2473	-689.5	-1.99	29.78
282	SLU 48	85	90	2495	-694.78	-2.01	29.99
282	SLU 49	84	95	2482	-691.61	-2	29.86
282	SLU 50	85	90	2495	-694.78	-2.01	29.99
282	SLU 51	84	95	2482	-691.61	-2	29.86
282	SLU 52	88	110	2830	-791.15	-2.38	31.27
282	SLU 53	89	102	2852	-796.43	-2.4	31.47
282	SLU 54	89	107	2839	-793.26	-2.39	31.35
282	SLU 55	88	110	2830	-791.15	-2.38	31.27
282	SLU 56	89	102	2852	-796.43	-2.4	31.47
282	SLU 57	89	107	2839	-793.26	-2.39	31.35
282	SLU 58	89	102	2852	-796.43	-2.4	31.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLU 59	89	107	2839	-793.26	-2.39	31.35
282	SLU 60	91	107	3005	-840	-2.57	32.11
282	SLU 61	90	112	2992	-836.83	-2.56	31.99
282	SLU 62	91	107	3005	-840	-2.57	32.11
282	SLU 63	90	112	2992	-836.83	-2.56	31.99
282	SLU 64	89	100	2753	-767.92	-2.31	31.58
282	SLU 65	89	107	2732	-762.63	-2.29	31.37
282	SLU 66	89	100	2753	-767.92	-2.31	31.58
282	SLU 67	89	104	2740	-764.75	-2.3	31.45
282	SLU 68	89	107	2732	-762.63	-2.29	31.37
282	SLU 69	89	100	2753	-767.92	-2.31	31.58
282	SLU 70	89	104	2740	-764.75	-2.3	31.45
282	SLU 71	89	100	2753	-767.92	-2.31	31.58
282	SLU 72	89	104	2740	-764.75	-2.3	31.45
282	SLU 73	93	119	3089	-864.28	-2.68	32.86
282	SLU 74	94	112	3110	-869.57	-2.7	33.06
282	SLU 75	93	116	3097	-866.4	-2.69	32.94
282	SLU 76	93	119	3089	-864.28	-2.68	32.86
282	SLU 77	94	112	3110	-869.57	-2.7	33.06
282	SLU 78	93	116	3097	-866.4	-2.69	32.94
282	SLU 79	94	112	3110	-869.57	-2.7	33.06
282	SLU 80	93	116	3097	-866.4	-2.69	32.94
282	SLU 81	95	117	3263	-913.13	-2.87	33.7
282	SLU 82	95	121	3250	-909.96	-2.86	33.58
282	SLU 83	95	117	3263	-913.13	-2.87	33.7
282	SLU 84	95	121	3250	-909.96	-2.86	33.58
282	SLE RA 1	68	75	2061	-574.63	-1.71	23.94
282	SLE RA 2	67	80	2047	-571.11	-1.7	23.8
282	SLE RA 3	68	75	2061	-574.63	-1.71	23.94
282	SLE RA 4	67	78	2052	-572.52	-1.7	23.86
282	SLE RA 5	67	80	2047	-571.11	-1.7	23.8
282	SLE RA 6	68	75	2061	-574.63	-1.71	23.94
282	SLE RA 7	67	78	2052	-572.52	-1.7	23.86
282	SLE RA 8	68	75	2061	-574.63	-1.71	23.94
282	SLE RA 9	67	78	2052	-572.52	-1.7	23.86
282	SLE RA 10	70	88	2285	-638.88	-1.96	24.79
282	SLE RA 11	71	83	2299	-642.4	-1.97	24.93
282	SLE RA 12	70	86	2290	-640.28	-1.96	24.85
282	SLE RA 13	70	88	2285	-638.88	-1.96	24.79
282	SLE RA 14	71	83	2299	-642.4	-1.97	24.93
282	SLE RA 15	70	86	2290	-640.28	-1.96	24.85
282	SLE RA 16	71	83	2299	-642.4	-1.97	24.93
282	SLE RA 17	70	86	2290	-640.28	-1.96	24.85
282	SLE RA 18	72	86	2401	-671.44	-2.09	25.36
282	SLE RA 19	72	89	2392	-669.33	-2.08	25.27
282	SLE RA 20	72	86	2401	-671.44	-2.09	25.36
282	SLE RA 21	72	89	2392	-669.33	-2.08	25.27
282	SLE FR 1	68	75	2061	-574.63	-1.71	23.94
282	SLE FR 2	68	76	2058	-573.93	-1.71	23.91
282	SLE FR 3	68	75	2061	-574.63	-1.71	23.94
282	SLE FR 4	69	79	2160	-602.97	-1.82	24.34
282	SLE FR 5	69	78	2163	-603.67	-1.82	24.37
282	SLE FR 6	70	80	2231	-623.04	-1.9	24.65
282	SLE QP 1	68	75	2061	-574.63	-1.71	23.94
282	SLE QP 2	69	78	2163	-603.67	-1.82	24.37
282	SLD 1	247	120	2003	-554.12	-0.87	86.59
282	SLD 2	212	125	2003	-554.3	-0.87	74.35
282	SLD 3	264	42	2212	-603.56	-1.13	92.4
282	SLD 4	228	47	2212	-603.73	-1.13	80.16
282	SLD 5	109	207	1798	-513.77	-1.14	38.54
282	SLD 6	74	211	1798	-513.94	-1.14	26.23
282	SLD 7	165	-52	2495	-678.56	-2.01	57.9
282	SLD 8	130	-47	2495	-678.73	-2.02	45.6
282	SLD 9	8	203	1831	-528.62	-1.63	3.13
282	SLD 10	-27	208	1831	-528.79	-1.64	-9.17
282	SLD 11	64	-55	2528	-693.4	-2.5	22.5
282	SLD 12	29	-50	2528	-693.58	-2.51	10.19
282	SLD 13	-91	109	2114	-603.62	-2.51	-31.42
282	SLD 14	-126	114	2114	-603.79	-2.52	-43.67
282	SLD 15	-74	31	2323	-653.05	-2.77	-25.61
282	SLD 16	-109	36	2323	-653.23	-2.78	-37.86
282	SLV 1	473	173	1800	-491.16	0.35	165.77
282	SLV 2	393	184	1800	-491.56	0.33	138.01
282	SLV 3	512	-3	2275	-603.43	-0.24	178.98
282	SLV 4	432	8	2275	-603.83	-0.26	151.23
282	SLV 5	160	370	1334	-399.51	-0.27	56.52
282	SLV 6	80	381	1334	-399.91	-0.28	28.64
282	SLV 7	288	-217	2916	-773.73	-2.24	100.57
282	SLV 8	208	-206	2916	-774.13	-2.26	72.69
282	SLV 9	-70	362	1410	-433.21	-1.39	-23.96
282	SLV 10	-150	373	1410	-433.61	-1.4	-51.84
282	SLV 11	58	-225	2991	-807.44	-3.36	20.09
282	SLV 12	-23	-213	2991	-807.84	-3.38	-7.79
282	SLV 13	-294	148	2051	-603.52	-3.39	-102.49
282	SLV 14	-374	159	2051	-603.92	-3.4	-130.25
282	SLV 15	-256	-28	2526	-715.79	-3.98	-89.28
282	SLV 16	-336	-17	2526	-716.18	-4	-117.04
282	CRTFP Ux+	0	0	0	0	0	0
282	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
282	CRTFP Uy+	0	0	0	0	0	0
282	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	60	70	1847	-557.04	33.61	19.74
283	SLU 2	60	77	1827	-551.82	33.25	19.41
283	SLU 3	60	70	1847	-557.04	33.61	19.74
283	SLU 4	60	75	1835	-553.9	33.39	19.54
283	SLU 5	60	77	1827	-551.82	33.25	19.41
283	SLU 6	60	70	1847	-557.04	33.61	19.74
283	SLU 7	60	75	1835	-553.9	33.39	19.54
283	SLU 8	60	70	1847	-557.04	33.61	19.74
283	SLU 9	60	75	1835	-553.9	33.39	19.54
283	SLU 10	63	88	2161	-655.49	39.29	20.51
283	SLU 11	64	81	2181	-660.71	39.66	20.84
283	SLU 12	64	85	2169	-657.58	39.44	20.64
283	SLU 13	63	88	2161	-655.49	39.29	20.51
283	SLU 14	64	81	2181	-660.71	39.66	20.84
283	SLU 15	64	85	2169	-657.58	39.44	20.64
283	SLU 16	64	81	2181	-660.71	39.66	20.84
283	SLU 17	64	85	2169	-657.58	39.44	20.64
283	SLU 18	66	85	2324	-705.14	42.25	21.31
283	SLU 19	65	89	2312	-702.01	42.03	21.12
283	SLU 20	66	85	2324	-705.14	42.25	21.31
283	SLU 21	65	89	2312	-702.01	42.03	21.12
283	SLU 22	64	79	2089	-631.72	37.98	20.99
283	SLU 23	64	86	2069	-626.5	37.62	20.66
283	SLU 24	64	79	2089	-631.72	37.98	20.99
283	SLU 25	64	83	2077	-628.59	37.76	20.79
283	SLU 26	64	86	2069	-626.5	37.62	20.66
283	SLU 27	64	79	2089	-631.72	37.98	20.99
283	SLU 28	64	83	2077	-628.59	37.76	20.79
283	SLU 29	64	79	2089	-631.72	37.98	20.99
283	SLU 30	64	83	2077	-628.59	37.76	20.79
283	SLU 31	67	96	2403	-730.18	43.67	21.76
283	SLU 32	68	89	2423	-735.4	44.03	22.09
283	SLU 33	68	93	2411	-732.27	43.81	21.89
283	SLU 34	67	96	2403	-730.18	43.67	21.76
283	SLU 35	68	89	2423	-735.4	44.03	22.09
283	SLU 36	68	93	2411	-732.27	43.81	21.89
283	SLU 37	68	89	2423	-735.4	44.03	22.09
283	SLU 38	68	93	2411	-732.27	43.81	21.89
283	SLU 39	70	93	2566	-779.83	46.62	22.56
283	SLU 40	69	98	2554	-776.7	46.4	22.36
283	SLU 41	70	93	2566	-779.83	46.62	22.56
283	SLU 42	69	98	2554	-776.7	46.4	22.36
283	SLU 43	77	88	2318	-698.54	42.19	25.23
283	SLU 44	76	96	2298	-693.32	41.83	24.9
283	SLU 45	77	88	2318	-698.54	42.19	25.23
283	SLU 46	76	93	2306	-695.41	41.97	25.04
283	SLU 47	76	96	2298	-693.32	41.83	24.9
283	SLU 48	77	88	2318	-698.54	42.19	25.23
283	SLU 49	76	93	2306	-695.41	41.97	25.04
283	SLU 50	77	88	2318	-698.54	42.19	25.23
283	SLU 51	76	93	2306	-695.41	41.97	25.04
283	SLU 52	80	106	2632	-796.99	47.88	26
283	SLU 53	81	99	2652	-802.21	48.24	26.34
283	SLU 54	80	103	2640	-799.08	48.02	26.14
283	SLU 55	80	106	2632	-796.99	47.88	26
283	SLU 56	81	99	2652	-802.21	48.24	26.34
283	SLU 57	80	103	2640	-799.08	48.02	26.14
283	SLU 58	81	99	2652	-802.21	48.24	26.34
283	SLU 59	80	103	2640	-799.08	48.02	26.14
283	SLU 60	82	103	2795	-846.65	50.83	26.81
283	SLU 61	82	108	2783	-843.51	50.61	26.61
283	SLU 62	82	103	2795	-846.65	50.83	26.81
283	SLU 63	82	108	2783	-843.51	50.61	26.61
283	SLU 64	81	97	2560	-773.23	46.56	26.48
283	SLU 65	80	104	2540	-768.01	46.2	26.15
283	SLU 66	81	97	2560	-773.23	46.56	26.48
283	SLU 67	80	101	2548	-770.1	46.34	26.28
283	SLU 68	80	104	2540	-768.01	46.2	26.15
283	SLU 69	81	97	2560	-773.23	46.56	26.48
283	SLU 70	80	101	2548	-770.1	46.34	26.28
283	SLU 71	81	97	2560	-773.23	46.56	26.48
283	SLU 72	80	101	2548	-770.1	46.34	26.28
283	SLU 73	84	114	2874	-871.68	52.25	27.25
283	SLU 74	85	107	2894	-876.9	52.61	27.58
283	SLU 75	84	111	2882	-873.77	52.39	27.38
283	SLU 76	84	114	2874	-871.68	52.25	27.25
283	SLU 77	85	107	2894	-876.9	52.61	27.58
283	SLU 78	84	111	2882	-873.77	52.39	27.38
283	SLU 79	85	107	2894	-876.9	52.61	27.58
283	SLU 80	84	111	2882	-873.77	52.39	27.38
283	SLU 81	86	112	3037	-921.33	55.2	28.06
283	SLU 82	86	116	3025	-918.2	54.99	27.86
283	SLU 83	86	112	3037	-921.33	55.2	28.06
283	SLU 84	86	116	3025	-918.2	54.99	27.86
283	SLE RA 1	61	73	1916	-578.38	34.86	20.1
283	SLE RA 2	61	77	1903	-574.9	34.62	19.87
283	SLE RA 3	61	73	1916	-578.38	34.86	20.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLE RA 4	61	75	1908	-576.29	34.71	19.96
283	SLE RA 5	61	77	1903	-574.9	34.62	19.87
283	SLE RA 6	61	73	1916	-578.38	34.86	20.1
283	SLE RA 7	61	75	1908	-576.29	34.71	19.96
283	SLE RA 8	61	73	1916	-578.38	34.86	20.1
283	SLE RA 9	61	75	1908	-576.29	34.71	19.96
283	SLE RA 10	63	84	2126	-644.01	38.65	20.61
283	SLE RA 11	64	79	2139	-647.49	38.89	20.83
283	SLE RA 12	64	82	2131	-645.4	38.74	20.7
283	SLE RA 13	63	84	2126	-644.01	38.65	20.61
283	SLE RA 14	64	79	2139	-647.49	38.89	20.83
283	SLE RA 15	64	82	2131	-645.4	38.74	20.7
283	SLE RA 16	64	79	2139	-647.49	38.89	20.83
283	SLE RA 17	64	82	2131	-645.4	38.74	20.7
283	SLE RA 18	65	82	2234	-677.11	40.62	21.15
283	SLE RA 19	65	85	2226	-675.03	40.47	21.01
283	SLE RA 20	65	82	2234	-677.11	40.62	21.15
283	SLE RA 21	65	85	2226	-675.03	40.47	21.01
283	SLE FR 1	61	73	1916	-578.38	34.86	20.1
283	SLE FR 2	61	74	1914	-577.68	34.81	20.05
283	SLE FR 3	61	73	1916	-578.38	34.86	20.1
283	SLE FR 4	62	77	2009	-607.3	36.54	20.37
283	SLE FR 5	62	76	2012	-608	36.58	20.41
283	SLE FR 6	63	78	2075	-627.74	37.74	20.62
283	SLE QP 1	61	73	1916	-578.38	34.86	20.1
283	SLE QP 2	62	76	2012	-608	36.58	20.41
283	SLD 1	223	114	1841	-555.99	34.05	75.87
283	SLD 2	191	121	1841	-556.22	34.05	64.67
283	SLD 3	238	41	2037	-606.53	37.57	82.44
283	SLD 4	206	48	2038	-606.76	37.57	71.24
283	SLD 5	98	195	1663	-515.67	30.49	31.03
283	SLD 6	66	202	1663	-515.89	30.49	19.78
283	SLD 7	149	-48	2317	-684.13	42.21	52.93
283	SLD 8	118	-40	2317	-684.36	42.21	41.68
283	SLD 9	7	192	1706	-531.64	30.96	-0.86
283	SLD 10	-25	199	1706	-531.86	30.96	-12.11
283	SLD 11	58	-51	2360	-700.1	42.68	21.04
283	SLD 12	26	-44	2361	-700.33	42.68	9.8
283	SLD 13	-81	103	1986	-609.24	35.6	-30.42
283	SLD 14	-113	110	1986	-609.46	35.6	-41.61
283	SLD 15	-66	30	2182	-659.78	39.12	-23.85
283	SLD 16	-98	37	2182	-660	39.12	-35.04
283	SLV 1	427	163	1624	-489.93	30.83	146.44
283	SLV 2	355	180	1625	-490.44	30.83	121.07
283	SLV 3	462	-2	2070	-604.7	38.82	161.36
283	SLV 4	389	14	2070	-605.21	38.82	135.99
283	SLV 5	144	347	1219	-398.34	22.75	44.52
283	SLV 6	72	363	1220	-398.85	22.75	19.04
283	SLV 7	260	-204	2705	-780.89	49.36	94.27
283	SLV 8	188	-188	2705	-781.4	49.36	68.78
283	SLV 9	-63	339	1318	-434.59	23.81	-27.96
283	SLV 10	-136	355	1319	-435.11	23.8	-53.44
283	SLV 11	53	-212	2804	-817.14	50.42	21.79
283	SLV 12	-20	-196	2804	-817.66	50.42	-3.7
283	SLV 13	-265	137	1953	-610.79	34.35	-95.17
283	SLV 14	-337	153	1953	-611.3	34.35	-120.54
283	SLV 15	-230	-29	2399	-725.55	42.34	-80.24
283	SLV 16	-302	-12	2399	-726.06	42.33	-105.62
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
285	SLU 1	161	168	4867	-1110.97	-21.18	36.38
285	SLU 2	159	187	4812	-1099.88	-20.86	36.11
285	SLU 3	161	168	4867	-1110.97	-21.18	36.38
285	SLU 4	160	179	4834	-1104.32	-20.99	36.22
285	SLU 5	159	187	4812	-1099.88	-20.86	36.11
285	SLU 6	161	168	4867	-1110.97	-21.18	36.38
285	SLU 7	160	179	4834	-1104.32	-20.99	36.22
285	SLU 8	161	168	4867	-1110.97	-21.18	36.38
285	SLU 9	160	179	4834	-1104.32	-20.99	36.22
285	SLU 10	169	211	5682	-1305.51	-23.93	38.2
285	SLU 11	171	191	5738	-1316.6	-24.25	38.47
285	SLU 12	170	203	5705	-1309.94	-24.06	38.31
285	SLU 13	169	211	5682	-1305.51	-23.93	38.2
285	SLU 14	171	191	5738	-1316.6	-24.25	38.47
285	SLU 15	170	203	5705	-1309.94	-24.06	38.31
285	SLU 16	171	191	5738	-1316.6	-24.25	38.47
285	SLU 17	170	203	5705	-1309.94	-24.06	38.31
285	SLU 18	176	201	6111	-1404.72	-25.57	39.36
285	SLU 19	175	213	6078	-1398.07	-25.37	39.21
285	SLU 20	176	201	6111	-1404.72	-25.57	39.36
285	SLU 21	175	213	6078	-1398.07	-25.37	39.21
285	SLU 22	172	187	5501	-1259.72	-23.81	38.71
285	SLU 23	170	206	5446	-1248.63	-23.49	38.45
285	SLU 24	172	187	5501	-1259.72	-23.81	38.71
285	SLU 25	171	198	5468	-1253.07	-23.62	38.55
285	SLU 26	170	206	5446	-1248.63	-23.49	38.45
285	SLU 27	172	187	5501	-1259.72	-23.81	38.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLU 28	171	198	5468	-1253.07	-23.62	38.55
285	SLU 29	172	187	5501	-1259.72	-23.81	38.71
285	SLU 30	171	198	5468	-1253.07	-23.62	38.55
285	SLU 31	181	230	6317	-1454.26	-26.55	40.54
285	SLU 32	182	210	6372	-1465.34	-26.88	40.8
285	SLU 33	181	222	6339	-1458.69	-26.68	40.65
285	SLU 34	181	230	6317	-1454.26	-26.55	40.54
285	SLU 35	182	210	6372	-1465.34	-26.88	40.8
285	SLU 36	181	222	6339	-1458.69	-26.68	40.65
285	SLU 37	182	210	6372	-1465.34	-26.88	40.8
285	SLU 38	181	222	6339	-1458.69	-26.68	40.65
285	SLU 39	187	220	6745	-1553.47	-28.19	41.7
285	SLU 40	186	232	6712	-1546.82	-28	41.54
285	SLU 41	187	220	6745	-1553.47	-28.19	41.7
285	SLU 42	186	232	6712	-1546.82	-28	41.54
285	SLU 43	205	211	6109	-1393.26	-26.64	46.49
285	SLU 44	203	231	6054	-1382.18	-26.32	46.22
285	SLU 45	205	211	6109	-1393.26	-26.64	46.49
285	SLU 46	204	223	6076	-1386.61	-26.45	46.33
285	SLU 47	203	231	6054	-1382.18	-26.32	46.22
285	SLU 48	205	211	6109	-1393.26	-26.64	46.49
285	SLU 49	204	223	6076	-1386.61	-26.45	46.33
285	SLU 50	205	211	6109	-1393.26	-26.64	46.49
285	SLU 51	204	223	6076	-1386.61	-26.45	46.33
285	SLU 52	214	254	6925	-1587.8	-29.39	48.32
285	SLU 53	216	235	6980	-1598.89	-29.71	48.58
285	SLU 54	215	247	6947	-1592.24	-29.51	48.42
285	SLU 55	214	254	6925	-1587.8	-29.39	48.32
285	SLU 56	216	235	6980	-1598.89	-29.71	48.58
285	SLU 57	215	247	6947	-1592.24	-29.51	48.42
285	SLU 58	216	235	6980	-1598.89	-29.71	48.58
285	SLU 59	215	247	6947	-1592.24	-29.51	48.42
285	SLU 60	220	245	7353	-1687.02	-31.02	49.48
285	SLU 61	219	257	7320	-1680.36	-30.83	49.32
285	SLU 62	220	245	7353	-1687.02	-31.02	49.48
285	SLU 63	219	257	7320	-1680.36	-30.83	49.32
285	SLU 64	216	230	6744	-1542.01	-29.27	48.82
285	SLU 65	214	250	6689	-1530.92	-28.94	48.56
285	SLU 66	216	230	6744	-1542.01	-29.27	48.82
285	SLU 67	215	242	6711	-1535.36	-29.07	48.66
285	SLU 68	214	250	6689	-1530.92	-28.94	48.56
285	SLU 69	216	230	6744	-1542.01	-29.27	48.82
285	SLU 70	215	242	6711	-1535.36	-29.07	48.66
285	SLU 71	216	230	6744	-1542.01	-29.27	48.82
285	SLU 72	215	242	6711	-1535.36	-29.07	48.66
285	SLU 73	225	274	7559	-1736.55	-32.01	50.65
285	SLU 74	227	254	7615	-1747.64	-32.33	50.91
285	SLU 75	226	266	7582	-1740.98	-32.14	50.76
285	SLU 76	225	274	7559	-1736.55	-32.01	50.65
285	SLU 77	227	254	7615	-1747.64	-32.33	50.91
285	SLU 78	226	266	7582	-1740.98	-32.14	50.76
285	SLU 79	227	254	7615	-1747.64	-32.33	50.91
285	SLU 80	226	266	7582	-1740.98	-32.14	50.76
285	SLU 81	231	264	7988	-1835.76	-33.65	51.81
285	SLU 82	230	276	7955	-1829.11	-33.45	51.65
285	SLU 83	231	264	7988	-1835.76	-33.65	51.81
285	SLU 84	230	276	7955	-1829.11	-33.45	51.65
285	SLE RA 1	164	173	5048	-1153.47	-21.93	37.04
285	SLE RA 2	163	186	5011	-1146.08	-21.72	36.87
285	SLE RA 3	164	173	5048	-1153.47	-21.93	37.04
285	SLE RA 4	163	181	5026	-1149.04	-21.81	36.94
285	SLE RA 5	163	186	5011	-1146.08	-21.72	36.87
285	SLE RA 6	164	173	5048	-1153.47	-21.93	37.04
285	SLE RA 7	163	181	5026	-1149.04	-21.81	36.94
285	SLE RA 8	164	173	5048	-1153.47	-21.93	37.04
285	SLE RA 9	163	181	5026	-1149.04	-21.81	36.94
285	SLE RA 10	170	202	5592	-1283.16	-23.76	38.26
285	SLE RA 11	171	189	5629	-1290.55	-23.98	38.44
285	SLE RA 12	170	197	5607	-1286.12	-23.85	38.33
285	SLE RA 13	170	202	5592	-1283.16	-23.76	38.26
285	SLE RA 14	171	189	5629	-1290.55	-23.98	38.44
285	SLE RA 15	170	197	5607	-1286.12	-23.85	38.33
285	SLE RA 16	171	189	5629	-1290.55	-23.98	38.44
285	SLE RA 17	170	197	5607	-1286.12	-23.85	38.33
285	SLE RA 18	174	195	5877	-1349.3	-24.86	39.04
285	SLE RA 19	173	203	5855	-1344.87	-24.73	38.93
285	SLE RA 20	174	195	5877	-1349.3	-24.86	39.04
285	SLE RA 21	173	203	5855	-1344.87	-24.73	38.93
285	SLE FR 1	164	173	5048	-1153.47	-21.93	37.04
285	SLE FR 2	164	176	5041	-1151.99	-21.89	37.01
285	SLE FR 3	164	173	5048	-1153.47	-21.93	37.04
285	SLE FR 4	167	182	5290	-1210.74	-22.77	37.61
285	SLE FR 5	167	180	5297	-1212.22	-22.81	37.64
285	SLE FR 6	169	184	5463	-1251.39	-23.4	38.04
285	SLE QP 1	164	173	5048	-1153.47	-21.93	37.04
285	SLE QP 2	167	180	5297	-1212.22	-22.81	37.64
285	SLD 1	575	279	4780	-1100.04	-8.18	137.06
285	SLD 2	492	306	4780	-1100.47	-8.26	118.02
285	SLD 3	616	86	5319	-1208.53	-11.11	145.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLD 4	533	113	5319	-1208.97	-11.18	126.63
285	SLD 5	256	494	4324	-1013.86	-13.96	61.11
285	SLD 6	173	521	4324	-1014.29	-14.03	41.98
285	SLD 7	394	-152	6121	-1375.52	-23.71	89.83
285	SLD 8	310	-125	6121	-1375.95	-23.79	70.69
285	SLD 9	24	484	4472	-1048.49	-21.83	4.59
285	SLD 10	-60	511	4473	-1048.92	-21.91	-14.55
285	SLD 11	161	-162	6269	-1410.15	-31.59	33.3
285	SLD 12	78	-134	6270	-1410.59	-31.66	14.17
285	SLD 13	-199	247	5275	-1215.47	-34.44	-51.35
285	SLD 14	-282	274	5275	-1215.91	-34.51	-70.39
285	SLD 15	-158	53	5814	-1323.97	-37.37	-42.74
285	SLD 16	-241	80	5814	-1324.41	-37.44	-61.78
285	SLV 1	1094	406	4122	-957.53	10.38	263.55
285	SLV 2	906	467	4124	-958.51	10.21	220.39
285	SLV 3	1188	-34	5346	-1203.9	3.73	283.16
285	SLV 4	999	28	5348	-1204.89	3.57	240
285	SLV 5	370	893	3088	-761.8	-2.71	90.87
285	SLV 6	180	955	3089	-762.79	-2.88	47.53
285	SLV 7	682	-573	7168	-1583.05	-24.87	156.23
285	SLV 8	492	-511	7169	-1584.03	-25.04	112.89
285	SLV 9	-158	871	3425	-840.41	-20.58	-37.61
285	SLV 10	-348	932	3426	-841.4	-20.75	-80.95
285	SLV 11	154	-595	7505	-1661.65	-42.74	27.75
285	SLV 12	-36	-534	7506	-1662.64	-42.91	-15.59
285	SLV 13	-665	332	5246	-1219.56	-49.19	-164.72
285	SLV 14	-854	393	5247	-1220.54	-49.36	-207.88
285	SLV 15	-572	-108	6470	-1465.93	-55.84	-145.11
285	SLV 16	-761	-47	6471	-1466.91	-56	-188.27
285	CRTFP Ux+	0	0	0	0	0	0
285	CRTFP Ux-	0	0	0	0	0	0
285	CRTFP Uy+	0	0	0	-0.01	0	0
285	CRTFP Uy-	0	0	0	0.01	0	0
287	SLU 1	64	56	1969	-602	-36.48	23.18
287	SLU 2	64	64	1947	-596.21	-36.07	23.12
287	SLU 3	64	56	1969	-602	-36.48	23.18
287	SLU 4	64	61	1956	-598.53	-36.24	23.14
287	SLU 5	64	64	1947	-596.21	-36.07	23.12
287	SLU 6	64	56	1969	-602	-36.48	23.18
287	SLU 7	64	61	1956	-598.53	-36.24	23.14
287	SLU 8	64	56	1969	-602	-36.48	23.18
287	SLU 9	64	61	1956	-598.53	-36.24	23.14
287	SLU 10	68	72	2300	-709.2	-42.48	24.54
287	SLU 11	68	63	2322	-714.99	-42.88	24.6
287	SLU 12	68	68	2309	-711.52	-42.64	24.57
287	SLU 13	68	72	2300	-709.2	-42.48	24.54
287	SLU 14	68	63	2322	-714.99	-42.88	24.6
287	SLU 15	68	68	2309	-711.52	-42.64	24.57
287	SLU 16	68	63	2322	-714.99	-42.88	24.6
287	SLU 17	68	68	2309	-711.52	-42.64	24.57
287	SLU 18	70	66	2473	-763.41	-45.63	25.21
287	SLU 19	70	71	2460	-759.94	-45.38	25.18
287	SLU 20	70	66	2473	-763.41	-45.63	25.21
287	SLU 21	70	71	2460	-759.94	-45.38	25.18
287	SLU 22	69	62	2227	-683.32	-41.19	24.73
287	SLU 23	68	70	2205	-677.54	-40.78	24.67
287	SLU 24	69	62	2227	-683.32	-41.19	24.73
287	SLU 25	68	67	2214	-679.85	-40.95	24.69
287	SLU 26	68	70	2205	-677.54	-40.78	24.67
287	SLU 27	69	62	2227	-683.32	-41.19	24.73
287	SLU 28	68	67	2214	-679.85	-40.95	24.69
287	SLU 29	69	62	2227	-683.32	-41.19	24.73
287	SLU 30	68	67	2214	-679.85	-40.95	24.69
287	SLU 31	72	78	2558	-790.53	-47.19	26.09
287	SLU 32	73	69	2579	-796.31	-47.6	26.15
287	SLU 33	72	74	2566	-792.84	-47.35	26.11
287	SLU 34	72	78	2558	-790.53	-47.19	26.09
287	SLU 35	73	69	2579	-796.31	-47.6	26.15
287	SLU 36	72	74	2566	-792.84	-47.35	26.11
287	SLU 37	73	69	2579	-796.31	-47.6	26.15
287	SLU 38	72	74	2566	-792.84	-47.35	26.11
287	SLU 39	74	72	2730	-844.74	-50.34	26.76
287	SLU 40	74	78	2717	-841.27	-50.1	26.72
287	SLU 41	74	72	2730	-844.74	-50.34	26.76
287	SLU 42	74	78	2717	-841.27	-50.1	26.72
287	SLU 43	82	70	2472	-754.71	-45.81	29.6
287	SLU 44	82	79	2450	-748.93	-45.4	29.54
287	SLU 45	82	70	2472	-754.71	-45.81	29.6
287	SLU 46	82	76	2459	-751.24	-45.56	29.57
287	SLU 47	82	79	2450	-748.93	-45.4	29.54
287	SLU 48	82	70	2472	-754.71	-45.81	29.6
287	SLU 49	82	76	2459	-751.24	-45.56	29.57
287	SLU 50	82	70	2472	-754.71	-45.81	29.6
287	SLU 51	82	76	2459	-751.24	-45.56	29.57
287	SLU 52	86	86	2803	-861.92	-51.81	30.97
287	SLU 53	86	78	2824	-867.7	-52.21	31.02
287	SLU 54	86	83	2811	-864.23	-51.97	30.99
287	SLU 55	86	86	2803	-861.92	-51.81	30.97
287	SLU 56	86	78	2824	-867.7	-52.21	31.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLU 57	86	83	2811	-864.23	-51.97	30.99
287	SLU 58	86	78	2824	-867.7	-52.21	31.02
287	SLU 59	86	83	2811	-864.23	-51.97	30.99
287	SLU 60	88	81	2975	-916.13	-54.96	31.63
287	SLU 61	87	86	2962	-912.66	-54.71	31.6
287	SLU 62	88	81	2975	-916.13	-54.96	31.63
287	SLU 63	87	86	2962	-912.66	-54.71	31.6
287	SLU 64	87	77	2729	-836.04	-50.52	31.15
287	SLU 65	86	85	2707	-830.26	-50.11	31.09
287	SLU 66	87	77	2729	-836.04	-50.52	31.15
287	SLU 67	86	82	2716	-832.57	-50.28	31.12
287	SLU 68	86	85	2707	-830.26	-50.11	31.09
287	SLU 69	87	77	2729	-836.04	-50.52	31.15
287	SLU 70	86	82	2716	-832.57	-50.28	31.12
287	SLU 71	87	77	2729	-836.04	-50.52	31.15
287	SLU 72	86	82	2716	-832.57	-50.28	31.12
287	SLU 73	90	92	3060	-943.25	-56.52	32.51
287	SLU 74	90	84	3082	-949.03	-56.92	32.57
287	SLU 75	90	89	3069	-945.56	-56.68	32.54
287	SLU 76	90	92	3060	-943.25	-56.52	32.51
287	SLU 77	90	84	3082	-949.03	-56.92	32.57
287	SLU 78	90	89	3069	-945.56	-56.68	32.54
287	SLU 79	90	84	3082	-949.03	-56.92	32.57
287	SLU 80	90	89	3069	-945.56	-56.68	32.54
287	SLU 81	92	87	3233	-997.45	-59.67	33.18
287	SLU 82	92	92	3220	-993.98	-59.42	33.15
287	SLU 83	92	87	3233	-997.45	-59.67	33.18
287	SLU 84	92	92	3220	-993.98	-59.42	33.15
287	SLE RA 1	66	58	2043	-625.23	-37.83	23.62
287	SLE RA 2	65	63	2028	-621.38	-37.55	23.58
287	SLE RA 3	66	58	2043	-625.23	-37.83	23.62
287	SLE RA 4	65	61	2034	-622.92	-37.66	23.6
287	SLE RA 5	65	63	2028	-621.38	-37.55	23.58
287	SLE RA 6	66	58	2043	-625.23	-37.83	23.62
287	SLE RA 7	65	61	2034	-622.92	-37.66	23.6
287	SLE RA 8	66	58	2043	-625.23	-37.83	23.62
287	SLE RA 9	65	61	2034	-622.92	-37.66	23.6
287	SLE RA 10	68	68	2263	-696.7	-41.82	24.53
287	SLE RA 11	68	62	2278	-700.56	-42.1	24.57
287	SLE RA 12	68	66	2269	-698.25	-41.93	24.55
287	SLE RA 13	68	68	2263	-696.7	-41.82	24.53
287	SLE RA 14	68	62	2278	-700.56	-42.1	24.57
287	SLE RA 15	68	66	2269	-698.25	-41.93	24.55
287	SLE RA 16	68	62	2278	-700.56	-42.1	24.57
287	SLE RA 17	68	66	2269	-698.25	-41.93	24.55
287	SLE RA 18	69	65	2379	-732.84	-43.92	24.97
287	SLE RA 19	69	68	2370	-730.53	-43.76	24.95
287	SLE RA 20	69	65	2379	-732.84	-43.92	24.97
287	SLE RA 21	69	68	2370	-730.53	-43.76	24.95
287	SLE FR 1	66	58	2043	-625.23	-37.83	23.62
287	SLE FR 2	66	59	2040	-624.46	-37.77	23.61
287	SLE FR 3	66	58	2043	-625.23	-37.83	23.62
287	SLE FR 4	67	61	2141	-656.74	-39.6	24.02
287	SLE FR 5	67	60	2143	-657.52	-39.66	24.03
287	SLE FR 6	68	61	2211	-679.04	-40.88	24.3
287	SLE QP 1	66	58	2043	-625.23	-37.83	23.62
287	SLE QP 2	67	60	2143	-657.52	-39.66	24.03
287	SLD 1	234	102	1912	-593.94	-34.69	83.27
287	SLD 2	201	116	1913	-594.28	-34.71	72.03
287	SLD 3	250	19	2124	-649.82	-38.62	87.44
287	SLD 4	217	34	2124	-650.16	-38.64	76.2
287	SLD 5	104	193	1753	-553.57	-32.2	39.43
287	SLD 6	71	208	1753	-553.91	-32.21	28.13
287	SLD 7	158	-84	2458	-739.84	-45.3	53.35
287	SLD 8	125	-69	2459	-740.18	-45.32	42.05
287	SLD 9	9	188	1828	-574.85	-33.99	6
287	SLD 10	-24	203	1829	-575.19	-34.01	-5.29
287	SLD 11	63	-88	2534	-761.12	-47.1	19.92
287	SLD 12	29	-73	2534	-761.46	-47.11	8.62
287	SLD 13	-83	86	2163	-664.88	-40.67	-28.15
287	SLD 14	-117	101	2163	-665.21	-40.69	-39.39
287	SLD 15	-67	3	2374	-720.76	-44.6	-23.97
287	SLD 16	-100	18	2375	-721.09	-44.62	-35.22
287	SLV 1	447	155	1618	-513.19	-28.39	158.63
287	SLV 2	371	189	1619	-513.95	-28.42	133.15
287	SLV 3	483	-33	2099	-640.08	-37.32	168.16
287	SLV 4	408	1	2100	-640.84	-37.35	142.68
287	SLV 5	151	362	1257	-421.51	-22.73	58.93
287	SLV 6	76	396	1258	-422.27	-22.76	33.34
287	SLV 7	274	-266	2859	-844.46	-52.48	90.7
287	SLV 8	199	-232	2860	-845.22	-52.51	65.1
287	SLV 9	-65	351	1427	-469.81	-26.8	-17.05
287	SLV 10	-141	385	1428	-470.57	-26.83	-42.64
287	SLV 11	58	-277	3029	-892.76	-56.55	14.72
287	SLV 12	-18	-243	3030	-893.52	-56.59	-10.88
287	SLV 13	-275	119	2187	-674.19	-41.96	-94.62
287	SLV 14	-350	152	2188	-674.95	-41.99	-120.11
287	SLV 15	-238	-70	2668	-801.08	-50.89	-85.1
287	SLV 16	-313	-36	2669	-801.84	-50.92	-110.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	CRTFP Ux+	0	0	0	0	0	0
287	CRTFP Ux-	0	0	0	0	0	0
287	CRTFP Uy+	0	0	0	-0.01	0	0
287	CRTFP Uy-	0	0	0	0.01	0	0
288	SLU 1	72	42	2159	-625.75	0.43	24.45
288	SLU 2	71	52	2135	-619.59	0.43	24.21
288	SLU 3	72	42	2159	-625.75	0.43	24.45
288	SLU 4	72	48	2145	-622.06	0.43	24.31
288	SLU 5	71	52	2135	-619.59	0.43	24.21
288	SLU 6	72	42	2159	-625.75	0.43	24.45
288	SLU 7	72	48	2145	-622.06	0.43	24.31
288	SLU 8	72	42	2159	-625.75	0.43	24.45
288	SLU 9	72	48	2145	-622.06	0.43	24.31
288	SLU 10	76	57	2516	-735.87	0.77	25.56
288	SLU 11	76	47	2540	-742.03	0.77	25.8
288	SLU 12	76	53	2525	-738.34	0.77	25.66
288	SLU 13	76	57	2516	-735.87	0.77	25.56
288	SLU 14	76	47	2540	-742.03	0.77	25.8
288	SLU 15	76	53	2525	-738.34	0.77	25.66
288	SLU 16	76	47	2540	-742.03	0.77	25.8
288	SLU 17	76	53	2525	-738.34	0.77	25.66
288	SLU 18	78	49	2703	-791.87	0.91	26.38
288	SLU 19	78	55	2688	-788.17	0.91	26.24
288	SLU 20	78	49	2703	-791.87	0.91	26.38
288	SLU 21	78	55	2688	-788.17	0.91	26.24
288	SLU 22	77	46	2439	-709.54	0.61	26
288	SLU 23	76	56	2415	-703.38	0.61	25.76
288	SLU 24	77	46	2439	-709.54	0.61	26
288	SLU 25	76	52	2424	-705.84	0.61	25.86
288	SLU 26	76	56	2415	-703.38	0.61	25.76
288	SLU 27	77	46	2439	-709.54	0.61	26
288	SLU 28	76	52	2424	-705.84	0.61	25.86
288	SLU 29	77	46	2439	-709.54	0.61	26
288	SLU 30	76	52	2424	-705.84	0.61	25.86
288	SLU 31	80	61	2795	-819.66	0.94	27.11
288	SLU 32	81	51	2819	-825.82	0.94	27.35
288	SLU 33	81	57	2805	-822.12	0.94	27.21
288	SLU 34	80	61	2795	-819.66	0.94	27.11
288	SLU 35	81	51	2819	-825.82	0.94	27.35
288	SLU 36	81	57	2805	-822.12	0.94	27.21
288	SLU 37	81	51	2819	-825.82	0.94	27.35
288	SLU 38	81	57	2805	-822.12	0.94	27.21
288	SLU 39	83	53	2982	-875.66	1.09	27.92
288	SLU 40	82	59	2968	-871.96	1.09	27.78
288	SLU 41	83	53	2982	-875.66	1.09	27.92
288	SLU 42	82	59	2968	-871.96	1.09	27.78
288	SLU 43	92	53	2711	-784.75	0.5	31.25
288	SLU 44	91	63	2687	-778.59	0.5	31.02
288	SLU 45	92	53	2711	-784.75	0.5	31.25
288	SLU 46	92	59	2697	-781.05	0.5	31.11
288	SLU 47	91	63	2687	-778.59	0.5	31.02
288	SLU 48	92	53	2711	-784.75	0.5	31.25
288	SLU 49	92	59	2697	-781.05	0.5	31.11
288	SLU 50	92	53	2711	-784.75	0.5	31.25
288	SLU 51	92	59	2697	-781.05	0.5	31.11
288	SLU 52	95	68	3068	-894.87	0.83	32.37
288	SLU 53	96	58	3092	-901.03	0.83	32.6
288	SLU 54	96	64	3077	-897.33	0.83	32.46
288	SLU 55	95	68	3068	-894.87	0.83	32.37
288	SLU 56	96	58	3092	-901.03	0.83	32.6
288	SLU 57	96	64	3077	-897.33	0.83	32.46
288	SLU 58	96	58	3092	-901.03	0.83	32.6
288	SLU 59	96	64	3077	-897.33	0.83	32.46
288	SLU 60	98	60	3255	-950.87	0.98	33.18
288	SLU 61	98	66	3240	-947.17	0.98	33.04
288	SLU 62	98	60	3255	-950.87	0.98	33.18
288	SLU 63	98	66	3240	-947.17	0.98	33.04
288	SLU 64	97	57	2991	-868.54	0.68	32.8
288	SLU 65	96	67	2967	-862.38	0.68	32.57
288	SLU 66	97	57	2991	-868.54	0.68	32.8
288	SLU 67	96	63	2976	-864.84	0.68	32.66
288	SLU 68	96	67	2967	-862.38	0.68	32.57
288	SLU 69	97	57	2991	-868.54	0.68	32.8
288	SLU 70	96	63	2976	-864.84	0.68	32.66
288	SLU 71	97	57	2991	-868.54	0.68	32.8
288	SLU 72	96	63	2976	-864.84	0.68	32.66
288	SLU 73	100	72	3347	-978.66	1.01	33.92
288	SLU 74	101	62	3371	-984.82	1.01	34.15
288	SLU 75	100	68	3357	-981.12	1.01	34.01
288	SLU 76	100	72	3347	-978.66	1.01	33.92
288	SLU 77	101	62	3371	-984.82	1.01	34.15
288	SLU 78	100	68	3357	-981.12	1.01	34.01
288	SLU 79	101	62	3371	-984.82	1.01	34.15
288	SLU 80	100	68	3357	-981.12	1.01	34.01
288	SLU 81	103	64	3534	-1034.66	1.16	34.73
288	SLU 82	102	70	3520	-1030.96	1.16	34.59
288	SLU 83	103	64	3534	-1034.66	1.16	34.73
288	SLU 84	102	70	3520	-1030.96	1.16	34.59
288	SLE RA 1	73	43	2239	-649.69	0.48	24.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLE RA 2	73	50	2223	-645.58	0.48	24.73
288	SLE RA 3	73	43	2239	-649.69	0.48	24.89
288	SLE RA 4	73	47	2230	-647.23	0.48	24.8
288	SLE RA 5	73	50	2223	-645.58	0.48	24.73
288	SLE RA 6	73	43	2239	-649.69	0.48	24.89
288	SLE RA 7	73	47	2230	-647.23	0.48	24.8
288	SLE RA 8	73	43	2239	-649.69	0.48	24.89
288	SLE RA 9	73	47	2230	-647.23	0.48	24.8
288	SLE RA 10	76	53	2477	-723.1	0.71	25.63
288	SLE RA 11	76	46	2493	-727.21	0.71	25.79
288	SLE RA 12	76	50	2483	-724.75	0.71	25.7
288	SLE RA 13	76	53	2477	-723.1	0.71	25.63
288	SLE RA 14	76	46	2493	-727.21	0.71	25.79
288	SLE RA 15	76	50	2483	-724.75	0.71	25.7
288	SLE RA 16	76	46	2493	-727.21	0.71	25.79
288	SLE RA 17	76	50	2483	-724.75	0.71	25.7
288	SLE RA 18	77	48	2601	-760.44	0.8	26.18
288	SLE RA 19	77	52	2592	-757.97	0.8	26.08
288	SLE RA 20	77	48	2601	-760.44	0.8	26.18
288	SLE RA 21	77	52	2592	-757.97	0.8	26.08
288	SLE FR 1	73	43	2239	-649.69	0.48	24.89
288	SLE FR 2	73	45	2236	-648.87	0.48	24.86
288	SLE FR 3	73	43	2239	-649.69	0.48	24.89
288	SLE FR 4	74	46	2345	-682.09	0.58	25.24
288	SLE FR 5	75	45	2348	-682.92	0.58	25.28
288	SLE FR 6	75	45	2420	-705.06	0.64	25.53
288	SLE QP 1	73	43	2239	-649.69	0.48	24.89
288	SLE QP 2	75	45	2348	-682.92	0.58	25.28
288	SLD 1	259	94	2067	-610.86	1.52	89.94
288	SLD 2	222	115	2067	-611.27	1.51	77.28
288	SLD 3	277	-2	2299	-669.28	1.58	96.04
288	SLD 4	240	19	2300	-669.69	1.57	83.39
288	SLD 5	116	198	1911	-572.55	0.78	39.87
288	SLD 6	79	218	1912	-572.96	0.77	27.16
288	SLD 7	175	-122	2685	-767.29	0.97	60.23
288	SLD 8	139	-102	2686	-767.7	0.96	47.51
288	SLD 9	11	191	2010	-598.13	0.2	3.04
288	SLD 10	-26	211	2011	-598.54	0.19	-9.68
288	SLD 11	70	-129	2784	-792.87	0.38	23.4
288	SLD 12	34	-109	2785	-793.29	0.38	10.68
288	SLD 13	-91	70	2396	-696.14	-0.41	-32.84
288	SLD 14	-128	91	2397	-696.55	-0.42	-45.49
288	SLD 15	-73	-26	2628	-754.56	-0.36	-26.73
288	SLD 16	-110	-5	2629	-754.97	-0.37	-39.39
288	SLV 1	493	157	1709	-519.34	2.72	172.21
288	SLV 2	410	204	1711	-520.26	2.7	143.52
288	SLV 3	534	-60	2237	-652	2.85	186.1
288	SLV 4	451	-14	2238	-652.93	2.83	157.41
288	SLV 5	168	393	1356	-432.31	1.03	58.4
288	SLV 6	84	439	1358	-433.25	1.02	29.58
288	SLV 7	303	-334	3114	-874.52	1.46	104.69
288	SLV 8	220	-287	3115	-875.45	1.44	75.88
288	SLV 9	-71	376	1580	-490.38	-0.29	-25.33
288	SLV 10	-154	423	1582	-491.32	-0.3	-54.14
288	SLV 11	65	-350	3338	-932.59	0.14	20.97
288	SLV 12	-18	-303	3340	-933.52	0.12	-7.85
288	SLV 13	-302	103	2457	-712.91	-1.67	-106.86
288	SLV 14	-385	150	2459	-713.84	-1.69	-135.55
288	SLV 15	-261	-115	2985	-845.57	-1.55	-92.97
288	SLV 16	-344	-68	2986	-846.5	-1.56	-121.66
288	CRTFP Ux+	0	0	0	0	0	0
288	CRTFP Ux-	0	0	0	0	0	0
288	CRTFP Uy+	0	0	0	-0.01	0	0
288	CRTFP Uy-	0	0	0	0.01	0	0
289	SLU 1	73	17	2151	-595.21	0.01	24.53
289	SLU 2	72	27	2127	-589.22	0.01	24.29
289	SLU 3	73	17	2151	-595.21	0.01	24.53
289	SLU 4	72	23	2136	-591.62	0.01	24.39
289	SLU 5	72	27	2127	-589.22	0.01	24.29
289	SLU 6	73	17	2151	-595.21	0.01	24.53
289	SLU 7	72	23	2136	-591.62	0.01	24.39
289	SLU 8	73	17	2151	-595.21	0.01	24.53
289	SLU 9	72	23	2136	-591.62	0.01	24.39
289	SLU 10	76	28	2497	-697.16	0.31	25.6
289	SLU 11	77	17	2521	-703.14	0.31	25.83
289	SLU 12	76	23	2506	-699.55	0.31	25.69
289	SLU 13	76	28	2497	-697.16	0.31	25.6
289	SLU 14	77	17	2521	-703.14	0.31	25.83
289	SLU 15	76	23	2506	-699.55	0.31	25.69
289	SLU 16	77	17	2521	-703.14	0.31	25.83
289	SLU 17	76	23	2506	-699.55	0.31	25.69
289	SLU 18	79	17	2680	-749.4	0.44	26.39
289	SLU 19	78	24	2665	-745.81	0.44	26.25
289	SLU 20	79	17	2680	-749.4	0.44	26.39
289	SLU 21	78	24	2665	-745.81	0.44	26.25
289	SLU 22	77	17	2425	-673.46	0.15	26.05
289	SLU 23	77	28	2401	-667.47	0.15	25.82
289	SLU 24	77	17	2425	-673.46	0.15	26.05
289	SLU 25	77	24	2410	-669.87	0.15	25.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLU 26	77	28	2401	-667.47	0.15	25.82
289	SLU 27	77	17	2425	-673.46	0.15	26.05
289	SLU 28	77	24	2410	-669.87	0.15	25.92
289	SLU 29	77	17	2425	-673.46	0.15	26.05
289	SLU 30	77	24	2410	-669.87	0.15	25.92
289	SLU 31	81	28	2771	-775.41	0.45	27.13
289	SLU 32	82	18	2795	-781.39	0.45	27.36
289	SLU 33	81	24	2781	-777.8	0.45	27.22
289	SLU 34	81	28	2771	-775.41	0.45	27.13
289	SLU 35	82	18	2795	-781.39	0.45	27.36
289	SLU 36	81	24	2781	-777.8	0.45	27.22
289	SLU 37	82	18	2795	-781.39	0.45	27.36
289	SLU 38	81	24	2781	-777.8	0.45	27.22
289	SLU 39	83	18	2954	-827.65	0.58	27.92
289	SLU 40	83	24	2939	-824.06	0.58	27.78
289	SLU 41	83	18	2954	-827.65	0.58	27.92
289	SLU 42	83	24	2939	-824.06	0.58	27.78
289	SLU 43	93	22	2702	-746.94	-0.04	31.36
289	SLU 44	92	32	2678	-740.96	-0.03	31.13
289	SLU 45	93	22	2702	-746.94	-0.04	31.36
289	SLU 46	92	28	2687	-743.35	-0.03	31.22
289	SLU 47	92	32	2678	-740.96	-0.03	31.13
289	SLU 48	93	22	2702	-746.94	-0.04	31.36
289	SLU 49	92	28	2687	-743.35	-0.03	31.22
289	SLU 50	93	22	2702	-746.94	-0.04	31.36
289	SLU 51	92	28	2687	-743.35	-0.03	31.22
289	SLU 52	96	32	3048	-848.89	0.27	32.43
289	SLU 53	97	22	3072	-854.88	0.26	32.66
289	SLU 54	97	28	3058	-851.29	0.27	32.53
289	SLU 55	96	32	3048	-848.89	0.27	32.43
289	SLU 56	97	22	3072	-854.88	0.26	32.66
289	SLU 57	97	28	3058	-851.29	0.27	32.53
289	SLU 58	97	22	3072	-854.88	0.26	32.66
289	SLU 59	97	28	3058	-851.29	0.27	32.53
289	SLU 60	99	22	3231	-901.13	0.39	33.22
289	SLU 61	98	28	3216	-897.54	0.4	33.09
289	SLU 62	99	22	3231	-901.13	0.39	33.22
289	SLU 63	98	28	3216	-897.54	0.4	33.09
289	SLU 64	97	22	2976	-825.19	0.1	32.89
289	SLU 65	97	33	2952	-819.21	0.11	32.66
289	SLU 66	97	22	2976	-825.19	0.1	32.89
289	SLU 67	97	29	2962	-821.6	0.1	32.75
289	SLU 68	97	33	2952	-819.21	0.11	32.66
289	SLU 69	97	22	2976	-825.19	0.1	32.89
289	SLU 70	97	29	2962	-821.6	0.1	32.75
289	SLU 71	97	22	2976	-825.19	0.1	32.89
289	SLU 72	97	29	2962	-821.6	0.1	32.75
289	SLU 73	101	33	3322	-927.14	0.41	33.96
289	SLU 74	102	23	3346	-933.13	0.4	34.19
289	SLU 75	101	29	3332	-929.54	0.41	34.05
289	SLU 76	101	33	3322	-927.14	0.41	33.96
289	SLU 77	102	23	3346	-933.13	0.4	34.19
289	SLU 78	101	29	3332	-929.54	0.41	34.05
289	SLU 79	102	23	3346	-933.13	0.4	34.19
289	SLU 80	101	29	3332	-929.54	0.41	34.05
289	SLU 81	103	23	3505	-979.38	0.53	34.75
289	SLU 82	103	29	3491	-975.79	0.53	34.61
289	SLU 83	103	23	3505	-979.38	0.53	34.75
289	SLU 84	103	29	3491	-975.79	0.53	34.61
289	SLE RA 1	74	17	2229	-617.56	0.05	24.96
289	SLE RA 2	73	24	2213	-613.58	0.05	24.81
289	SLE RA 3	74	17	2229	-617.56	0.05	24.96
289	SLE RA 4	74	21	2219	-615.17	0.05	24.87
289	SLE RA 5	73	24	2213	-613.58	0.05	24.81
289	SLE RA 6	74	17	2229	-617.56	0.05	24.96
289	SLE RA 7	74	21	2219	-615.17	0.05	24.87
289	SLE RA 8	74	17	2229	-617.56	0.05	24.96
289	SLE RA 9	74	21	2219	-615.17	0.05	24.87
289	SLE RA 10	76	24	2460	-685.53	0.25	25.68
289	SLE RA 11	77	17	2476	-689.52	0.25	25.83
289	SLE RA 12	76	21	2466	-687.13	0.25	25.74
289	SLE RA 13	76	24	2460	-685.53	0.25	25.68
289	SLE RA 14	77	17	2476	-689.52	0.25	25.83
289	SLE RA 15	76	21	2466	-687.13	0.25	25.74
289	SLE RA 16	77	17	2476	-689.52	0.25	25.83
289	SLE RA 17	76	21	2466	-687.13	0.25	25.74
289	SLE RA 18	78	17	2582	-720.36	0.33	26.21
289	SLE RA 19	78	21	2572	-717.97	0.34	26.11
289	SLE RA 20	78	17	2582	-720.36	0.33	26.21
289	SLE RA 21	78	21	2572	-717.97	0.34	26.11
289	SLE FR 1	74	17	2229	-617.56	0.05	24.96
289	SLE FR 2	74	18	2226	-616.77	0.05	24.93
289	SLE FR 3	74	17	2229	-617.56	0.05	24.96
289	SLE FR 4	75	18	2332	-647.61	0.13	25.3
289	SLE FR 5	75	17	2335	-648.4	0.13	25.34
289	SLE FR 6	76	17	2405	-668.96	0.19	25.58
289	SLE QP 1	74	17	2229	-617.56	0.05	24.96
289	SLE QP 2	75	17	2335	-648.4	0.13	25.34
289	SLD 1	259	72	2023	-571.59	1.27	90

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLD 2	223	97	2024	-572.08	1.26	77.36
289	SLD 3	277	-29	2254	-627.15	1.24	96.09
289	SLD 4	241	-5	2255	-627.63	1.23	83.45
289	SLD 5	116	179	1890	-540.93	0.52	39.95
289	SLD 6	79	204	1891	-541.42	0.51	27.26
289	SLD 7	176	-160	2660	-726.11	0.42	60.25
289	SLD 8	139	-135	2661	-726.6	0.42	47.55
289	SLD 9	11	169	2008	-570.21	-0.15	3.12
289	SLD 10	-26	194	2009	-570.7	-0.16	-9.58
289	SLD 11	71	-170	2778	-755.39	-0.24	23.41
289	SLD 12	34	-145	2779	-755.87	-0.25	10.72
289	SLD 13	-90	39	2415	-669.18	-0.96	-32.78
289	SLD 14	-127	64	2416	-669.66	-0.97	-45.42
289	SLD 15	-72	-63	2646	-724.73	-0.99	-26.69
289	SLD 16	-109	-38	2647	-725.21	-1	-39.33
289	SLV 1	494	142	1626	-474.03	2.7	172.27
289	SLV 2	411	199	1628	-475.13	2.68	143.64
289	SLV 3	534	-88	2151	-600.18	2.64	186.12
289	SLV 4	452	-32	2153	-601.28	2.62	157.48
289	SLV 5	168	385	1326	-404.38	1.01	58.5
289	SLV 6	85	442	1328	-405.48	0.99	29.74
289	SLV 7	304	-385	3074	-824.87	0.79	104.66
289	SLV 8	221	-328	3077	-825.98	0.77	75.9
289	SLV 9	-70	362	1593	-470.83	-0.5	-25.23
289	SLV 10	-154	419	1595	-471.93	-0.52	-53.99
289	SLV 11	66	-408	3341	-891.32	-0.72	20.93
289	SLV 12	-18	-351	3344	-892.42	-0.74	-7.83
289	SLV 13	-301	66	2517	-695.53	-2.35	-106.81
289	SLV 14	-384	123	2519	-696.62	-2.37	-135.45
289	SLV 15	-260	-165	3041	-821.67	-2.41	-92.96
289	SLV 16	-343	-108	3043	-822.77	-2.43	-121.6
289	CRTFP Ux+	0	0	0	0	0	0
289	CRTFP Ux-	0	0	0	0	0	0
289	CRTFP Uy+	0	0	0	-0.01	0	0
289	CRTFP Uy-	0	0	0	0.01	0	0
290	SLU 1	73	-12	2162	-583.22	-0.85	24.56
290	SLU 2	72	-1	2138	-577.3	-0.84	24.33
290	SLU 3	73	-12	2162	-583.22	-0.85	24.56
290	SLU 4	73	-5	2147	-579.67	-0.85	24.42
290	SLU 5	72	-1	2138	-577.3	-0.84	24.33
290	SLU 6	73	-12	2162	-583.22	-0.85	24.56
290	SLU 7	73	-5	2147	-579.67	-0.85	24.42
290	SLU 8	73	-12	2162	-583.22	-0.85	24.56
290	SLU 9	73	-5	2147	-579.67	-0.85	24.42
290	SLU 10	76	-5	2501	-679.32	-0.68	25.6
290	SLU 11	77	-17	2525	-685.24	-0.7	25.83
290	SLU 12	77	-10	2510	-681.69	-0.69	25.69
290	SLU 13	76	-5	2501	-679.32	-0.68	25.6
290	SLU 14	77	-17	2525	-685.24	-0.7	25.83
290	SLU 15	77	-10	2510	-681.69	-0.69	25.69
290	SLU 16	77	-17	2525	-685.24	-0.7	25.83
290	SLU 17	77	-10	2510	-681.69	-0.69	25.69
290	SLU 18	79	-19	2680	-728.97	-0.63	26.37
290	SLU 19	78	-12	2666	-725.41	-0.62	26.24
290	SLU 20	79	-19	2680	-728.97	-0.63	26.37
290	SLU 21	78	-12	2666	-725.41	-0.62	26.24
290	SLU 22	78	-15	2434	-658.04	-0.83	26.07
290	SLU 23	77	-4	2409	-652.12	-0.82	25.84
290	SLU 24	78	-15	2434	-658.04	-0.83	26.07
290	SLU 25	77	-8	2419	-654.49	-0.82	25.93
290	SLU 26	77	-4	2409	-652.12	-0.82	25.84
290	SLU 27	78	-15	2434	-658.04	-0.83	26.07
290	SLU 28	77	-8	2419	-654.49	-0.82	25.93
290	SLU 29	78	-15	2434	-658.04	-0.83	26.07
290	SLU 30	77	-8	2419	-654.49	-0.82	25.93
290	SLU 31	81	-9	2772	-754.14	-0.66	27.11
290	SLU 32	82	-20	2796	-760.06	-0.67	27.34
290	SLU 33	81	-13	2782	-756.51	-0.67	27.2
290	SLU 34	81	-9	2772	-754.14	-0.66	27.11
290	SLU 35	82	-20	2796	-760.06	-0.67	27.34
290	SLU 36	81	-13	2782	-756.51	-0.67	27.2
290	SLU 37	82	-20	2796	-760.06	-0.67	27.34
290	SLU 38	81	-13	2782	-756.51	-0.67	27.2
290	SLU 39	84	-22	2952	-803.79	-0.61	27.89
290	SLU 40	83	-15	2938	-800.23	-0.6	27.75
290	SLU 41	84	-22	2952	-803.79	-0.61	27.89
290	SLU 42	83	-15	2938	-800.23	-0.6	27.75
290	SLU 43	93	-14	2717	-732.54	-1.12	31.41
290	SLU 44	92	-3	2693	-726.61	-1.11	31.18
290	SLU 45	93	-14	2717	-732.54	-1.12	31.41
290	SLU 46	93	-8	2703	-728.98	-1.11	31.27
290	SLU 47	92	-3	2693	-726.61	-1.11	31.18
290	SLU 48	93	-14	2717	-732.54	-1.12	31.41
290	SLU 49	93	-8	2703	-728.98	-1.11	31.27
290	SLU 50	93	-14	2717	-732.54	-1.12	31.41
290	SLU 51	93	-8	2703	-728.98	-1.11	31.27
290	SLU 52	97	-8	3056	-828.63	-0.95	32.45
290	SLU 53	97	-19	3080	-834.56	-0.96	32.68
290	SLU 54	97	-12	3066	-831	-0.95	32.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLU 55	97	-8	3056	-828.63	-0.95	32.45
290	SLU 56	97	-19	3080	-834.56	-0.96	32.68
290	SLU 57	97	-12	3066	-831	-0.95	32.54
290	SLU 58	97	-19	3080	-834.56	-0.96	32.68
290	SLU 59	97	-12	3066	-831	-0.95	32.54
290	SLU 60	99	-21	3236	-878.28	-0.89	33.22
290	SLU 61	99	-14	3221	-874.73	-0.88	33.08
290	SLU 62	99	-21	3236	-878.28	-0.89	33.22
290	SLU 63	99	-14	3221	-874.73	-0.88	33.08
290	SLU 64	98	-17	2989	-807.36	-1.09	32.92
290	SLU 65	97	-6	2965	-801.43	-1.08	32.69
290	SLU 66	98	-17	2989	-807.36	-1.09	32.92
290	SLU 67	97	-11	2975	-803.8	-1.09	32.78
290	SLU 68	97	-6	2965	-801.43	-1.08	32.69
290	SLU 69	98	-17	2989	-807.36	-1.09	32.92
290	SLU 70	97	-11	2975	-803.8	-1.09	32.78
290	SLU 71	98	-17	2989	-807.36	-1.09	32.92
290	SLU 72	97	-11	2975	-803.8	-1.09	32.78
290	SLU 73	101	-11	3328	-903.45	-0.93	33.96
290	SLU 74	102	-22	3352	-909.38	-0.94	34.19
290	SLU 75	102	-16	3337	-905.82	-0.93	34.05
290	SLU 76	101	-11	3328	-903.45	-0.93	33.96
290	SLU 77	102	-22	3352	-909.38	-0.94	34.19
290	SLU 78	102	-16	3337	-905.82	-0.93	34.05
290	SLU 79	102	-22	3352	-909.38	-0.94	34.19
290	SLU 80	102	-16	3337	-905.82	-0.93	34.05
290	SLU 81	104	-24	3508	-953.1	-0.87	34.74
290	SLU 82	103	-18	3493	-949.55	-0.86	34.6
290	SLU 83	104	-24	3508	-953.1	-0.87	34.74
290	SLU 84	103	-18	3493	-949.55	-0.86	34.6
290	SLE RA 1	74	-13	2240	-604.6	-0.85	24.99
290	SLE RA 2	74	-5	2223	-600.65	-0.84	24.84
290	SLE RA 3	74	-13	2240	-604.6	-0.85	24.99
290	SLE RA 4	74	-8	2230	-602.23	-0.84	24.9
290	SLE RA 5	74	-5	2223	-600.65	-0.84	24.84
290	SLE RA 6	74	-13	2240	-604.6	-0.85	24.99
290	SLE RA 7	74	-8	2230	-602.23	-0.84	24.9
290	SLE RA 8	74	-13	2240	-604.6	-0.85	24.99
290	SLE RA 9	74	-8	2230	-602.23	-0.84	24.9
290	SLE RA 10	77	-8	2465	-668.66	-0.73	25.68
290	SLE RA 11	77	-16	2482	-672.61	-0.74	25.84
290	SLE RA 12	77	-11	2472	-670.24	-0.74	25.75
290	SLE RA 13	77	-8	2465	-668.66	-0.73	25.68
290	SLE RA 14	77	-16	2482	-672.61	-0.74	25.84
290	SLE RA 15	77	-11	2472	-670.24	-0.74	25.75
290	SLE RA 16	77	-16	2482	-672.61	-0.74	25.84
290	SLE RA 17	77	-11	2472	-670.24	-0.74	25.75
290	SLE RA 18	78	-17	2585	-701.76	-0.7	26.2
290	SLE RA 19	78	-13	2576	-699.39	-0.69	26.11
290	SLE RA 20	78	-17	2585	-701.76	-0.7	26.2
290	SLE RA 21	78	-13	2576	-699.39	-0.69	26.11
290	SLE FR 1	74	-13	2240	-604.6	-0.85	24.99
290	SLE FR 2	74	-11	2236	-603.81	-0.85	24.96
290	SLE FR 3	74	-13	2240	-604.6	-0.85	24.99
290	SLE FR 4	75	-13	2340	-632.96	-0.8	25.32
290	SLE FR 5	75	-14	2343	-633.75	-0.8	25.35
290	SLE FR 6	76	-15	2412	-653.18	-0.77	25.59
290	SLE QP 1	74	-13	2240	-604.6	-0.85	24.99
290	SLE QP 2	75	-14	2343	-633.75	-0.8	25.35
290	SLD 1	259	48	1994	-548.29	0.55	89.96
290	SLD 2	223	78	1995	-548.84	0.53	77.35
290	SLD 3	277	-60	2226	-602.6	0.46	96.03
290	SLD 4	241	-31	2227	-603.15	0.45	83.42
290	SLD 5	116	158	1886	-525.55	-0.27	39.98
290	SLD 6	80	188	1888	-526.1	-0.28	27.31
290	SLD 7	176	-203	2659	-706.58	-0.55	60.2
290	SLD 8	139	-173	2660	-707.13	-0.56	47.53
290	SLD 9	11	145	2026	-560.36	-1.05	3.17
290	SLD 10	-25	175	2027	-560.91	-1.06	-9.5
290	SLD 11	71	-217	2799	-741.4	-1.33	23.4
290	SLD 12	35	-187	2800	-741.95	-1.34	10.73
290	SLD 13	-90	2	2459	-664.34	-2.05	-32.71
290	SLD 14	-126	32	2461	-664.89	-2.07	-45.32
290	SLD 15	-72	-106	2691	-718.65	-2.14	-26.64
290	SLD 16	-108	-76	2693	-719.2	-2.15	-39.25
290	SLV 1	493	127	1551	-439.75	2.26	172.16
290	SLV 2	411	194	1553	-441	2.23	143.58
290	SLV 3	534	-119	2077	-563.08	2.07	185.96
290	SLV 4	451	-52	2080	-564.33	2.04	157.38
290	SLV 5	168	378	1306	-388.06	0.41	58.53
290	SLV 6	85	445	1309	-389.31	0.39	29.82
290	SLV 7	304	-443	3061	-799.16	-0.22	104.53
290	SLV 8	221	-375	3064	-800.41	-0.25	75.83
290	SLV 9	-70	347	1623	-467.08	-1.36	-25.12
290	SLV 10	-153	414	1626	-468.33	-1.38	-53.83
290	SLV 11	66	-474	3378	-878.19	-1.99	20.88
290	SLV 12	-17	-406	3381	-879.44	-2.02	-7.82
290	SLV 13	-301	23	2607	-703.17	-3.65	-106.67
290	SLV 14	-383	91	2610	-704.41	-3.67	-135.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLV 15	-260	-223	3133	-826.5	-3.84	-92.87
290	SLV 16	-342	-155	3136	-827.74	-3.86	-121.46
290	CRTFP Ux+	0	0	0	0	0	0
290	CRTFP Ux-	0	0	0	0	0	0
290	CRTFP Uy+	0	0	0	-0.01	0	0
290	CRTFP Uy-	0	0	0	0.01	0	0
291	SLU 1	73	-42	2204	-597.27	-1.96	24.56
291	SLU 2	72	-30	2179	-591.22	-1.94	24.33
291	SLU 3	73	-42	2204	-597.27	-1.96	24.56
291	SLU 4	73	-35	2189	-593.64	-1.95	24.42
291	SLU 5	72	-30	2179	-591.22	-1.94	24.33
291	SLU 6	73	-42	2204	-597.27	-1.96	24.56
291	SLU 7	73	-35	2189	-593.64	-1.95	24.42
291	SLU 8	73	-42	2204	-597.27	-1.96	24.56
291	SLU 9	73	-35	2189	-593.64	-1.95	24.42
291	SLU 10	76	-41	2540	-691.49	-1.99	25.58
291	SLU 11	77	-53	2565	-697.54	-2.01	25.81
291	SLU 12	77	-46	2550	-693.91	-2	25.67
291	SLU 13	76	-41	2540	-691.49	-1.99	25.58
291	SLU 14	77	-53	2565	-697.54	-2.01	25.81
291	SLU 15	77	-46	2550	-693.91	-2	25.67
291	SLU 16	77	-53	2565	-697.54	-2.01	25.81
291	SLU 17	77	-46	2550	-693.91	-2	25.67
291	SLU 18	79	-57	2719	-740.51	-2.03	26.34
291	SLU 19	79	-50	2705	-736.88	-2.02	26.21
291	SLU 20	79	-57	2719	-740.51	-2.03	26.34
291	SLU 21	79	-50	2705	-736.88	-2.02	26.21
291	SLU 22	78	-50	2477	-672	-2.1	26.06
291	SLU 23	77	-38	2452	-665.95	-2.08	25.83
291	SLU 24	78	-50	2477	-672	-2.1	26.06
291	SLU 25	77	-43	2462	-668.37	-2.09	25.92
291	SLU 26	77	-38	2452	-665.95	-2.08	25.83
291	SLU 27	78	-50	2477	-672	-2.1	26.06
291	SLU 28	77	-43	2462	-668.37	-2.09	25.92
291	SLU 29	78	-50	2477	-672	-2.1	26.06
291	SLU 30	77	-43	2462	-668.37	-2.09	25.92
291	SLU 31	81	-48	2813	-766.21	-2.12	27.08
291	SLU 32	82	-60	2838	-772.27	-2.15	27.31
291	SLU 33	81	-53	2823	-768.63	-2.13	27.17
291	SLU 34	81	-48	2813	-766.21	-2.12	27.08
291	SLU 35	82	-60	2838	-772.27	-2.15	27.31
291	SLU 36	81	-53	2823	-768.63	-2.13	27.17
291	SLU 37	82	-60	2838	-772.27	-2.15	27.31
291	SLU 38	81	-53	2823	-768.63	-2.13	27.17
291	SLU 39	84	-65	2993	-815.24	-2.16	27.85
291	SLU 40	83	-58	2978	-811.61	-2.15	27.71
291	SLU 41	84	-65	2993	-815.24	-2.16	27.85
291	SLU 42	83	-58	2978	-811.61	-2.15	27.71
291	SLU 43	93	-53	2771	-750.83	-2.51	31.41
291	SLU 44	93	-41	2747	-744.78	-2.49	31.18
291	SLU 45	93	-53	2771	-750.83	-2.51	31.41
291	SLU 46	93	-45	2756	-747.2	-2.49	31.27
291	SLU 47	93	-41	2747	-744.78	-2.49	31.18
291	SLU 48	93	-53	2771	-750.83	-2.51	31.41
291	SLU 49	93	-45	2756	-747.2	-2.49	31.27
291	SLU 50	93	-53	2771	-750.83	-2.51	31.41
291	SLU 51	93	-45	2756	-747.2	-2.49	31.27
291	SLU 52	97	-51	3108	-845.05	-2.53	32.43
291	SLU 53	98	-63	3132	-851.1	-2.55	32.66
291	SLU 54	97	-56	3117	-847.47	-2.54	32.52
291	SLU 55	97	-51	3108	-845.05	-2.53	32.43
291	SLU 56	98	-63	3132	-851.1	-2.55	32.66
291	SLU 57	97	-56	3117	-847.47	-2.54	32.52
291	SLU 58	98	-63	3132	-851.1	-2.55	32.66
291	SLU 59	97	-56	3117	-847.47	-2.54	32.52
291	SLU 60	99	-68	3287	-894.07	-2.57	33.2
291	SLU 61	99	-60	3272	-890.44	-2.56	33.06
291	SLU 62	99	-68	3287	-894.07	-2.57	33.2
291	SLU 63	99	-60	3272	-890.44	-2.56	33.06
291	SLU 64	98	-60	3044	-825.56	-2.64	32.91
291	SLU 65	97	-48	3020	-819.51	-2.62	32.68
291	SLU 66	98	-60	3044	-825.56	-2.64	32.91
291	SLU 67	98	-53	3030	-821.93	-2.63	32.78
291	SLU 68	97	-48	3020	-819.51	-2.62	32.68
291	SLU 69	98	-60	3044	-825.56	-2.64	32.91
291	SLU 70	98	-53	3030	-821.93	-2.63	32.78
291	SLU 71	98	-60	3044	-825.56	-2.64	32.91
291	SLU 72	98	-53	3030	-821.93	-2.63	32.78
291	SLU 73	101	-58	3381	-919.77	-2.67	33.93
291	SLU 74	102	-71	3405	-925.83	-2.69	34.16
291	SLU 75	102	-63	3391	-922.2	-2.68	34.03
291	SLU 76	101	-58	3381	-919.77	-2.67	33.93
291	SLU 77	102	-71	3405	-925.83	-2.69	34.16
291	SLU 78	102	-63	3391	-922.2	-2.68	34.03
291	SLU 79	102	-71	3405	-925.83	-2.69	34.16
291	SLU 80	102	-63	3391	-922.2	-2.68	34.03
291	SLU 81	104	-75	3560	-968.8	-2.71	34.7
291	SLU 82	104	-68	3545	-965.17	-2.69	34.56
291	SLU 83	104	-75	3560	-968.8	-2.71	34.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLU 84	104	-68	3545	-965.17	-2.69	34.56
291	SLE RA 1	74	-45	2282	-618.62	-2	24.99
291	SLE RA 2	74	-36	2265	-614.59	-1.99	24.84
291	SLE RA 3	74	-45	2282	-618.62	-2	24.99
291	SLE RA 4	74	-40	2272	-616.2	-1.99	24.9
291	SLE RA 5	74	-36	2265	-614.59	-1.99	24.84
291	SLE RA 6	74	-45	2282	-618.62	-2	24.99
291	SLE RA 7	74	-40	2272	-616.2	-1.99	24.9
291	SLE RA 8	74	-45	2282	-618.62	-2	24.99
291	SLE RA 9	74	-40	2272	-616.2	-1.99	24.9
291	SLE RA 10	77	-43	2506	-681.43	-2.02	25.67
291	SLE RA 11	77	-52	2522	-685.47	-2.03	25.82
291	SLE RA 12	77	-47	2513	-683.05	-2.02	25.73
291	SLE RA 13	77	-43	2506	-681.43	-2.02	25.67
291	SLE RA 14	77	-52	2522	-685.47	-2.03	25.82
291	SLE RA 15	77	-47	2513	-683.05	-2.02	25.73
291	SLE RA 16	77	-52	2522	-685.47	-2.03	25.82
291	SLE RA 17	77	-47	2513	-683.05	-2.02	25.73
291	SLE RA 18	78	-55	2626	-714.12	-2.05	26.18
291	SLE RA 19	78	-50	2616	-711.69	-2.04	26.09
291	SLE RA 20	78	-55	2626	-714.12	-2.05	26.18
291	SLE RA 21	78	-50	2616	-711.69	-2.04	26.09
291	SLE FR 1	74	-45	2282	-618.62	-2	24.99
291	SLE FR 2	74	-43	2279	-617.82	-2	24.96
291	SLE FR 3	74	-45	2282	-618.62	-2	24.99
291	SLE FR 4	76	-46	2382	-646.46	-2.01	25.31
291	SLE FR 5	76	-48	2385	-647.27	-2.02	25.34
291	SLE FR 6	76	-50	2454	-666.37	-2.02	25.58
291	SLE QP 1	74	-45	2282	-618.62	-2	24.99
291	SLE QP 2	76	-48	2385	-647.27	-2.02	25.34
291	SLD 1	259	22	1991	-548.07	-0.4	89.84
291	SLD 2	223	57	1992	-548.67	-0.41	77.25
291	SLD 3	277	-94	2227	-603.68	-0.6	95.89
291	SLD 4	241	-59	2228	-604.28	-0.61	83.3
291	SLD 5	116	137	1908	-532.96	-1.22	39.95
291	SLD 6	80	172	1910	-533.56	-1.23	27.31
291	SLD 7	176	-249	2695	-718.32	-1.9	60.12
291	SLD 8	140	-215	2696	-718.92	-1.91	47.47
291	SLD 9	12	119	2073	-575.62	-2.12	3.22
291	SLD 10	-25	154	2075	-576.22	-2.14	-9.43
291	SLD 11	72	-267	2860	-760.98	-2.8	23.38
291	SLD 12	35	-232	2862	-761.58	-2.82	10.74
291	SLD 13	-90	-36	2541	-690.26	-3.42	-32.61
291	SLD 14	-126	-1	2543	-690.86	-3.43	-45.2
291	SLD 15	-72	-152	2777	-745.87	-3.62	-26.57
291	SLD 16	-108	-117	2779	-746.47	-3.64	-39.15
291	SLV 1	493	111	1490	-422.08	1.66	171.9
291	SLV 2	410	189	1494	-423.43	1.63	143.37
291	SLV 3	534	-152	2026	-548.36	1.2	185.66
291	SLV 4	451	-74	2030	-549.71	1.17	157.13
291	SLV 5	168	371	1302	-387.71	-0.2	58.49
291	SLV 6	85	450	1306	-389.07	-0.23	29.84
291	SLV 7	304	-506	3089	-808.65	-1.75	104.35
291	SLV 8	221	-427	3093	-810.01	-1.78	75.7
291	SLV 9	-70	332	1677	-484.53	-2.26	-25.01
291	SLV 10	-153	411	1681	-485.9	-2.29	-53.66
291	SLV 11	66	-545	3464	-905.47	-3.8	20.85
291	SLV 12	-17	-466	3467	-906.83	-3.83	-7.8
291	SLV 13	-300	-21	2740	-744.83	-5.2	-106.44
291	SLV 14	-382	57	2744	-746.18	-5.23	-134.97
291	SLV 15	-259	-285	3276	-871.11	-5.66	-92.68
291	SLV 16	-342	-206	3280	-872.46	-5.69	-121.21
291	CRTFP Ux+	0	0	0	0	0	0
291	CRTFP Ux-	0	0	0	0	0	0
291	CRTFP Uy+	0	0	0	-0.01	0	0
291	CRTFP Uy-	0	0	0	0.01	0	0
292	SLU 1	73	-74	2281	-641.31	-3.14	24.55
292	SLU 2	72	-61	2255	-634.88	-3.11	24.32
292	SLU 3	73	-74	2281	-641.31	-3.14	24.55
292	SLU 4	73	-66	2266	-637.45	-3.13	24.41
292	SLU 5	72	-61	2255	-634.88	-3.11	24.32
292	SLU 6	73	-74	2281	-641.31	-3.14	24.55
292	SLU 7	73	-66	2266	-637.45	-3.13	24.41
292	SLU 8	73	-74	2281	-641.31	-3.14	24.55
292	SLU 9	73	-66	2266	-637.45	-3.13	24.41
292	SLU 10	76	-77	2621	-738.54	-3.38	25.56
292	SLU 11	77	-90	2646	-744.97	-3.41	25.79
292	SLU 12	77	-82	2631	-741.11	-3.39	25.65
292	SLU 13	76	-77	2621	-738.54	-3.38	25.56
292	SLU 14	77	-90	2646	-744.97	-3.41	25.79
292	SLU 15	77	-82	2631	-741.11	-3.39	25.65
292	SLU 16	77	-90	2646	-744.97	-3.41	25.79
292	SLU 17	77	-82	2631	-741.11	-3.39	25.65
292	SLU 18	79	-97	2803	-789.4	-3.53	26.32
292	SLU 19	78	-89	2788	-785.54	-3.51	26.18
292	SLU 20	79	-97	2803	-789.4	-3.53	26.32
292	SLU 21	78	-89	2788	-785.54	-3.51	26.18
292	SLU 22	78	-86	2561	-719.98	-3.45	26.04
292	SLU 23	77	-73	2535	-713.54	-3.42	25.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLU 24	78	-86	2561	-719.98	-3.45	26.04
292	SLU 25	77	-78	2545	-716.12	-3.43	25.91
292	SLU 26	77	-73	2535	-713.54	-3.42	25.82
292	SLU 27	78	-86	2561	-719.98	-3.45	26.04
292	SLU 28	77	-78	2545	-716.12	-3.43	25.91
292	SLU 29	78	-86	2561	-719.98	-3.45	26.04
292	SLU 30	77	-78	2545	-716.12	-3.43	25.91
292	SLU 31	81	-89	2901	-817.21	-3.69	27.06
292	SLU 32	82	-102	2926	-823.64	-3.72	27.28
292	SLU 33	81	-94	2911	-819.78	-3.7	27.15
292	SLU 34	81	-89	2901	-817.21	-3.69	27.06
292	SLU 35	82	-102	2926	-823.64	-3.72	27.28
292	SLU 36	81	-94	2911	-819.78	-3.7	27.15
292	SLU 37	82	-102	2926	-823.64	-3.72	27.28
292	SLU 38	81	-94	2911	-819.78	-3.7	27.15
292	SLU 39	84	-109	3083	-868.06	-3.83	27.81
292	SLU 40	83	-101	3068	-864.2	-3.81	27.68
292	SLU 41	84	-109	3083	-868.06	-3.83	27.81
292	SLU 42	83	-101	3068	-864.2	-3.81	27.68
292	SLU 43	93	-92	2869	-806.74	-3.98	31.4
292	SLU 44	93	-79	2844	-800.3	-3.95	31.17
292	SLU 45	93	-92	2869	-806.74	-3.98	31.4
292	SLU 46	93	-84	2854	-802.88	-3.96	31.26
292	SLU 47	93	-79	2844	-800.3	-3.95	31.17
292	SLU 48	93	-92	2869	-806.74	-3.98	31.4
292	SLU 49	93	-84	2854	-802.88	-3.96	31.26
292	SLU 50	93	-92	2869	-806.74	-3.98	31.4
292	SLU 51	93	-84	2854	-802.88	-3.96	31.26
292	SLU 52	97	-95	3209	-903.97	-4.22	32.41
292	SLU 53	98	-108	3235	-910.4	-4.25	32.64
292	SLU 54	97	-101	3219	-906.54	-4.23	32.5
292	SLU 55	97	-95	3209	-903.97	-4.22	32.41
292	SLU 56	98	-108	3235	-910.4	-4.25	32.64
292	SLU 57	97	-101	3219	-906.54	-4.23	32.5
292	SLU 58	98	-108	3235	-910.4	-4.25	32.64
292	SLU 59	97	-101	3219	-906.54	-4.23	32.5
292	SLU 60	99	-115	3391	-954.82	-4.36	33.17
292	SLU 61	99	-108	3376	-950.96	-4.34	33.03
292	SLU 62	99	-115	3391	-954.82	-4.36	33.17
292	SLU 63	99	-108	3376	-950.96	-4.34	33.03
292	SLU 64	98	-104	3149	-885.4	-4.29	32.9
292	SLU 65	97	-91	3123	-878.97	-4.26	32.67
292	SLU 66	98	-104	3149	-885.4	-4.29	32.9
292	SLU 67	98	-96	3134	-881.54	-4.27	32.76
292	SLU 68	97	-91	3123	-878.97	-4.26	32.67
292	SLU 69	98	-104	3149	-885.4	-4.29	32.9
292	SLU 70	98	-96	3134	-881.54	-4.27	32.76
292	SLU 71	98	-104	3149	-885.4	-4.29	32.9
292	SLU 72	98	-96	3134	-881.54	-4.27	32.76
292	SLU 73	101	-107	3489	-982.63	-4.53	33.91
292	SLU 74	102	-120	3515	-989.06	-4.56	34.13
292	SLU 75	102	-112	3499	-985.2	-4.54	34
292	SLU 76	101	-107	3489	-982.63	-4.53	33.91
292	SLU 77	102	-120	3515	-989.06	-4.56	34.13
292	SLU 78	102	-112	3499	-985.2	-4.54	34
292	SLU 79	102	-120	3515	-989.06	-4.56	34.13
292	SLU 80	102	-112	3499	-985.2	-4.54	34
292	SLU 81	104	-127	3671	-1033.49	-4.67	34.66
292	SLU 82	104	-119	3656	-1029.63	-4.65	34.53
292	SLU 83	104	-127	3671	-1033.49	-4.67	34.66
292	SLU 84	104	-119	3656	-1029.63	-4.65	34.53
292	SLE RA 1	74	-77	2361	-663.79	-3.23	24.98
292	SLE RA 2	74	-69	2344	-659.5	-3.21	24.82
292	SLE RA 3	74	-77	2361	-663.79	-3.23	24.98
292	SLE RA 4	74	-72	2351	-661.22	-3.22	24.88
292	SLE RA 5	74	-69	2344	-659.5	-3.21	24.82
292	SLE RA 6	74	-77	2361	-663.79	-3.23	24.98
292	SLE RA 7	74	-72	2351	-661.22	-3.22	24.88
292	SLE RA 8	74	-77	2361	-663.79	-3.23	24.98
292	SLE RA 9	74	-72	2351	-661.22	-3.22	24.88
292	SLE RA 10	77	-79	2588	-728.61	-3.39	25.65
292	SLE RA 11	77	-88	2605	-732.9	-3.41	25.8
292	SLE RA 12	77	-83	2594	-730.32	-3.4	25.71
292	SLE RA 13	77	-79	2588	-728.61	-3.39	25.65
292	SLE RA 14	77	-88	2605	-732.9	-3.41	25.8
292	SLE RA 15	77	-83	2594	-730.32	-3.4	25.71
292	SLE RA 16	77	-88	2605	-732.9	-3.41	25.8
292	SLE RA 17	77	-83	2594	-730.32	-3.4	25.71
292	SLE RA 18	78	-93	2709	-762.51	-3.49	26.15
292	SLE RA 19	78	-88	2699	-759.94	-3.47	26.06
292	SLE RA 20	78	-93	2709	-762.51	-3.49	26.15
292	SLE RA 21	78	-88	2699	-759.94	-3.47	26.06
292	SLE FR 1	74	-77	2361	-663.79	-3.23	24.98
292	SLE FR 2	74	-76	2357	-662.93	-3.23	24.94
292	SLE FR 3	74	-77	2361	-663.79	-3.23	24.98
292	SLE FR 4	76	-80	2462	-692.55	-3.3	25.3
292	SLE FR 5	76	-82	2465	-693.41	-3.31	25.33
292	SLE FR 6	76	-85	2535	-713.15	-3.36	25.56
292	SLE QP 1	74	-77	2361	-663.79	-3.23	24.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLE QP 2	76	-82	2465	-693.41	-3.31	25.33
292	SLD 1	259	-5	2018	-574.43	-1.41	89.66
292	SLD 2	222	35	2020	-575.07	-1.42	77.1
292	SLD 3	277	-129	2262	-634.39	-1.74	95.7
292	SLD 4	240	-89	2264	-635.04	-1.76	83.14
292	SLD 5	116	115	1960	-566.53	-2.23	39.9
292	SLD 6	80	155	1962	-567.18	-2.24	27.27
292	SLD 7	176	-298	2774	-766.42	-3.34	60.03
292	SLD 8	140	-258	2776	-767.07	-3.36	47.4
292	SLD 9	12	94	2155	-619.74	-3.26	3.25
292	SLD 10	-25	134	2157	-620.39	-3.28	-9.37
292	SLD 11	72	-319	2968	-819.63	-4.38	23.39
292	SLD 12	35	-279	2970	-820.28	-4.39	10.76
292	SLD 13	-89	-75	2667	-751.77	-4.86	-32.48
292	SLD 14	-126	-35	2669	-752.42	-4.87	-45.04
292	SLD 15	-71	-199	2911	-811.74	-5.19	-26.44
292	SLD 16	-108	-159	2913	-812.38	-5.21	-39
292	SLV 1	492	92	1449	-423.3	1	171.51
292	SLV 2	409	183	1454	-424.77	0.97	143.03
292	SLV 3	533	-189	2004	-559.49	0.24	185.25
292	SLV 4	450	-98	2008	-560.96	0.21	156.77
292	SLV 5	168	365	1318	-405.31	-0.85	58.38
292	SLV 6	85	456	1323	-406.78	-0.88	29.77
292	SLV 7	304	-573	3166	-859.27	-3.39	104.17
292	SLV 8	221	-482	3170	-860.74	-3.42	75.57
292	SLV 9	-70	318	1760	-526.07	-3.2	-24.91
292	SLV 10	-153	409	1765	-527.54	-3.23	-53.51
292	SLV 11	67	-620	3608	-980.03	-5.74	20.88
292	SLV 12	-16	-529	3612	-981.5	-5.77	-7.72
292	SLV 13	-299	-65	2922	-825.85	-6.83	-106.11
292	SLV 14	-382	25	2927	-827.32	-6.86	-134.59
292	SLV 15	-258	-347	3476	-962.04	-7.59	-92.37
292	SLV 16	-341	-256	3481	-963.51	-7.62	-120.85
292	CRTFP Ux+	0	0	0	-0.01	0	0
292	CRTFP Ux-	0	0	0	0.01	0	0
292	CRTFP Uy+	0	0	0	-0.01	0	0
292	CRTFP Uy-	0	0	0	0.01	0	0
293	SLU 1	63	-89	2051	-611.46	54.61	23.82
293	SLU 2	62	-77	2028	-605.41	54	23.29
293	SLU 3	63	-89	2051	-611.46	54.61	23.82
293	SLU 4	62	-82	2037	-607.83	54.24	23.5
293	SLU 5	62	-77	2028	-605.41	54	23.29
293	SLU 6	63	-89	2051	-611.46	54.61	23.82
293	SLU 7	62	-82	2037	-607.83	54.24	23.5
293	SLU 8	63	-89	2051	-611.46	54.61	23.82
293	SLU 9	62	-82	2037	-607.83	54.24	23.5
293	SLU 10	66	-95	2351	-701.63	62.73	24.92
293	SLU 11	66	-107	2374	-707.68	63.34	25.45
293	SLU 12	66	-100	2360	-704.05	62.97	25.13
293	SLU 13	66	-95	2351	-701.63	62.73	24.92
293	SLU 14	66	-107	2374	-707.68	63.34	25.45
293	SLU 15	66	-100	2360	-704.05	62.97	25.13
293	SLU 16	66	-107	2374	-707.68	63.34	25.45
293	SLU 17	66	-100	2360	-704.05	62.97	25.13
293	SLU 18	68	-115	2513	-748.92	67.08	26.15
293	SLU 19	67	-108	2499	-745.29	66.72	25.83
293	SLU 20	68	-115	2513	-748.92	67.08	26.15
293	SLU 21	67	-108	2499	-745.29	66.72	25.83
293	SLU 22	67	-102	2301	-685.65	61.29	25.52
293	SLU 23	66	-90	2278	-679.59	60.68	24.99
293	SLU 24	67	-102	2301	-685.65	61.29	25.52
293	SLU 25	66	-95	2287	-682.01	60.93	25.2
293	SLU 26	66	-90	2278	-679.59	60.68	24.99
293	SLU 27	67	-102	2301	-685.65	61.29	25.52
293	SLU 28	66	-95	2287	-682.01	60.93	25.2
293	SLU 29	67	-102	2301	-685.65	61.29	25.52
293	SLU 30	66	-95	2287	-682.01	60.93	25.2
293	SLU 31	70	-109	2601	-775.81	69.42	26.62
293	SLU 32	70	-121	2624	-781.87	70.03	27.15
293	SLU 33	70	-114	2610	-778.23	69.66	26.83
293	SLU 34	70	-109	2601	-775.81	69.42	26.62
293	SLU 35	70	-121	2624	-781.87	70.03	27.15
293	SLU 36	70	-114	2610	-778.23	69.66	26.83
293	SLU 37	70	-121	2624	-781.87	70.03	27.15
293	SLU 38	70	-114	2610	-778.23	69.66	26.83
293	SLU 39	72	-129	2763	-823.1	73.77	27.85
293	SLU 40	72	-122	2749	-819.47	73.41	27.53
293	SLU 41	72	-129	2763	-823.1	73.77	27.85
293	SLU 42	72	-122	2749	-819.47	73.41	27.53
293	SLU 43	80	-111	2580	-769.47	68.69	30.39
293	SLU 44	80	-99	2557	-763.41	68.08	29.85
293	SLU 45	80	-111	2580	-769.47	68.69	30.39
293	SLU 46	80	-104	2567	-765.83	68.33	30.07
293	SLU 47	80	-99	2557	-763.41	68.08	29.85
293	SLU 48	80	-111	2580	-769.47	68.69	30.39
293	SLU 49	80	-104	2567	-765.83	68.33	30.07
293	SLU 50	80	-111	2580	-769.47	68.69	30.39
293	SLU 51	80	-104	2567	-765.83	68.33	30.07
293	SLU 52	83	-117	2881	-859.63	76.82	31.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLU 53	84	-129	2904	-865.69	77.43	32.02
293	SLU 54	83	-122	2890	-862.05	77.06	31.7
293	SLU 55	83	-117	2881	-859.63	76.82	31.48
293	SLU 56	84	-129	2904	-865.69	77.43	32.02
293	SLU 57	83	-122	2890	-862.05	77.06	31.7
293	SLU 58	84	-129	2904	-865.69	77.43	32.02
293	SLU 59	83	-122	2890	-862.05	77.06	31.7
293	SLU 60	85	-137	3042	-906.92	81.17	32.72
293	SLU 61	85	-130	3028	-903.29	80.81	32.39
293	SLU 62	85	-137	3042	-906.92	81.17	32.72
293	SLU 63	85	-130	3028	-903.29	80.81	32.39
293	SLU 64	84	-124	2830	-843.65	75.38	32.09
293	SLU 65	84	-112	2807	-837.6	74.77	31.55
293	SLU 66	84	-124	2830	-843.65	75.38	32.09
293	SLU 67	84	-117	2817	-840.02	75.02	31.77
293	SLU 68	84	-112	2807	-837.6	74.77	31.55
293	SLU 69	84	-124	2830	-843.65	75.38	32.09
293	SLU 70	84	-117	2817	-840.02	75.02	31.77
293	SLU 71	84	-124	2830	-843.65	75.38	32.09
293	SLU 72	84	-117	2817	-840.02	75.02	31.77
293	SLU 73	87	-131	3131	-933.82	83.51	33.18
293	SLU 74	88	-143	3153	-939.87	84.12	33.72
293	SLU 75	87	-136	3140	-936.24	83.75	33.4
293	SLU 76	87	-131	3131	-933.82	83.51	33.18
293	SLU 77	88	-143	3153	-939.87	84.12	33.72
293	SLU 78	87	-136	3140	-936.24	83.75	33.4
293	SLU 79	88	-143	3153	-939.87	84.12	33.72
293	SLU 80	87	-136	3140	-936.24	83.75	33.4
293	SLU 81	89	-151	3292	-981.11	87.86	34.42
293	SLU 82	89	-144	3278	-977.47	87.5	34.09
293	SLU 83	89	-151	3292	-981.11	87.86	34.42
293	SLU 84	89	-144	3278	-977.47	87.5	34.09
293	SLE RA 1	64	-93	2122	-632.66	56.52	24.31
293	SLE RA 2	64	-85	2107	-628.62	56.11	23.95
293	SLE RA 3	64	-93	2122	-632.66	56.52	24.31
293	SLE RA 4	64	-88	2113	-630.24	56.27	24.1
293	SLE RA 5	64	-85	2107	-628.62	56.11	23.95
293	SLE RA 6	64	-93	2122	-632.66	56.52	24.31
293	SLE RA 7	64	-88	2113	-630.24	56.27	24.1
293	SLE RA 8	64	-93	2122	-632.66	56.52	24.31
293	SLE RA 9	64	-88	2113	-630.24	56.27	24.1
293	SLE RA 10	66	-97	2322	-692.77	61.93	25.04
293	SLE RA 11	66	-105	2338	-696.8	62.34	25.4
293	SLE RA 12	66	-100	2329	-694.38	62.1	25.18
293	SLE RA 13	66	-97	2322	-692.77	61.93	25.04
293	SLE RA 14	66	-105	2338	-696.8	62.34	25.4
293	SLE RA 15	66	-100	2329	-694.38	62.1	25.18
293	SLE RA 16	66	-105	2338	-696.8	62.34	25.4
293	SLE RA 17	66	-100	2329	-694.38	62.1	25.18
293	SLE RA 18	67	-110	2430	-724.3	64.84	25.86
293	SLE RA 19	67	-106	2421	-721.87	64.59	25.65
293	SLE RA 20	67	-110	2430	-724.3	64.84	25.86
293	SLE RA 21	67	-106	2421	-721.87	64.59	25.65
293	SLE FR 1	64	-93	2122	-632.66	56.52	24.31
293	SLE FR 2	64	-91	2119	-631.85	56.44	24.24
293	SLE FR 3	64	-93	2122	-632.66	56.52	24.31
293	SLE FR 4	65	-96	2211	-659.34	58.93	24.7
293	SLE FR 5	65	-98	2215	-660.15	59.01	24.77
293	SLE FR 6	66	-101	2276	-678.48	60.68	25.09
293	SLE QP 1	64	-93	2122	-632.66	56.52	24.31
293	SLE QP 2	65	-98	2215	-660.15	59.01	24.77
293	SLD 1	222	-27	1780	-536.67	48.25	78.13
293	SLD 2	191	11	1783	-537.29	48.3	66.21
293	SLD 3	238	-141	2000	-594.27	54.09	86.41
293	SLD 4	207	-102	2002	-594.89	54.14	74.49
293	SLD 5	100	81	1751	-535.53	46.9	32.42
293	SLD 6	68	120	1753	-536.15	46.95	20.44
293	SLD 7	151	-296	2482	-727.52	66.38	60.03
293	SLD 8	120	-257	2484	-728.14	66.43	48.05
293	SLD 9	10	62	1945	-592.15	51.59	1.5
293	SLD 10	-21	100	1947	-592.77	51.64	-10.48
293	SLD 11	62	-316	2676	-784.15	71.07	29.11
293	SLD 12	30	-277	2678	-784.77	71.12	17.13
293	SLD 13	-77	-94	2427	-725.41	63.88	-24.94
293	SLD 14	-108	-55	2429	-726.03	63.93	-36.86
293	SLD 15	-61	-207	2646	-783.01	69.72	-16.66
293	SLD 16	-92	-168	2649	-783.63	69.77	-28.58
293	SLV 1	423	62	1229	-379.83	34.58	146.04
293	SLV 2	352	150	1234	-381.22	34.7	119.03
293	SLV 3	458	-195	1728	-510.64	47.85	164.84
293	SLV 4	387	-107	1732	-512.04	47.97	137.82
293	SLV 5	144	309	1161	-377.16	31.52	42.16
293	SLV 6	73	398	1166	-378.57	31.63	15.02
293	SLV 7	261	-548	2822	-813.2	75.75	104.82
293	SLV 8	190	-460	2827	-814.61	75.86	77.69
293	SLV 9	-60	264	1602	-505.69	42.16	-28.14
293	SLV 10	-131	352	1607	-507.1	42.27	-55.27
293	SLV 11	57	-593	3263	-941.73	86.39	34.53
293	SLV 12	-14	-505	3268	-943.14	86.5	7.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLV 13	-257	-89	2697	-808.26	70.06	-88.27
293	SLV 14	-328	-1	2702	-809.66	70.17	-115.29
293	SLV 15	-222	-346	3195	-939.08	83.33	-69.48
293	SLV 16	-293	-258	3200	-940.47	83.44	-96.49
293	CRTFP Ux+	0	0	0	-0.01	0	0
293	CRTFP Ux-	0	0	0	0.01	0	0
293	CRTFP Uy+	0	0	0	-0.01	0	0
293	CRTFP Uy-	0	0	0	0.01	0	0
295	SLU 1	95	-143	2947	-683.05	515.04	48.01
295	SLU 2	94	-126	2913	-676.02	509.08	44.68
295	SLU 3	95	-143	2947	-683.05	515.04	48.01
295	SLU 4	94	-133	2926	-678.84	511.46	46.01
295	SLU 5	94	-126	2913	-676.02	509.08	44.68
295	SLU 6	95	-143	2947	-683.05	515.04	48.01
295	SLU 7	94	-133	2926	-678.84	511.46	46.01
295	SLU 8	95	-143	2947	-683.05	515.04	48.01
295	SLU 9	94	-133	2926	-678.84	511.46	46.01
295	SLU 10	100	-156	3374	-782.4	590.18	51.36
295	SLU 11	101	-173	3407	-789.43	596.14	54.69
295	SLU 12	100	-163	3387	-785.21	592.56	52.69
295	SLU 13	100	-156	3374	-782.4	590.18	51.36
295	SLU 14	101	-173	3407	-789.43	596.14	54.69
295	SLU 15	100	-163	3387	-785.21	592.56	52.69
295	SLU 16	101	-173	3407	-789.43	596.14	54.69
295	SLU 17	100	-163	3387	-785.21	592.56	52.69
295	SLU 18	104	-185	3605	-835.02	630.9	57.55
295	SLU 19	103	-175	3584	-830.8	627.32	55.55
295	SLU 20	104	-185	3605	-835.02	630.9	57.55
295	SLU 21	103	-175	3584	-830.8	627.32	55.55
295	SLU 22	101	-165	3305	-765.89	577.69	53.4
295	SLU 23	100	-148	3271	-758.86	571.72	50.07
295	SLU 24	101	-165	3305	-765.89	577.69	53.4
295	SLU 25	101	-155	3285	-761.67	574.11	51.4
295	SLU 26	100	-148	3271	-758.86	571.72	50.07
295	SLU 27	101	-165	3305	-765.89	577.69	53.4
295	SLU 28	101	-155	3285	-761.67	574.11	51.4
295	SLU 29	101	-165	3305	-765.89	577.69	53.4
295	SLU 30	101	-155	3285	-761.67	574.11	51.4
295	SLU 31	107	-178	3732	-865.23	652.82	56.74
295	SLU 32	108	-194	3765	-872.26	658.78	60.07
295	SLU 33	107	-184	3745	-868.04	655.2	58.07
295	SLU 34	107	-178	3732	-865.23	652.82	56.74
295	SLU 35	108	-194	3765	-872.26	658.78	60.07
295	SLU 36	107	-184	3745	-868.04	655.2	58.07
295	SLU 37	108	-194	3765	-872.26	658.78	60.07
295	SLU 38	107	-184	3745	-868.04	655.2	58.07
295	SLU 39	110	-207	3963	-917.85	693.54	62.93
295	SLU 40	110	-197	3943	-913.63	689.96	60.93
295	SLU 41	110	-207	3963	-917.85	693.54	62.93
295	SLU 42	110	-197	3943	-913.63	689.96	60.93
295	SLU 43	121	-179	3708	-859.57	648.08	60.57
295	SLU 44	120	-162	3674	-852.54	642.11	57.24
295	SLU 45	121	-179	3708	-859.57	648.08	60.57
295	SLU 46	120	-169	3688	-855.35	644.5	58.57
295	SLU 47	120	-162	3674	-852.54	642.11	57.24
295	SLU 48	121	-179	3708	-859.57	648.08	60.57
295	SLU 49	120	-169	3688	-855.35	644.5	58.57
295	SLU 50	121	-179	3708	-859.57	648.08	60.57
295	SLU 51	120	-169	3688	-855.35	644.5	58.57
295	SLU 52	126	-192	4135	-958.91	723.21	63.92
295	SLU 53	127	-208	4168	-965.95	729.18	67.24
295	SLU 54	126	-198	4148	-961.73	725.6	65.25
295	SLU 55	126	-192	4135	-958.91	723.21	63.92
295	SLU 56	127	-208	4168	-965.95	729.18	67.24
295	SLU 57	126	-198	4148	-961.73	725.6	65.25
295	SLU 58	127	-208	4168	-965.95	729.18	67.24
295	SLU 59	126	-198	4148	-961.73	725.6	65.25
295	SLU 60	130	-221	4366	-1011.53	763.93	70.1
295	SLU 61	129	-211	4346	-1007.32	760.35	68.11
295	SLU 62	130	-221	4366	-1011.53	763.93	70.1
295	SLU 63	129	-211	4346	-1007.32	760.35	68.11
295	SLU 64	127	-201	4066	-942.4	710.72	65.95
295	SLU 65	126	-184	4032	-935.37	704.76	62.62
295	SLU 66	127	-201	4066	-942.4	710.72	65.95
295	SLU 67	127	-190	4046	-938.18	707.14	63.96
295	SLU 68	126	-184	4032	-935.37	704.76	62.62
295	SLU 69	127	-201	4066	-942.4	710.72	65.95
295	SLU 70	127	-190	4046	-938.18	707.14	63.96
295	SLU 71	127	-201	4066	-942.4	710.72	65.95
295	SLU 72	127	-190	4046	-938.18	707.14	63.96
295	SLU 73	133	-213	4493	-1041.75	785.85	69.3
295	SLU 74	134	-230	4527	-1048.78	791.82	72.63
295	SLU 75	133	-220	4506	-1044.56	788.24	70.63
295	SLU 76	133	-213	4493	-1041.75	785.85	69.3
295	SLU 77	134	-230	4527	-1048.78	791.82	72.63
295	SLU 78	133	-220	4506	-1044.56	788.24	70.63
295	SLU 79	134	-230	4527	-1048.78	791.82	72.63
295	SLU 80	133	-220	4506	-1044.56	788.24	70.63
295	SLU 81	137	-243	4724	-1094.37	826.57	75.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLU 82	136	-233	4704	-1090.15	823	73.49
295	SLU 83	137	-243	4724	-1094.37	826.57	75.49
295	SLU 84	136	-233	4704	-1090.15	823	73.49
295	SLE RA 1	97	-150	3049	-706.72	532.94	49.55
295	SLE RA 2	96	-138	3027	-702.03	528.97	47.33
295	SLE RA 3	97	-150	3049	-706.72	532.94	49.55
295	SLE RA 4	96	-143	3036	-703.91	530.56	48.22
295	SLE RA 5	96	-138	3027	-702.03	528.97	47.33
295	SLE RA 6	97	-150	3049	-706.72	532.94	49.55
295	SLE RA 7	96	-143	3036	-703.91	530.56	48.22
295	SLE RA 8	97	-150	3049	-706.72	532.94	49.55
295	SLE RA 9	96	-143	3036	-703.91	530.56	48.22
295	SLE RA 10	100	-158	3334	-772.95	583.03	51.78
295	SLE RA 11	101	-169	3356	-777.64	587.01	54
295	SLE RA 12	100	-162	3343	-774.82	584.62	52.67
295	SLE RA 13	100	-158	3334	-772.95	583.03	51.78
295	SLE RA 14	101	-169	3356	-777.64	587.01	54
295	SLE RA 15	100	-162	3343	-774.82	584.62	52.67
295	SLE RA 16	101	-169	3356	-777.64	587.01	54
295	SLE RA 17	100	-162	3343	-774.82	584.62	52.67
295	SLE RA 18	103	-178	3488	-808.03	610.18	55.91
295	SLE RA 19	102	-171	3474	-805.22	607.79	54.58
295	SLE RA 20	103	-178	3488	-808.03	610.18	55.91
295	SLE RA 21	102	-171	3474	-805.22	607.79	54.58
295	SLE FR 1	97	-150	3049	-706.72	532.94	49.55
295	SLE FR 2	96	-147	3044	-705.78	532.15	49.11
295	SLE FR 3	97	-150	3049	-706.72	532.94	49.55
295	SLE FR 4	98	-156	3176	-736.18	555.32	51.01
295	SLE FR 5	98	-158	3181	-737.11	556.11	51.46
295	SLE FR 6	100	-164	3268	-757.38	571.56	52.73
295	SLE QP 1	97	-150	3049	-706.72	532.94	49.55
295	SLE QP 2	98	-158	3181	-737.11	556.11	51.46
295	SLD 1	313	-59	2522	-589.47	445.96	87.82
295	SLD 2	268	-2	2526	-590.19	446.53	66.71
295	SLD 3	336	-219	2845	-657.39	503.31	122.41
295	SLD 4	292	-163	2849	-658.11	503.88	101.29
295	SLD 5	143	95	2491	-589.55	435.89	17.35
295	SLD 6	98	152	2495	-590.28	436.46	-3.87
295	SLD 7	221	-440	3569	-815.95	627.04	132.64
295	SLD 8	176	-383	3573	-816.68	627.62	111.42
295	SLD 9	21	67	2788	-657.55	484.6	-8.51
295	SLD 10	-24	124	2792	-658.28	485.18	-29.73
295	SLD 11	98	-468	3866	-883.95	675.76	106.78
295	SLD 12	54	-411	3870	-884.67	676.34	85.56
295	SLD 13	-95	-153	3512	-816.12	608.35	1.62
295	SLD 14	-139	-96	3516	-816.84	608.92	-19.49
295	SLD 15	-71	-314	3835	-884.04	665.69	36.21
295	SLD 16	-116	-257	3839	-884.76	666.27	15.09
295	SLV 1	585	67	1686	-401.94	306.09	134.27
295	SLV 2	485	196	1694	-403.58	307.38	86.41
295	SLV 3	638	-298	2420	-556.2	436.33	212.75
295	SLV 4	538	-169	2428	-557.84	437.62	164.89
295	SLV 5	199	417	1616	-402.03	283.12	-25.87
295	SLV 6	98	546	1624	-403.67	284.42	-73.94
295	SLV 7	376	-798	4063	-916.22	717.25	235.73
295	SLV 8	275	-669	4071	-917.87	718.55	187.66
295	SLV 9	-79	353	2290	-556.36	393.67	-84.75
295	SLV 10	-179	482	2298	-558.01	394.97	-132.81
295	SLV 11	98	-862	4737	-1070.55	827.81	176.85
295	SLV 12	-2	-733	4745	-1072.2	829.11	128.79
295	SLV 13	-341	-147	3933	-916.39	674.6	-61.98
295	SLV 14	-441	-18	3941	-918.03	675.9	-109.84
295	SLV 15	-288	-512	4667	-1070.65	804.84	16.5
295	SLV 16	-388	-383	4675	-1072.28	806.14	-31.36
295	CRTFP Ux+	0	0	0	-0.01	0	0
295	CRTFP Ux-	0	0	0	0.01	0	0
295	CRTFP Uy+	0	0	0	-0.01	0.01	0
295	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 -10794.7 al nodo di indice 30, di coordinate x = 0.21, y = 0.47, z = -1.89, nel contesto SLU 82.

Spostamento estremo minimo -0.0035982 al nodo di indice 30, di coordinate x = 0.21, y = 0.47, z = -1.89, nel contesto SLU 82.
Spostamento estremo massimo -0.0003306 al nodo di indice 32, di coordinate x = 3.39, y = 0.47, z = -1.89, nel contesto SLV 8.

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
5	SLU 82	-0.0030749	-9224.7	SLV 11	-0.001177	-3531
21	SLU 82	-0.003401	-10203	SLV 8	-0.0014907	-4472.1
23	SLU 82	-0.0035891	-10767.4	SLV 8	-0.00156	-4680
30	SLU 82	-0.0035982	-10794.7	SLV 15	-0.0013771	-4131.2
31	SLU 82	-0.0011579	-3473.7	SLV 11	-0.0005055	-1516.6
32	SLU 82	-0.0006282	-1884.5	SLV 8	-0.0003306	-991.8
33	SLU 82	-0.0017759	-5327.6	SLV 8	-0.0007953	-2386
34	SLU 82	-0.0031617	-9485.2	SLV 8	-0.0013561	-4068.4
35	SLU 82	-0.0031914	-9574.2	SLV 8	-0.0013395	-4018.6
36	SLU 82	-0.003119	-9357.1	SLV 8	-0.0012599	-3779.7
39	SLU 82	-0.003103	-9309	SLV 8	-0.0013116	-3934.7
40	SLU 82	-0.0029147	-8744	SLV 8	-0.0012422	-3726.5
42	SLU 82	-0.0028471	-8541.2	SLV 15	-0.0011122	-3336.5
45	SLU 82	-0.0026527	-7958	SLV 15	-0.0010536	-3160.8
46	SLU 82	-0.0029318	-8795.3	SLV 4	-0.0012066	-3619.8
49	SLU 82	-0.0024975	-7492.5	SLV 15	-0.0010078	-3023.3
52	SLU 82	-0.0023833	-7149.8	SLV 15	-0.000975	-2924.9
53	SLU 82	-0.0027773	-8331.8	SLV 4	-0.0011837	-3551.1
56	SLU 82	-0.0018275	-5482.4	SLV 7	-0.0006336	-1900.7
57	SLU 82	-0.0017968	-5390.4	SLV 7	-0.0006413	-1923.9
59	SLU 82	-0.0023094	-6928.1	SLV 15	-0.0009549	-2864.8
60	SLU 82	-0.0027029	-8108.6	SLV 4	-0.0011728	-3518.3
63	SLU 82	-0.0017065	-5119.4	SLV 7	-0.0005859	-1757.7
64	SLU 82	-0.0016786	-5035.7	SLV 7	-0.0005951	-1785.2
66	SLU 82	-0.0022736	-6820.8	SLV 15	-0.000947	-2840.9
67	SLU 82	-0.0026339	-7901.8	SLV 4	-0.0011628	-3488.3
70	SLU 82	-0.0016467	-4940.2	SLV 7	-0.0005868	-1760.5
71	SLU 82	-0.0016216	-4864.7	SLV 7	-0.0005974	-1792.2
73	SLU 82	-0.0022724	-6817.3	SLV 15	-0.0009501	-2850.3
74	SLU 82	-0.0025711	-7713.2	SLV 4	-0.0011537	-3461.1
77	SLU 82	-0.0016289	-4886.8	SLV 7	-0.0006228	-1868.4
78	SLU 82	-0.0016064	-4819.3	SLV 7	-0.0006348	-1904.5
80	SLU 82	-0.0023005	-6901.5	SLV 15	-0.0009628	-2888.5
81	SLU 82	-0.002514	-7542	SLV 4	-0.0011454	-3436.2
84	SLU 82	-0.0016364	-4909.2	SLV 7	-0.0006801	-2040.4
85	SLU 82	-0.0016166	-4849.7	SLV 7	-0.0006936	-2080.8
87	SLU 82	-0.0023496	-7048.9	SLV 15	-0.0009827	-2948
88	SLU 82	-0.0024619	-7385.8	SLV 4	-0.0011375	-3412.4
91	SLU 82	-0.0016568	-4970.4	SLV 3	-0.000746	-2238
92	SLU 82	-0.0016396	-4918.7	SLV 7	-0.0007624	-2287.1
94	SLU 82	-0.0016817	-5045.2	SLV 3	-0.000769	-2306.9
95	SLU 82	-0.0016671	-5001.3	SLV 4	-0.0007972	-2391.6
96	SLU 82	-0.0024138	-7241.5	SLV 4	-0.0011296	-3388.8
99	SLU 82	-0.002407	-7221.1	SLV 15	-0.0010055	-3016.5
101	SLU 82	-0.0017063	-5119	SLV 4	-0.0007929	-2378.8
102	SLU 82	-0.0016943	-5082.8	SLV 4	-0.0008227	-2468
103	SLU 82	-0.0023688	-7106.5	SLV 4	-0.0011215	-3364.4
106	SLU 82	-0.0024533	-7360	SLV 15	-0.0010247	-3074.2
107	SLU 82	-0.0026477	-7943.2	SLV 15	-0.0010642	-3192.5
108	SLU 82	-0.0024588	-7376.4	SLV 15	-0.001032	-3096.1
109	SLU 82	-0.0023135	-6940.5	SLV 15	-0.0010159	-3047.6
110	SLU 82	-0.0022012	-6603.5	SLV 15	-0.0010115	-3034.5
111	SLU 82	-0.0021119	-6335.7	SLV 15	-0.001015	-3044.9
112	SLU 82	-0.0020391	-6117.3	SLV 16	-0.0010238	-3071.4
113	SLU 82	-0.0019786	-5935.8	SLV 16	-0.0010365	-3109.5
114	SLU 82	-0.0019278	-5783.3	SLV 16	-0.0010525	-3157.6
115	SLU 82	-0.0018849	-5654.8	SLV 16	-0.0010716	-3214.8
116	SLU 82	-0.0018488	-5546.3	SLU 1	-0.0010518	-3155.4
117	SLU 82	-0.0018181	-5454.2	SLU 1	-0.0010285	-3085.5
118	SLU 82	-0.0017916	-5374.8	SLU 1	-0.001008	-3024.1
119	SLU 82	-0.0017681	-5304.4	SLU 1	-0.00099	-2969.9
120	SLU 82	-0.0017469	-5240.7	SLV 4	-0.0009594	-2878.3
121	SLU 82	-0.0017282	-5184.5	SLV 4	-0.000903	-2709
122	SLU 82	-0.0017143	-5143	SLV 4	-0.0008547	-2564.1
123	SLU 82	-0.001711	-5132.9	SLV 4	-0.0008182	-2454.7
125	SLU 82	-0.0017275	-5182.5	SLV 4	-0.000817	-2451.1
126	SLU 82	-0.0023262	-6978.6	SLV 4	-0.0011128	-3338.3
129	SLU 82	-0.0024618	-7385.3	SLV 15	-0.0010305	-3091.4
145	SLU 82	-0.0017283	-5184.9	SLV 4	-0.0008611	-2583.3
147	SLU 82	-0.002633	-7899.1	SLV 15	-0.0010598	-3179.5
148	SLU 82	-0.0024454	-7336.1	SLV 15	-0.0010289	-3086.7
149	SLU 82	-0.0023035	-6910.5	SLV 15	-0.0010153	-3046
150	SLU 82	-0.0021946	-6583.8	SLV 15	-0.0010136	-3040.9
151	SLU 82	-0.0021088	-6326.3	SLV 15	-0.0010199	-3059.7
152	SLU 82	-0.0020394	-6118.2	SLV 16	-0.0010315	-3094.4
153	SLU 82	-0.0019823	-5947	SLV 16	-0.001047	-3141.1
154	SLU 82	-0.0019349	-5804.8	SLV 16	-0.0010658	-3197.5
155	SLU 82	-0.0018955	-5686.6	SLV 16	-0.0010874	-3262.3
156	SLU 82	-0.0018628	-5588.5	SLU 1	-0.001064	-3192.1
157	SLU 82	-0.0018356	-5506.9	SLU 1	-0.001043	-3129
158	SLU 82	-0.0018127	-5438	SLU 1	-0.0010248	-3074.5
159	SLU 82	-0.0017927	-5378.2	SLU 1	-0.0010091	-3027.3
160	SLU 82	-0.001775	-5325.1	SLU 1	-0.0009956	-2986.7
161	SLU 82	-0.0017599	-5279.8	SLV 4	-0.0009446	-2833.7
162	SLU 82	-0.0017498	-5249.3	SLV 4	-0.0008993	-2697.8
163	SLU 82	-0.0017484	-5245.1	SLV 4	-0.0008644	-2593.3
164	SLU 82	-0.0017497	-5249.2	SLV 4	-0.0008445	-2533.6

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
165	SLU 81	-0.0022858	-6857.4	SLV 2	-0.0010997	-3299.2
168	SLU 82	-0.0024248	-7274.4	SLV 15	-0.0010137	-3041.1
169	SLU 81	-0.0022485	-6745.6	SLV 2	-0.0010688	-3206.4
172	SLU 81	-0.0023372	-7011.7	SLV 14	-0.0009684	-2905.3
173	SLU 81	-0.0022148	-6644.4	SLV 2	-0.001035	-3105.1
176	SLU 81	-0.0022288	-6686.3	SLV 14	-0.0009112	-2733.5
177	SLU 81	-0.0018747	-5624	SLV 1	-0.0010182	-3054.6
179	SLU 81	-0.0018878	-5663.5	SLV 1	-0.0009795	-2938.5
180	SLU 81	-0.0021865	-6559.5	SLV 2	-0.0010018	-3005.4
183	SLU 81	-0.0021211	-6363.2	SLV 14	-0.0008517	-2555.2
184	SLU 81	-0.0019374	-5812.1	SLV 1	-0.0010641	-3192.3
186	SLU 81	-0.0019515	-5854.6	SLV 1	-0.001026	-3078
187	SLU 81	-0.0021664	-6499.2	SLV 2	-0.0009701	-2910.4
190	SLU 81	-0.0020292	-6087.7	SLV 14	-0.0007957	-2387
191	SLU 81	-0.0019922	-5976.5	SLV 1	-0.0010987	-3296.2
193	SLU 81	-0.0020074	-6022.2	SLV 1	-0.0010612	-3183.6
195	SLU 81	-0.0021582	-6474.7	SLV 1	-0.0009411	-2823.3
198	SLU 81	-0.0019633	-5889.9	SLV 14	-0.0007465	-2239.4
199	SLU 81	-0.0020369	-6110.7	SLV 5	-0.0011138	-3341.3
201	SLU 81	-0.0020532	-6159.6	SLV 1	-0.0010849	-3254.7
203	SLU 81	-0.0021667	-6500.1	SLV 1	-0.0009163	-2748.9
206	SLU 81	-0.0019299	-5789.6	SLV 14	-0.0007061	-2118.4
207	SLU 81	-0.0020735	-6220.6	SLV 5	-0.0010783	-3234.9
209	SLU 81	-0.002091	-6272.9	SLV 5	-0.0010679	-3203.6
211	SLU 81	-0.0021974	-6592.1	SLV 1	-0.000898	-2694.1
214	SLU 81	-0.0019331	-5799.4	SLV 14	-0.0006759	-2027.7
215	SLU 81	-0.0021065	-6319.4	SLV 5	-0.0010348	-3104.4
217	SLU 81	-0.002125	-6375.1	SLV 5	-0.0010249	-3074.6
219	SLU 81	-0.002256	-6768.1	SLV 1	-0.0008886	-2665.7
222	SLU 81	-0.0019755	-5926.4	SLV 14	-0.0006563	-1969
223	SLU 81	-0.0021417	-6425.1	SLV 5	-0.0009881	-2964.4
225	SLU 81	-0.0021614	-6484.3	SLV 5	-0.0009787	-2936
227	SLU 81	-0.0023483	-7044.8	SLV 1	-0.0008902	-2670.7
230	SLV 3	-0.0020786	-6235.8	SLV 14	-0.0006476	-1942.7
231	SLU 81	-0.0021874	-6562.2	SLV 5	-0.0009429	-2828.8
233	SLU 81	-0.0022083	-6625	SLV 5	-0.000934	-2801.9
235	SLU 81	-0.0024779	-7433.6	SLV 5	-0.000875	-2625
238	SLV 3	-0.0022354	-6706.2	SLV 14	-0.0006492	-1947.7
239	SLU 81	-0.0022544	-6763.3	SLV 5	-0.0009042	-2712.6
241	SLU 81	-0.0022766	-6829.9	SLV 5	-0.0008957	-2687.1
242	SLU 81	-0.0022648	-6794.4	SLV 5	-0.0008939	-2681.7
243	SLU 81	-0.0022686	-6805.8	SLV 5	-0.0008823	-2646.9
244	SLU 81	-0.0022478	-6743.3	SLV 5	-0.0008624	-2587.3
245	SLU 81	-0.0022285	-6685.5	SLV 5	-0.000843	-2529.1
246	SLU 81	-0.0022297	-6689	SLV 5	-0.0008303	-2490.8
247	SLU 81	-0.0022629	-6788.7	SLV 5	-0.0008279	-2483.8
248	SLU 81	-0.0023336	-7000.8	SLV 5	-0.0008379	-2513.7
249	SLU 81	-0.0024411	-7323.4	SLV 5	-0.0008601	-2580.4
250	SLV 12	-0.0025813	-7744	SLV 5	-0.0008922	-2676.7
251	SLU 81	-0.0022312	-6693.5	SLV 5	-0.0008949	-2684.8
252	SLU 81	-0.0021626	-6487.9	SLV 5	-0.0008844	-2653.1
253	SLU 81	-0.0020784	-6235.2	SLV 6	-0.0008679	-2603.7
254	SLU 81	-0.0019917	-5975.2	SLV 6	-0.0008465	-2539.6
255	SLU 81	-0.0019094	-5728.1	SLV 10	-0.0008101	-2430.3
256	SLU 81	-0.0018287	-5486	SLV 10	-0.0007694	-2308.1
257	SLU 81	-0.0017623	-5287	SLV 10	-0.0007318	-2195.5
258	SLU 81	-0.0017153	-5146	SLV 10	-0.0006994	-2098.3
259	SLU 81	-0.0016911	-5073.3	SLV 10	-0.0006733	-2019.9
260	SLU 81	-0.0016924	-5077.2	SLV 10	-0.0006542	-1962.7
261	SLU 81	-0.0017219	-5165.8	SLV 10	-0.000643	-1929
262	SLU 81	-0.0017825	-5347.4	SLV 10	-0.0006404	-1921.1
263	SLU 81	-0.0018767	-5630	SLV 10	-0.0006472	-1941.7
264	SLV 3	-0.0020141	-6042.4	SLV 14	-0.0006525	-1957.6
265	SLV 3	-0.0022288	-6686.5	SLV 14	-0.0006498	-1949.4
266	SLV 3	-0.0024759	-7427.6	SLV 14	-0.0006553	-1965.8
268	SLV 3	-0.0024243	-7272.9	SLV 14	-0.0006599	-1979.8
284	SLU 81	-0.0023557	-7067	SLV 6	-0.0008768	-2630.4
286	SLU 81	-0.0023783	-7135	SLV 6	-0.0008688	-2606.3
294	SLV 12	-0.0026951	-8085.4	SLV 5	-0.0008648	-2594.4

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 -0.0027504 al nodo di indice 30, di coordinate x = 0.21, y = 0.47, z = -1.89, nel contesto SLD 2.
Spostamento estremo massimo -0.0003874 al nodo di indice 32, di coordinate x = 3.39, y = 0.47, z = -1.89, nel contesto SLD 8.
Cedimento elastico estremo massimo 0.0000318 al nodo di indice 30, di coordinate x = 0.21, y = 0.47, z = -1.89, nel contesto SLE rara 19.

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.
5	SLD 11	-1.6E-03	-4905.2	SLD 6	-2.4E-03	-7067.7	SLE RA 19	6.21E-06				
21	SLD 8	-1.9E-03	-5702.2	SLD 9	-2.5E-03	-7638.9	SLE RA 19	1.12E-05				
23	SLD 8	-2.0E-03	-5998	SLD 9	-2.7E-03	-8073.2	SLE RA 19	1.66E-05				
30	SLD 15	-1.9E-03	-5731.5	SLD 2	-2.8E-03	-8251.3	SLE RA 19	3.18E-05				
31	SLD 11	-6.5E-04	-1960	SLD 6	-8.9E-04	-2657.8						
32	SLD 8	-3.9E-04	-1162.1	SLD 9	-4.8E-04	-1430.3						
33	SLD 8	-1.0E-03	-3015.8	SLD 9	-1.3E-03	-4007.5						
34	SLD 8	-1.8E-03	-5254.7	SLD 9	-2.4E-03	-7122.5	SLE RA 19	9.07E-06				
35	SLD 8	-1.8E-03	-5270	SLD 9	-2.4E-03	-7240.6	SLE RA 19	3.42E-06				
36	SLD 8	-1.7E-03	-5096.2	SLD 9	-2.4E-03	-7169.7						
39	SLD 8	-1.7E-03	-5127	SLD 9	-2.3E-03	-7004.2	SLE RA 19	8.59E-06				
40	SLD 8	-1.6E-03	-4830.8	SLD 9	-2.2E-03	-6569.5	SLE RA 19	3.06E-06				
42	SLD 15	-1.5E-03	-4575.4	SLD 2	-2.2E-03	-6525.9						
45	SLD 15	-0.00143	-4290.1	SLD 2	-2.0E-03	-6067.8						
46	SLD 4	-1.6E-03	-4829.8	SLD 13	-2.2E-03	-6737.1						
49	SLD 15	-1.4E-03	-4063.5	SLD 2	-1.9E-03	-5700.7						
52	SLD 15	-1.3E-03	-3897.8	SLD 2	-1.8E-03	-5428.9	SLE RA 19	7.07E-06				
53	SLD 4	-1.5E-03	-4637.6	SLD 13	-2.1E-03	-6349.3						
56	SLD 7	-9.3E-04	-2790.6	SLD 10	-1.4E-03	-4191.9						
57	SLD 7	-9.2E-04	-2766.9	SLD 10	-1.4E-03	-4093.9						
59	SLD 15	-1.3E-03	-3792	SLD 2	-1.8E-03	-5251	SLE RA 19	2.83E-06				
60	SLD 4	-1.5E-03	-4545.3	SLD 13	-2.1E-03	-6162.6	SLE RA 19	2.27E-06				
63	SLD 7	-8.6E-04	-2585.7	SLD 10	-1.3E-03	-3889.5						
64	SLD 7	-8.6E-04	-2566.8	SLD 10	-1.3E-03	-3797.3						
66	SLD 15	-1.2E-03	-3742.7	SLD 2	-1.7E-03	-5161.7	SLE RA 19	1.29E-06				
67	SLD 4	-1.5E-03	-4460.1	SLD 13	-2.0E-03	-5989.8						
70	SLD 7	-8.4E-04	-2514.5	SLD 10	-1.2E-03	-3701.7						
71	SLD 7	-8.3E-04	-2500.3	SLD 10	-1.2E-03	-3615.2						
73	SLD 15	-1.2E-03	-3744.9	SLD 2	-1.7E-03	-5152.7	SLE RA 19	2.17E-06				
74	SLD 4	-1.5E-03	-4382.7	SLD 13	-1.9E-03	-5832.5						
77	SLD 7	-8.5E-04	-2537.4	SLD 10	-1.2E-03	-3590.9						
78	SLD 7	-8.4E-04	-2528	SLD 10	-0.00117	-3509.9						
80	SLD 15	-1.3E-03	-3791	SLD 2	-1.7E-03	-5211.7						
81	SLD 4	-1.4E-03	-4312.5	SLD 13	-1.9E-03	-5690.2						
84	SLD 7	-8.7E-04	-2617.9	SLE RA 19	-1.2E-03	-3557.7						
85	SLD 7	-8.7E-04	-2613.3	SLE RA 19	-1.2E-03	-3513.1						
87	SLD 15	-1.3E-03	-3869.2	SLD 2	-1.8E-03	-5319.6						
88	SLD 4	-1.4E-03	-4248.1	SLD 13	-1.9E-03	-5561.2						
91	SLD 3	-9.1E-04	-2725.2	SLE RA 19	-1.2E-03	-3601.3						
92	SLD 7	-9.1E-04	-2727.3	SLE RA 19	-1.2E-03	-3562.4						
94	SLD 3	-9.3E-04	-2782.3	SLE RA 19	-1.2E-03	-3655.6						
95	SLD 4	-9.3E-04	-2802.9	SLE RA 19	-1.2E-03	-3622.4						
96	SLD 4	-1.4E-03	-4188.1	SLD 13	-1.8E-03	-5443.1						
99	SLD 15	-1.3E-03	-3960.6	SLD 2	-1.8E-03	-5447.3						
101	SLD 4	-9.5E-04	-2842.1	SLE RA 19	-1.2E-03	-3710.2						
102	SLD 4	-9.6E-04	-2867.5	SLE RA 19	-1.2E-03	-3682.6						
103	SLD 4	-1.4E-03	-4131.1	SLD 13	-1.8E-03	-5333.8						
106	SLD 15	-1.3E-03	-4036.1	SLD 2	-1.9E-03	-5550.7						
107	SLD 15	-1.4E-03	-4303.3	SLD 2	-2.0E-03	-6052.5						
108	SLD 15	-1.4E-03	-4050.9	SLD 2	-1.9E-03	-5554.4						
109	SLD 15	-1.3E-03	-3866.1	SLD 2	-1.7E-03	-5155						
110	SLD 15	-1.2E-03	-3732.3	SLD 2	-1.6E-03	-4831.1						
111	SLD 15	-1.2E-03	-3633.7	SLE RA 19	-1.5E-03	-4629.2						
112	SLD 16	-1.2E-03	-3559.9	SLE RA 19	-1.5E-03	-4465.4						
113	SLD 16	-1.2E-03	-3504.7	SLE RA 19	-1.4E-03	-4328.6						
114	SLD 16	-1.2E-03	-3464.4	SLE RA 19	-1.4E-03	-4213.3						
115	SLE RA 1	-1.1E-03	-3396	SLE RA 19	-1.4E-03	-4115.7						
116	SLE RA 1	-1.1E-03	-3315.2	SLE RA 19	-1.3E-03	-4033						
117	SLE RA 1	-1.1E-03	-3244.8	SLE RA 19	-1.3E-03	-3962.6						
118	SLE RA 1	-1.1E-03	-3182.9	SLE RA 19	-1.3E-03	-3901.7						
119	SLE RA 1	-1.0E-03	-3128	SLE RA 19	-1.3E-03	-3848						
120	SLE RA 1	-1.0E-03	-3079.3	SLE RA 19	-1.3E-03	-3799.7						
121	SLD 4	-1.0E-03	-3013.6	SLE RA 19	-1.3E-03	-3757.7						
122	SLD 4	-9.8E-04	-2933.3	SLE RA 19	-1.2E-03	-3727.2						
123	SLD 4	-9.6E-04	-2881.2	SLE RA 19	-1.2E-03	-3720.2						
125	SLD 4	-9.7E-04	-2900.1	SLE RA 19	-1.3E-03	-3758.2						
126	SLD 4	-1.4E-03	-4075.8	SLD 13	-1.7E-03	-5231.9						
129	SLD 15	-1.4E-03	-4054.3	SLD 2	-1.9E-03	-5570.4						
145	SLD 4	-9.9E-04	-2959.8	SLE RA 19	-1.3E-03	-3759.7						
147	SLD 15	-1.4E-03	-4284.4	SLD 2	-2.0E-03	-6024.2						
148	SLD 15	-1.3E-03	-4035	SLD 2	-1.8E-03	-5528.3						
149	SLD 15	-1.3E-03	-3857.6	SLD 2	-1.7E-03	-5135.6						
150	SLD 15	-1.2E-03	-3731.3	SLD 2	-1.6E-03	-4818.4						

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.
151	SLD 15	-1.2E-03	-3640.3	SLE RA 19	-1.5E-03	-4624.3						
152	SLD 16	-1.2E-03	-3574.2	SLE RA 19	-1.5E-03	-4468.1						
153	SLD 16	-1.2E-03	-3526.6	SLE RA 19	-1.4E-03	-4338.9						
154	SLD 16	-1.2E-03	-3493.9	SLE RA 19	-1.4E-03	-4231.3						
155	SLE RA 1	-1.1E-03	-3425.2	SLE RA 19	-1.4E-03	-4141.4						
156	SLE RA 1	-1.1E-03	-3351.3	SLE RA 19	-1.4E-03	-4066.4						
157	SLE RA 1	-1.1E-03	-3287.9	SLE RA 19	-1.3E-03	-4003.7						
158	SLE RA 1	-1.1E-03	-3233	SLE RA 19	-1.3E-03	-3950.7						
159	SLE RA 1	-1.1E-03	-3185.2	SLE RA 19	-1.3E-03	-3904.9						
160	SLE RA 1	-1.0E-03	-3143.7	SLE RA 19	-1.3E-03	-3864.6						
161	SLD 4	-1.0E-03	-3109	SLE RA 19	-1.3E-03	-3830.7						
162	SLD 4	-1.0E-03	-3036.9	SLE RA 19	-1.3E-03	-3808.4						
163	SLD 4	-1.0E-03	-2989.3	SLE RA 19	-1.3E-03	-3805.8						
164	SLD 4	-9.9E-04	-2964.6	SLE RA 19	-1.3E-03	-3809.1						
165	SLD 2	-1.3E-03	-4017.1	SLD 15	-1.7E-03	-5141.8						
168	SLD 15	-1.3E-03	-3994.6	SLD 2	-1.8E-03	-5496.1						
169	SLD 2	-1.3E-03	-3937.3	SLD 15	-1.7E-03	-5082.7						
172	SLD 14	-1.3E-03	-3843	SLD 3	-1.8E-03	-5320.1						
173	SLD 2	-1.3E-03	-3857.7	SLD 15	-1.7E-03	-5037.3						
176	SLD 14	-1.2E-03	-3653.2	SLD 3	-1.7E-03	-5101.7						
177	SLD 1	-1.1E-03	-3347.9	SLE RA 18	-1.4E-03	-4093.4						
179	SLD 1	-1.1E-03	-3311.9	SLE RA 18	-1.4E-03	-4122.6						
180	SLD 2	-1.3E-03	-3784.7	SLD 15	-1.7E-03	-5006.7						
183	SLD 14	-1.2E-03	-3461.6	SLD 3	-1.6E-03	-4889						
184	SLD 1	-1.2E-03	-3484.7	SLE RA 18	-1.4E-03	-4235.5						
186	SLD 1	-1.2E-03	-3450.6	SLE RA 18	-1.4E-03	-4267						
187	SLD 2	-1.2E-03	-3722.8	SLD 15	-1.7E-03	-4997.5						
190	SLD 14	-1.1E-03	-3291.6	SLD 3	-1.6E-03	-4716.1						
191	SLD 1	-1.2E-03	-3598.6	SLE RA 18	-1.5E-03	-4360.5						
193	SLD 1	-1.2E-03	-3566.6	SLE RA 18	-1.5E-03	-4394.4						
195	SLD 1	-1.2E-03	-3677.6	SLD 16	-1.7E-03	-5018.9						
198	SLD 14	-1.1E-03	-3158.7	SLD 3	-1.5E-03	-4606.4						
199	SLD 5	-1.2E-03	-3676.7	SLE RA 18	-1.5E-03	-4463.8						
201	SLD 1	-1.2E-03	-3657.4	SLE RA 18	-1.5E-03	-4500.2						
203	SLD 1	-1.2E-03	-3656.4	SLD 16	-1.7E-03	-5082.3						
206	SLD 14	-1.0E-03	-3072.7	SLD 3	-1.5E-03	-4575.4						
207	SLD 5	-1.2E-03	-3680.3	SLE RA 18	-1.5E-03	-4549.9						
209	SLD 5	-1.2E-03	-3686.9	SLE RA 18	-1.5E-03	-4588.7						
211	SLD 1	-1.2E-03	-3668.3	SLD 16	-1.7E-03	-5200.4						
214	SLD 14	-1.0E-03	-3039.7	SLD 3	-1.5E-03	-4633.4						
215	SLD 5	-1.2E-03	-3670.5	SLE RA 18	-1.5E-03	-4628.3						
217	SLD 5	-1.2E-03	-3679	SLE RA 18	-1.6E-03	-4669.7						
219	SLD 1	-1.2E-03	-3723.1	SLD 16	-1.8E-03	-5387						
222	SLD 14	-1.0E-03	-3063	SLD 3	-1.6E-03	-4786.2						
223	SLD 5	-0.00122	-3659.9	SLD 12	-1.6E-03	-4754.7						
225	SLD 5	-1.2E-03	-3670.6	SLD 12	-1.6E-03	-4826.7						
227	SLD 1	-1.3E-03	-3829.9	SLD 16	-1.9E-03	-5654.8						
230	SLD 14	-1.0E-03	-3143.5	SLD 3	-1.7E-03	-5035.1						
231	SLD 5	-1.2E-03	-3663.5	SLD 12	-1.7E-03	-4977.2						
233	SLD 5	-1.2E-03	-3676.2	SLD 12	-1.7E-03	-5052.4						
235	SLD 5	-1.3E-03	-3956.4	SLD 12	-2.0E-03	-6051.7						
238	SLD 14	-1.1E-03	-3278.5	SLD 3	-1.8E-03	-5375.3						
239	SLD 5	-1.2E-03	-3699.2	SLD 12	-1.8E-03	-5252.1						
241	SLD 5	-1.2E-03	-3714	SLD 12	-1.8E-03	-5330.5						
242	SLD 5	-1.2E-03	-3699.2	SLD 12	-1.8E-03	-5300.8						
243	SLD 5	-1.2E-03	-3690.5	SLD 12	-1.8E-03	-5333.2						
244	SLD 5	-1.2E-03	-3646.3	SLD 12	-1.8E-03	-5313.2						
245	SLD 5	-1.2E-03	-3606	SLD 12	-1.8E-03	-5300.9						
246	SLD 5	-1.2E-03	-3597.7	SLD 12	-1.8E-03	-5339.8						
247	SLD 5	-1.2E-03	-3638.9	SLD 12	-1.8E-03	-5456.9						
248	SLD 5	-1.2E-03	-3737.8	SLD 12	-1.9E-03	-5664.4						
249	SLD 5	-1.3E-03	-3893.5	SLD 12	-2.0E-03	-5960.3						
250	SLD 5	-1.4E-03	-4094.6	SLD 12	-2.1E-03	-6326.1	SLE RA 18	9.74E-06				
251	SLD 5	-1.2E-03	-3663	SLD 12	-1.7E-03	-5202.8						
252	SLD 5	-1.2E-03	-3575	SLD 12	-1.7E-03	-5025.9						
253	SLD 6	-1.2E-03	-3462.9	SLD 11	-1.6E-03	-4815.1						
254	SLD 6	-1.1E-03	-3342.1	SLD 11	-1.5E-03	-4604.6						
255	SLD 10	-1.1E-03	-3205.8	SLD 7	-1.5E-03	-4426.3						
256	SLD 10	-1.0E-03	-3065.7	SLD 7	-1.4E-03	-4257.8						
257	SLD 10	-9.8E-04	-2944.8	SLD 7	-1.4E-03	-4124						
258	SLD 10	-9.5E-04	-2851.4	SLD 7	-1.3E-03	-4036.5						
259	SLD 10	-9.3E-04	-2790.5	SLD 7	-1.3E-03	-4003.1						
260	SLD 10	-9.2E-04	-2766.3	SLD 7	-1.3E-03	-4030.8						
261	SLD 10	-9.3E-04	-2782.7	SLD 7	-1.4E-03	-4126.4						
262	SLD 10	-9.5E-04	-2843.9	SLD 7	-1.4E-03	-4296.5						
263	SLD 10	-9.8E-04	-2953.9	SLD 7	-1.5E-03	-4547.7						
264	SLD 14	-1.0E-03	-3100	SLD 3	-1.6E-03	-4900						
265	SLD 14	-1.1E-03	-3274.2	SLD 3	-1.8E-03	-5361.6						
266	SLD 14	-1.2E-03	-3493.3	SLD 3	-2.0E-03	-5900.1						
268	SLD 14	-1.2E-03	-3460.1	SLD 3	-1.9E-03	-5792.6						
284	SLD 6	-1.3E-03	-3787.1	SLD 11	-1.9E-03	-5607.5						
286	SLD 6	-1.3E-03	-3803.1	SLD 11	-1.9E-03	-5686.7						
294	SLD 5	-1.4E-03	-4130.8	SLD 12	-2.2E-03	-6549						

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	4.874	5.41	5.021	5.12	-0.147	0.29
Primo	5.636	5.026	5.009	5.049	0.628	-0.023

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	74622030	67084977
Rialzato	Primo	39634234	37007507

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: 0.999911
Traslazione Y: 0.999872
Traslazione Z: 0
Rotazione X: 0.982012
Rotazione Y: 0.988423
Rotazione Z: 0.799074

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	0.778007457	0.015460979	0.000081646	0	0.000076095	0.014249394	0.011790948	0.015460979	0.000081646
2	0.619025481	0.022406908	0.035118197	0	0.032741341	0.022784633	0.030371097	0.022406908	0.035118197
3	0.605408141	0.051418531	0.000325045	0	0.000308639	0.048522697	0.020890783	0.051418531	0.000325045
4	0.60108204	0.02489204	0.026474157	0	0.024837396	0.026048924	0.000214606	0.02489204	0.026474157
5	0.531753676	0.000231415	0.024258864	0	0.023751549	0.000245178	0.001824879	0.000231415	0.024258864
6	0.499893382	0.000000408	0.006235705	0	0.005899658	0.000003787	0.008211411	0.000000408	0.006235705
7	0.432873926	0.000111477	0.00013914	0	0.000054734	0.000092396	0.000414033	0.000111477	0.00013914
8	0.426874612	0.000054955	0.002472125	0	0.002141616	0.000046278	0.011385483	0.000054955	0.002472125
9	0.38529644	0.000007455	0.000850036	0	0.000899758	0.000016432	0.000132413	0.000007455	0.000850036
10	0.352769445	0.007501128	0.00000734	0	0.000000823	0.006558911	0.003734698	0.007501128	0.00000734
11	0.35197484	0.000001413	0.00000482	0	0.000004632	0.00175569	0.000007005	0.000001413	0.00000482
12	0.342264195	0.001074648	0.006731693	0	0.006403695	0.001004563	0.001206189	0.001074648	0.006731693
13	0.325356912	0.001337727	0.012115409	0	0.011166073	0.001304733	0.020382051	0.001337727	0.012115409
14	0.299168803	0.00136058	0.009986289	0	0.007902847	0.001325745	0.002172247	0.00136058	0.009986289
15	0.287072904	0.000902466	0.000299957	0	0.000385752	0.000936522	0.001175124	0.000902466	0.000299957
16	0.274726684	0.012650392	0.004573444	0	0.004060595	0.011757401	0.000156702	0.012650392	0.004573444
17	0.240107365	0.000005073	0.00001022	0	0.000016151	0.000002795	0.000021083	0.000005073	0.00001022
18	0.229920029	0.002850498	0.01166751	0	0.01038126	0.002707909	0.010738941	0.002850498	0.01166751
19	0.217023997	0.000000529	0.000000576	0	0.000015284	0.004918533	0.000007923	0.000000529	0.000000576
20	0.21412949	0.002112626	0.00212205	0	0.003265398	0.00219108	0.001491267	0.002112626	0.00212205
21	0.213909615	0.003878731	0.001698863	0	0.000430055	0.002871114	0.000127914	0.003878731	0.001698863
22	0.210436304	0.00004607	0.000144769	0	0.007635086	0.000042671	0.000080226	0.00004607	0.000144769
23	0.205569663	0.000006411	0.000000553	0	0.000057941	0.005745954	0.000001003	0.000006411	0.000000553
24	0.203488155	0.000061558	0.000088339	0	0.000042127	0.000091436	0.000002405	0.000061558	0.000088339

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
25	0.199383472	0.000051878	0.000085819	0	0.002279372	0.000108156	0.000040679	0.000051878	0.000085819
26	0.192738919	0.000054679	0.000296711	0	0.000308555	0.000061101	0.001196352	0.000054679	0.000296711
27	0.188138769	0.00992515	0.000069015	0	0.000039444	0.007658094	0.0058837	0.00992515	0.000069015
28	0.186624172	0.000636342	0.000411826	0	0.000005103	0.000113094	0.000916901	0.000636342	0.000411826
29	0.183244832	0.000014093	0.000357001	0	0.000055996	0.00000438	0.000074612	0.000014093	0.000357001
30	0.167545712	0.000004232	0.001199935	0	0.002524668	0.000495449	0.000543688	0.000004232	0.001199935
31	0.163271939	0.000605953	0.001765777	0	0.000779857	0.000309472	0.000161138	0.000605953	0.001765777
32	0.159883427	0.000128034	0.005858849	0	0.005602434	0.000649343	0.002996047	0.000128034	0.005858849
33	0.1551984	0.003798906	0.001302145	0	0.001613745	0.006853855	0.004484349	0.003798906	0.001302145
34	0.153228701	0.000687302	0.06990344	0	0.061772246	0.000994323	0.020803273	0.000687302	0.06990344
35	0.142594922	0.298939841	0.026436789	0	0.024594339	0.26141266	0.036173738	0.298939841	0.026436789
36	0.139886732	0.056280329	0.610988028	0	0.54812113	0.048408811	0.362312072	0.056280329	0.610988028
37	0.136655367	0.371033689	0.018004821	0	0.014215322	0.319459584	0.045959991	0.371033689	0.018004821
38	0.128644398	0.000024792	0.025673312	0	0.017024553	0.000049192	0.00612173	0.000024792	0.025673312
39	0.123960823	0.020487542	0.003160068	0	0.004987288	0.0182356	0.00907606	0.020487542	0.003160068
40	0.117199536	0.000435945	0.004309986	0	0.006548524	0.000302123	0.000002974	0.000435945	0.004309986
41	0.115715966	0.008570994	0.000726034	0	0.000347437	0.004820365	0.022797984	0.008570994	0.000726034
42	0.10584825	0.000953762	0.008804094	0	0.006187749	0.000836829	0.029474314	0.000953762	0.008804094
43	0.100226942	0.010812889	0.000396159	0	0.000747558	0.010174372	0.041070661	0.010812889	0.000396159
44	0.093251048	0.000219246	0.003815725	0	0.003353524	0.000099379	0.000011732	0.000219246	0.003815725
45	0.090284232	0.004006013	0.000005987	0	0.000008417	0.001718012	0.005647419	0.004006013	0.000005987
46	0.079159186	0.000195436	0.001894295	0	0.000292962	0.000099776	0.001349341	0.000195436	0.001894295
47	0.074446695	0.001553386	0.000000381	0	0.000037983	0.000044363	0.000757926	0.001553386	0.000000381
48	0.060104571	0.000916464	0.001725371	0	0.002018536	0.000157302	0.001402282	0.000916464	0.001725371
49	0.055139145	0.002684156	0.002058157	0	0.005002639	0.004984183	0.000047554	0.002684156	0.002058157
50	0.049433504	0.001979415	0.006192769	0	0.013590638	0.007308424	0.003247368	0.001979415	0.006192769
51	0.043925181	0.020022988	0.0038813	0	0.005575812	0.057973367	0.004729182	0.020022988	0.0038813
52	0.040966084	0.002755279	0.047558556	0	0.091963405	0.006684554	0.020016066	0.002755279	0.047558556
53	0.03703773	0.031447175	0.001362462	0	0.002400237	0.066803657	0.009529579	0.031447175	0.001362462
54	0.033766609	0.000907347	0.004452821	0	0.0089623	0.002101079	0.000978454	0.000907347	0.004452821
55	0.025164532	0.001401065	0.000167708	0	0.00045345	0.003004898	0.000423492	0.001401065	0.000167708
56	0.022474842	0.000002378	0.001598679	0	0.006935601	0.000771066	0.003338454	0.000002378	0.001598679
57	0.005513931	0.000000038	0.000000169	0	0.000477266	0.000014352	0.00065649	0.000000038	0.000000169
58	0.005099686	0.000000023	0.000000064	0	0.000036422	0.000207557	0.001019943	0.000000023	0.000000064
59	0.004762581	0.000000006	0.000000015	0	0.000065265	0.000103456	0.00391144	0.000000006	0.000000015
60	0.004000534	0	0.000000122	0	0.000026697	0.000000025	0.00048665	0	0.000000122
61	0.003433751	0.000000013	0.000000063	0	0.000101196	0.000001712	0.009778026	0.000000013	0.000000063
62	0.003038528	0.000000069	0	0	0.000034263	0.000013658	0.000100338	0.000000069	0
63	0.002591949	0.000000001	0.000000252	0	0.000007081	0.000002554	0.002109843	0.000000001	0.000000252
64	0.001869477	0.000000065	0.000000226	0	0.000388164	0.000074593	0.007417099	0.000000065	0.000000226
65	0.001712019	0.000000089	0.000000006	0	0.000045994	0.000083021	0.005484759	0.000000089	0.000000006

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	-9.713	5.709	-249282.336	-1296143.7	1264137.57	60.99
Reazioni	9.713	-5.709	249282.336	1296143.7	-1264137.57	-60.99
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	-62196.003	-311474.82	316468.06	0
Reazioni	0	0	62196.003	311474.82	-316468.06	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	-56945.112	-286807.53	284862.27	0
Reazioni	0	0	56945.112	286807.53	-284862.27	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-1072.506	0	2723.03	0	-5378.17
Reazioni	0	1072.506	0	-2723.03	0	5378.17
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	78086.538	0	0	0	278761.19	-395365.55
Reazioni	-78086.538	0	0	0	-278761.19	395365.55

Contributo	Fx	Fy	Fz	Mx	My	Mz
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	78711.307	0	-280991.56	0	405227.84
Reazioni	0	-78711.307	0	280991.56	0	-405227.84
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	-22269.09
Reazioni	0	0	0	0	0	22269.09
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	22447.26
Reazioni	0	0	0	0	0	-22447.26
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	34441.171	0	0	0	122951.56	-174381.57
Reazioni	-34441.171	0	0	0	-122951.56	174381.57
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	34750.054	0	-124054.24	0	178903
Reazioni	0	-34750.054	0	124054.24	0	-178903
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	-9822.1
Reazioni	0	0	0	0	0	9822.1
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	9910.18
Reazioni	0	0	0	0	0	-9910.18
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	-5.05
Reazioni	-1	0	0	0	-4.56	5.05
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	5.01
Reazioni	0	-1	0	4.56	0	-5.01
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.
Fx: componente della forza lungo l'asse X. [daN]
Fy: componente della forza lungo l'asse Y. [daN]
Fz: componente della forza lungo l'asse Z. [daN]
*Mx: componente della coppia attorno all'asse X. [daN*m]*
*My: componente della coppia attorno all'asse Y. [daN*m]*

*Mz: 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	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	56910.52	2410.84	0	6866.9022	1.484E05	2.663E05	56919.36	178	57153.55	91	0	0
SLV Y	2410.84	57143.06	0	1.508E05	6494.9619	3.092E05	56919.36	178	57153.55	91	0	0
X SLD	25072.71	1048.23	0	2986.9442	6.534E04	1.172E05	25076.71	178	25168.45	91	0	0
Y SLD	1048.23	25163.74	0	6.641E04	2813.1643	1.362E05	25076.71	178	25168.45	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	11511
Elemento min. diagonale	1878.60764351
Elemento max diagonale	26243926062839.5
Rapporto max/min	13969881445.7279
Elementi non nulli	461948

SIDEL
INGEGNERIA

TABULATI DI CALCOLO – VERIFICHE
CIVICO 59
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 rigidezza [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/rigidezza su ingombro del piano).*
A2: *a2 (Distribuzione rigidezze).*
A2n: *a2 numeratore (rigidezza max [x o y globale]).*
A2d: *a2 denominatore (rigidezza min [x o y globale]).*
A2r: *a2 rapporto (rigidezza 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 rigidezze piano).*
Cn: *c numeratore (rigidezza elementi verticali).*
Cd: *c denominatore (rigidezza piano).*
Cr: *c rapporto (rigidezza elementi verticali/rigidezza 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 rigidezze).*
E2n: *e2 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E2d: *e2 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E2r: *e2 rapporto (variazione massima in decremento Kmax/Kmin).*
E3: *e3 (Incremento rigidezze).*
E3n: *e3 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E3d: *e3 denominatore (rigidezza 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 - SI
L'edificio risulta regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1
Ok - Criterio A1 (Distribuzione masse) rispettato, con rapporto massimo 0,06 (limite=0,2) al livello Primo
Ok - Criterio A2 (Distribuzione rigidezze) rispettato, con rapporto massimo 1,11 (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 Primo
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 1,02 (limite=1,25) tra il livello Primo ed il precedente
No - Criterio E2 (Riduzione rigidezze) NON rispettato, con rapporto massimo 746220.3/396342.3=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 45.8/21.5=2.1 (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	0.29	10.03	0.03	746220	670850	1.11	99.9681	99.9681	1	10.03	10.03	1	0	+∞	0
Primo	4.56	0.63	9.88	0.06	396342	370075	1.07	97.058	97.058	1	9.88	9.88	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	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.56	0.51	74109	72577	1.02	74622030	39634234	1.88	74622030	74622030	1	45.8	21.5	2.13	0.08	10.03	0.01	0.08	10.03	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	348055	-52116	6.7	447747	-15485	28.9
Rialzato	0.51	SLV 2	348019	-52116	6.7	447728	-15485	28.9
Rialzato	0.51	SLV 3	348330	-52442	6.6	447860	16398	27.3
Rialzato	0.51	SLV 4	348294	-52442	6.6	447841	16398	27.3
Rialzato	0.51	SLV 5	347600	-15144	23	447121	-52999	8.4
Rialzato	0.51	SLV 6	347564	-15144	23	447101	-52999	8.4
Rialzato	0.51	SLV 7	348515	-16232	21.5	461585	53279	8.7
Rialzato	0.51	SLV 8	348478	-16232	21.5	461575	53279	8.7
Rialzato	0.51	SLV 9	347484	16219	21.4	446697	-53271	8.4
Rialzato	0.51	SLV 10	347448	16219	21.4	446678	-53271	8.4
Rialzato	0.51	SLV 11	348399	15131	23	461199	53007	8.7
Rialzato	0.51	SLV 12	348363	15131	23	461180	53007	8.7
Rialzato	0.51	SLV 13	347669	52429	6.6	446335	-16390	27.2
Rialzato	0.51	SLV 14	347633	52429	6.6	446316	-16390	27.2
Rialzato	0.51	SLV 15	347943	52102	6.7	446448	15493	28.8
Rialzato	0.51	SLV 16	347907	52102	6.7	446429	15493	28.8
Primo	4.56	SLV 1	249653	-18869	13.2	332152	-5426	61.2
Primo	4.56	SLV 2	248444	-18869	13.2	332151	-5426	61.2
Primo	4.56	SLV 3	248660	-18892	13.2	332158	6583	50.5
Primo	4.56	SLV 4	247391	-18892	13.1	332157	6583	50.5
Primo	4.56	SLV 5	253542	-5625	45.1	332173	-19843	16.7
Primo	4.56	SLV 6	256468	-5625	45.6	327535	-19843	16.5
Primo	4.56	SLV 7	261195	-5703	45.8	332191	20190	16.5
Primo	4.56	SLV 8	259875	-5703	45.6	324819	20190	16.1
Primo	4.56	SLV 9	259951	5703	45.6	332196	-20190	16.5
Primo	4.56	SLV 10	259579	5703	45.5	332195	-20190	16.5
Primo	4.56	SLV 11	264714	5625	47.1	328529	19843	16.6
Primo	4.56	SLV 12	263420	5625	46.8	324842	19843	16.4
Primo	4.56	SLV 13	262743	18892	13.9	332230	-6583	50.5
Primo	4.56	SLV 14	257550	18892	13.6	332229	-6583	50.5
Primo	4.56	SLV 15	262176	18869	13.9	332235	5426	61.2
Primo	4.56	SLV 16	260984	18869	13.8	332234	5426	61.2

1.2 Verifiche travate C.A.

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

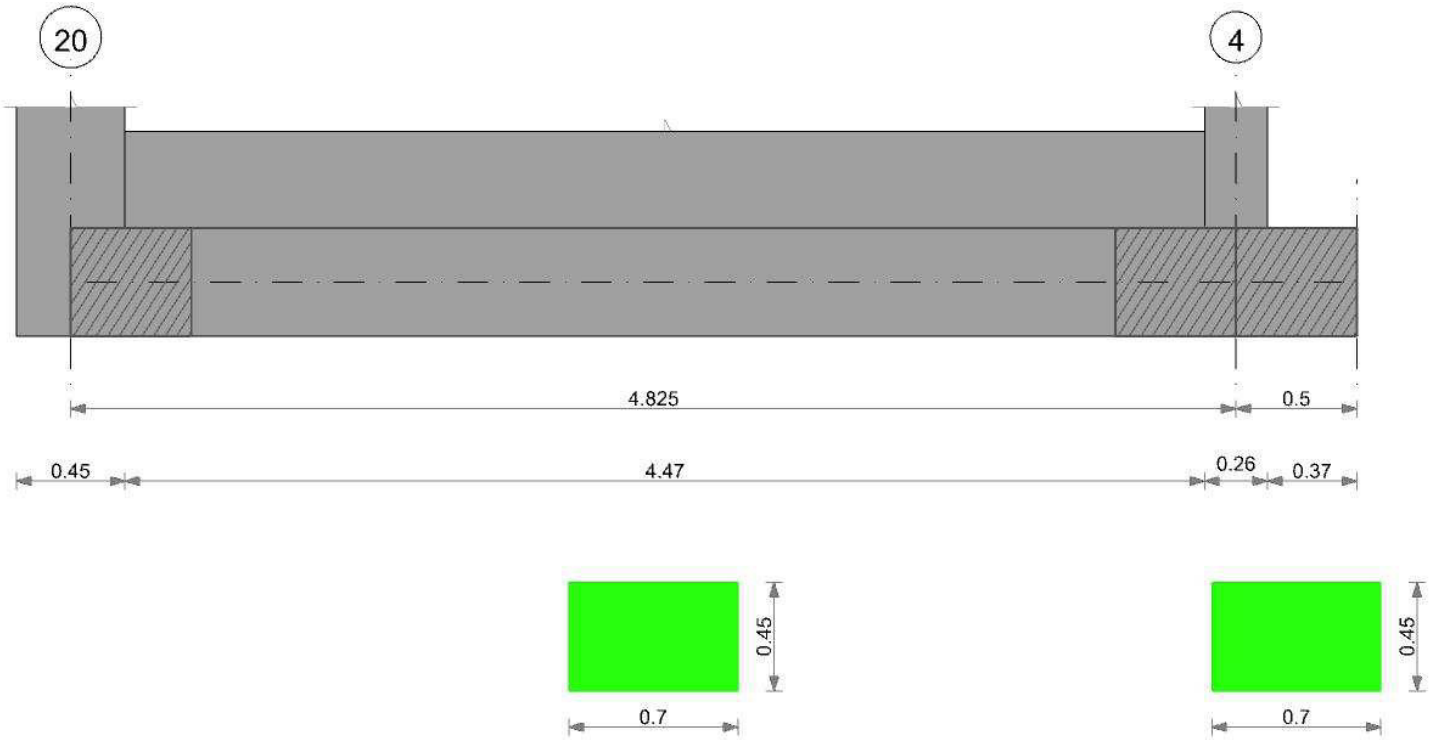
N°: *indice progressivo della sezione.*
Descrizione: *descrizione della sezione.*
Tipo: *tipo di sezione.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
Copriferro sup.: *distanza del bordo della staffa dalla superficie superiore del getto. [m]*
Copriferro inf.: *distanza del 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]*
d: *altezza utile. [m]*
Af: *area di armatura inferiore per unità di lunghezza. [m]*
M: *momento flettente. [daN*m/m]*
Comb: *combinazione.*
x/d: *rapporto tra posizione asse neutro e altezza utile.*
Mult: *momento ultimo. [daN*m/m]*
V: *sforzo di taglio. [daN/m]*
Vult: *sforzo di taglio ultimo. [daN/m]*
Verifica: *stato di verifica.*
Af: *area di armatura. [m²]*
Rara: *famiglia di combinazione di verifica.*
σ c: *tensione di compressione nel calcestruzzo. [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.*
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.*
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).*
γR: *coefficiente parziale sulla resistenza di progetto.*
Rd: *resistenza di progetto. [daN]*
Ed: *azione di progetto. [daN]*
Rd/Ed: *coefficiente di sicurezza alla capacità portante.*
Fx: *componente orizzontale del carico lungo x. [daN]*
Fy: *componente orizzontale del carico lungo y. [daN]*
Fz: *componente verticale del carico. [daN]*
Mx: *momento risultante agente attorno x. [daN*m]*
My: *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]*
qd: *sovraccarico di progetto. [daN/m²]*
γs: *peso specifico di progetto del suolo. [daN/m³]*
Fi: *angolo di attrito di progetto. [deg]*
Coes: *coesione di progetto. [daN/m²]*
Amax: *accelerazione normalizzata max al suolo.*

N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.
S:
Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.
Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.
Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.
D:
Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.
Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.
Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.
I:
Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.
Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.
Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.
B:
Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.
Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:
Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.
E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: 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.
Sa adm: cedimento assoluto ammissibile. [m]
Sa: cedimento assoluto massimo. [m]
Nodo: nodo dove avviene il cedimento assoluto massimo.
Comb.: combinazione.
Differenziale: cedimento differenziale massimo.
Sd adm: cedimento differenziale ammissibile. [m]
Sd: 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.
Sr adm: cedimento relativo ammissibile. [m]
Sr: cedimento relativo massimo. [m]
Nodo: nodo dove avviene il cedimento relativo massimo.
Rapp. inflessione: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).
RI adm: rapporto di inflessione ammissibile.
RI: 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]
R Max: rotazione assoluta massima. [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).
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]*
*M+des: momento flettente di progetto che tende le fibre inferiori. [daN*m]*

***M+ult**: momento ultimo per trazione delle fibre inferiori. [daN*m]*
***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]*
***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.*
***Bordo**: bordo interessato dalla fessura.*
***Rara**: famiglia di combinazione per verifica inferiore.*
***Dmax**: distanza massima tra le fessure. [m]*
***Esm**: dilatazione media delle barre di armatura.*
***Wd**: valore di calcolo di apertura delle fessure. [m]*
***Frequente**: famiglia di combinazione per verifica inferiore.*
***Quasi permanente**: famiglia di combinazione per verifica inferiore.*

CORDOLO 1

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 20 - 4, sezione R 70x45, aste 48, 47, 46, 45, 44, 43, 42, 41, 40, 39, 38, 37

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2331	SLU 82	0.017	2703	6016	SLU 82	15877	Si
0.23	0.41	0.0002	2213	SLU 82	0.017	2703	5711	SLU 82	15877	Si
2.41	0.41	0.0002	1609	SLU 82	0.017	2703	4153	SLU 82	15877	Si
4.7	0.41	0.0002	1781	SLU 82	0.017	2703	4597	SLU 82	15877	Si
4.83	0.41	0.0002	1779	SLU 82	0.017	2703	4590	SLU 82	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	0.00000169	1690	SLE RA 19	48953	1494000	607015	36000000	1460	SLE QP 2	42280	1120500	Si
0.23	0.41	0.00000169	1604	SLE RA 19	46463	1494000	576144	36000000	1385	SLE QP 2	40102	1120500	Si
2.41	0.41	0.00000169	1164	SLE RA 19	33709	1494000	417997	36000000	999	SLE QP 2	28937	1120500	Si
4.7	0.41	0.00000169	1289	SLE RA 19	37327	1494000	462860	36000000	1109	SLE QP 2	32108	1120500	Si
4.83	0.41	0.00000169	1287	SLE RA 19	37275	1494000	462206	36000000	1107	SLE QP 2	32069	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	38	19	159	SLV 6	0.36	1618	1.653	14.6	7.37	26.29	SLV 6	0.36	1618	1.653	Si
0.23	36	18	159	SLV 2	0.36	1618	1.653	13.85	6.94	26.29	SLV 2	0.36	1618	1.653	Si
2.41	26	12	159	SLV 2	0.36	1618	1.653	9.99	4.84	26.29	SLV 2	0.36	1618	1.653	Si
4.7	29	13	159	SLV 2	0.36	1618	1.653	11.09	5.18	26.29	SLV 2	0.36	1618	1.653	Si
4.83	29	13	159	SLV 2	0.36	1618	1.653	11.07	5.17	26.29	SLV 2	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	γR	Rd	Ed	Rd/Ed	Verifica
48,47,46,45,44,43,42,41,40,39,38,37	5.05	1.3	SLU 82	ST	BT	2.3	218325	52655	4.15	Si
48,47,46,45,44,43,42,41,40,39,38,37	5.05	1.3	SLV 2	SIS	BT	2.3	190403	46259	4.12	Si
48,47,46,45,44,43,42,41,40,39,38,37	5.05	1.3	SLD 2	SIS	BT	2.3	205681	39992	5.14	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	-374	-52655	-6317.01	-2859.02	0	0	-0.05	-0.12	1.06	4.94	1496	2060	0	14430	
0	4818	-46259	-8086.72	-3159.9	0	6	-0.07	-0.17	0.95	4.91	1496	2060	0	14430	0.07
0	1973	-39992	-5823.78	-2395.76	0	3	-0.06	-0.15	1.01	4.93	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	0.03	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

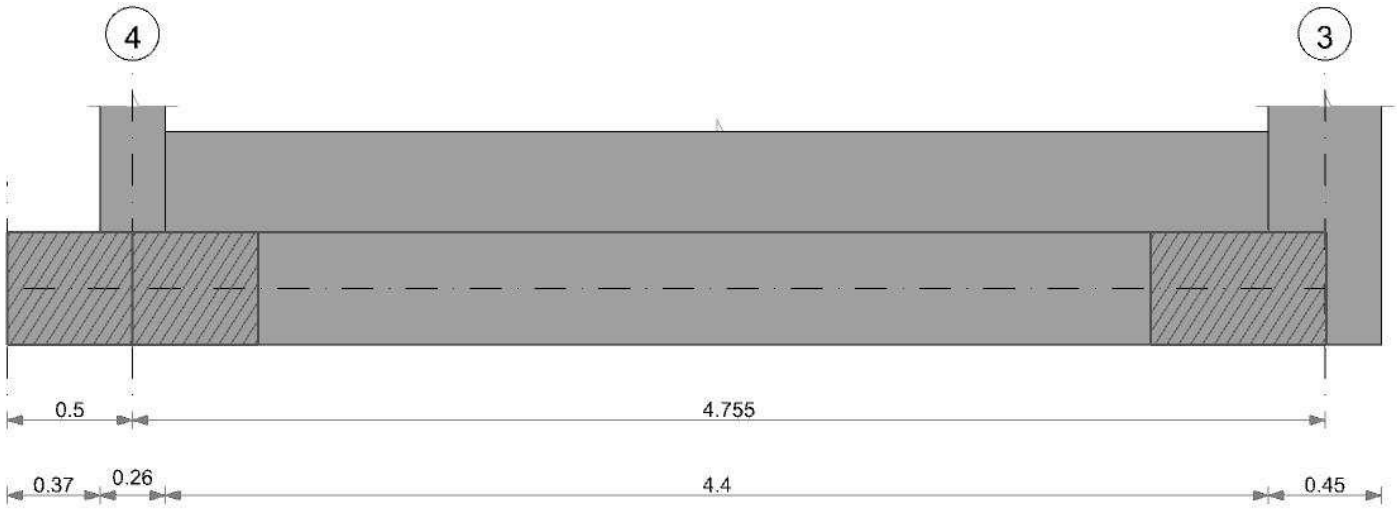
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	5	SLE RA 19	0.05	0	5	129	SLE RA 19	0.05	0	5	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	5	SLE RA 1	0.05	0	5	5	SLE RA 1	0.05	0	5	SLE 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

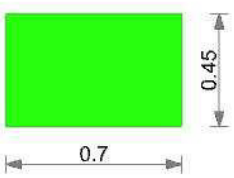
Verifiche geotecniche - Rotazioni assolute e differenziali

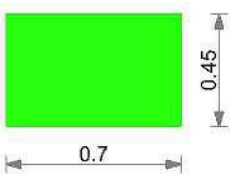
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 19	0.19	0	5	129	SLE RA 19	0.19	0	5	SLE RA 1	0.1	0	5	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	5	129	SLE RA 1	0.19	0	5	SLE RA 1	0.1	0	5	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	5	129	SLE RA 1	0.19	0	5	SLE RA 1	0.1	0	5	SLE RA 1	Si

CORDOLO 2

Geometria







Caratteristiche dei materiali

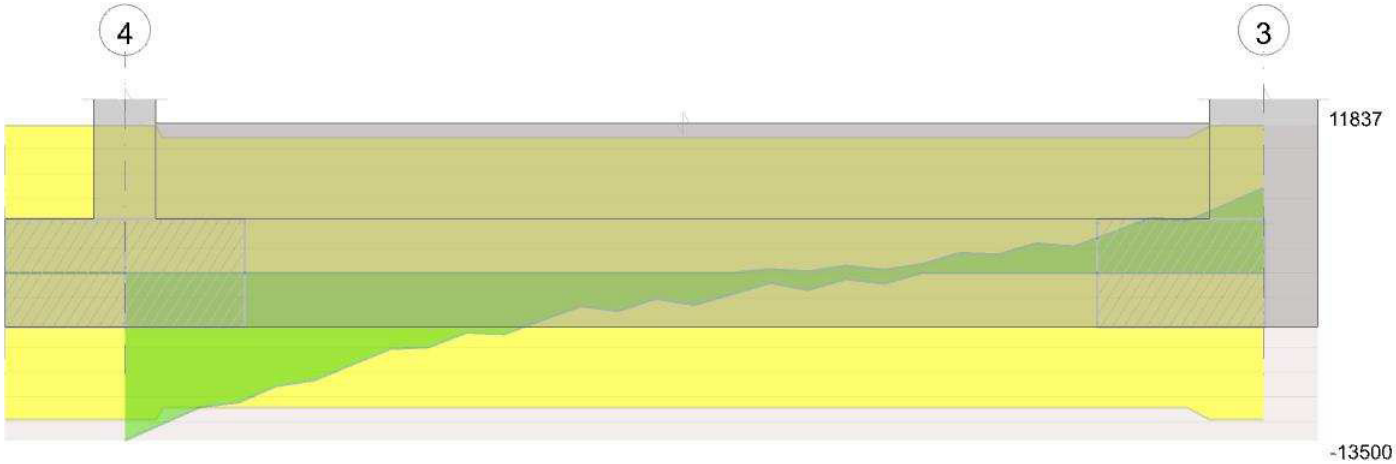
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	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 4 - 3, sezione R 70x45, aste 36, 35, 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	0.0002	1779	SLU 82	0.019	3222	4590	SLU 82	15877	Si
0.13	0.41	0.0002	1774	SLU 82	0.019	3222	4579	SLU 82	15877	Si
2.38	0.41	0.0002	1322	SLV 3	0.092	3127	3431	SLU 81	15877	Si
4.53	0.41	0.0002	1747	SLV 3	0.092	3127	4508	SLV 3	15877	Si
4.75	0.41	0.0002	1846	SLV 3	0.092	3127	4765	SLV 3	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	0.00000202	1287	SLE RA 19	37113	1494000	460198	36000000	1107	SLE QP 2	31930	1120500	Si
0.13	0.41	0.00000202	1284	SLE RA 19	37022	1494000	459077	36000000	1105	SLE QP 2	31858	1120500	Si
2.38	0.41	0.00000202	963	SLE RA 18	27757	1494000	344185	36000000	828	SLE QP 2	23878	1120500	Si
4.53	0.41	0.00000202	1148	SLE RA 18	33093	1494000	410350	36000000	999	SLE QP 2	28792	1120500	Si
4.75	0.41	0.00000202	1207	SLE RA 18	34797	1494000	431483	36000000	1051	SLE QP 2	30319	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	29	13	159	SLV 2	0.36	1618	1.653	11.07	5.17	31.27	SLV 2	0.36	1618	1.653	Si
0.13	29	13	159	SLV 2	0.36	1618	1.653	11.05	5.16	31.27	SLV 2	0.36	1618	1.653	Si
2.38	21	13	159	SLV 3	0.36	1618	1.653	8.28	4.93	31.27	SLV 3	0.36	1618	1.653	Si
4.53	26	19	159	SLV 3	0.36	1618	1.653	9.99	7.48	31.27	SLV 3	0.36	1618	1.653	Si
4.75	27	21	159	SLV 3	0.36	1618	1.653	10.51	7.95	31.27	SLV 3	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	γR	Rd	Ed	Rd/Ed	Verifica
36,35,34,33,32,31,30,29,28,27,26,25	4.98	1.3	SLU 81	ST	BT	2.3	229083	45808	5	Si
36,35,34,33,32,31,30,29,28,27,26,25	4.98	1.3	SLV 3	SIS	BT	2.3	200933	42189	4.76	Si
36,35,34,33,32,31,30,29,28,27,26,25	4.98	1.3	SLD 3	SIS	BT	2.3	219283	35845	6.12	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	γs	Fi	Coes	Amax
0	-243	-45808	-4089.39	-2126.26	0	0	-0.05	-0.09	1.12	4.89	1496	2060	0	14430	
0	4463	-42189	-6306.53	1640.68	0	6	0.04	-0.15	1	4.9	1496	2060	0	14430	0.07
0	1862	-35845	-4247.78	59.75	0	3	0	-0.12	1.06	4.98	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

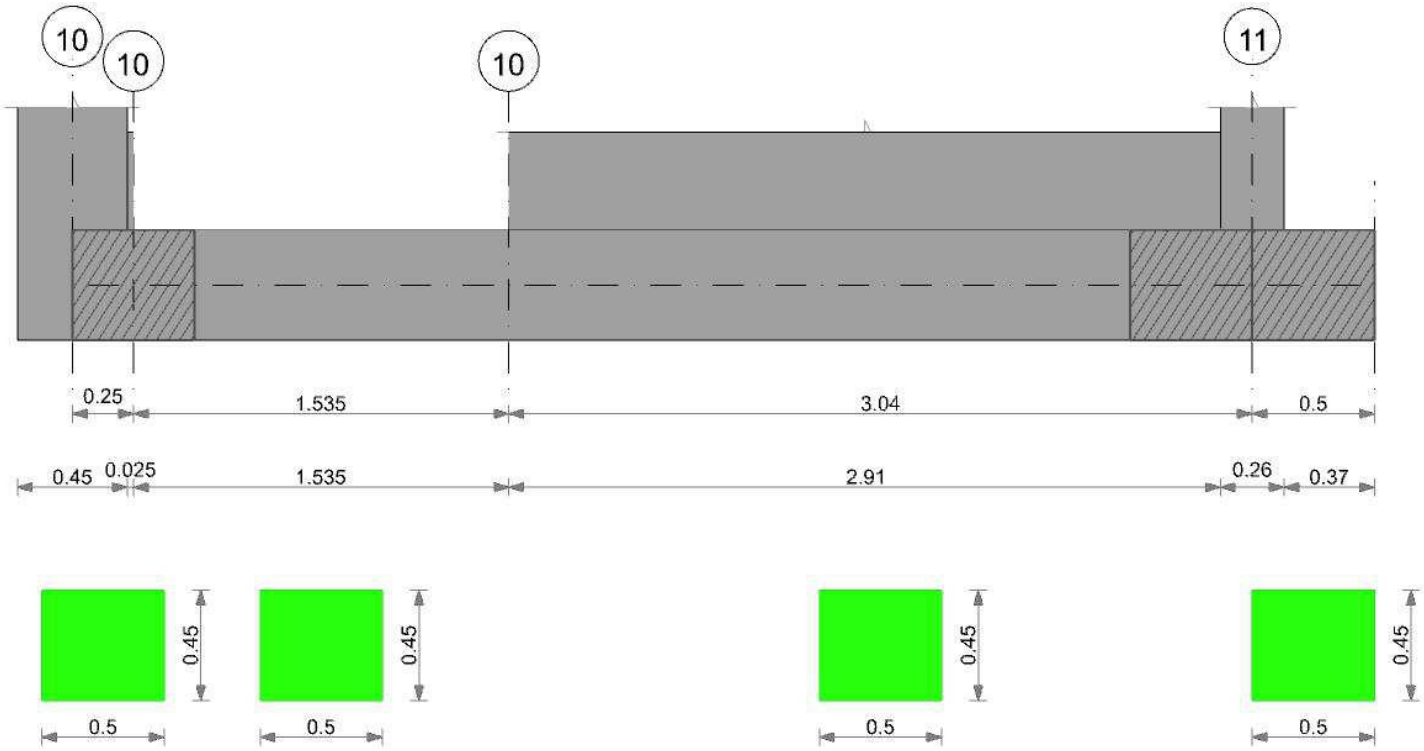
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	129	SLE RA 1	0.05	0	129	129	SLE RA 1	0.05	0	129	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	129	SLE RA 1	0.05	0	129	129	SLE RA 1	0.05	0	129	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	129	SLE RA 1	0.05	0	129	129	SLE RA 1	0.05	0	129	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	129	268	SLE RA 1	0.19	0	129	SLE RA 1	0.1	0	129	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	129	268	SLE RA 1	0.19	0	129	SLE RA 1	0.1	0	129	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	129	268	SLE RA 1	0.19	0	129	SLE RA 1	0.1	0	129	SLE RA 1	Si

CORDOLO 3

Geometria



Caratteristiche dei materiali

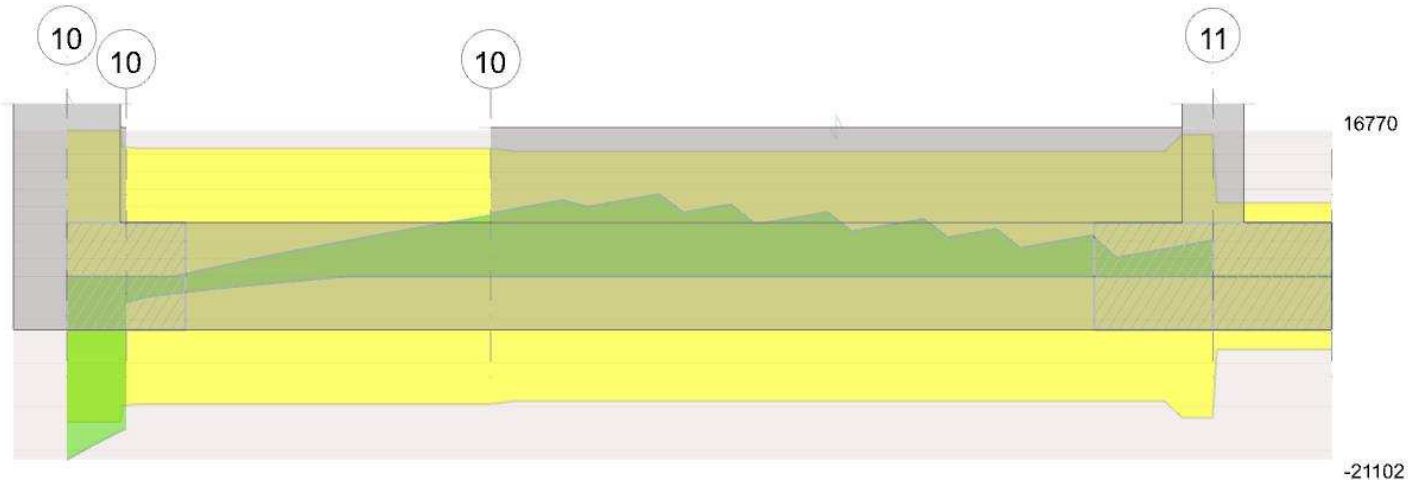
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

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



Output campate

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 103

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							-7207.53	SLU 82	-7580.05	-7755.45	0.113	1.02	Si
0.31	0.000509	0.052	0.000509	0.052							-7712.31	SLU 82	-7738.2	-7755.45	0.113	1	Si
0.77	0.000509	0.052	0.000509	0.052							-7322.72	SLU 82	-7623.4	-7755.45	0.113	1.02	Si
1.54	0.000509	0.052	0.000509	0.052							-4154.8	SLU 81	-5141.19	-7755.45	0.113	1.51	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: εc2= 0.002, εyd= 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							-6252.95	SLV 9	-6425.39	-7266.79	0.197	1.13	Si
0.31	0.000509	0.052	0.000509	0.052							-6429.47	SLV 9	-6440.52	-7266.79	0.197	1.13	Si
0.77	0.000509	0.052	0.000509	0.052							-5666.18	SLV 9	-6097.72	-7266.79	0.197	1.19	Si
1.54	0.000509	0.052	0.000509	0.052							-3887.89	SLV 11	-4050.01	-7266.79	0.197	1.79	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	0.0000106	0.000509	0	-3000	SLU 81	-3000	-7764	-63178	-14833	-14833	1	4.94	Si
0.77	0.0000105	0.000509	0	2391	SLU 82	2391	7764	63178	14687	14687	1	6.14	Si
1.54	0.0000105	0.000509	0	6486	SLU 82	6486	7764	63178	14687	14687	1	2.26	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	0.0000106	0.000509	0	-2653	SLV 11	-2653	-7764	-63178	-14833	-14833	1	5.59	Si
0.77	0.0000105	0.000509	0	3218	SLV 6	3218	7764	63178	14687	14687	1	4.56	Si
0.77	0.0000105	0.000509	0	-407	SLV 11	-407	-7764	-63178	-14687	-14687	1	36.1	Si
1.54	0.0000105	0.000509	0	6965	SLV 10	6965	7764	63178	14687	14687	1	2.11	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	-5249.16	19	-5526.49	584446	1494000	29745198	36000000	-4614.65	2	-4871.27	515155	1120500			Si
0.77	-5358.98	19	-5571.71	589228	1494000	29988560	36000000	-4768.52	2	-4941.18	522548	1120500			Si
1.54	-3083.38	18	-3793.48	200650	1494000	3009756	36000000	-2836.75	2	-3444	182165	1120500			Si

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	-2026	-627	-14833	SLV 11	0.36	1618	1.653	-4614.65	-1638.3	-7266.79	SLV 9	0.36	1618	1.653	Si
0.77	1406	1813	14687	SLV 6	0.36	1618	1.653	-4941.18	-1156.54	-7266.79	SLV 9	0.36	1618	1.653	Si

x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
1.54	3966	3000	14687	SLV 10	0.36	1618	1.653	-2836.75	-1051.13	-7266.79	SLV 11	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 10 - 10, sezione R 50x45, asta 104

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1847	SLU 82	0.045	8358	5682	SLU 82	18807	Si
0.13	0.41	0.0005	1689	SLU 82	0.045	8358	5198	SLU 82	18808	Si
0.23	0.41	0.0005	1567	SLU 82	0.045	8358	4823	SLU 82	18808	Si
0.25	0.41	0.0005	1538	SLU 82	0.045	8358	4733	SLU 82	18809	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	0.00000529	1342	SLE RA 19	37086	1494000	459870	36000000	1172	SLE QP 2	32375	1120500	Si
0.13	0.41	0.00000529	1226	SLE RA 19	33885	1494000	420175	36000000	1067	SLE QP 2	29484	1120500	Si
0.23	0.41	0.00000529	1137	SLE RA 19	31407	1494000	389450	36000000	986	SLE QP 2	27244	1120500	Si
0.25	0.41	0.00000529	1115	SLE RA 19	30809	1494000	382035	36000000	966	SLE QP 2	26703	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	36	14	188	SLV 9	0.36	1618	1.653	11.72	4.64	80.07	SLV 9	0.36	1618	1.653	Si
0.13	33	14	188	SLV 9	0.36	1618	1.653	10.67	4.4	80.07	SLV 9	0.36	1618	1.653	Si
0.23	30	13	188	SLV 9	0.36	1618	1.653	9.86	4.21	80.07	SLV 9	0.36	1618	1.653	Si
0.25	30	13	188	SLV 9	0.36	1618	1.653	9.66	4.17	80.07	SLV 9	0.36	1618	1.653	Si

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 103

Campata 3 tra i fili 10 - 11, sezione R 50x45, aste 102, 101, 100, 99, 98, 97, 96, 95

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	804	SLV 10	0.147	7931	2552	SLU 82	18631	Si
1.52	0.41	0.0005	715	SLU 82	0.043	8101	2204	SLU 82	18235	Si
2.91	0.41	0.0005	778	SLU 82	0.043	8101	2397	SLU 82	18242	Si
3.04	0.41	0.0005	784	SLU 82	0.043	8101	2416	SLU 82	18243	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	0.00000524	590	SLE RA 19	16327	1494000	202456	36000000	487	SLE QP 2	13452	1120500	Si
1.52	0.41	0.00000513	504	SLE RA 19	13967	1494000	173194	36000000	403	SLE QP 2	11157	1120500	Si
2.91	0.41	0.00000513	550	SLE RA 19	15235	1494000	188918	36000000	444	SLE QP 2	12303	1120500	Si
3.04	0.41	0.00000513	555	SLE RA 19	15364	1494000	190519	36000000	449	SLE QP 2	12430	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	15	10	186	SLV 10	0.36	1618	1.653	4.87	3.18	79.31	SLV 10	0.36	1618	1.653	Si
1.52	12	6	182	SLV 10	0.36	1618	1.653	4.03	1.96	77.64	SLV 10	0.36	1618	1.653	Si
2.91	14	4	182	SLV 13	0.36	1618	1.653	4.44	1.45	77.64	SLV 13	0.36	1618	1.653	Si
3.04	14	4	182	SLV 13	0.36	1618	1.653	4.49	1.42	77.64	SLV 13	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	γR	Rd	Ed	Rd/Ed	Verifica
104,103,102,101,100,99,98,97,96,95	5.05	1.1	SLU 82	ST	BT	2.3	213810	36486	5.86	Si
104,103,102,101,100,99,98,97,96,95	5.05	1.1	SLV 13	SIS	LT	2.3	178253	28429	6.27	Si
104,103,102,101,100,99,98,97,96,95	5.05	1.1	SLD 9	SIS	BT	2.3	203102	26855	7.56	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	γs	Fi	Coes	Amax
0	-287	-36486	279.44	-8873.66	0	0	-0.24	0.01	1.08	4.56	1496	2060	0	14430	
0	-4480	-28429	2224.34	-7402.73	0	-9	-0.26	0.08	0.94	4.53	1496	2060	37	0	0.07
0	-759	-26855	478.11	-8405.36	0	-2	-0.31	0.02	1.06	4.42	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	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.16	1.16	0.92	1.16	1.27	1	0.73	0.72	0.62	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

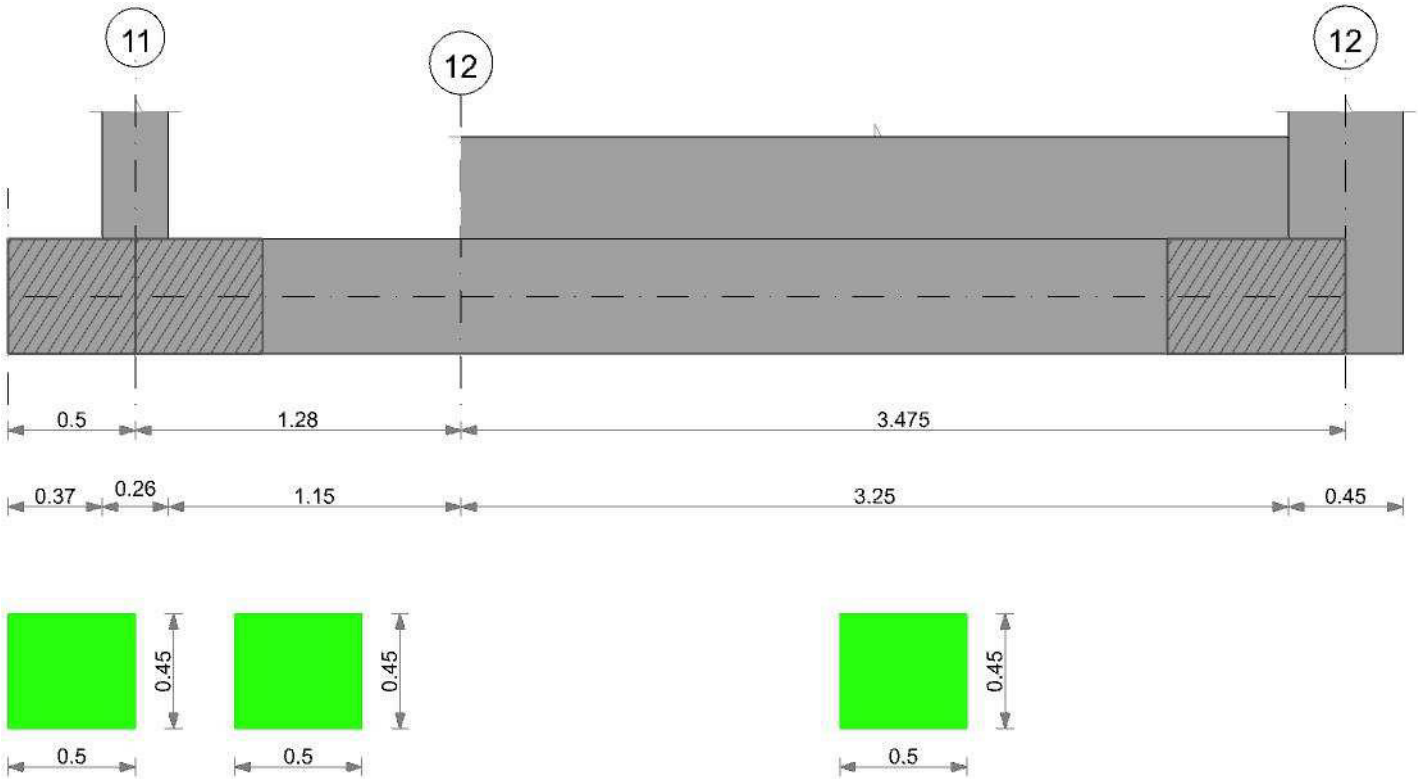
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	21	SLE RA 19	0.05	0	21	57	SLE RA 19	0.05	0	40	SLE RA 18	0.0033	0	SLE RA 18	Si
D	0.05	0	21	SLE RA 1	0.05	0	21	21	SLE RA 1	0.05	0	40	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	21	SLE RA 1	0.05	0	21	21	SLE RA 1	0.05	0	40	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 19	0.19	0	21	40	SLE RA 19	0.19	0	21	SLE RA 1	0.1	0	40	SLE RA 18	Si
D	0.19	0	SLE RA 1	0.19	0	21	40	SLE RA 1	0.19	0	21	SLE RA 1	0.1	0	40	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	21	40	SLE RA 1	0.19	0	21	SLE RA 1	0.1	0	40	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 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

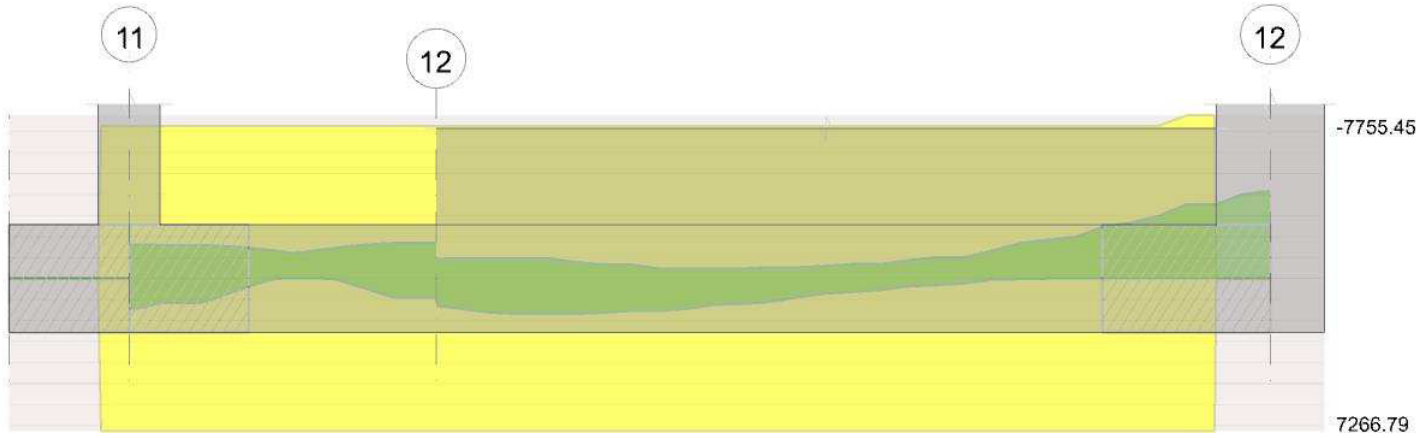
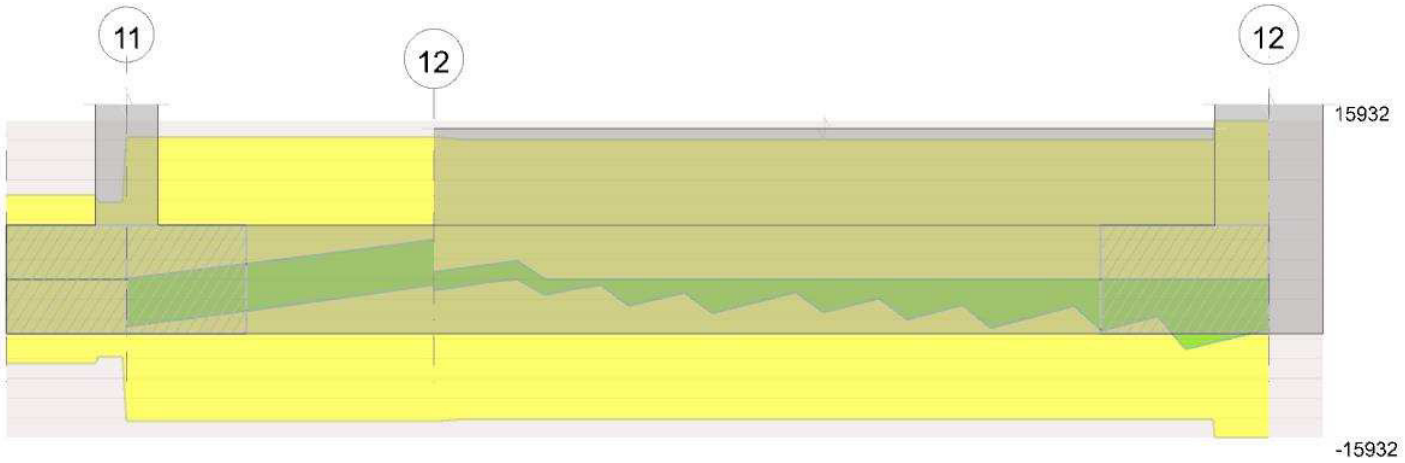


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 11 - 12, sezione R 50x45, asta 94

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	289.54	SLU 39	92.28	7755.45	0.113	84.04	-111.84	SLU 44	-111.84	-7755.45	0.113	69.35	Si
0.13	0.000509	0.052	0.000509	0.052							-394.01	SLU 44	-736.9	-7755.45	0.113	10.52	Si
0.64	0.000509	0.052	0.000509	0.052							-1198.88	SLU 82	-1232.2	-7755.45	0.113	6.29	Si
0.73	0.000509	0.052	0.000509	0.052							-1229.68	SLU 81	-1232.2	-7755.45	0.113	6.29	Si
1.28	0.000509	0.052	0.000509	0.052							-526.33	SLU 64	-923.13	-7755.45	0.113	8.4	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: εc2= 0.002, εyd= 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	1741.75	SLV 11	1434.29	7266.79	0.197	5.07	-1623.94	SLV 6	-1621	-7266.79	0.197	4.48	Si
0.13	0.000509	0.052	0.000509	0.052	1152.62	SLV 11	1152.62	7266.79	0.197	6.3	-1592.79	SLV 6	-1592.79	-7266.79	0.197	4.56	Si
0.64	0.000509	0.052	0.000509	0.052							-1030.1	SLV 2	-1285.06	-7266.79	0.197	5.65	Si
1.11	0.000509	0.052	0.000509	0.052	281.97	SLV 6	910.65	7266.79	0.197	7.98	-1553.06	SLV 11	-1694.12	-7266.79	0.197	4.29	Si
1.28	0.000509	0.052	0.000509	0.052	910.65	SLV 6	910.65	7266.79	0.197	7.98	-1694.12	SLV 11	-1694.12	-7266.79	0.197	4.29	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	0.0000102	0.000509	0	-3846	SLU 81	-3846	-7764	-63178	-14311	-14311	1	3.72	Si
0.13	0.0000102	0.000509	0	-3198	SLU 81	-3198	-7764	-63178	-14311	-14311	1	4.48	Si
0.64	0.0000102	0.000509	0	-611	SLU 81	-611	-7764	-63178	-14311	-14311	1	23.43	Si
1.28	0.0000102	0.000509	0	2816	SLU 82	2816	7764	63178	14311	14311	1	5.08	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	0.0000102	0.000509	0	44	SLV 6	44	7764	63178	14311	14311	1	326.42	Si
0	0.0000102	0.000509	0	-4732	SLV 11	-4732	-7764	-63178	-14311	-14311	1	3.02	Si
0.13	0.0000102	0.000509	0	434	SLV 6	434	7764	63178	14311	14311	1	32.98	Si
0.13	0.0000102	0.000509	0	-4333	SLV 11	-4333	-7764	-63178	-14311	-14311	1	3.3	Si
0.64	0.0000102	0.000509	0	1969	SLV 6	1969	7764	63178	14311	14311	1	7.27	Si
0.64	0.0000102	0.000509	0	-2710	SLV 11	-2710	-7764	-63178	-14311	-14311	1	5.28	Si
1.28	0.0000102	0.000509	0	3955	SLV 6	3955	7764	63178	14311	14311	1	3.62	Si
1.28	0.0000102	0.000509	0	-525	SLV 11	-525	-7764	-63178	-14311	-14311	1	27.24	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	133.56	18	81.93	4334	1494000	65004	36000000	58.91	2	58.91	3116	1120500			Si
0	-2.53	2	-2.53	134	1494000	2004	36000000								Si
0.13	-255.43	2	-555.06	29359	1494000	440385	36000000	-231.33	1	-519.89	27499	1120500			Si
0.64	-889.61	19	-911.81	48229	1494000	723434	36000000	-814.33	2	-835.82	44209	1120500			Si
1.28	-394.31	1	-683.94	36176	1494000	542640	36000000	-394.31	1	-644.6	34095	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
0.13	-1950	-2384	-14311	SLV 11	0.36	1618	1.653	-220.09	-1372.71	-7266.79	SLV 6	0.36	1618	1.653	Si
0.64	-371	-2339	-14311	SLV 11	0.36	1618	1.653	-697.12	-587.94	-7266.79	SLV 6	0.36	1618	1.653	Si
1.28	1715	2240	14311	SLV 6	0.36	1618	1.653	-391.73	-1302.38	-7266.79	SLV 11	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 11 - 12, sezione R 50x45, asta 94

Campata 3 tra i fili 12 - 12, sezione R 50x45, aste 93, 92, 91, 90, 89, 88, 87, 86, 85

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	876	SLU 81	0.043	8069	2701	SLU 81	18168	Si
1.74	0.41	0.0005	1013	SLU 81	0.042	7947	3120	SLU 81	17889	Si
3.25	0.41	0.0005	1120	SLV 12	0.144	7618	3514	SLU 81	17889	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
3.47	0.41	0.0005	1188	SLV 11	0.144	7618	3660	SLV 11	17889	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	0.00000511	625	SLE RA 18	17316	1494000	214722	36000000	517	SLE QP 2	14315	1120500	Si
1.74	0.41	0.00000503	730	SLE RA 18	20230	1494000	250846	36000000	621	SLE QP 2	17217	1120500	Si
3.25	0.41	0.00000503	829	SLE RA 18	22976	1494000	284900	36000000	723	SLE QP 2	20055	1120500	Si
3.47	0.41	0.00000503	859	SLE RA 18	23814	1494000	295296	36000000	752	SLE QP 2	20860	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	16	3	182	SLV 16	0.36	1618	1.653	5.17	1.1	77.34	SLV 16	0.36	1618	1.653	Si
1.74	19	6	179	SLV 12	0.36	1618	1.653	6.21	1.9	76.18	SLV 12	0.36	1618	1.653	Si
3.25	22	12	179	SLV 12	0.36	1618	1.653	7.23	3.97	76.18	SLV 12	0.36	1618	1.653	Si
3.47	23	13	179	SLV 11	0.36	1618	1.653	7.52	4.35	76.18	SLV 11	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	γR	Rd	Ed	Rd/Ed	Verifica
94,93,92,91,90,89,88,87,86,85	4.98	1.1	SLU 81	ST	BT	2.3	227306	36906	6.16	Si
94,93,92,91,90,89,88,87,86,85	4.98	1.1	SLV 16	SIS	BT	2.3	191797	27897	6.88	Si
94,93,92,91,90,89,88,87,86,85	4.98	1.1	SLD 16	SIS	BT	2.3	209748	25999	8.07	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	γs	Fi	Coes	Amax
0	-139	-36906	107.6	3057.6	0	0	0.08	0	1.09	4.81	1496	2060	0	14430	
0	-3925	-27897	1932.19	3734.59	0	-8	0.13	0.07	0.96	4.71	1496	2060	0	14430	0.07
0	-1780	-25999	891.39	3000.14	0	-4	0.12	0.03	1.03	4.75	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	0.27	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

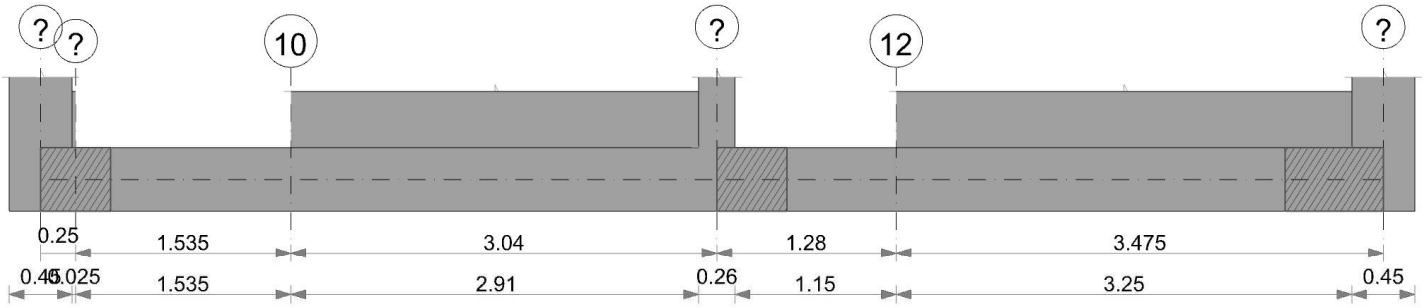
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	145	SLE RA 1	0.05	0	145	145	SLE RA 1	0.05	0	177	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	145	SLE RA 1	0.05	0	145	145	SLE RA 1	0.05	0	177	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	145	SLE RA 1	0.05	0	145	145	SLE RA 1	0.05	0	177	SLE RA 1	0.0033	0	SLE RA 1	Si

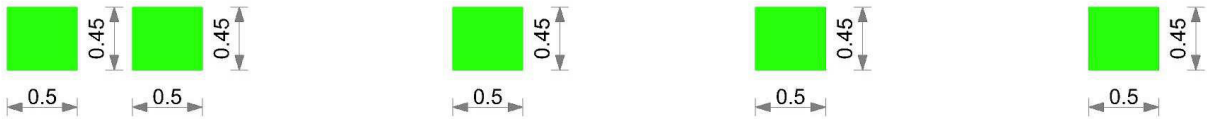
Verifiche geotecniche - Rotazioni assolute e differenziali

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	145	177	SLE RA 1	0.19	0	145	SLE RA 1	0.1	0	177	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	145	177	SLE RA 1	0.19	0	145	SLE RA 1	0.1	0	177	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	145	177	SLE RA 1	0.19	0	145	SLE RA 1	0.1	0	177	SLE RA 1	Si

CORDOLO 5

Geometria





Caratteristiche dei materiali

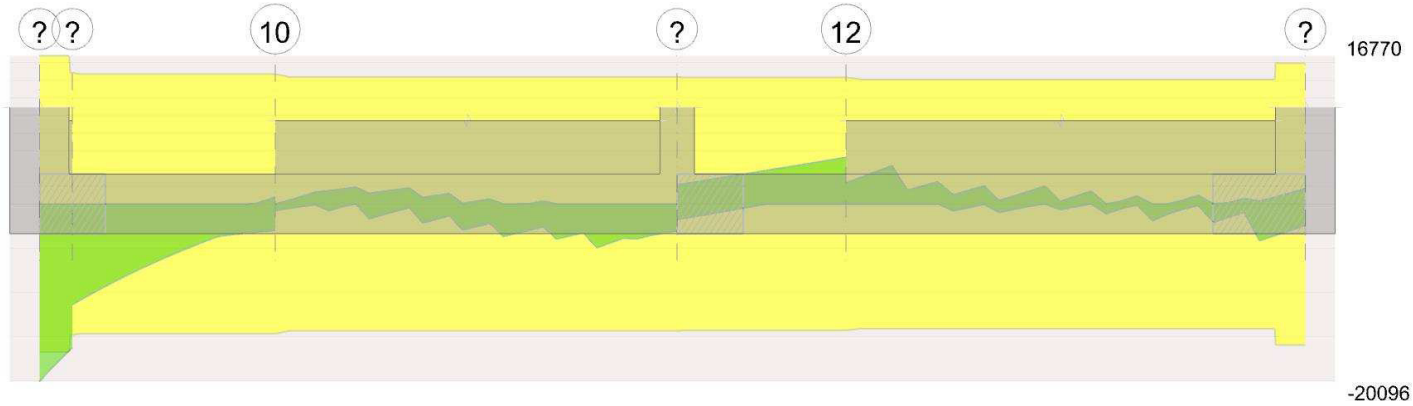
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

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



Output campate

Campata 2 tra i fili ? - 10, sezione R 50x45, asta 106

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	-1058.97	19	-2337.19	123622	1494000	1854332	36000000	-912.39	2	-2053.4	108611	1120500			Si
0.77	-5381.25	19	-5996.33	634134	1494000	32274034	36000000	-4788.26	2	-5348.77	565652	1120500			Si

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	-7436	-1061	-14833	SLV 9	0.36	1618	1.653	-912.39	-741.62	-7266.79	SLV 10	0.36	1618	1.653	Si
0.77	-3765	-577	-14688	SLV 11	0.36	1618	1.653	-5348.77	-806.74	-7266.79	SLV 9	0.36	1618	1.653	Si
1.53	-1114	-1861	-14688	SLV 7	0.36	1618	1.653	-6462.21	-407.76	-7266.79	SLV 13	0.36	1618	1.653	Si

Campata 4 tra i fili ? - 12, sezione R 50x45, asta 116

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							-2020.35	SLU 82	-2020.35	-7755.45	0.113	3.84	Si
0.04	0.000509	0.052	0.000509	0.052							-2022.12	SLU 82	-2022.12	-7755.45	0.113	3.84	Si
0.13	0.000509	0.052	0.000509	0.052							-2007.03	SLU 82	-2007.03	-7755.45	0.113	3.86	Si
0.64	0.000509	0.052	0.000509	0.052							-1416.29	SLU 82	-1722.03	-7755.45	0.113	4.5	Si
1.28	0.000509	0.052	0.000509	0.052	575.22	SLU 82	575.22	7755.45	0.113	13.48	351.25	SLU 1	-135.56	-7755.45	0.113	57.21	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: εc2= 0.002, εyd= 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							-2657.79	SLV 6	-2576.81	-7266.79	0.197	2.82	Si
0.13	0.000509	0.052	0.000509	0.052							-2417.12	SLV 6	-2417.12	-7266.79	0.197	3.01	Si
0.64	0.000509	0.052	0.000509	0.052							-1255.78	SLV 2	-1692.26	-7266.79	0.197	4.29	Si
1.28	0.000509	0.052	0.000509	0.052	1147.55	SLV 6	1147.55	7266.79	0.197	6.33	-385.92	SLV 11	-597.27	-7266.79	0.197	12.17	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	0.0000103	0.000509	0	553	SLU 44	553	7764	63178	14369	14369	1	25.97	Si
0	0.0000103	0.000509	0	-336	SLU 39	-336	-7764	-63178	-14369	-14369	1	42.73	Si
0.13	0.0000102	0.000509	0	896	SLU 44	896	7764	63178	14311	14311	1	15.96	Si
0.64	0.0000102	0.000509	0	2500	SLU 82	2500	7764	63178	14311	14311	1	5.73	Si
1.28	0.0000102	0.000509	0	5258	SLU 82	5258	7764	63178	14311	14311	1	2.72	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	0.0000103	0.000509	0	2145	SLV 6	2145	7764	63178	14369	14369	1	6.7	Si
0	0.0000103	0.000509	0	-1776	SLV 11	-1776	-7764	-63178	-14369	-14369	1	8.09	Si
0.13	0.0000102	0.000509	0	2457	SLV 6	2457	7764	63178	14311	14311	1	5.83	Si
0.13	0.0000102	0.000509	0	-1444	SLV 11	-1444	-7764	-63178	-14311	-14311	1	9.91	Si
0.64	0.0000102	0.000509	0	3685	SLV 6	3685	7764	63178	14311	14311	1	3.88	Si
0.64	0.0000102	0.000509	0	-92	SLV 11	-92	-7764	-63178	-14311	-14311	1	155.46	Si
1.28	0.0000102	0.000509	0	5269	SLV 6	5269	7764	63178	14311	14311	1	2.72	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	-1532.2	19	-1532.2	81043	1494000	1215650	36000000	-1485.05	2	-1481.77	78376	1120500			Si
0.13	-1514.04	19	-1514.04	80083	1494000	1201239	36000000	-1448.84	2	-1448.84	76634	1120500			Si
0.64	-1055.15	19	-1287.08	68078	1494000	1021171	36000000	-977.9	2	-1203.42	63653	1120500			Si
1.28	421.93	19	421.93	22317	1494000	334758	36000000	380.81	2	380.81	20143	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
0.13	507	1950	14311	SLV 6	0.36	1618	1.653	-1448.84	-968.28	-7266.79	SLV 6	0.36	1618	1.653	Si
0.64	1797	1889	14311	SLV 6	0.36	1618	1.653	-1203.42	-488.84	-7266.79	SLV 2	0.36	1618	1.653	Si
1.28	3497	1772	14311	SLV 6	0.36	1618	1.653	380.81	766.73	7266.79	SLV 6	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - ?, sezione R 50x45, asta 105

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1972	SLU 82	0.045	8358	6057	SLU 82	18785	Si
0.13	0.41	0.0005	1814	SLU 82	0.045	8358	5573	SLU 82	18785	Si
0.23	0.41	0.0005	1692	SLU 82	0.045	8358	5198	SLU 82	18785	Si
0.25	0.41	0.0005	1662	SLU 82	0.045	8358	5108	SLU 82	18785	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	0.00000529	1433	SLE RA 19	39606	1494000	491114	36000000	1252	SLE QP 2	34604	1120500	Si
0.13	0.41	0.00000529	1317	SLE RA 19	36401	1494000	451367	36000000	1148	SLE QP 2	31709	1120500	Si
0.23	0.41	0.00000529	1228	SLE RA 19	33920	1494000	420610	36000000	1066	SLE QP 2	29467	1120500	Si
0.25	0.41	0.00000529	1206	SLE RA 19	33321	1494000	413184	36000000	1047	SLE QP 2	28925	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	38	15	188	SLV 9	0.36	1618	1.653	12.52	4.99	80.07	SLV 9	0.36	1618	1.653	Si
0.13	35	15	188	SLV 9	0.36	1618	1.653	11.48	4.75	80.07	SLV 9	0.36	1618	1.653	Si
0.23	33	14	188	SLV 9	0.36	1618	1.653	10.66	4.56	80.07	SLV 9	0.36	1618	1.653	Si
0.25	32	14	188	SLV 9	0.36	1618	1.653	10.47	4.51	80.07	SLV 9	0.36	1618	1.653	Si

Campata 2 tra i fili ? - 10, sezione R 50x45, asta 106

Campata 3 tra i fili 10 - ?, sezione R 50x45, aste 107, 108, 109, 110, 111, 112, 113, 114, 115

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	838	SLV 10	0.147	7931	2617	SLU 82	18602	Si
1.52	0.41	0.0005	736	SLU 82	0.043	8101	2260	SLU 82	18198	Si
2.91	0.41	0.0005	796	SLU 82	0.043	8101	2445	SLU 82	18198	Si
3.04	0.41	0.0005	802	SLU 82	0.043	8101	2465	SLU 82	18198	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	0.00000524	607	SLE RA 19	16792	1494000	208221	36000000	501	SLE QP 2	13862	1120500	Si
1.52	0.41	0.00000513	519	SLE RA 19	14376	1494000	178264	36000000	416	SLE QP 2	11511	1120500	Si
2.91	0.41	0.00000513	564	SLE RA 19	15610	1494000	193563	36000000	457	SLE QP 2	12649	1120500	Si
3.04	0.41	0.00000513	569	SLE RA 19	15747	1494000	195268	36000000	462	SLE QP 2	12784	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	15	10	186	SLV 10	0.36	1618	1.653	5.01	3.37	79.31	SLV 10	0.36	1618	1.653	Si
1.52	13	6	182	SLV 10	0.36	1618	1.653	4.16	2.03	77.64	SLV 10	0.36	1618	1.653	Si
2.91	14	5	182	SLV 13	0.36	1618	1.653	4.57	1.66	77.64	SLV 13	0.36	1618	1.653	Si
3.04	14	5	182	SLV 13	0.36	1618	1.653	4.62	1.63	77.64	SLV 13	0.36	1618	1.653	Si

Campata 4 tra i fili ? - 12, sezione R 50x45, asta 116

Campata 5 tra i fili 12 - ?, sezione R 50x45, aste 117, 118, 119, 120, 121, 122, 123, 124, 125

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	890	SLU 81	0.043	8069	2735	SLU 81	18125	Si
1.74	0.41	0.0005	1030	SLU 81	0.042	7947	3165	SLU 81	17846	Si
3.25	0.41	0.0005	1152	SLV 12	0.144	7618	3568	SLU 81	17846	Si
3.47	0.41	0.0005	1220	SLV 11	0.144	7618	3749	SLV 11	17846	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	0.00000511	635	SLE RA 18	17591	1494000	218133	36000000	526	SLE QP 2	14560	1120500	Si
1.74	0.41	0.00000503	742	SLE RA 18	20586	1494000	255262	36000000	633	SLE QP 2	17540	1120500	Si
3.25	0.41	0.00000503	844	SLE RA 18	23407	1494000	290252	36000000	738	SLE QP 2	20452	1120500	Si
3.47	0.41	0.00000503	875	SLE RA 18	24253	1494000	300738	36000000	767	SLE QP 2	21264	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	16	4	181	SLV 16	0.36	1618	1.653	5.26	1.41	77.34	SLV 16	0.36	1618	1.653	Si
1.74	19	6	178	SLV 12	0.36	1618	1.653	6.33	2.05	76.18	SLV 12	0.36	1618	1.653	Si
3.25	23	13	179	SLV 12	0.36	1618	1.653	7.38	4.15	76.18	SLV 12	0.36	1618	1.653	Si
3.47	24	14	179	SLV 11	0.36	1618	1.653	7.67	4.53	76.18	SLV 11	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	γR	Rd	Ed	Rd/Ed	Verifica
105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125	10.03	1.1	SLU 82	ST	BT	2.3	455483	74509	6.11	Si
105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125	10.03	1.1	SLV 14	SIS	BT	2.3	380281	56566	6.72	Si
105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125	10.03	1.1	SLD 14	SIS	BT	2.3	420405	52463	8.01	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	γs	Fi	Coes	Amax
0	-431	-74509	365.22	-6445.88	0	0	-0.09	0	1.09	9.86	1496	2060	0	14430	
0	-8145	-56566	4017.87	-13871.07	0	-8	-0.25	0.07	0.96	9.54	1496	2060	0	14430	0.07
0	-3761	-52463	1912.3	-7918.97	0	-4	-0.15	0.04	1.03	9.73	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

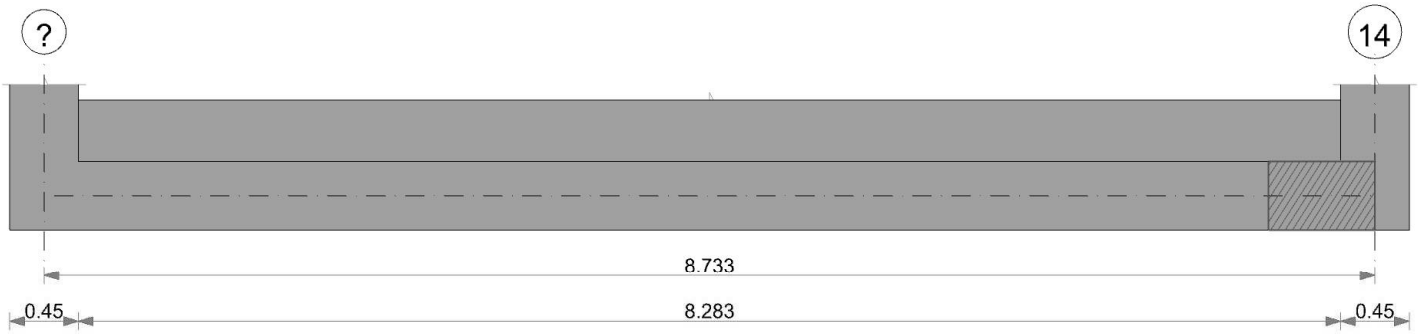
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	23	SLE RA 19	0.05	0	23	56	SLE RA 19	0.05	0	56	SLE RA 19	0.0033	0	SLE FR 6	Si
D	0.05	0	23	SLE RA 1	0.05	0	23	23	SLE RA 1	0.05	0	39	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	23	SLE RA 1	0.05	0	23	23	SLE RA 1	0.05	0	39	SLE RA 1	0.0033	0	SLE RA 1	Si

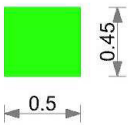
Verifiche geotecniche - Rotazioni assolute e differenziali

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 19	0.19	0	23	39	SLE RA 19	0.19	0	23	SLE RA 1	0.1	0	39	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	23	39	SLE RA 1	0.19	0	23	SLE RA 1	0.1	0	39	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	23	39	SLE RA 1	0.19	0	23	SLE RA 1	0.1	0	39	SLE RA 1	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 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

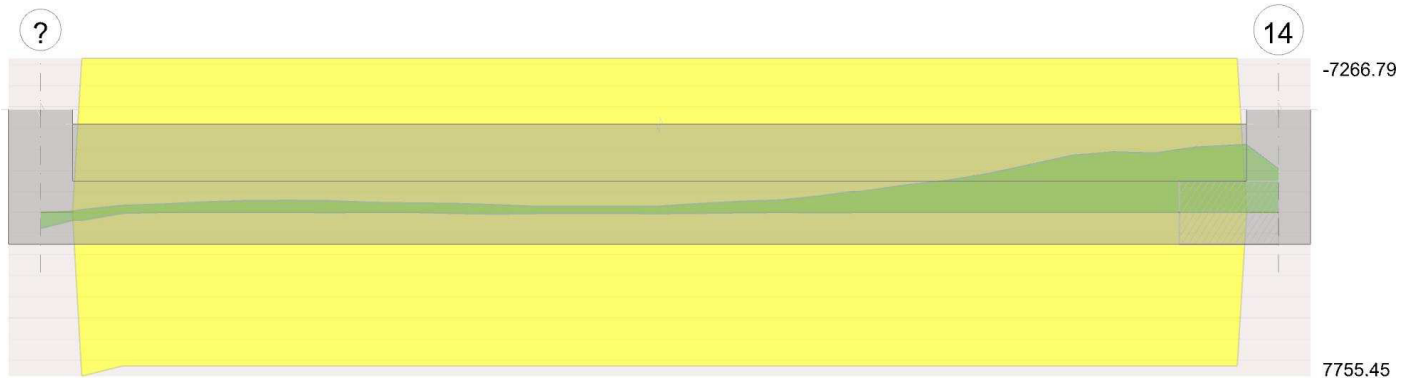
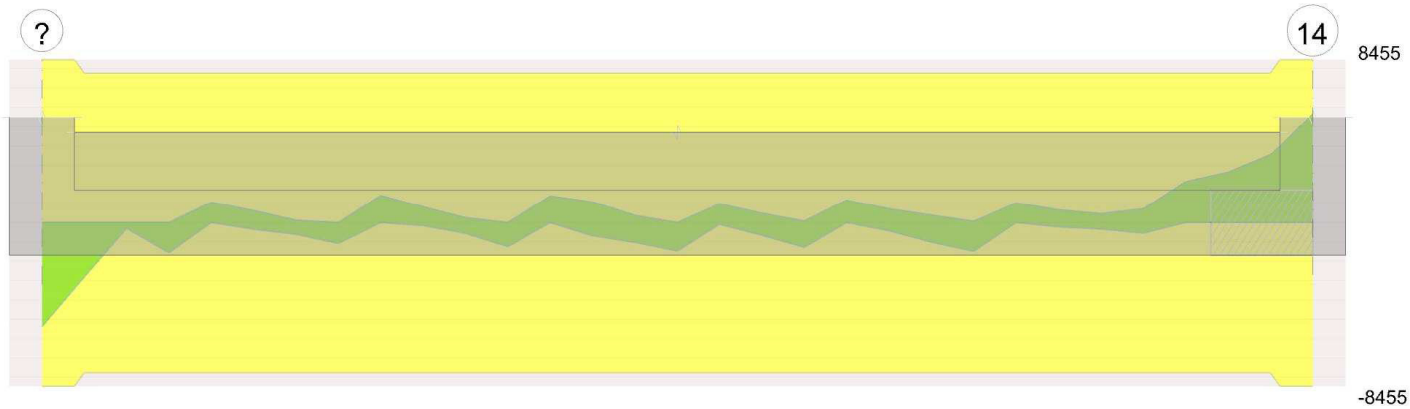


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - 14, sezione R 50x45, aste 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1212	SLU 82	0.017	2710	4216	SLU 82	15877	Si
0.23	0.41	0.0002	1191	SLU 82	0.017	2710	4141	SLU 82	15877	Si
4.37	0.41	0.0002	892	SLU 81	0.017	2710	3101	SLU 81	15877	Si
8.51	0.41	0.0002	1083	SLV 12	0.085	2636	3766	SLV 12	15877	Si
8.73	0.41	0.0002	1151	SLV 12	0.085	2636	4002	SLV 12	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	0.0000017	881	SLE RA 19	25512	1494000	316351	36000000	770	SLE QP 2	22301	1120500	Si
0.23	0.41	0.0000017	865	SLE RA 19	25057	1494000	310703	36000000	757	SLE QP 2	21908	1120500	Si
4.37	0.41	0.0000017	649	SLE RA 18	18789	1494000	232990	36000000	571	SLE QP 2	16533	1120500	Si
8.51	0.41	0.0000017	746	SLE RA 18	21608	1494000	267945	36000000	664	SLE QP 2	19227	1120500	Si
8.73	0.41	0.0000017	782	SLE RA 18	22654	1494000	280905	36000000	697	SLE QP 2	20177	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 13	0.36	1618	1.653	7.7	3.58	26.36	SLV 13	0.36	1618	1.653	Si
0.23	26	12	159	SLV 13	0.36	1618	1.653	7.57	3.47	26.36	SLV 13	0.36	1618	1.653	Si
4.37	20	7	159	SLV 15	0.36	1618	1.653	5.71	2.12	26.36	SLV 15	0.36	1618	1.653	Si
8.51	23	15	159	SLV 12	0.36	1618	1.653	6.64	4.19	26.36	SLV 12	0.36	1618	1.653	Si
8.73	24	16	159	SLV 12	0.36	1618	1.653	6.97	4.54	26.36	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	γR	Rd	Ed	Rd/Ed	Verifica
128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148	9.18	1.1	SLU 82	ST	BT	2.3	303071	79324	3.82	Si
128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148	9.18	1.1	SLV 14	SIS	BT	2.3	275237	67250	4.09	Si
128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148	9.18	1.1	SLD 14	SIS	BT	2.3	292877	59797	4.9	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	1003	-79324	11686.49	-10303.93	0	1	-0.13	0.15	0.81	8.92	1496	2060	0	14430	
0	-2554	-67250	11857.28	-13455.97	0	-2	-0.2	0.18	0.75	8.78	1496	2060	0	14430	0.07
0	-725	-59797	9504.49	-9175.2	0	-1	-0.15	0.16	0.78	8.88	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	0.01	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	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

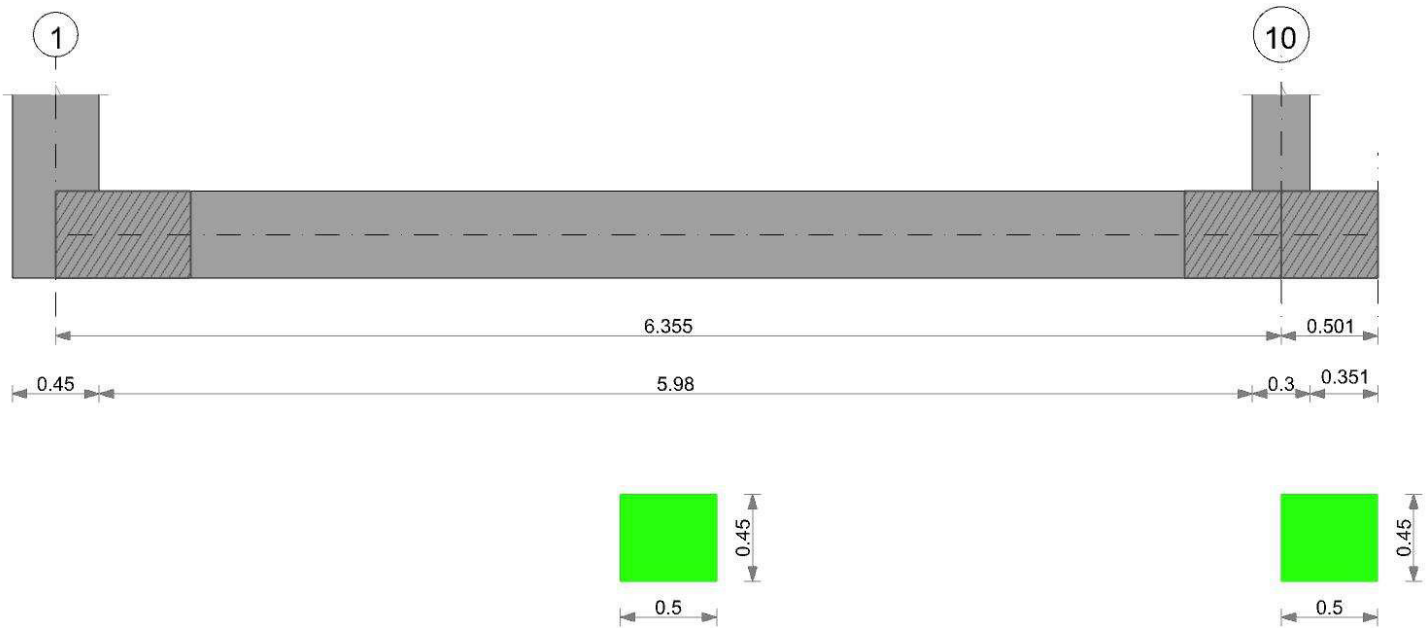
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	46	SLE RA 1	0.05	0	46	46	SLE RA 1	0.05	0	46	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	46	SLE RA 1	0.05	0	46	46	SLE RA 1	0.05	0	46	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	46	SLE RA 1	0.05	0	46	46	SLE RA 1	0.05	0	46	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	46	294	SLE RA 1	0.19	0	46	SLE RA 1	0.1	0	46	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	46	294	SLE RA 1	0.19	0	46	SLE RA 1	0.1	0	46	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	46	294	SLE RA 1	0.19	0	46	SLE RA 1	0.1	0	46	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

Output campate

Campata 1 tra i fili 1 - 10, sezione R 50x45, aste 81, 82, 83, 84

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							-2041.26	SLU 82	-2041.26	-7755.45	0.113	3.8	Si
0.23	0.000509	0.052	0.000509	0.052							-4296.89	SLU 82	-5724.2	-7755.45	0.113	1.35	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: εc2= 0.002, εyd= 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							-2057.56	SLV 2	-2057.56	-7266.79	0.197	3.53	Si
0.23	0.000509	0.052	0.000509	0.052							-4039.43	SLV 2	-5278.51	-7266.79	0.197	1.38	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	0.0000101	0.000509	0	-11230	SLU 82	-11230	-7764	-63178	-14134	-14134	1	1.26	Si
0.23	0.0000101	0.000509	0	-8884	SLU 82	-8884	-7764	-63178	-14134	-14134	1	1.59	Si
3.18	0.0000101	0.000509	0	2030	SLU 82	2030	7764	63178	14134	14134	1	6.96	Si
6.35	0.0000101	0.000509	0	18894	SLU 82	18894	7764	63178	14134	14134	1	0.75	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	0.0000101	0.000509	0	-10244	SLV 6	-10244	-7764	-63178	-14134	-14134	1	1.38	Si
0.23	0.0000101	0.000509	0	-8091	SLV 6	-8091	-7764	-63178	-14134	-14134	1	1.75	Si
3.18	0.0000101	0.000509	0	2075	SLV 2	2075	7764	63178	14134	14134	1	6.81	Si
6.35	0.0000101	0.000509	0	16433	SLV 9	16433	7764	63178	14134	14134	1	0.86	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	-1486.18	19	-1486.18	78609	1494000	1179136	36000000	-1298.58	2	-1298.58	68686	1120500			Si
0.23	-3131.48	19	-4172.65	220706	1494000	3310587	36000000	-2743.27	2	-3657.72	193469	1120500			Si
3.18	-6023.37	19	-6270.57	663136	1494000	33750070	36000000	-5297.31	2	-5513.47	583069	1120500			Si

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	-5691	-2400	-14134	SLV 6	0.36	1618	1.653	-2743.27	-1296.16	-7266.79	SLV 2	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	γR	Rd	Ed	Rd/Ed	Verifica
81,82,83,84	6.58	1.1	SLU 82	ST	BT	2.3	292796	41830	7	Si
81,82,83,84	6.58	1.1	SLV 9	SIS	BT	2.3	248515	34470	7.21	Si
81,82,83,84	6.58	1.1	SLD 9	SIS	BT	2.3	271594	31041	8.75	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	-191	-41830	458.81	4835.03	0	0	0.12	0.01	1.08	6.35	1496	2060	0	14430	
0	-4450	-34470	2322.55	8038.31	0	-7	0.23	0.07	0.97	6.11	1496	2060	0	14430	0.07
0	-1993	-31041	1174.63	5326.47	0	-4	0.17	0.04	1.02	6.24	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	0.03	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.03	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	0.03	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

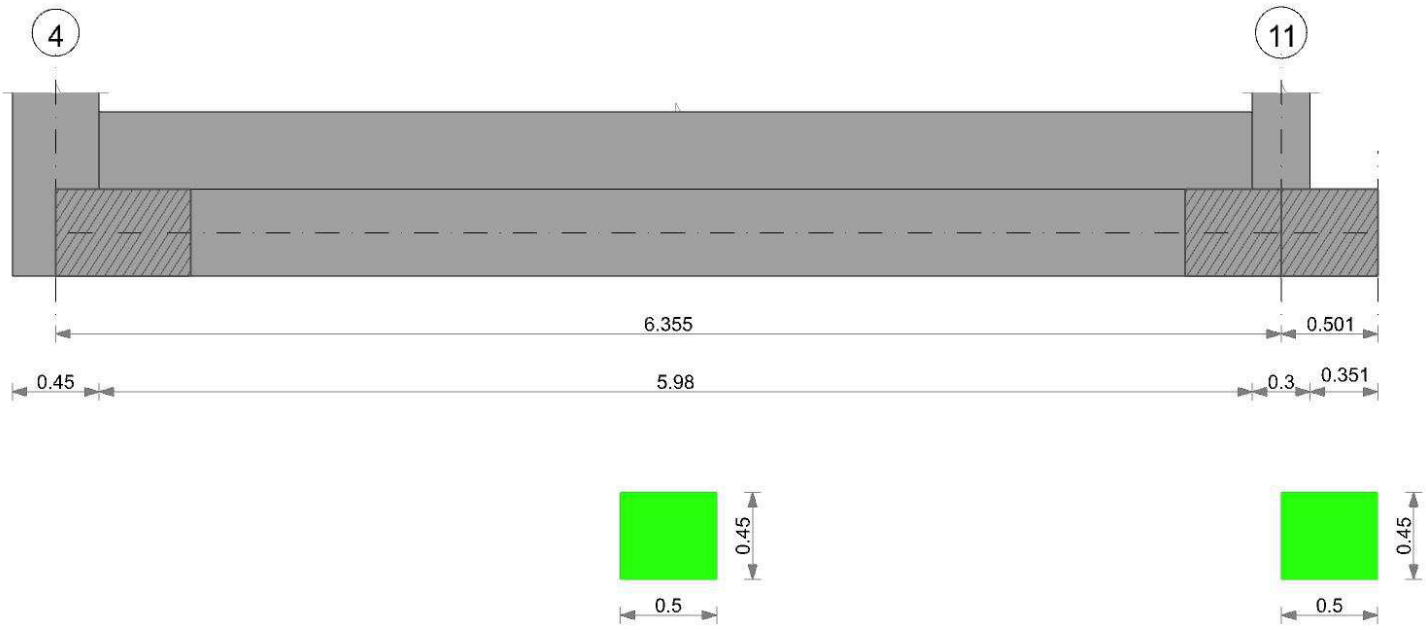
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	30	SLE RA 19	0.05	0	30	34	SLE RA 19	0.05	0	30	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	30	SLE RA 1	0.05	0	30	30	SLE RA 1	0.05	0	30	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	30	SLE RA 1	0.05	0	30	30	SLE RA 1	0.05	0	30	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 19	0.19	0	30	34	SLE RA 19	0.19	0	30	SLE RA 1	0.1	0	30	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	30	34	SLE RA 1	0.19	0	30	SLE RA 1	0.1	0	30	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	30	34	SLE RA 1	0.19	0	30	SLE RA 1	0.1	0	30	SLE RA 1	Si

CORDOLO 8

Geometria



Caratteristiche dei materiali

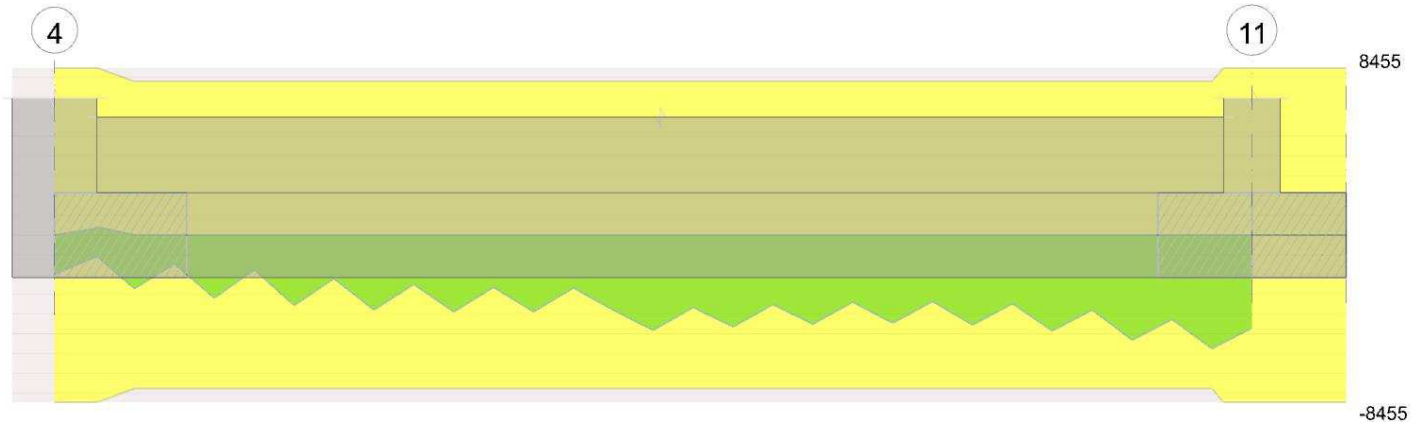
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 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 1 tra i fili 4 - 11, sezione R 50x45, aste 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1455	SLU 82	0.017	2684	4342	SLU 82	15877	Si
0.23	0.41	0.0002	1379	SLU 82	0.017	2684	4116	SLU 82	15877	Si
3.18	0.41	0.0002	941	SLU 82	0.017	2684	2809	SLU 82	15877	Si
6.2	0.41	0.0002	824	SLU 82	0.017	2684	2458	SLU 82	15877	Si
6.35	0.41	0.0002	824	SLU 82	0.017	2684	2459	SLU 82	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	0.00000168	1054	SLE RA 19	30531	1494000	378579	36000000	910	SLE QP 2	26348	1120500	Si
0.23	0.41	0.00000168	998	SLE RA 19	28910	1494000	358488	36000000	860	SLE QP 2	24896	1120500	Si
3.18	0.41	0.00000168	671	SLE RA 19	19443	1494000	241089	36000000	558	SLE QP 2	16164	1120500	Si
6.2	0.41	0.00000168	582	SLE RA 19	16864	1494000	209120	36000000	469	SLE QP 2	13596	1120500	Si
6.35	0.41	0.00000168	582	SLE RA 19	16872	1494000	209207	36000000	470	SLE QP 2	13601	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 2	0.36	1618	1.653	9.1	4.46	26.11	SLV 2	0.36	1618	1.653	Si
0.23	26	12	159	SLV 2	0.36	1618	1.653	8.6	4.09	26.11	SLV 2	0.36	1618	1.653	Si
3.18	17	3	159	SLV 1	0.36	1618	1.653	5.58	0.89	26.11	SLV 1	0.36	1618	1.653	Si
6.2	14	5	159	SLV 13	0.36	1618	1.653	4.69	1.63	26.11	SLV 13	0.36	1618	1.653	Si
6.35	14	5	159	SLV 13	0.36	1618	1.653	4.7	1.71	26.11	SLV 13	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	γR	Rd	Ed	Rd/Ed	Verifica
65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80	6.58	1.1	SLU 82	ST	BT	2.3	292674	48336	6.06	Si
65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80	6.58	1.1	SLV 4	SIS	BT	2.3	246633	34494	7.15	Si
65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80	6.58	1.1	SLD 4	SIS	BT	2.3	271541	33006	8.23	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	γs	Fi	Coes	Amax
0	-322	-48336	101.08	-8213.88	0	0	-0.17	0	1.1	6.24	1496	2060	0	14430	
0	2006	-34494	-1004.58	-17722.17	0	3	-0.51	-0.03	1.04	5.55	1496	2060	0	14430	0.07
0	793	-33006	-423.74	-11082.25	0	1	-0.34	-0.01	1.07	5.91	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	0.01	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	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

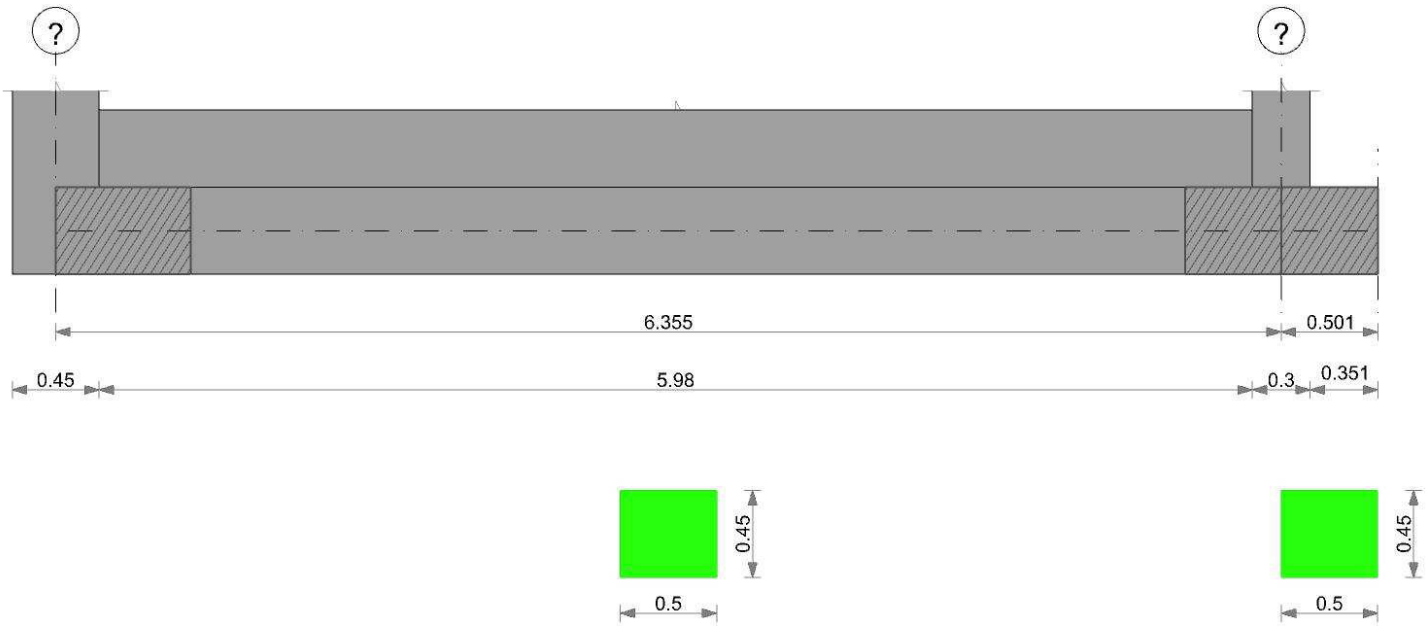
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	107	SLE RA 1	0.05	0	107	107	SLE RA 1	0.05	0	107	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	107	SLE RA 1	0.05	0	107	107	SLE RA 1	0.05	0	107	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	107	SLE RA 1	0.05	0	107	107	SLE RA 1	0.05	0	107	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	107	123	SLE RA 1	0.19	0	107	SLE RA 1	0.1	0	107	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	107	123	SLE RA 1	0.19	0	107	SLE RA 1	0.1	0	107	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	107	123	SLE RA 1	0.19	0	107	SLE RA 1	0.1	0	107	SLE RA 1	Si

CORDOLO 9

Geometria



Caratteristiche dei materiali

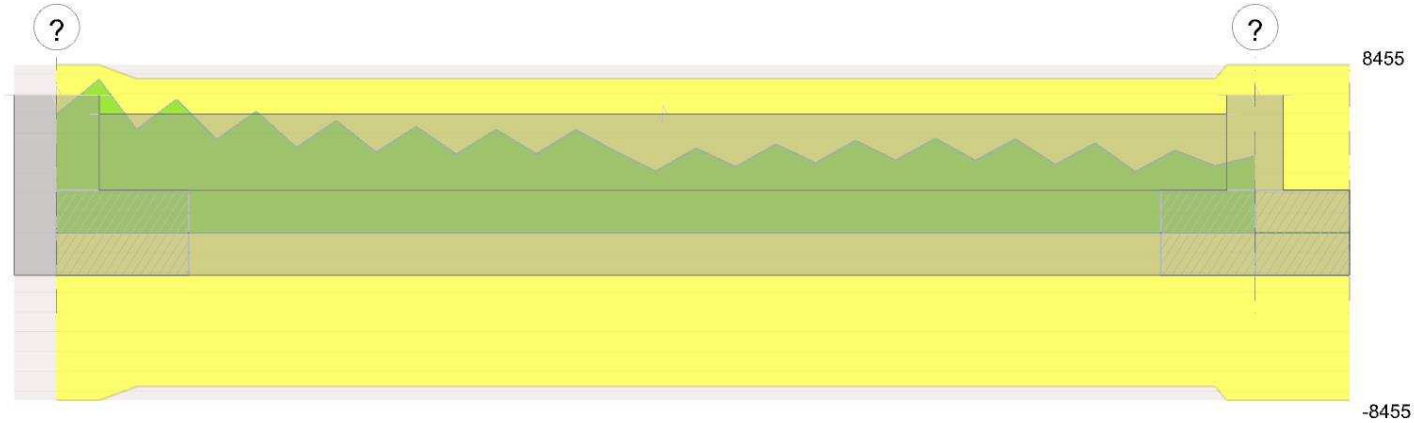
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

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



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - ?, sezione R 50x45, aste 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1445	SLU 82	0.017	2684	4313	SLU 82	15877	Si
0.23	0.41	0.0002	1369	SLU 82	0.017	2684	4087	SLU 82	15877	Si
3.18	0.41	0.0002	948	SLU 82	0.017	2684	2830	SLU 82	15877	Si
6.2	0.41	0.0002	849	SLU 82	0.017	2684	2533	SLU 82	15877	Si
6.35	0.41	0.0002	849	SLU 82	0.017	2684	2534	SLU 82	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	0.00000168	1047	SLE RA 19	30330	1494000	376096	36000000	904	SLE QP 2	26195	1120500	Si
0.23	0.41	0.00000168	991	SLE RA 19	28716	1494000	356084	36000000	854	SLE QP 2	24748	1120500	Si
3.18	0.41	0.00000168	677	SLE RA 19	19609	1494000	243158	36000000	564	SLE QP 2	16349	1120500	Si
6.2	0.41	0.00000168	601	SLE RA 19	17417	1494000	215970	36000000	488	SLE QP 2	14139	1120500	Si
6.35	0.41	0.00000168	602	SLE RA 19	17428	1494000	216106	36000000	488	SLE QP 2	14148	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 2	0.36	1618	1.653	9.04	4.43	26.11	SLV 2	0.36	1618	1.653	Si
0.23	26	12	159	SLV 2	0.36	1618	1.653	8.54	4.07	26.11	SLV 2	0.36	1618	1.653	Si
3.18	17	3	159	SLV 1	0.36	1618	1.653	5.64	0.85	26.11	SLV 1	0.36	1618	1.653	Si
6.2	15	4	159	SLV 13	0.36	1618	1.653	4.88	1.51	26.11	SLV 13	0.36	1618	1.653	Si
6.35	15	5	159	SLV 13	0.36	1618	1.653	4.88	1.59	26.11	SLV 13	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	γR	Rd	Ed	Rd/Ed	Verifica
49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64	6.58	1.1	SLU 82	ST	BT	2.3	294078	48562	6.06	Si
49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64	6.58	1.1	SLV 4	SIS	BT	2.3	249209	34986	7.12	Si
49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64	6.58	1.1	SLD 4	SIS	BT	2.3	273465	33336	8.2	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	γs	Fi	Coes	Amax
0	-322	-48562	101.08	-7509.43	0	0	-0.15	0	1.1	6.27	1496	2060	0	14430	
0	2006	-34986	-1004.58	-17018.48	0	3	-0.49	-0.03	1.04	5.61	1496	2060	0	14430	0.07
0	793	-33336	-423.74	-10501.9	0	1	-0.32	-0.01	1.07	5.95	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	0.03	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	0.01	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	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

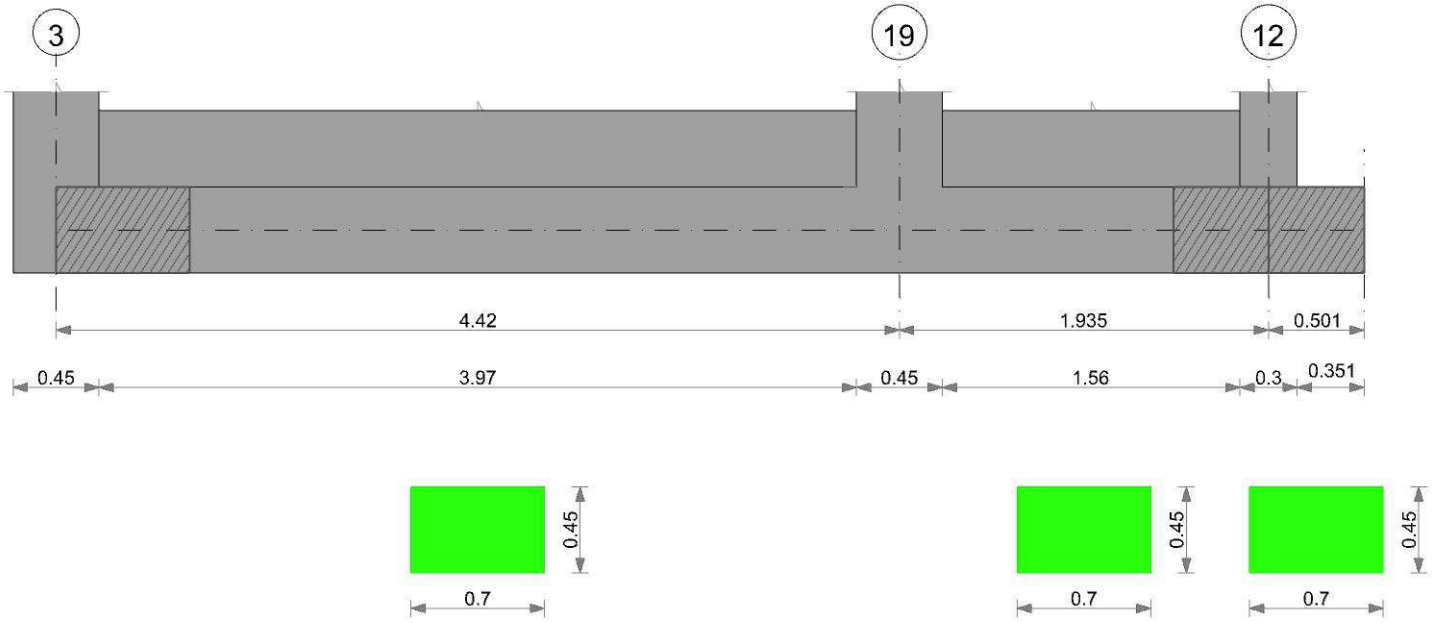
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	147	SLE RA 1	0.05	0	147	147	SLE RA 1	0.05	0	147	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	147	SLE RA 1	0.05	0	147	147	SLE RA 1	0.05	0	147	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	147	SLE RA 1	0.05	0	147	147	SLE RA 1	0.05	0	147	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	147	163	SLE RA 1	0.19	0	147	SLE RA 1	0.1	0	147	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	147	163	SLE RA 1	0.19	0	147	SLE RA 1	0.1	0	147	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	147	163	SLE RA 1	0.19	0	147	SLE RA 1	0.1	0	147	SLE RA 1	Si

CORDOLO 10

Geometria



Caratteristiche dei materiali

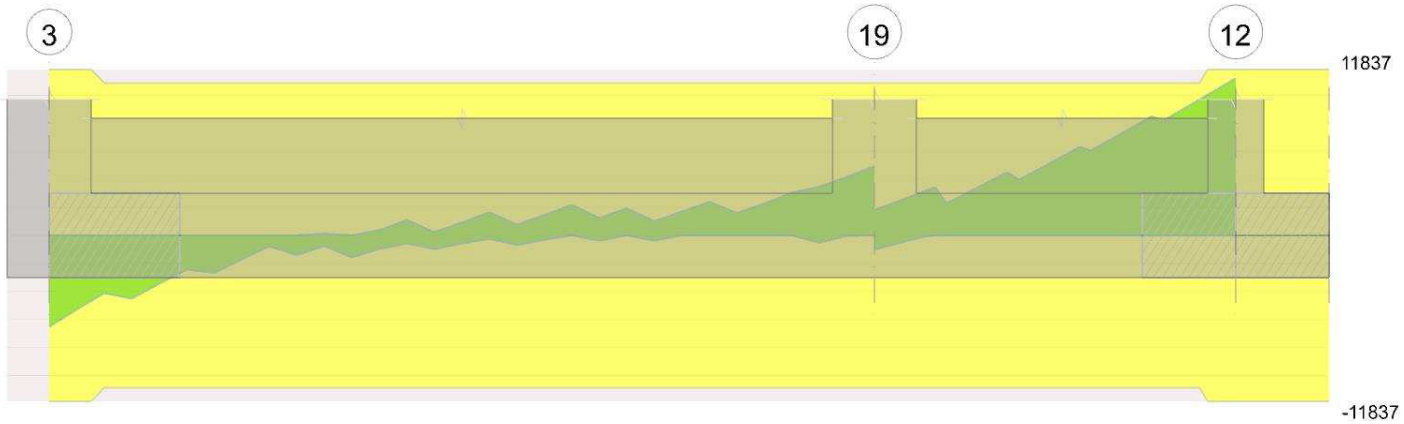
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

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 3 - 19, sezione R 70x45, aste 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1864	SLV 3	0.086	2689	4847	SLV 3	15877	Si
0.23	0.41	0.0002	1739	SLV 3	0.086	2689	4521	SLV 3	15877	Si
2.21	0.41	0.0002	1121	SLV 7	0.086	2689	2908	SLV 7	15877	Si
4.2	0.41	0.0002	1233	SLU 81	0.017	2765	3190	SLU 81	15877	Si
4.42	0.41	0.0002	1275	SLU 81	0.018	2903	3299	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	0.00000173	1214	SLE RA 18	35134	1494000	435664	36000000	1056	SLE QP 2	30574	1120500	Si
0.23	0.41	0.00000173	1141	SLE RA 18	33022	1494000	409475	36000000	992	SLE QP 2	28718	1120500	Si
2.21	0.41	0.00000173	787	SLE RA 18	22784	1494000	282517	36000000	682	SLE QP 2	19748	1120500	Si
4.2	0.41	0.00000173	895	SLE RA 18	25902	1494000	321189	36000000	778	SLE QP 2	22507	1120500	Si
4.42	0.41	0.00000182	926	SLE RA 18	26764	1494000	331871	36000000	805	SLE QP 2	23262	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	21	159	SLV 3	0.36	1618	1.653	10.56	8.08	26.89	SLV 3	0.36	1618	1.653	Si
0.23	26	19	159	SLV 3	0.36	1618	1.653	9.92	7.47	26.89	SLV 3	0.36	1618	1.653	Si
2.21	18	11	159	SLV 7	0.36	1618	1.653	6.82	4.39	26.89	SLV 7	0.36	1618	1.653	Si
4.2	20	11	159	SLV 7	0.36	1618	1.653	7.78	4.08	26.89	SLV 7	0.36	1618	1.653	Si
4.42	21	11	159	SLV 7	0.36	1618	1.653	8.05	4.14	28.22	SLV 7	0.36	1618	1.653	Si

Campata 2 tra i fili 19 - 12, sezione R 70x45, aste 12, 13, 14, 15, 16

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1275	SLU 81	0.018	2903	3299	SLU 81	15877	Si
0.23	0.41	0.0002	1319	SLU 81	0.018	2903	3409	SLU 81	15877	Si
0.97	0.41	0.0002	1469	SLU 81	0.018	2903	3795	SLU 81	15877	Si
1.79	0.41	0.0002	1594	SLU 81	0.018	2903	4114	SLU 81	15877	Si
1.94	0.41	0.0002	1560	SLV 12	0.088	2822	4133	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	0.00000182	926	SLE RA 18	26764	1494000	331871	36000000	805	SLE QP 2	23262	1120500	Si
0.23	0.41	0.00000182	957	SLE RA 18	27670	1494000	343109	36000000	832	SLE QP 2	24056	1120500	Si
0.97	0.41	0.00000182	1067	SLE RA 18	30838	1494000	382389	36000000	928	SLE QP 2	26831	1120500	Si
1.79	0.41	0.00000182	1158	SLE RA 18	33473	1494000	415071	36000000	1009	SLE QP 2	29162	1120500	Si
1.94	0.41	0.00000182	1163	SLE RA 18	33637	1494000	417098	36000000	1014	SLE QP 2	29314	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	21	11	159	SLV 7	0.36	1618	1.653	8.05	4.14	28.22	SLV 7	0.36	1618	1.653	Si
0.23	22	11	159	SLV 7	0.36	1618	1.653	8.32	4.21	28.22	SLV 7	0.36	1618	1.653	Si
0.97	24	12	159	SLV 11	0.36	1618	1.653	9.28	4.77	28.22	SLV 11	0.36	1618	1.653	Si
1.79	26	14	159	SLV 12	0.36	1618	1.653	10.09	5.39	28.22	SLV 12	0.36	1618	1.653	Si
1.94	26	14	159	SLV 12	0.36	1618	1.653	10.14	5.46	28.22	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	γR	Rd	Ed	Rd/Ed	Verifica
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16	6.58	1.3	SLU 81	ST	BT	2.3	289810	56185	5.16	Si
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16	6.58	1.3	SLV 8	SIS	BT	2.3	247865	51323	4.83	Si

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16	6.58	1.3	SLD 8	SIS	BT	2.3	271467	44018	6.17	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	γs	Fi	Coes	Amax
0	-133	-56185	-6388.86	1488.66	0	0	0.03	-0.11	1.07	6.53	1496	2060	0	14430	
0	5525	-51323	-9072.47	-3170.27	0	6	-0.06	-0.18	0.95	6.46	1496	2060	0	14430	0.07
0	2411	-44018	-6357.31	-890.62	0	3	-0.02	-0.14	1.01	6.54	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	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.03	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	0.03	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

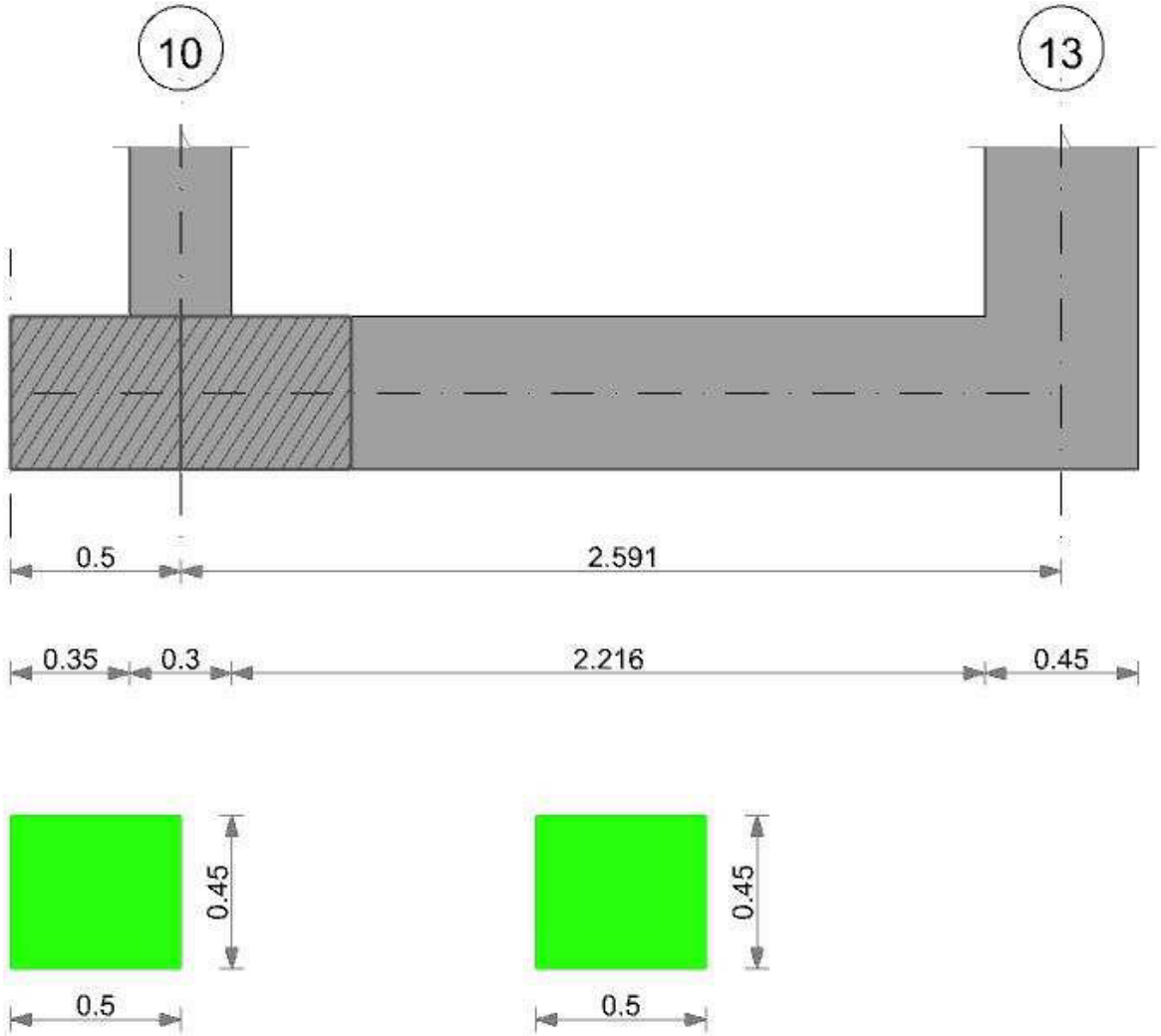
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	266	SLE RA 1	0.05	0	266	266	SLE RA 1	0.05	0	255	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	266	SLE RA 1	0.05	0	266	266	SLE RA 1	0.05	0	255	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	266	SLE RA 1	0.05	0	266	266	SLE RA 1	0.05	0	255	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	266	255	SLE RA 1	0.19	0	266	SLE RA 1	0.1	0	255	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	266	255	SLE RA 1	0.19	0	266	SLE RA 1	0.1	0	255	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	266	255	SLE RA 1	0.19	0	266	SLE RA 1	0.1	0	255	SLE RA 1	Si

CORDOLO 11

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

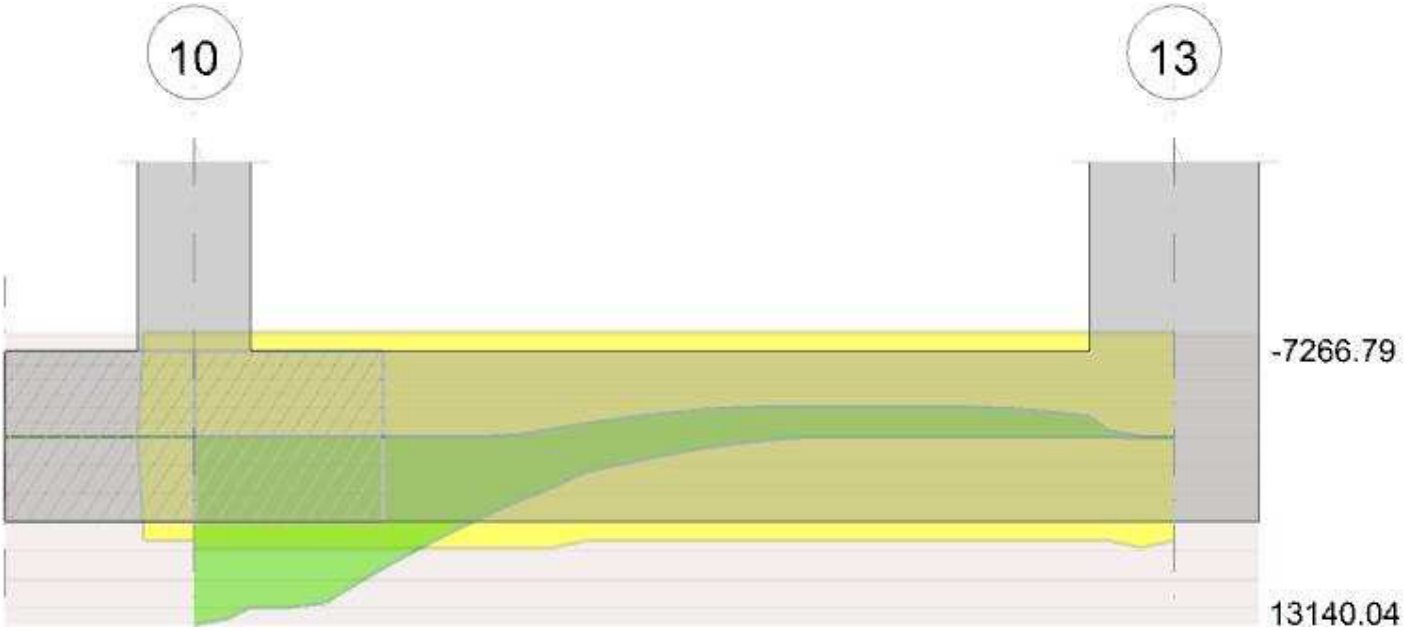
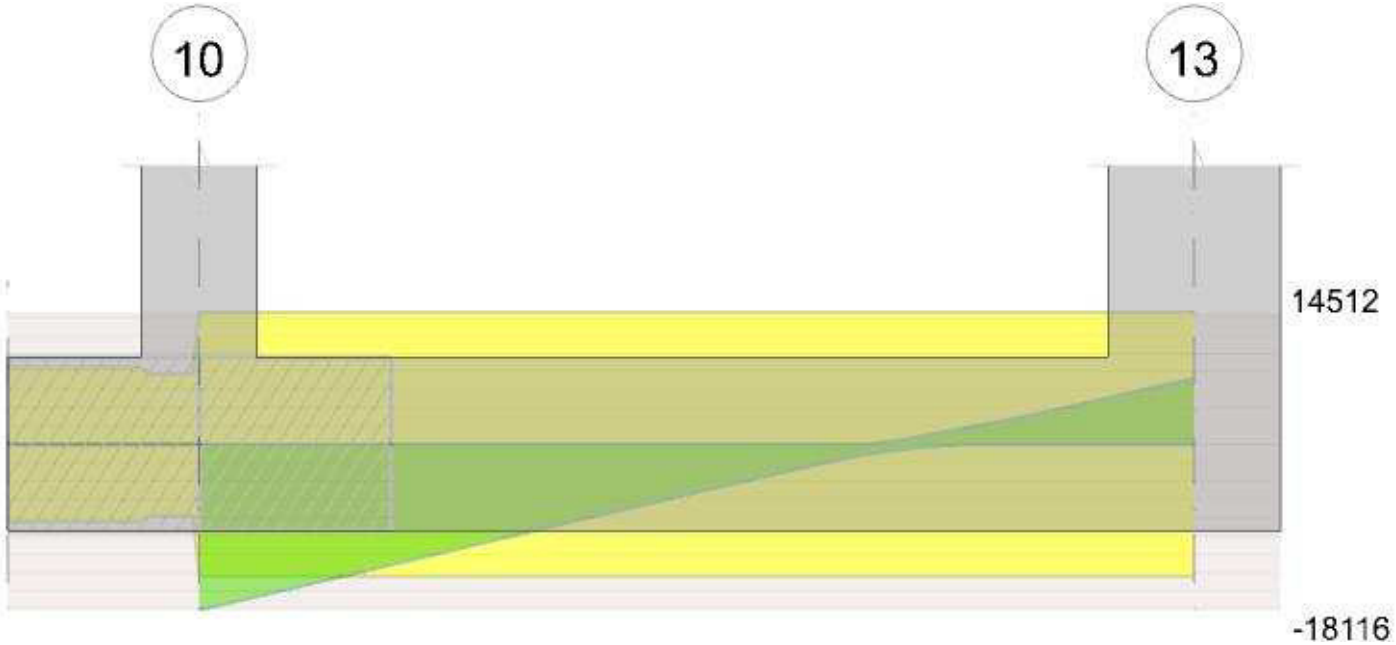


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - 13, sezione R 50x45, aste 126, 127

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
1.3	0.000509	0.052	0.000509	0.052	-389.88	SLU 1	474.7	7755.45	0.113	16.34	-621.68	SLU 82	-1398.59	-7755.45	0.113	5.55	Si
2.37	0.000509	0.052	0.000509	0.052							-673.41	SLU 82	-1424.4	-7755.45	0.113	5.44	Si
2.59	0.000509	0.052	0.000509	0.052	711.01	SLU 82	101.44	7755.45	0.113	76.45							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: εc2= 0.002, εyd= 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
1.3	0.000509	0.052	0.000509	0.052	355.27	SLV 4	1036.04	7266.79	0.197	7.01	-1196.66	SLV 13	-1745.02	-7266.79	0.197	4.16	Si
2.37	0.000509	0.052	0.000509	0.052							-659.41	SLV 13	-1390.26	-7266.79	0.197	5.23	Si
2.59	0.000509	0.052	0.000509	0.052	658.66	SLV 10	113.65	7266.79	0.197	63.94							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	0.0000104	0.000509	0	-18116	SLU 82	-18116	-7764	-63178	-14512	-14512	1	0.8	Si
1.3	0.0000104	0.000509	0	-5227	SLU 82	-5227	-7764	-63178	-14512	-14512	1	2.78	Si
2.37	0.0000104	0.000509	0	5084	SLU 82	5084	7764	63178	14512	14512	1	2.85	Si
2.59	0.0000104	0.000509	0	7235	SLU 82	7235	7764	63178	14512	14512	1	2.01	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	0.0000104	0.000509	0	-16010	SLV 9	-16010	-7764	-63178	-14512	-14512	1	0.91	Si
1.3	0.0000104	0.000509	0	-4556	SLV 10	-4556	-7764	-63178	-14512	-14512	1	3.19	Si
2.37	0.0000104	0.000509	0	4851	SLV 13	4851	7764	63178	14512	14512	1	2.99	Si
2.59	0.0000104	0.000509	0	6741	SLV 9	6741	7764	63178	14512	14512	1	2.15	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.	
1.3	-458.46	19	-1025.04	54218	1494000	813266	36000000	-420.69	2	-918.99	48608	1120500			Si
2.37	-491.93	19	-1041.08	55067	1494000	825998	36000000	-435.87	2	-923.81	48863	1120500			Si
2.59	520.08	19	73.76	3901	1494000	58521	36000000	462.14	2	64.6	3417	1120500			Si

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
1.3	-3355	-1200	-14512	SLV 10	0.36	1618	1.653	-918.99	-826.04	-7266.79	SLV 13	0.36	1618	1.653	Si
2.37	3300	1551	14512	SLV 13	0.36	1618	1.653	-435.87	-223.54	-7266.79	SLV 13	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	γR	Rd	Ed	Rd/Ed	Verifica
126,127	2.82	1.1	SLU 82	ST	BT	2.3	124775	30265	4.12	Si
126,127	2.82	1.1	SLV 10	SIS	BT	2.3	114361	26492	4.32	Si
126,127	2.82	1.1	SLD 10	SIS	BT	2.3	119833	22931	5.23	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	γs	Fi	Coes	Amax
-290	-368	-30265	1230.84	-440.11	-1	-1	-0.01	0.04	1.02	2.79	1496	2060	0	14430	
80	-2421	-26492	2087.88	-67.27	0	-5	0	0.08	0.94	2.81	1496	2060	0	14430	0.07
-85	-1195	-22931	1365.96	-185.53	0	-3	-0.01	0.06	0.98	2.8	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	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	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	0.07	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

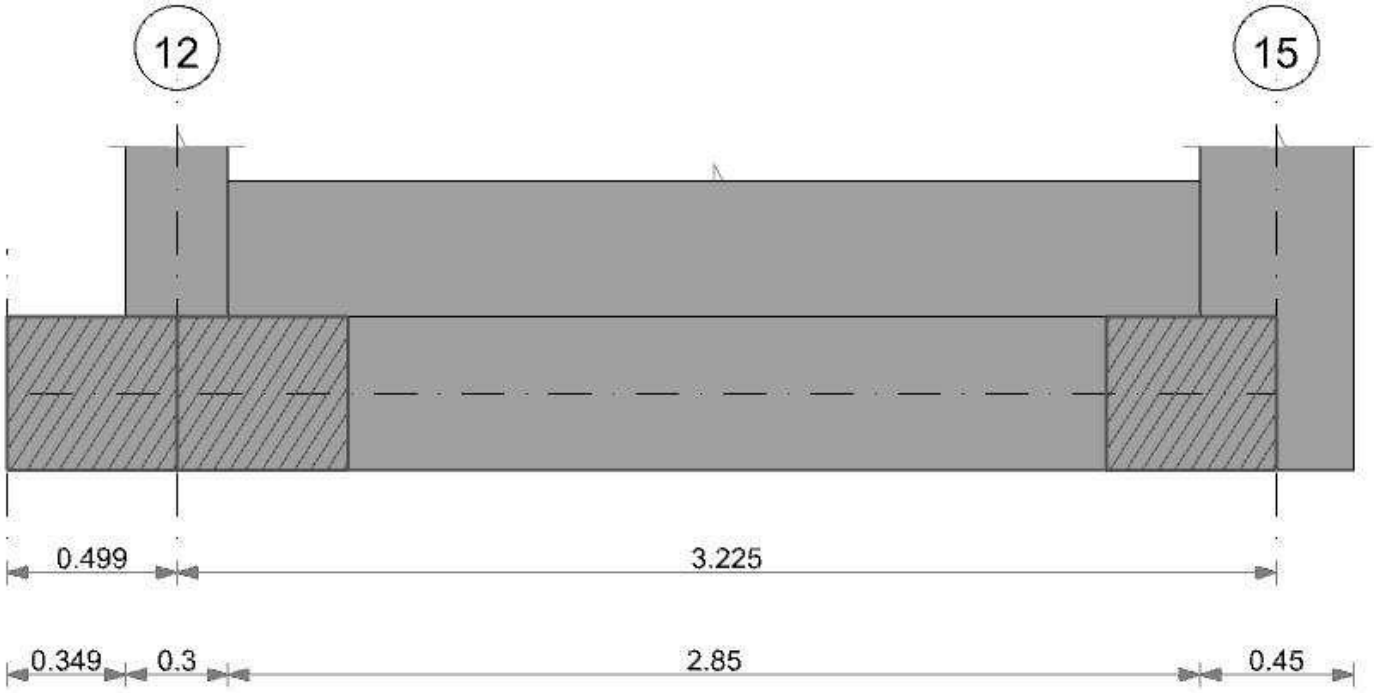
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	34	SLE RA 19	0.05	0	34	36	SLE RA 19	0.05	0	34	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	34	SLE RA 1	0.05	0	34	34	SLE RA 1	0.05	0	34	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	34	SLE RA 1	0.05	0	34	34	SLE RA 1	0.05	0	34	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 19	0.19	0	34	36	SLE RA 19	0.19	0	34	SLE RA 1	0.1	0	34	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	34	36	SLE RA 1	0.19	0	34	SLE RA 1	0.1	0	34	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	34	36	SLE RA 1	0.19	0	34	SLE RA 1	0.1	0	34	SLE RA 1	Si

CORDOLO 12

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

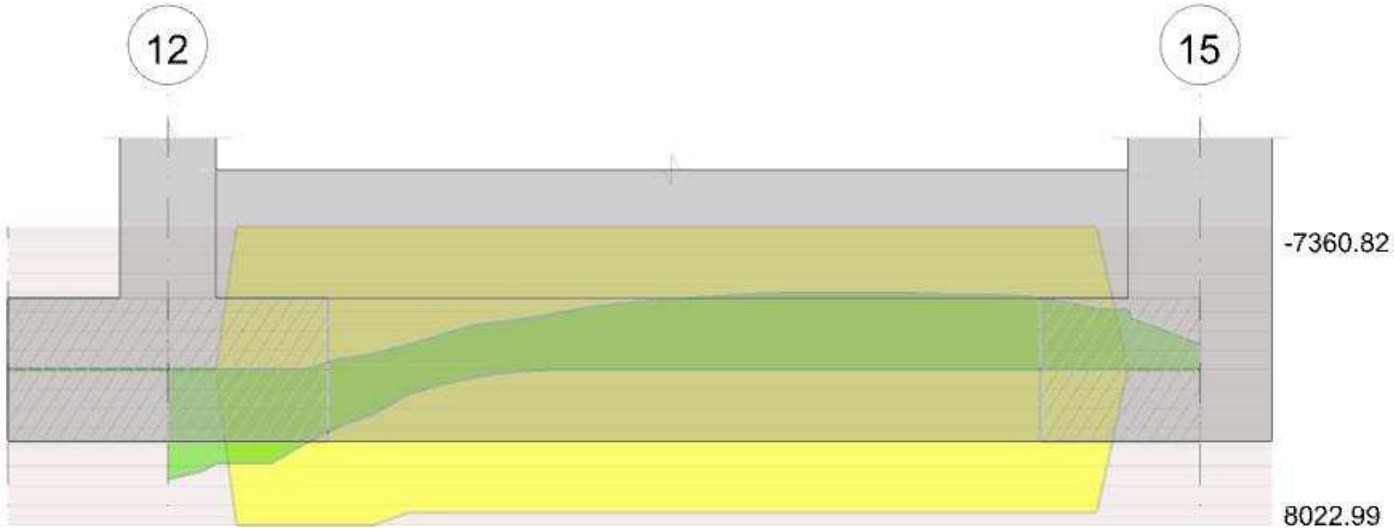
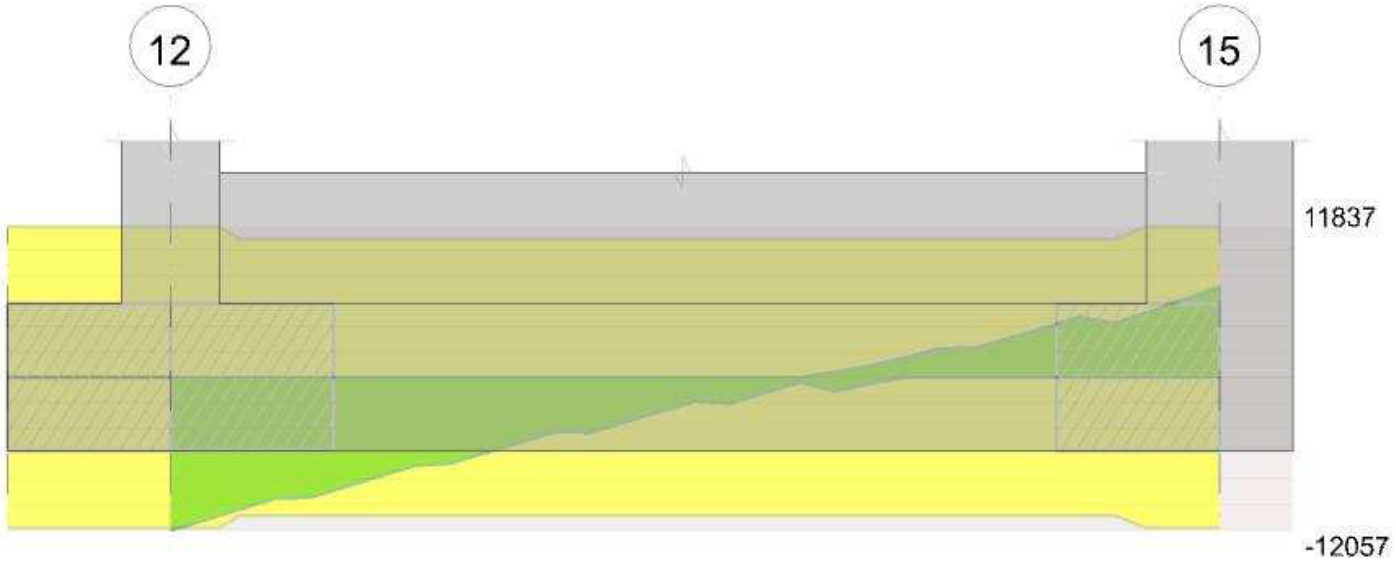


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 12 - 15, sezione R 70x45, aste 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	0.0002	1560	SLV 12	0.086	2715	4132	SLU 81	15877	Si
0.15	0.41	0.0002	1570	SLV 12	0.086	2715	4146	SLU 81	15877	Si
1.61	0.41	0.0002	1598	SLV 12	0.086	2715	4124	SLV 12	15877	Si
3	0.41	0.0002	1906	SLV 12	0.086	2715	4920	SLV 12	15877	Si
3.23	0.41	0.0002	1988	SLV 12	0.086	2715	5130	SLV 12	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	0.00000175	1163	SLE RA 18	33656	1494000	417333	36000000	1014	SLE QP 2	29330	1120500	Si
0.15	0.41	0.00000175	1167	SLE RA 18	33770	1494000	418754	36000000	1017	SLE QP 2	29440	1120500	Si
1.61	0.41	0.00000175	1143	SLE RA 18	33069	1494000	410052	36000000	1004	SLE QP 2	29059	1120500	Si
3	0.41	0.00000175	1324	SLE RA 18	38319	1494000	475151	36000000	1178	SLE QP 2	34082	1120500	Si
3.23	0.41	0.00000175	1377	SLE RA 18	39847	1494000	494102	36000000	1227	SLE QP 2	35504	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	14	159	SLV 12	0.36	1618	1.653	10.14	5.46	27.15	SLV 12	0.36	1618	1.653	Si
0.15	26	14	159	SLV 12	0.36	1618	1.653	10.17	5.52	27.15	SLV 12	0.36	1618	1.653	Si
1.61	26	15	159	SLV 12	0.36	1618	1.653	10.04	5.94	27.15	SLV 12	0.36	1618	1.653	Si
3	30	19	159	SLV 12	0.36	1618	1.653	11.78	7.29	27.15	SLV 12	0.36	1618	1.653	Si
3.23	32	20	159	SLV 12	0.36	1618	1.653	12.27	7.61	27.15	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	γR	Rd	Ed	Rd/Ed	Verifica
17,18,19,20,21,22,23,24	3.45	1.3	SLU 81	ST	BT	2.3	173387	33338	5.2	Si
17,18,19,20,21,22,23,24	3.45	1.3	SLV 11	SIS	BT	2.3	149291	31294	4.77	Si
17,18,19,20,21,22,23,24	3.45	1.3	SLD 11	SIS	BT	2.3	161089	26493	6.08	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	γs	Fi	Coes	Amax
-825	272	-33338	-1798.56	431.95	-1	0	0.01	-0.05	1.19	3.42	1496	2060	0	14430	
-524	3907	-31294	-3698.75	1121.77	-1	7	0.04	-0.12	1.06	3.38	1496	2060	0	14430	0.07
-567	1812	-26493	-2307.89	700.77	-1	4	0.03	-0.09	1.13	3.4	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	0.07	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	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	250	SLE RA 18	0.05	0	250	242	SLE RA 18	0.05	0	242	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	242	SLE RA 1	0.05	0	242	242	SLE RA 1	0.05	0	242	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	242	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	242	250	SLE RA 18	0.19	0	242	SLE RA 1	0.1	0	242	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	242	250	SLE RA 1	0.19	0	242	SLE RA 1	0.1	0	242	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	242	250	SLE RA 1	0.19	0	242	SLE RA 1	0.1	0	242	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 (ζE): *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.*

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

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 20	PF	0.139	SLV 16	0.0309	0.1266	3	0.1254	0.1232
Maschio 8	V	2.079	SLV 14	0.3624	1.4833	1618	1.6529	1.4831
Maschio 21	PFFP	0.39	SLV 5	0.0888	0.3635	39	0.3588	0.3618
Maschio 16	R	1.473	SLV 1	0.3552	1.4537	1514	1.6084	1.4535
Trave di accoppiamento 4	PF	1.506	SLV 8	0.3624	1.4833	1618	1.6529	1.4831
Trave di accoppiamento 1	V	0.385	SLV 8	0.0867	0.355	37	0.3512	0.3537

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	16.634	SLU 43	Si
Maschio 1	V SLU	4.052	SLU 81	Si
Maschio 1	PF	4.823	SLV 12	Si
Maschio 1	V	3.818	SLV 4	Si
Maschio 1	PFFP	14.426	SLV 15	Si
Maschio 1	R	4.901	SLV 4	Si
Maschio 3	PF SLU	6.091	SLU 81	Si
Maschio 3	V SLU	7.609	SLU 82	Si
Maschio 3	PF	4.174	SLV 16	Si
Maschio 3	V	2.587	SLV 5	Si
Maschio 3	PFFP	12.618	SLV 14	Si
Maschio 3	R	5.768	SLV 1	Si
Maschio 4	PF SLU	3.572	SLU 61	Si
Maschio 4	V SLU	10.297	SLU 81	Si
Maschio 4	PF	3.214	SLV 2	Si
Maschio 4	V	3.449	SLV 15	Si
Maschio 4	PFFP	24.475	SLV 16	Si
Maschio 4	R	4.825	SLV 1	Si
Maschio 5	PF SLU	4.813	SLU 44	Si
Maschio 5	V SLU	43.62	SLU 82	Si
Maschio 5	PF	3.964	SLV 16	Si
Maschio 5	V	6.92	SLV 2	Si
Maschio 5	PFFP	13.473	SLV 8	Si
Maschio 5	R	5.632	SLV 9	Si
Maschio 6	PF SLU	2.063	SLU 82	Si
Maschio 6	V SLU	11.507	SLU 73	Si
Maschio 6	PF	0.784	SLV 10	No
Maschio 6	V	19.255	SLV 12	Si
Maschio 6	PFFP	4.701	SLV 14	Si
Maschio 6	R	28.413	SLV 7	Si
Maschio 7	PF SLU	9.803	SLU 39	Si
Maschio 7	V SLU	11.127	SLU 82	Si
Maschio 7	PF	3.737	SLV 14	Si
Maschio 7	V	5.571	SLV 1	Si
Maschio 7	PFFP	8.785	SLV 9	Si
Maschio 7	R	5.609	SLV 8	Si
Maschio 8	PF SLU	5.114	SLU 44	Si
Maschio 8	V SLU	6.968	SLU 82	Si
Maschio 8	PF	2.149	SLV 14	Si
Maschio 8	V	2.566	SLV 14	Si
Maschio 8	PFFP	7.516	SLV 9	Si
Maschio 8	R	6.763	SLV 8	Si
Maschio 9	PF SLU	4.995	SLU 44	Si
Maschio 9	V SLU	3.554	SLU 81	Si
Maschio 9	PF	2.968	SLV 1	Si
Maschio 9	V	3.238	SLV 3	Si
Maschio 9	PFFP	8.193	SLV 6	Si
Maschio 9	R	5.554	SLV 11	Si
Maschio 11	PF SLU	1.605	SLU 82	Si
Maschio 11	V SLU	3.121	SLU 82	Si
Maschio 11	PF	1.208	SLV 7	Si
Maschio 11	V	2.825	SLV 10	Si
Maschio 11	PFFP	19.625	SLV 7	Si
Maschio 11	R	4.736	SLV 10	Si
Maschio 12	PF SLU	4.212	SLU 39	Si
Maschio 12	V SLU	4.259	SLU 44	Si
Maschio 12	PF	2.422	SLV 6	Si
Maschio 12	V	3.797	SLV 6	Si
Maschio 12	PFFP	28.865	SLV 5	Si
Maschio 12	R	3.547	SLV 11	Si
Maschio 13	PF SLU	9.537	SLU 73	Si
Maschio 13	V SLU	24.216	SLU 82	Si
Maschio 13	PF	3.332	SLV 2	Si
Maschio 13	V	10.715	SLV 15	Si
Maschio 13	PFFP	7.606	SLV 7	Si
Maschio 13	R	6.894	SLV 10	Si
Maschio 14	PF SLU	25.517	SLU 43	Si
Maschio 14	V SLU	17.254	SLU 81	Si
Maschio 14	PF	6.486	SLV 6	Si
Maschio 14	V	7.352	SLV 11	Si
Maschio 14	PFFP	14.133	SLV 1	Si
Maschio 14	R	6.348	SLV 16	Si
Maschio 15	PF SLU	2.807	SLU 43	Si
Maschio 15	V SLU	6.94	SLU 43	Si
Maschio 15	PF	1.867	SLV 12	Si
Maschio 15	V	4.186	SLV 8	Si
Maschio 15	PFFP	1.941	SLV 15	Si
Maschio 15	R	2.121	SLV 1	Si
Maschio 16	PF SLU	4.405	SLU 43	Si
Maschio 16	V SLU	13.18	SLU 43	Si
Maschio 16	PF	1.609	SLV 12	Si
Maschio 16	V	6.22	SLV 8	Si
Maschio 16	PFFP	4.179	SLV 13	Si
Maschio 16	R	1.548	SLV 1	Si
Maschio 17	PF SLU	6.073	SLU 81	Si
Maschio 17	V SLU	34.561	SLU 81	Si
Maschio 17	PF	1.549	SLV 12	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 17	V	7.818	SLV 5	Si
Maschio 17	PFFP	3.738	SLV 16	Si
Maschio 17	R	1.735	SLV 3	Si
Maschio 18	PF SLU	3.74	SLU 82	Si
Maschio 18	V SLU	24.45	SLU 44	Si
Maschio 18	PF	1.798	SLV 12	Si
Maschio 18	V	5.373	SLV 5	Si
Maschio 18	PFFP	1.892	SLV 14	Si
Maschio 18	R	2.065	SLV 16	Si
Maschio 19	PF SLU	2.627	SLU 81	Si
Maschio 19	V SLU	162.752	SLU 82	Si
Maschio 19	PF	1.846	SLV 16	Si
Maschio 19	V	7.434	SLV 13	Si
Maschio 19	PFFP	0.915	SLV 8	No
Maschio 19	R	3.302	SLV 9	Si
Maschio 20	PF SLU	1.975	SLU 81	Si
Maschio 20	V SLU	29.642	SLU 81	Si
Maschio 20	PF	0	SLV 5	No
Maschio 20	V	5.496	SLV 16	Si
Maschio 20	PFFP	0	SLV 5	No
Maschio 20	R	3.921	SLV 1	Si
Maschio 21	PF SLU	1.499	SLU 44	Si
Maschio 21	V SLU	6.72	SLU 64	Si
Maschio 21	PF	0	SLV 1	No
Maschio 21	V	3.377	SLV 16	Si
Maschio 21	PFFP	0	SLV 5	No
Maschio 21	R	4.309	SLV 12	Si
Maschio 22	PF SLU	3.212	SLU 43	Si
Maschio 22	V SLU	9.922	SLU 44	Si
Maschio 22	PF	0.777	SLV 14	No
Maschio 22	V	3.72	SLV 14	Si
Maschio 22	PFFP	0	SLV 6	No
Maschio 22	R	3.423	SLV 3	Si
Maschio 23	PF SLU	1.78	SLU 43	Si
Maschio 23	V SLU	4.478	SLU 64	Si
Maschio 23	PF	0	SLV 1	No
Maschio 23	V	3.833	SLV 3	Si
Maschio 23	PFFP	0	SLV 5	No
Maschio 23	R	4.158	SLV 16	Si
Maschio 24	PF SLU	1.481	SLU 82	Si
Maschio 24	V SLU	1.625	SLU 81	Si
Maschio 24	PF	1.806	SLV 5	Si
Maschio 24	V	2.758	SLV 5	Si
Maschio 24	PFFP	2.345	SLV 6	Si
Maschio 24	R	2.801	SLV 11	Si
Maschio 25	PF SLU	2.579	SLU 44	Si
Maschio 25	V SLU	7.657	SLU 82	Si
Maschio 25	PF	1.173	SLV 6	Si
Maschio 25	V	4.088	SLV 2	Si
Maschio 25	PFFP	0	SLV 11	No
Maschio 25	R	3.192	SLV 2	Si
Maschio 26	PF SLU	12.799	SLU 43	Si
Maschio 26	V SLU	14.996	SLU 43	Si
Maschio 26	PF	5.011	SLV 7	Si
Maschio 26	V	6.622	SLV 7	Si
Maschio 26	PFFP	1.433	SLV 1	Si
Maschio 26	R	2.803	SLV 13	Si

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	PF	2.64	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.432	SLV 15	0.362	1.483	1618	1.653	Si
	R	3.215	SLV 4	0.362	1.483	1618	1.653	Si
3	PF	2.701	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.91	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	2.46	SLV 14	0.362	1.483	1618	1.653	Si
	R	3.63	SLV 1	0.362	1.483	1618	1.653	Si
4	PF	3.431	SLV 15	0.362	1.483	1618	1.653	Si
	V	3.27	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	3.882	SLV 5	0.362	1.483	1618	1.653	Si
5	PF	2.458	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.8	SLV 8	0.362	1.483	1618	1.653	Si
	R	3.611	SLV 9	0.362	1.483	1618	1.653	Si
6	PF	0.895	SLV 10	0.216	0.885	343	0.875	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.99	SLV 14	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
7	PF	1.917	SLV 9	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.754	SLV 9	0.362	1.483	1618	1.653	Si
	R	3.385	SLV 8	0.362	1.483	1618	1.653	Si
8	PF	1.973	SLV 10	0.362	1.483	1618	1.653	Si
	V	2.079	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.821	SLV 9	0.362	1.483	1618	1.653	Si
	R	3.764	SLV 8	0.362	1.483	1618	1.653	Si
9	PF	2.087	SLV 6	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	4.058	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.757	SLV 6	0.362	1.483	1618	1.653	Si
	R	3.373	SLV 11	0.362	1.483	1618	1.653	Si
11	PF	1.152	SLV 7	0.28	1.145	711	1.18	Si
	V	3.865	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	2.659	SLV 7	0.362	1.483	1618	1.653	Si
	R	3.192	SLV 10	0.362	1.483	1618	1.653	Si
12	PF	2.206	SLV 6	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.75	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.607	SLV 11	0.362	1.483	1618	1.653	Si
13	PF	1.974	SLV 4	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.002	SLV 7	0.362	1.483	1618	1.653	Si
	R	3.907	SLV 10	0.362	1.483	1618	1.653	Si
14	PF	2.623	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.727	SLV 1	0.362	1.483	1618	1.653	Si
	R	3.803	SLV 16	0.362	1.483	1618	1.653	Si
15	PF	1.951	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.615	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.069	SLV 1	0.362	1.483	1618	1.653	Si
16	PF	1.465	SLV 12	0.353	1.446	1487	1.597	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.821	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.473	SLV 1	0.355	1.454	1514	1.608	Si
17	PF	1.441	SLV 9	0.348	1.423	1410	1.562	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.577	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.665	SLV 3	0.362	1.483	1618	1.653	Si
18	PF	1.183	SLV 12	0.287	1.174	766	1.216	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.647	SLV 14	0.362	1.483	1618	1.653	Si
	R	1.988	SLV 16	0.362	1.483	1618	1.653	Si
19	PF	1.978	SLV 12	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.983	SLV 8	0.24	0.982	452	0.98	No
	R	2.948	SLV 9	0.362	1.483	1618	1.653	Si
20	PF	0.139	SLV 16	0.031	0.127	3	0.125	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.467	SLV 14	0.107	0.439	62	0.434	No
	R	2.994	SLV 1	0.362	1.483	1618	1.653	Si
21	PF	0.528	SLV 5	0.122	0.498	84	0.491	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.39	SLV 5	0.089	0.364	39	0.359	No
	R	3.323	SLV 12	0.362	1.483	1618	1.653	Si
22	PF	0.826	SLV 14	0.198	0.81	272	0.796	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.769	SLV 10	0.183	0.75	221	0.731	No
	R	3.069	SLV 3	0.362	1.483	1618	1.653	Si
23	PF	0.378	SLV 1	0.086	0.351	36	0.347	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.92	SLV 5	0.223	0.912	372	0.905	No
	R	3.483	SLV 16	0.362	1.483	1618	1.653	Si
24	PF	2.374	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.615	SLV 6	0.362	1.483	1618	1.653	Si
	R	2.659	SLV 11	0.362	1.483	1618	1.653	Si
25	PF	1.277	SLV 6	0.309	1.264	956	1.332	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.918	SLV 15	0.222	0.91	369	0.902	No
	R	3.013	SLV 2	0.362	1.483	1618	1.653	Si
26	PF	2.131	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.009	SLV 1	0.246	1.009	487	1.01	Si
	R	2.594	SLV 13	0.362	1.483	1618	1.653	Si

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.385	SLV 8	0.087	0.355	37	0.351	No
2	F	1.763	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.172	SLV 8	0.284	1.163	746	1.203	Si
4	F	1.506	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.167	SLV 8	0.283	1.158	737	1.197	Si
5	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.132	SLV 3	0.362	1.483	1618	1.653	Si
6	F	2.455	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.496	SLV 16	0.362	1.483	1618	1.653	Si
7	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.787	SLV 3	0.188	0.769	236	0.751	No
8	F	1.678	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.181	SLV 3	0.286	1.172	763	1.214	Si
11	F	2.716	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.927	SLV 8	0.362	1.483	1618	1.653	Si
12	F	3.599	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.056	SLV 8	0.362	1.483	1618	1.653	Si
13	F	3.732	SLV 5	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	2.84	SLV 12	0.362	1.483	1618	1.653	Si
14	F	3.929	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.065	SLV 5	0.362	1.483	1618	1.653	Si
15	F	3.94	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.39	SLV 5	0.362	1.483	1618	1.653	Si
16	F	3.054	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.132	SLV 16	0.362	1.483	1618	1.653	Si
17	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.026	SLV 16	0.362	1.483	1618	1.653	Si
18	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.389	SLV 16	0.088	0.359	38	0.355	No
19	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.161	SLV 16	0.282	1.153	726	1.19	Si
20	F	2.885	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.283	SLV 3	0.362	1.483	1618	1.653	Si
21	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.124	SLV 3	0.362	1.483	1618	1.653	Si

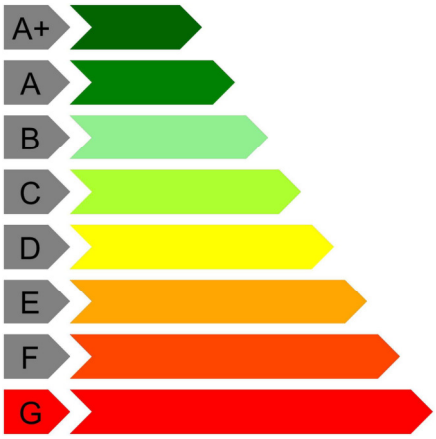
Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	0	0	475	0.244	flessione travi

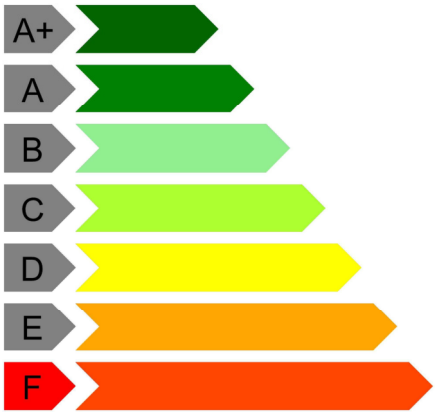
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
0	475	8.22	G	0	F	flessione travi

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]*
fb: *resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]*
fk: *resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fmedio: *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]*
fv0: *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 ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fv,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]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *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.*
εlim,conv / ε,CNR DT-200: *dati relativi ai parametri per il calcolo della deformazione di progetto.*
αt: *coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
α: *coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
εlim,conv: *deformazione limite convenzionale del rinforzo FRCM.*
ε,fd: *deformazione di progetto del rinforzo FRCM ovvero CRM.*
γF,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 tglio tipo Fibrenet.*
Comb.: *combinazione.*
Quota: *quota della sezione di verifica. [m]*
M: *momento flettente nel piano. [daN*m]*
N: *sforzo normale. [daN]*
εm: *deformazione della muratura.*
εm_: *deformazione elastica della muratura.*
εmu: *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]*
c.s.: *coefficiente di sicurezza.*
incremento > 50%: *incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.*
Verifica: *stato di verifica.*
Nmur: *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]*
σN: *tensione media nella zona compressa. [daN/m²]*

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]
res. > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
Sa: accelerazione massima adimensionalizzata rispetto a quella di gravità.
*M: momento flettente fuori 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]
α0: moltiplicatore secondo [C8.7.1.1].
M: massa partecipante al cinematismo. [daN/(m/s²)]*
e: frazione di massa partecipante della muratura [C8.7.1.5].*
a0: accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]*
aLim: accelerazione limite [C7.2.11]. [m/s²]
Stato limite: pF_SLU=Presso flessione per azioni non sismiche; V_SLU=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.
fd: resistenza a compressione di calcolo. [daN/m²]
Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.
σ0: tensione media di compressione. [daN/m²]
*Mc: momento di collasso per azioni perpendicolari al piano. [daN*m]*

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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	0.225	0.215	2.25	L1	L2	2.025	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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	688.52	-13524	-0.0000266	0.0003743	0.0035	2.025	11697.14	12123.93	12123.93	17.61	No	Si
SLU 47	-0.1	-267.08	-11297	-0.0000205	0.0003743	0.0035	2.025	10045.39	11424.72	11424.72	42.78	No	Si
SLU 51	-0.5	704.14	-13513	-0.0000267	0.0003743	0.0035	2.025	11688.88	12115.41	12115.41	17.21	No	Si
SLU 51	-0.1	-265.41	-11283	-0.0000205	0.0003743	0.0035	2.025	10034.88	11413.23	11413.23	43	No	Si
SLU 48	-0.5	727.58	-13495	-0.0000268	0.0003743	0.0035	2.025	11676.49	12102.63	12102.63	16.63	No	Si
SLU 48	-0.1	-262.9	-11263	-0.0000204	0.0003743	0.0035	2.025	10019.1	11396	11396	43.35	No	Si
SLU 44	-0.5	688.52	-13524	-0.0000266	0.0003743	0.0035	2.025	11697.14	12123.93	12123.93	17.61	No	Si
SLU 44	-0.1	-267.08	-11297	-0.0000205	0.0003743	0.0035	2.025	10045.39	11424.72	11424.72	42.78	No	Si
SLU 49	-0.5	704.14	-13513	-0.0000267	0.0003743	0.0035	2.025	11688.88	12115.41	12115.41	17.21	No	Si
SLU 49	-0.1	-265.41	-11283	-0.0000205	0.0003743	0.0035	2.025	10034.88	11413.23	11413.23	43	No	Si
SLU 46	-0.5	704.14	-13513	-0.0000267	0.0003743	0.0035	2.025	11688.88	12115.41	12115.41	17.21	No	Si
SLU 46	-0.1	-265.41	-11283	-0.0000205	0.0003743	0.0035	2.025	10034.88	11413.23	11413.23	43	No	Si
SLU 50	-0.5	727.58	-13495	-0.0000268	0.0003743	0.0035	2.025	11676.49	12102.63	12102.63	16.63	No	Si
SLU 50	-0.1	-262.9	-11263	-0.0000204	0.0003743	0.0035	2.025	10019.1	11396	11396	43.35	No	Si
SLU 45	-0.5	727.58	-13495	-0.0000268	0.0003743	0.0035	2.025	11676.49	12102.63	12102.63	16.63	No	Si
SLU 45	-0.1	-262.9	-11263	-0.0000204	0.0003743	0.0035	2.025	10019.1	11396	11396	43.35	No	Si
SLU 43	-0.5	727.58	-13495	-0.0000268	0.0003743	0.0035	2.025	11676.49	12102.63	12102.63	16.63	No	Si
SLU 43	-0.1	-262.9	-11263	-0.0000204	0.0003743	0.0035	2.025	10019.1	11396	11396	43.35	No	Si
SLU 1	-0.5	560.66	-10896	-0.0000213	0.0003743	0.0035	2.025	9736.36	10201.15	10201.15	18.19	No	Si
SLU 1	-0.1	-226.4	-9125	-0.0000165	0.0003743	0.0035	2.025	8330.39	9594.74	9594.74	42.38	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-0.5	-1032.13	-12304	-0.0000259	0.0005615	0.0035	2.025		12621.95	12621.95	12.23		Si
SLV 10	-0.1	-745.48	-10714	-0.0000217	0.0005615	0.0035	2.025		11212.43	11212.43	15.04		Si
SLV 12	-0.5	2025.06	-10014	-0.0000269	0.0005615	0.0035	2.025		9767.86	9767.86	4.82		Si
SLV 12	-0.1	357.93	-8149	-0.0000154	0.0005615	0.0035	2.025		8069.34	8069.34	22.54		Si
SLV 4	-0.5	1895.53	-16170	-0.0000371	0.0005615	0.0035	2.025		15028.47	15028.47	7.93		Si
SLV 4	-0.1	-158.1	-13561	-0.0000237	0.0005615	0.0035	2.025		13706.21	13706.21	86.69		Si
SLV 3	-0.5	1596.51	-15963	-0.0000352	0.0005615	0.0035	2.025		14874.55	14874.55	9.32		Si
SLV 3	-0.1	-291.02	-13409	-0.0000241	0.0005615	0.0035	2.025		13577.56	13577.56	46.65		Si
SLV 9	-0.5	-1332.43	-12096	-0.0000271	0.0005615	0.0035	2.025		12437.49	12437.49	9.33		Si
SLV 9	-0.1	-878.97	-10561	-0.0000221	0.0005615	0.0035	2.025		11077.51	11077.51	12.6		Si
SLV 13	-0.5	-768.54	-8411	-0.0000179	0.0005615	0.0035	2.025		9138.16	9138.16	11.89		Si
SLV 13	-0.1	-422.73	-7233	-0.0000142	0.0005615	0.0035	2.025		8051.61	8051.61	19.05		Si
SLV 5	-0.5	-898.07	-14568	-0.0000292	0.0005615	0.0035	2.025		14559.66	14559.66	16.21		Si
SLV 5	-0.1	-938.77	-12645	-0.000026	0.0005615	0.0035	2.025		12923.05	12923.05	13.77		Si
SLV 7	-0.5	2159.12	-12277	-0.0000316	0.0005615	0.0035	2.025		11771.31	11771.31	5.45		Si
SLV 7	-0.1	164.65	-10080	-0.0000177	0.0005615	0.0035	2.025		9826.51	9826.51	59.68		Si
SLV 11	-0.5	1724.75	-9806	-0.0000251	0.0005615	0.0035	2.025		9579.06	9579.06	5.55		Si
SLV 11	-0.1	224.44	-7996	-0.0000145	0.0005615	0.0035	2.025		7927.79	7927.79	35.32		Si
SLV 8	-0.5	2459.43	-12485	-0.0000334	0.0005615	0.0035	2.025		11952.73	11952.73	4.86		Si
SLV 8	-0.1	298.14	-10233	-0.0000187	0.0005615	0.0035	2.025		9962.66	9962.66	33.42		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-0.5	737.5	-18378	-16336	7609	2.025	2.025	-17927	9335	8506	26168	27287	5164	32451	No	4.26	Si
SLU 74	-0.1	-486.97	-15714	-13968	7611	2.025	2.025	-15329	8988	8191	26168	27287	5164	32451	No	4.26	Si
SLU 77	-0.5	737.5	-18378	-16336	7609	2.025	2.025	-17927	9335	8506	26168	27287	5164	32451	No	4.26	Si
SLU 77	-0.1	-486.97	-15714	-13968	7611	2.025	2.025	-15329	8988	8191	26168	27287	5164	32451	No	4.26	Si
SLU 79	-0.5	737.5	-18378	-16336	7609	2.025	2.025	-17927	9335	8506	26168	27287	5164	32451	No	4.26	Si
SLU 79	-0.1	-486.97	-15714	-13968	7611	2.025	2.025	-15329	8988	8191	26168	27287	5164	32451	No	4.26	Si
SLU 83	-0.5	740.15	-19634	-17453	8006	2.025	2.025	-19152	9498	8655	26168	27287	5164	32451	No	4.05	Si
SLU 83	-0.1	-543.74	-16872	-14998	8008	2.025	2.025	-16458	9139	8328	26168	27287	5164	32451	No	4.05	Si
SLU 81	-0.5	740.15	-19634	-17453	8006	2.025	2.025	-19152	9498	8655	26168	27287	5164	32451	No	4.05	Si
SLU 81	-0.1	-543.74	-16872	-14998	8008	2.025	2.025	-16458	9139	8328	26168	27287	5164	32451	No	4.05	Si
SLU 84	-0.5	716.72	-19651	-17468	7945	2.025	2.025	-19169	9500	8657	26168	27287	5164	32451	No	4.08	Si
SLU 84	-0.1	-546.24	-16893	-15016	7947	2.025	2.025	-16478	9142	8330	26168	27287	5164	32451	No	4.08	Si
SLU 75	-0.5	714.06	-18395	-16351	7548	2.025	2.025	-17944	9337	8508	26168	27287	5164	32451	No	4.3	Si
SLU 75	-0.1	-489.48	-15735	-13987	7550	2.025	2.025	-15349	8991	8193	26168	27287	5164	32451	No	4.3	Si
SLU 82	-0.5	716.72	-19651	-17468	7945	2.025	2.025	-19169	9500	8657	26168	27287	5164	32451	No	4.08	Si
SLU 82	-0.1	-546.24	-16893	-15016	7947	2.025	2.025	-16478	9142	8330	26168	27287	5164	32451	No	4.08	Si
SLU 78	-0.5	714.06	-18395	-16351	7548	2.025	2.025	-17944	9337	8508	26168	27287	5164	32451	No	4.3	Si
SLU 78	-0.1	-489.48	-15735	-13987	7550	2.025	2.025	-15349	8991	8193	26168	27287	5164	32451	No	4.3	Si
SLU 80	-0.5	714.06	-18395	-16351	7548	2.025	2.025	-17944	9337	8508	26168	27287	5164	32451	No	4.3	Si
SLU 80	-0.1	-489.48	-15735	-13987	7550	2.025	2.025	-15349	8991	8193	26168	27287	5164	32451	No	4.3	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-0.5	2459.43	-12485	-11098	9119	2.025	2.025	-12179	12852	11712	26168	40930	5164	37879		4.15	Si
SLV 8	-0.1	298.14	-10233	-9096	9148	2.025	2.025	-9982	12413	11311	26168	40930	5164	37479		4.1	Si
SLV 1	-0.5	679.35	-16650	-14800	7913	2.025	2.025	-16241	13665	12452	26168	40930	5164	38620		4.88	Si
SLV 1	-0.1	-622.05	-14179	-12603	7908	2.025	2.025	-13831	13183	12013	26168	40930	5164	38181		4.83	Si
SLV 3	-0.5	1596.51	-15963	-14189	9405	2.025	2.025	-15571	13531	12330	26168	40930	5164	38498		4.09	Si
SLV 3	-0.1	-291.02	-13409	-11919	9417	2.025	2.025	-13080	13033	11876	26168	40930	5164	38044		4.04	Si
SLV 11	-0.5	1724.75	-9806	-8716	6347	2.025	2.025	-9565	12330	11235	26168	40930	5164	37403		5.89	Si
SLV 11	-0.1	224.44	-7996	-7107	6376	2.025	2.025	-7800	11977	10914	26168	40930	5164	37081		5.82	Si
SLV 2	-0.5	978.37	-16857	-14984	8467	2.025	2.025	-16444	13705	12489	26168	40930	5164	38657		4.57	Si
SLV 2	-0.1	-489.13	-14331	-12739	8463	2.025	2.025	-13979	13213	12040	26168	40930	5164	38208		4.51	Si
SLV 6	-0.5	-597.76	-14776	-13134	4143	2.025	2.025	-14413	13299	12119	26168	40930	5164	38287		9.24	Si
SLV 6	-0.1	-805.27	-12798	-11376	4118	2.025	2.025	-12484	12913	11767	26168	40930	5164	37935		9.21	Si
SLV 5	-0.5	-898.07	-14568	-12949	3587	2.025	2.025	-14210	13259	12082	26168	40930	5164	38250		10.66	Si
SLV 5	-0.1	-938.77	-12645	-11240	3562	2.025	2.025	-12335	12884	11740	26168	40930	5164	37908		10.64	Si
SLV 12	-0.5	2025.06	-10014	-8901	6904	2.025	2.025	-9768	12370	11272	26168	40930	5164	37440		5.42	Si
SLV 12	-0.1	357.93	-8149	-7243	6932	2.025	2.025	-7949	12006	10941	26168	40930	5164	37109		5.35	Si
SLV 4	-0.5	1895.53	-16170	-14373	9960	2.025	2.025	-15773	13571	12367	26168	40930	5164	38535		3.87	Si
SLV 4	-0.1	-158.1	-13561	-12054	9972	2.025	2.025	-13229	13062	11903	26168	40930	5164	38071		3.82	Si
SLV 7	-0.5	2159.12	-12277	-10913	8562	2.025	2.025	-11976	12812	11675	26168	40930	5164	37842		4.42	Si
SLV 7	-0.1	164.65	-10080	-8960	8591	2.025	2.025	-9832	12383	11284	26168	40930	5164	37452		4.36	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 15	179667	0.24	7272	-6626	98.43	1419.96	14.43	Si
SLV 16	179667	0.24	7327	-6677	98.43	1430.26	14.53	Si
SLV 11	179667	0.24	8261	-7527	98.43	1602.05	16.28	Si
SLV 12	179667	0.24	8316	-7578	98.43	1612.26	16.38	Si
SLV 13	179667	0.24	8570	-7810	98.43	1658.59	16.85	Si
SLV 14	179667	0.24	8626	-7860	98.43	1668.7	16.95	Si
SLV 7	179667	0.24	10407	-9483	98.43	1988.29	20.2	Si
SLV 8	179667	0.24	10462	-9534	98.43	1998.18	20.3	Si
SLV 9	179667	0.24	12589	-11472	98.43	2368.39	24.06	Si
SLV 10	179667	0.24	12645	-11523	98.43	2377.95	24.16	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 4	-12224	-15604	-90	0.902	1554.5	0.944	13.88955	2.83395	Si
SLV 2	-12232	-17702	-62	0.903	1555.3	0.944	13.91328	2.83395	Si
SLV 3	-11971	-15655	-90	0.917	1528.8	0.943	14.12763	2.83395	Si
SLV 1	-11979	-17753	-62	0.918	1529.7	0.943	14.15167	2.83395	Si
SLV 8	-9768	-10598	-81	1.072	1305.8	0.935	16.66295	2.81112	Si
SLV 6	-9795	-17589	15	1.075	1308.6	0.935	16.71342	2.81112	Si
SLV 7	-9514	-10649	-81	1.093	1280.1	0.934	17.01909	2.81112	Si
SLV 5	-9541	-17640	15	1.097	1282.9	0.934	17.06986	2.81112	Si
SLV 10	-7698	-15395	52	1.284	1097	0.925	20.17806	2.81112	Si
SLV 12	-7670	-8404	-45	1.288	1094.3	0.925	20.24567	2.81112	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	16.634	SLU 43	Si
V_SLU	4.052	SLU 81	Si
PF_SLV	4.823	SLV 12	Si
V_SLV	3.818	SLV 4	Si
PFFP_SLV	14.426	SLV 15	Si
R_SLV	4.901	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	3.57	0.215	9.805	L1	L2	6.235	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 80	-0.5	-13925.33	-40922	-0.0000302	0.0003743	0.0035	6.235	109297.88	124657.6	124657.6	8.95	No	Si
SLU 80	-0.1	-20601.13	-42001	-0.0000345	0.0003743	0.0035	6.235	111684.9	127252.6	127252.6	6.18	No	Si
SLU 77	-0.5	-13909.13	-40900	-0.0000302	0.0003743	0.0035	6.235	109249.63	124605.55	124605.55	8.96	No	Si
SLU 77	-0.1	-20687.65	-41987	-0.0000346	0.0003743	0.0035	6.235	111654.53	127219.34	127219.34	6.15	No	Si
SLU 82	-0.5	-15073.98	-43961	-0.0000327	0.0003743	0.0035	6.235	115957.09	131999.05	131999.05	8.76	No	Si
SLU 82	-0.1	-22099.58	-45263	-0.0000373	0.0003743	0.0035	6.235	118749.06	135175.11	135175.11	6.12	No	Si
SLU 84	-0.5	-15073.98	-43961	-0.0000327	0.0003743	0.0035	6.235	115957.09	131999.05	131999.05	8.76	No	Si
SLU 84	-0.1	-22099.58	-45263	-0.0000373	0.0003743	0.0035	6.235	118749.06	135175.11	135175.11	6.12	No	Si
SLU 75	-0.5	-13925.33	-40922	-0.0000302	0.0003743	0.0035	6.235	109297.88	124657.6	124657.6	8.95	No	Si
SLU 75	-0.1	-20601.13	-42001	-0.0000345	0.0003743	0.0035	6.235	111684.9	127252.6	127252.6	6.18	No	Si
SLU 79	-0.5	-13909.13	-40900	-0.0000302	0.0003743	0.0035	6.235	109249.63	124605.55	124605.55	8.96	No	Si
SLU 79	-0.1	-20687.65	-41987	-0.0000346	0.0003743	0.0035	6.235	111654.53	127219.34	127219.34	6.15	No	Si
SLU 81	-0.5	-15057.78	-43939	-0.0000326	0.0003743	0.0035	6.235	115910.27	131946.31	131946.31	8.76	No	Si
SLU 81	-0.1	-22186.1	-45249	-0.0000374	0.0003743	0.0035	6.235	118719.68	135141.41	135141.41	6.09	No	Si
SLU 83	-0.5	-15057.78	-43939	-0.0000326	0.0003743	0.0035	6.235	115910.27	131946.31	131946.31	8.76	No	Si
SLU 83	-0.1	-22186.1	-45249	-0.0000374	0.0003743	0.0035	6.235	118719.68	135141.41	135141.41	6.09	No	Si
SLU 78	-0.5	-13925.33	-40922	-0.0000302	0.0003743	0.0035	6.235	109297.88	124657.6	124657.6	8.95	No	Si
SLU 78	-0.1	-20601.13	-42001	-0.0000345	0.0003743	0.0035	6.235	111684.9	127252.6	127252.6	6.18	No	Si
SLU 74	-0.5	-13909.13	-40900	-0.0000302	0.0003743	0.0035	6.235	109249.63	124605.55	124605.55	8.96	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	-0.1	-20687.65	-41987	-0.0000346	0.0003743	0.0035	6.235	111654.53	127219.34	127219.34	6.15	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-0.5	-12020.93	-23753	-0.0000192	0.0005615	0.0035	6.235		81564.85	81564.85	6.79		Si
SLV 10	-0.1	-11164.54	-24237	-0.000019	0.0005615	0.0035	6.235		82929.87	82929.87	7.43		Si
SLV 11	-0.5	-6880.01	-24880	-0.0000171	0.0005615	0.0035	6.235		84742.86	84742.86	12.32		Si
SLV 11	-0.1	-16762.78	-25899	-0.0000229	0.0005615	0.0035	6.235		87625.82	87625.82	5.23		Si
SLV 16	-0.5	-10229.25	-17746	-0.0000149	0.0005615	0.0035	6.235		64521.68	64521.68	6.31		Si
SLV 16	-0.1	-16411.8	-19122	-0.0000189	0.0005615	0.0035	6.235		68499.92	68499.92	4.17		Si
SLV 12	-0.5	-7782.01	-24411	-0.0000173	0.0005615	0.0035	6.235		83420.38	83420.38	10.72		Si
SLV 12	-0.1	-18487.34	-25510	-0.0000236	0.0005615	0.0035	6.235		86524.3	86524.3	4.68		Si
SLV 7	-0.5	-6052.39	-30396	-0.0000197	0.0005615	0.0035	6.235		100358.71	100358.71	16.58		Si
SLV 7	-0.1	-16341.81	-30993	-0.0000255	0.0005615	0.0035	6.235		101979.97	101979.97	6.24		Si
SLV 13	-0.5	-10602.78	-18015	-0.0000153	0.0005615	0.0035	6.235		65300.25	65300.25	6.16		Si
SLV 13	-0.1	-12497.79	-19128	-0.0000169	0.0005615	0.0035	6.235		68516.53	68516.53	5.48		Si
SLV 15	-0.5	-9331.11	-18213	-0.0000147	0.0005615	0.0035	6.235		65872.06	65872.06	7.06		Si
SLV 15	-0.1	-14694.63	-19510	-0.0000182	0.0005615	0.0035	6.235		69613.87	69613.87	4.74		Si
SLV 9	-0.5	-11118.93	-24221	-0.000019	0.0005615	0.0035	6.235		82884.67	82884.67	7.45		Si
SLV 9	-0.1	-9439.99	-24626	-0.0000183	0.0005615	0.0035	6.235		84027.36	84027.36	8.9		Si
SLV 14	-0.5	-11500.92	-17548	-0.0000155	0.0005615	0.0035	6.235		63949.52	63949.52	5.56		Si
SLV 14	-0.1	-14214.96	-18741	-0.0000176	0.0005615	0.0035	6.235		67399.51	67399.51	4.74		Si
SLV 8	-0.5	-6954.39	-29928	-0.00002	0.0005615	0.0035	6.235		99072.32	99072.32	14.25		Si
SLV 8	-0.1	-18066.36	-30604	-0.0000262	0.0005615	0.0035	6.235		100924.46	100924.46	5.59		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-0.5	-13925.33	-40922	-36375	-6393	6.235	6.235	-12964	8673	24334	26168	84017	15899	50502	No	7.9	Si
SLU 75	-0.1	-20601.13	-42001	-37334	-6414	6.235	6.235	-13306	8719	24462	26168	84017	15899	50630	No	7.89	Si
SLU 73	-0.5	-13936.13	-40936	-36388	-6614	6.235	6.235	-12969	8674	24336	26168	84017	15899	50504	No	7.64	Si
SLU 73	-0.1	-20543.44	-42010	-37342	-6641	6.235	6.235	-13309	8719	24463	26168	84017	15899	50631	No	7.62	Si
SLU 82	-0.5	-15073.98	-43961	-39076	-6683	6.235	6.235	-13927	8801	24695	26168	84017	15899	50862	No	7.61	Si
SLU 82	-0.1	-22099.58	-45263	-40234	-6705	6.235	6.235	-14340	8856	24849	26168	84017	15899	51017	No	7.61	Si
SLU 83	-0.5	-15057.78	-43939	-39057	-6351	6.235	6.235	-13920	8800	24692	26168	84017	15899	50860	No	8.01	Si
SLU 83	-0.1	-22186.1	-45249	-40222	-6365	6.235	6.235	-14335	8856	24847	26168	84017	15899	51015	No	8.02	Si
SLU 76	-0.5	-13936.13	-40936	-36388	-6614	6.235	6.235	-12969	8674	24336	26168	84017	15899	50504	No	7.64	Si
SLU 76	-0.1	-20543.44	-42010	-37342	-6641	6.235	6.235	-13309	8719	24463	26168	84017	15899	50631	No	7.62	Si
SLU 61	-0.5	-13405.29	-39600	-35200	-6169	6.235	6.235	-12546	8617	24178	26168	84017	15899	50345	No	8.16	Si
SLU 61	-0.1	-19961.79	-40707	-36184	-6190	6.235	6.235	-12896	8664	24309	26168	84017	15899	50477	No	8.15	Si
SLU 81	-0.5	-15057.78	-43939	-39057	-6351	6.235	6.235	-13920	8800	24692	26168	84017	15899	50860	No	8.01	Si
SLU 81	-0.1	-22186.1	-45249	-40222	-6365	6.235	6.235	-14335	8856	24847	26168	84017	15899	51015	No	8.02	Si
SLU 78	-0.5	-13925.33	-40922	-36375	-6393	6.235	6.235	-12964	8673	24334	26168	84017	15899	50502	No	7.9	Si
SLU 78	-0.1	-20601.13	-42001	-37334	-6414	6.235	6.235	-13306	8719	24462	26168	84017	15899	50630	No	7.89	Si
SLU 84	-0.5	-15073.98	-43961	-39076	-6683	6.235	6.235	-13927	8801	24695	26168	84017	15899	50862	No	7.61	Si
SLU 84	-0.1	-22099.58	-45263	-40234	-6705	6.235	6.235	-14340	8856	24849	26168	84017	15899	51017	No	7.61	Si
SLU 80	-0.5	-13925.33	-40922	-36375	-6393	6.235	6.235	-12964	8673	24334	26168	84017	15899	50502	No	7.9	Si
SLU 80	-0.1	-20601.13	-42001	-37334	-6414	6.235	6.235	-13306	8719	24462	26168	84017	15899	50630	No	7.89	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-0.5	-10602.78	-18015	-16013	-10218	6.235	6.235	-5707	11558	32429	26168	126025	15899	58597		5.73	Si
SLV 13	-0.1	-12497.79	-19128	-17003	-9939	6.235	6.235	-6060	11629	32627	26168	126025	15899	58795		5.92	Si
SLV 10	-0.5	-12020.93	-23753	-21113	-20045	6.235	6.235	-7525	11922	33449	26168	126025	15899	59617		2.97	Si
SLV 10	-0.1	-11164.54	-24237	-21544	-19963	6.235	6.235	-7679	11952	33535	26168	126025	15899	59703		2.99	Si
SLV 7	-0.5	-6052.39	-30396	-27019	11600	6.235	6.235	-9630	12343	34630	26168	126025	15899	60798		5.24	Si
SLV 7	-0.1	-16341.81	-30993	-27550	11500	6.235	6.235	-9819	12380	34736	26168	126025	15899	60904		5.3	Si
SLV 12	-0.5	-7782.01	-24411	-21699	14918	6.235	6.235	-7734	11963	33566	26168	126025	15899	59734		4	Si
SLV 12	-0.1	-18487.34	-25510	-22676	14990	6.235	6.235	-8082	12033	33762	26168	126025	15899	59929		4	Si
SLV 1	-0.5	-7844.07	-36403	-32358	-11606	6.235	6.235	-11533	12723	35698	26168	126025	15899	61866		5.33	Si
SLV 1	-0.1	-11094.54	-36108	-32096	-11899	6.235	6.235	-11439	12705	35646	26168	126025	15899	61813		5.19	Si
SLV 9	-0.5	-11118.93	-24221	-21530	-22947	6.235	6.235	-7674	11951	33533	26168	126025	15899	59700		2.6	Si
SLV 9	-0.1	-9439.99	-24626	-21890	-22865	6.235	6.235	-7802	11977	33605	26168	126025	15899	59772		2.61	Si
SLV 8	-0.5	-6954.39	-29928	-26602	14502	6.235	6.235	-9481	12313	34547	26168	126025	15899	60715		4.19	Si
SLV 8	-0.1	-18066.36	-30604	-27204	14402	6.235	6.235	-9696	12356	34667	26168	126025	15899	60835		4.22	Si
SLV 5	-0.5	-10291.31	-29737	-26433	-23363	6.235	6.235	-9421	12301	34513	26168	126025	15899	60681		2.6	Si
SLV 5	-0.1	-9019.01	-29720	-26418	-23453	6.235	6.235	-9416	12300	34510	26168	126025	15899	60678		2.59	Si
SLV 6	-0.5	-11193.31	-29269	-26017	-20461	6.235	6.235	-9273	12271	34430	26168	126025	15899	60598		2.96	Si
SLV 6	-0.1	-10743.56	-29331	-26072	-20551	6.235	6.235	-9292	12275	34441	26168	126025	15899	60609		2.95	Si
SLV 11	-0.5	-6880.01	-24880	-22115	12016	6.235	6.235	-7882	11993	33650	26168	126025	15899	59817		4.98	Si
SLV 11	-0.1	-16762.78	-25899	-23022	12088	6.235	6.235	-8205	12058	33831	26168	126025	15899	59999		4.96	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 14	179667	0.24	6319	-17730	303.08	3824.14	12.62	Si
SLV 13	179667	0.24	6447	-18088	303.08	3897.94	12.86	Si
SLV 16	179667	0.24	6573	-18441	303.08	3970.74	13.1	Si
SLV 15	179667	0.24	6700	-18799	303.08	4044.27	13.34	Si
SLV 10	179667	0.24	8347	-23420	303.08	4981.53	16.44	Si
SLV 9	179667	0.24	8475	-23780	303.08	5053.49	16.67	Si
SLV 12	179667	0.24	9193	-25792	303.08	5453.95	18	Si
SLV 11	179667	0.24	9321	-26152	303.08	5525.02	18.23	Si
SLV 6	179667	0.24	10339	-29010	303.08	6085.34	20.08	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	10468	-29369	303.08	6155.19	20.31	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 1	-29968	-37518	-1093	1.051	4009.9	0.935	16.34682	2.83395	Si
SLV 3	-29615	-39428	-1053	1.062	3974.2	0.934	16.52004	2.83395	Si
SLV 2	-29443	-37382	-1093	1.065	3956.8	0.934	16.57993	2.83395	Si
SLV 4	-29089	-39292	-1054	1.076	3921.1	0.933	16.75826	2.83395	Si
SLV 5	-25726	-27365	-426	1.2	3581.7	0.928	18.78562	2.81112	Si
SLV 6	-25199	-27229	-426	1.219	3528.5	0.928	19.09554	2.81112	Si
SLV 7	-24548	-33733	-294	1.247	3463	0.926	19.56014	2.81112	Si
SLV 8	-24020	-33596	-295	1.267	3409.8	0.926	19.89671	2.81112	Si
SLV 9	-21736	-20573	185	1.367	3180.2	0.921	21.56816	2.81112	Si
SLV 10	-21208	-20437	185	1.392	3127.2	0.92	21.981	2.81112	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	6.091	SLU 81	Si
V_SLU	7.609	SLU 82	Si
PF_SLV	4.174	SLV 16	Si
V_SLV	2.587	SLV 5	Si
PFFP_SLV	12.618	SLV 14	Si
R_SLV	5.768	SLV 1	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	5.05	6.57	5.05	L1	L2	6.355	0.26	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 62	-1.89	-20502.32	-73547	-0.000082	0.0004492	0.0035	6.355	148562.47	210133	210133	10.25	No	Si
SLU 62	0.51	31458.61	-38873	-0.0000587	0.0004492	0.0035	6.355	99735.5	112633.57	112633.57	3.58	No	Si
SLU 84	-1.89	-20993.73	-82927	-0.0000916	0.0004492	0.0035	6.355	155266.84	227799.97	227799.97	10.85	No	Si
SLU 84	0.51	36134.11	-46369	-0.0000696	0.0004492	0.0035	6.355	113498.24	129938.71	129938.71	3.6	No	Si
SLU 82	-1.89	-20993.73	-82927	-0.0000916	0.0004492	0.0035	6.355	155266.84	227799.97	227799.97	10.85	No	Si
SLU 82	0.51	36134.11	-46369	-0.0000696	0.0004492	0.0035	6.355	113498.24	129938.71	129938.71	3.6	No	Si
SLU 81	-1.89	-20952.47	-82915	-0.0000916	0.0004492	0.0035	6.355	155260.45	227779.1	227779.1	10.87	No	Si
SLU 81	0.51	36040.85	-46339	-0.0000695	0.0004492	0.0035	6.355	113445.61	129868.01	129868.01	3.6	No	Si
SLU 83	-1.89	-20952.47	-82915	-0.0000916	0.0004492	0.0035	6.355	155260.45	227779.1	227779.1	10.87	No	Si
SLU 83	0.51	36040.85	-46339	-0.0000695	0.0004492	0.0035	6.355	113445.61	129868.01	129868.01	3.6	No	Si
SLU 63	-1.89	-20543.57	-73559	-0.000082	0.0004492	0.0035	6.355	148572.18	210155.54	210155.54	10.23	No	Si
SLU 63	0.51	31551.87	-38903	-0.0000588	0.0004492	0.0035	6.355	99795.32	112704.26	112704.26	3.57	No	Si
SLU 19	-1.89	-16191	-63215	-0.0000683	0.0004492	0.0035	6.355	137971.4	189057.46	189057.46	11.68	No	Si
SLU 19	0.51	28329.74	-35002	-0.0000526	0.0004492	0.0035	6.355	91936.31	103697.73	103697.73	3.66	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	-1.89	-20502.32	-73547	-0.000082	0.0004492	0.0035	6.355	148562.47	210133	210133	10.25	No	Si
SLU 60	0.51	31458.61	-38873	-0.0000587	0.0004492	0.0035	6.355	99735.5	112633.57	112633.57	3.58	No	Si
SLU 21	-1.89	-16191	-63215	-0.0000683	0.0004492	0.0035	6.355	137971.4	189057.46	189057.46	11.68	No	Si
SLU 21	0.51	28329.74	-35002	-0.0000526	0.0004492	0.0035	6.355	91936.31	103697.73	103697.73	3.66	No	Si
SLU 61	-1.89	-20543.57	-73559	-0.000082	0.0004492	0.0035	6.355	148572.18	210155.54	210155.54	10.23	No	Si
SLU 61	0.51	31551.87	-38903	-0.0000588	0.0004492	0.0035	6.355	99795.32	112704.26	112704.26	3.57	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.89	-6298.51	-51079	-0.0000479	0.0006738	0.0035	6.355		167475.04	167475.04	26.59		Si
SLV 9	0.51	24051.17	-27906	-0.0000422	0.0006738	0.0035	6.355		86939.59	86939.59	3.61		Si
SLV 6	-1.89	-27338.7	-53832	-0.0000676	0.0006738	0.0035	6.355		174424.81	174424.81	6.38		Si
SLV 6	0.51	27653.83	-28825	-0.0000458	0.0006738	0.0035	6.355		89497.54	89497.54	3.24		Si
SLV 10	-1.89	-6818.09	-50957	-0.0000482	0.0006738	0.0035	6.355		167164.23	167164.23	24.52		Si
SLV 10	0.51	24050.19	-27887	-0.0000422	0.0006738	0.0035	6.355		86885.41	86885.41	3.61		Si
SLV 8	-1.89	-24455.44	-51852	-0.0000634	0.0006738	0.0035	6.355		169438.83	169438.83	6.93		Si
SLV 8	0.51	15425.51	-24809	-0.0000327	0.0006738	0.0035	6.355		78186.78	78186.78	5.07		Si
SLV 5	-1.89	-26819.12	-53954	-0.0000673	0.0006738	0.0035	6.355		174719.03	174719.03	6.51		Si
SLV 5	0.51	27654.81	-28844	-0.0000459	0.0006738	0.0035	6.355		89550.86	89550.86	3.24		Si
SLV 4	-1.89	-49404.18	-55900	-0.0000878	0.0006738	0.0035	6.355		179396.52	179396.52	3.63		Si
SLV 4	0.51	23909.67	-27309	-0.0000415	0.0006738	0.0035	6.355		85252.15	85252.15	3.57		Si
SLV 3	-1.89	-48886.82	-56021	-0.0000875	0.0006738	0.0035	6.355		179689.48	179689.48	3.68		Si
SLV 3	0.51	23910.64	-27328	-0.0000416	0.0006738	0.0035	6.355		85306.08	85306.08	3.57		Si
SLV 7	-1.89	-23935.86	-51975	-0.0000631	0.0006738	0.0035	6.355		169749.63	169749.63	7.09		Si
SLV 7	0.51	15426.48	-24828	-0.0000327	0.0006738	0.0035	6.355		78240.95	78240.95	5.07		Si
SLV 2	-1.89	-50269.15	-56493	-0.0000891	0.0006738	0.0035	6.355		180824.33	180824.33	3.6		Si
SLV 2	0.51	27578.17	-28514	-0.0000455	0.0006738	0.0035	6.355		88632.02	88632.02	3.21		Si
SLV 1	-1.89	-49751.8	-56615	-0.0000887	0.0006738	0.0035	6.355		181117.29	181117.29	3.64		Si
SLV 1	0.51	27579.14	-28533	-0.0000455	0.0006738	0.0035	6.355		88685.11	88685.11	3.22		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	-1.89	-20655.7	-77521	-54109	8450	6.355	6.355	-32748	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 78	0.51	32456.36	-42339	-29552	8806	6.355	6.355	-17885	10718	17709	74765	59380	32410	91790	No	10.42	Si
SLU 82	-1.89	-20993.73	-82927	-57882	8531	6.355	6.355	-35031	10833	17900	74765	59380	32410	91790	No	10.76	Si
SLU 82	0.51	36134.11	-46369	-32365	8908	6.355	6.355	-19588	10833	17900	74765	59380	32410	91790	No	10.3	Si
SLU 74	-1.89	-20614.45	-77510	-54101	8455	6.355	6.355	-32743	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 74	0.51	32363.09	-42308	-29531	8813	6.355	6.355	-17873	10716	17707	74765	59380	32410	91790	No	10.42	Si
SLU 83	-1.89	-20952.47	-82915	-57874	8536	6.355	6.355	-35026	10833	17900	74765	59380	32410	91790	No	10.75	Si
SLU 83	0.51	36040.85	-46339	-32344	8914	6.355	6.355	-19575	10833	17900	74765	59380	32410	91790	No	10.3	Si
SLU 84	-1.89	-20993.73	-82927	-57882	8531	6.355	6.355	-35031	10833	17900	74765	59380	32410	91790	No	10.76	Si
SLU 84	0.51	36134.11	-46369	-32365	8908	6.355	6.355	-19588	10833	17900	74765	59380	32410	91790	No	10.3	Si
SLU 81	-1.89	-20952.47	-82915	-57874	8536	6.355	6.355	-35026	10833	17900	74765	59380	32410	91790	No	10.75	Si
SLU 81	0.51	36040.85	-46339	-32344	8914	6.355	6.355	-19575	10833	17900	74765	59380	32410	91790	No	10.3	Si
SLU 75	-1.89	-20655.7	-77521	-54109	8450	6.355	6.355	-32748	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 75	0.51	32456.36	-42339	-29552	8806	6.355	6.355	-17885	10718	17709	74765	59380	32410	91790	No	10.42	Si
SLU 80	-1.89	-20655.7	-77521	-54109	8450	6.355	6.355	-32748	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 80	0.51	32456.36	-42339	-29552	8806	6.355	6.355	-17885	10718	17709	74765	59380	32410	91790	No	10.42	Si
SLU 79	-1.89	-20614.45	-77510	-54101	8455	6.355	6.355	-32743	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 79	0.51	32363.09	-42308	-29531	8813	6.355	6.355	-17873	10716	17707	74765	59380	32410	91790	No	10.42	Si
SLU 77	-1.89	-20614.45	-77510	-54101	8455	6.355	6.355	-32743	10833	17900	74765	59380	32410	91790	No	10.86	Si
SLU 77	0.51	32363.09	-42308	-29531	8813	6.355	6.355	-17873	10716	17707	74765	59380	32410	91790	No	10.42	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	-1.89	-49404.18	-55900	-39017	-15725	6.355	6.355	-23614	16250	26850	74765	89069	32410	101615		6.46	Si
SLV 4	0.51	23909.67	-27309	-19061	-15463	6.355	6.355	-11536	14807	24466	74765	89069	32410	99231		6.42	Si
SLV 11	-1.89	-3415.26	-49099	-34271	13519	6.355	6.355	-20741	16250	26850	74765	89069	32410	101615		7.52	Si
SLV 11	0.51	11822.84	-23890	-16675	13330	6.355	6.355	-10092	14518	23989	74765	89069	32410	98753		7.41	Si
SLV 13	-1.89	18650.23	-47031	-32827	28423	6.355	6.355	-19868	16250	26850	74765	89069	32410	101615		3.58	Si
SLV 13	0.51	15567.01	-25406	-17733	28648	6.355	6.355	-10732	14646	24200	74765	89069	32410	98965		3.45	Si
SLV 1	-1.89	-49751.8	-56615	-39517	-15593	6.355	6.355	-23916	16250	26850	74765	89069	32410	101615		6.52	Si
SLV 1	0.51	27579.14	-28533	-19916	-15094	6.355	6.355	-12053	14911	24637	74765	89069	32410	99402		6.59	Si
SLV 14	-1.89	18132.87	-46910	-32742	28059	6.355	6.355	-19816	16250	26850	74765	89069	32410	101615		3.62	Si
SLV 14	0.51	15566.03	-25387	-17720	28284	6.355	6.355	-10724	14645	24198	74765	89069	32410	98962		3.5	Si
SLV 9	-1.89	-6298.51	-51079	-35652	12748	6.355	6.355	-21577	16250	26850	74765	89069	32410	101615		7.97	Si
SLV 9	0.51	24051.17	-27906	-19478	13344	6.355	6.355	-11788	14858	24549	74765	89069	32410	99314		7.44	Si
SLV 3	-1.89	-48886.82	-56021	-39102	-15362	6.355	6.355	-23665	16250	26850	74765	89069	32410	101615		6.61	Si
SLV 3	0.51	23910.64	-27328	-19075	-15098	6.355	6.355	-11544	14809	24469	74765	89069	32410	99233		6.57	Si
SLV 2	-1.89	-50269.15	-56493	-39432	-15957	6.355	6.355	-23865	16250	26850	74765	89069	32410	101615		6.37	Si
SLV 2	0.51	27578.17	-28514	-19902	-15459	6.355	6.355	-12045	14909	24634	74765	89069	32410	99399		6.43	Si
SLV 16	-1.89	18997.85	-46316	-32328	28290	6.355	6.355	-19565	16250	26850	74765	89069	32410	101615		3.59	Si
SLV 16	0.51	11897.53	-24182	-16879	28279	6.355	6.355	-10215	14543	24029	74765	89069	32410	98794		3.49	Si
SLV 15	-1.89	19515.2	-46438	-32413	28654	6.355	6.355	-19617	16250	26850	74765	89069	32410	101615		3.55	Si
SLV 15	0.51	11898.51	-24201	-16892	28644	6.355	6.355	-10223	14545	24032	74765	89069	32410	98797		3.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.69 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-32352	0.24	186.69	3756.47	5381.76	4569.11	24.47	Si
SLV 15	-32398	0.24	186.69	3761.19	5388.19	4574.69	24.5	Si
SLV 14	-33029	0.24	186.69	3825.48	5475.94	4650.71	24.91	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-33075	0.24	186.69	3830.18	5482.37	4656.27	24.94	Si
SLV 12	-33916	0.24	186.69	3915.27	5599.34	4757.3	25.48	Si
SLV 11	-33962	0.24	186.69	3919.95	5605.8	4762.87	25.51	Si
SLV 8	-35933	0.24	186.69	4117.04	5880.4	4998.72	26.78	Si
SLV 7	-35980	0.24	186.69	4121.64	5886.87	5004.26	26.81	Si
SLV 10	-36173	0.24	186.69	4140.75	5913.77	5027.26	26.93	Si
SLV 9	-36219	0.24	186.69	4145.35	5920.24	5032.8	26.96	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 = 0.037

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-28533	-56615	77	1.17	3465	0.953	17.84031	3.69716	Si
SLV 5	-28844	-53954	276	1.153	3496.6	0.953	17.57634	3.64206	Si
SLV 2	-28514	-56493	77	1.17	3463.1	0.953	17.85083	3.69716	Si
SLV 6	-28825	-53832	276	1.154	3494.7	0.953	17.58664	3.64206	Si
SLV 9	-27906	-51079	285	1.185	3401.3	0.952	18.09306	3.64206	Si
SLV 10	-27887	-50957	285	1.186	3399.4	0.952	18.104	3.64206	Si
SLV 3	-27328	-56021	-84	1.213	3342.6	0.951	18.52974	3.69716	Si
SLV 4	-27309	-55900	-84	1.214	3340.7	0.951	18.54121	3.69716	Si
SLV 13	-25406	-47031	108	1.289	3147.4	0.949	19.74638	3.69716	Si
SLV 14	-25387	-46910	108	1.29	3145.5	0.949	19.75937	3.69716	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	3.572	SLU 61	Si
V_SLU	10.297	SLU 81	Si
PF_SLV	3.214	SLV 2	Si
V_SLV	3.449	SLV 15	Si
PFFP_SLV	24.475	SLV 16	Si
R_SLV	4.825	SLV 1	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
9	0.225	0.215	0.225	L1	L2	8.785	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 45	-1.89	-18427.87	-29870	-0.0000156	0.0004492	0.0035	8.785	123090.59	170444.05	170444.05	9.25	No	Si
SLU 45	0.51	-40322.93	-35817	-0.0000234	0.0004492	0.0035	8.785	145660.66	194255.88	194255.88	4.82	No	Si
SLU 43	-1.89	-18427.87	-29870	-0.0000156	0.0004492	0.0035	8.785	123090.59	170444.05	170444.05	9.25	No	Si
SLU 43	0.51	-40322.93	-35817	-0.0000234	0.0004492	0.0035	8.785	145660.66	194255.88	194255.88	4.82	No	Si
SLU 49	-1.89	-18554.01	-30031	-0.0000157	0.0004492	0.0035	8.785	123711.16	171089.81	171089.81	9.22	No	Si
SLU 49	0.51	-40455.38	-35951	-0.0000235	0.0004492	0.0035	8.785	146162.33	194792.97	194792.97	4.82	No	Si
SLU 51	-1.89	-18554.01	-30031	-0.0000157	0.0004492	0.0035	8.785	123711.16	171089.81	171089.81	9.22	No	Si
SLU 51	0.51	-40455.38	-35951	-0.0000235	0.0004492	0.0035	8.785	146162.33	194792.97	194792.97	4.82	No	Si
SLU 50	-1.89	-18427.87	-29870	-0.0000156	0.0004492	0.0035	8.785	123090.59	170444.05	170444.05	9.25	No	Si
SLU 50	0.51	-40322.93	-35817	-0.0000234	0.0004492	0.0035	8.785	145660.66	194255.88	194255.88	4.82	No	Si
SLU 44	-1.89	-18638.11	-30139	-0.0000157	0.0004492	0.0035	8.785	124124.61	171520.32	171520.32	9.2	No	Si
SLU 44	0.51	-40543.69	-36041	-0.0000235	0.0004492	0.0035	8.785	146496.59	195151.04	195151.04	4.81	No	Si
SLU 65	-1.89	-21317.42	-34144	-0.0000179	0.0004492	0.0035	8.785	139374.84	187555.62	187555.62	8.8	No	Si
SLU 65	0.51	-44099.98	-42846	-0.000027	0.0004492	0.0035	8.785	171506.2	221356.47	221356.47	5.02	No	Si
SLU 48	-1.89	-18427.87	-29870	-0.0000156	0.0004492	0.0035	8.785	123090.59	170444.05	170444.05	9.25	No	Si
SLU 48	0.51	-40322.93	-35817	-0.0000234	0.0004492	0.0035	8.785	145660.66	194255.88	194255.88	4.82	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	-1.89	-18554.01	-30031	-0.0000157	0.0004492	0.0035	8.785	123711.16	171089.81	171089.81	9.22	No	Si
SLU 46	0.51	-40455.38	-35951	-0.0000235	0.0004492	0.0035	8.785	146162.33	194792.97	194792.97	4.82	No	Si
SLU 47	-1.89	-18638.11	-30139	-0.0000157	0.0004492	0.0035	8.785	124124.61	171520.32	171520.32	9.2	No	Si
SLU 47	0.51	-40543.69	-36041	-0.0000235	0.0004492	0.0035	8.785	146496.59	195151.04	195151.04	4.81	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	-1.89	-37707.08	-29614	-0.0000202	0.0006738	0.0035	8.785		170935.34	170935.34	4.53		Si
SLV 14	0.51	-50949.2	-38189	-0.0000268	0.0006738	0.0035	8.785		205687.39	205687.39	4.04		Si
SLV 10	-1.89	-29825.21	-36615	-0.0000209	0.0006738	0.0035	8.785		199370.5	199370.5	6.68		Si
SLV 10	0.51	-46750.33	-43653	-0.0000278	0.0006738	0.0035	8.785		227608.5	227608.5	4.87		Si
SLV 5	-1.89	-19459.09	-36630	-0.0000183	0.0006738	0.0035	8.785		199432.63	199432.63	10.25		Si
SLV 5	0.51	-38118.07	-43144	-0.0000254	0.0006738	0.0035	8.785		225567.19	225567.19	5.92		Si
SLV 12	-1.89	-13803.08	-16817	-0.0000095	0.0006738	0.0035	8.785		118147.76	118147.76	8.56		Si
SLV 12	0.51	-30779.43	-24932	-0.0000168	0.0006738	0.0035	8.785		151726.83	151726.83	4.93		Si
SLV 15	-1.89	-34089.56	-23629	-0.0000171	0.0006738	0.0035	8.785		146366.44	146366.44	4.29		Si
SLV 15	0.51	-45917.45	-32995	-0.0000236	0.0006738	0.0035	8.785		184682.07	184682.07	4.02		Si
SLV 11	-1.89	-14997.31	-16771	-0.0000098	0.0006738	0.0035	8.785		117957.47	117957.47	7.87		Si
SLV 11	0.51	-30537.91	-25356	-0.0000169	0.0006738	0.0035	8.785		153469.47	153469.47	5.03		Si
SLV 6	-1.89	-18264.87	-36676	-0.000018	0.0006738	0.0035	8.785		199616.3	199616.3	10.93		Si
SLV 6	0.51	-38359.59	-42720	-0.0000253	0.0006738	0.0035	8.785		223867.52	223867.52	5.84		Si
SLV 9	-1.89	-31019.43	-36569	-0.0000211	0.0006738	0.0035	8.785		199186.83	199186.83	6.42		Si
SLV 9	0.51	-46508.82	-44076	-0.0000279	0.0006738	0.0035	8.785		229265.82	229265.82	4.93		Si
SLV 13	-1.89	-38896.2	-29568	-0.0000205	0.0006738	0.0035	8.785		170750	170750	4.39		Si
SLV 13	0.51	-50708.72	-38611	-0.0000269	0.0006738	0.0035	8.785		207379.78	207379.78	4.09		Si
SLV 16	-1.89	-32900.44	-23674	-0.0000168	0.0006738	0.0035	8.785		146553.96	146553.96	4.45		Si
SLV 16	0.51	-46157.93	-32573	-0.0000235	0.0006738	0.0035	8.785		182966.98	182966.98	3.96		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.89	-26151.61	-41767	-33413	2571	8.785	8.785	-8452	9460	37399	74765	142070	44803	112164	No	43.62	Si
SLU 82	0.51	-51397.19	-56493	-45194	2040	8.785	8.785	-11432	9858	38970	74765	142070	44803	113734	No	55.76	Si
SLU 80	-1.89	-24676.13	-39447	-31558	2551	8.785	8.785	-7983	9398	37151	74765	142070	44803	111916	No	43.88	Si
SLU 80	0.51	-49181.54	-52372	-41897	2051	8.785	8.785	-10598	9746	38530	74765	142070	44803	113295	No	55.23	Si
SLU 73	-1.89	-24760.22	-39555	-31644	2557	8.785	8.785	-8005	9401	37163	74765	142070	44803	111928	No	43.78	Si
SLU 73	0.51	-49269.84	-52461	-41969	2056	8.785	8.785	-10616	9749	38540	74765	142070	44803	113304	No	55.11	Si
SLU 76	-1.89	-24760.22	-39555	-31644	2557	8.785	8.785	-8005	9401	37163	74765	142070	44803	111928	No	43.78	Si
SLU 76	0.51	-49269.84	-52461	-41969	2056	8.785	8.785	-10616	9749	38540	74765	142070	44803	113304	No	55.11	Si
SLU 75	-1.89	-24676.13	-39447	-31558	2551	8.785	8.785	-7983	9398	37151	74765	142070	44803	111916	No	43.88	Si
SLU 75	0.51	-49181.54	-52372	-41897	2051	8.785	8.785	-10598	9746	38530	74765	142070	44803	113295	No	55.23	Si
SLU 79	-1.89	-24549.98	-39286	-31429	2542	8.785	8.785	-7950	9393	37134	74765	142070	44803	111899	No	44.03	Si
SLU 79	0.51	-49049.08	-52238	-41790	2045	8.785	8.785	-10571	9743	38516	74765	142070	44803	113281	No	55.4	Si
SLU 84	-1.89	-26151.61	-41767	-33413	2571	8.785	8.785	-8452	9460	37399	74765	142070	44803	112164	No	43.62	Si
SLU 84	0.51	-51397.19	-56493	-45194	2040	8.785	8.785	-11432	9858	38970	74765	142070	44803	113734	No	55.76	Si
SLU 81	-1.89	-26025.47	-41605	-33284	2562	8.785	8.785	-8419	9456	37382	74765	142070	44803	112146	No	43.77	Si
SLU 81	0.51	-51264.74	-56359	-45087	2033	8.785	8.785	-11405	9854	38955	74765	142070	44803	113720	No	55.94	Si
SLU 78	-1.89	-24676.13	-39447	-31558	2551	8.785	8.785	-7983	9398	37151	74765	142070	44803	111916	No	43.88	Si
SLU 78	0.51	-49181.54	-52372	-41897	2051	8.785	8.785	-10598	9746	38530	74765	142070	44803	113295	No	55.23	Si
SLU 83	-1.89	-26025.47	-41605	-33284	2562	8.785	8.785	-8419	9456	37382	74765	142070	44803	112146	No	43.77	Si
SLU 83	0.51	-51264.74	-56359	-45087	2033	8.785	8.785	-11405	9854	38955	74765	142070	44803	113720	No	55.94	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	-1.89	4444.91	-23833	-19066	15483	8.785	8.785	-4823	13465	53229	74765	213105	44803	127994		8.27	Si
SLV 3	0.51	-17948.3	-29887	-23909	14208	8.785	8.785	-6048	13710	54198	74765	213105	44803	128962		9.08	Si
SLV 4	-1.89	5634.02	-23879	-19103	17868	8.785	8.785	-4832	13466	53236	74765	213105	44803	128001		7.16	Si
SLV 4	0.51	-18188.78	-29465	-23572	16599	8.785	8.785	-5963	13693	54130	74765	213105	44803	128895		7.77	Si
SLV 14	-1.89	-37707.08	-29614	-23691	-11648	8.785	8.785	-5993	13699	54154	74765	213105	44803	128919		11.07	Si
SLV 14	0.51	-50949.2	-38189	-30551	-11041	8.785	8.785	-7728	14046	55526	74765	213105	44803	130291		11.8	Si
SLV 2	-1.89	827.38	-29818	-23854	18634	8.785	8.785	-6034	13707	54187	74765	213105	44803	128951		6.92	Si
SLV 2	0.51	-22980.05	-35081	-28065	17251	8.785	8.785	-7099	13920	55029	74765	213105	44803	129793		7.52	Si
SLV 1	-1.89	-361.73	-29772	-23818	16250	8.785	8.785	-6025	13705	54179	74765	213105	44803	128944		7.94	Si
SLV 1	0.51	-22739.57	-35503	-28402	14860	8.785	8.785	-7185	13937	55096	74765	213105	44803	129861		8.74	Si
SLV 5	-1.89	-19459.09	-36630	-29304	6540	8.785	8.785	-7413	13983	55276	74765	213105	44803	130041		19.88	Si
SLV 5	0.51	-38118.07	-43144	-34515	5714	8.785	8.785	-8731	14246	56319	74765	213105	44803	131083		22.94	Si
SLV 6	-1.89	-18264.87	-36676	-29341	8934	8.785	8.785	-7422	13984	55284	74765	213105	44803	130049		14.56	Si
SLV 6	0.51	-38359.59	-42720	-34176	8115	8.785	8.785	-8645	14229	56251	74765	213105	44803	131016		16.15	Si
SLV 13	-1.89	-38896.2	-29568	-23655	-14032	8.785	8.785	-5984	13697	54147	74765	213105	44803	128911		9.19	Si
SLV 13	0.51	-50708.72	-38611	-30889	-13432	8.785	8.785	-7813	14063	55593	74765	213105	44803	130358		9.71	Si
SLV 16	-1.89	-32900.44	-23674	-18940	-12414	8.785	8.785	-4791	13458	53204	74765	213105	44803	127968		10.31	Si
SLV 16	0.51	-46157.93	-32573	-26058	-11694	8.785	8.785	-6592	13818	54627	74765	213105	44803	129392		11.07	Si
SLV 15	-1.89	-34089.56	-23629	-18903	-14798	8.785	8.785	-4782	13456	53196	74765	213105	44803	127961		8.65	Si
SLV 15	0.51	-45917.45	-32995	-26396	-14084	8.785	8.785	-6677	13835	54695	74765	213105	44803	129460		9.19	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 8	-21755	0.24	434.24	4747.92	6953.32	5850.62	13.47	Si
SLV 7	-21961	0.24	434.24	4791.43	7002.39	5896.91	13.58	Si
SLV 12	-22321	0.24	434.24	4867.6	7088.13	5977.86	13.77	Si
SLV 11	-22527	0.24	434.24	4911.04	7136.85	6023.95	13.87	Si
SLV 4	-28082	0.24	434.24	6073.67	8449.76	7261.72	16.72	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-28287	0.24	434.24	6116.18	8498.18	7307.18	16.83	Si
SLV 16	-29970	0.24	434.24	6464.41	8895.86	7680.14	17.69	Si
SLV 15	-30175	0.24	434.24	6506.69	8944.28	7725.49	17.79	Si
SLV 2	-34072	0.24	434.24	7305.7	9863.41	8584.56	19.77	Si
SLV 1	-34277	0.24	434.24	7347.46	9911.75	8629.6	19.87	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 9	-44076	-36569	-1406	1.02	5837.1	0.936	15.83302	2.81112	Si
SLV 10	-43653	-36615	-1408	1.028	5794.2	0.936	15.95581	2.81112	Si
SLV 5	-43144	-36630	-1275	1.039	5742.8	0.935	16.14688	2.81112	Si
SLV 6	-42720	-36676	-1276	1.047	5700	0.935	16.27467	2.81112	Si
SLV 13	-38611	-29568	-642	1.144	5284.9	0.931	17.85396	2.83395	Si
SLV 14	-38189	-29614	-644	1.153	5242.3	0.931	18.01002	2.83395	Si
SLV 1	-35503	-29772	-202	1.228	4971.4	0.928	19.23767	2.83395	Si
SLV 2	-35081	-29818	-204	1.239	4928.9	0.927	19.41915	2.83395	Si
SLV 15	-32995	-23629	145	1.298	4718.9	0.925	20.39857	2.83395	Si
SLV 16	-32573	-23674	143	1.31	4676.5	0.924	20.60521	2.83395	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	4.813	SLU 44	Si
V_SLU	43.62	SLU 82	Si
PF_SLV	3.964	SLV 16	Si
V_SLV	6.92	SLV 2	Si
PFFP_SLV	13.473	SLV 8	Si
R_SLV	5.632	SLV 9	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
4.635	9.805	4.635	7.27	L1	L2	2.535	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 83	-1.89	-3803.85	-3358	-0.0000476	0.0004492	0.0035	2.028	4154.07	7867.1	7867.1	2.07	No	Si
SLU 83	0.51	-279.51	-237	-0.0000041	0.0004492	0.0035	2.028	300.37	4061.99	4061.99	14.53	No	Si
SLU 78	-1.89	-3706.42	-3266	-0.0000467	0.0004492	0.0035	2.028	4042.41	7755.88	7755.88	2.09	No	Si
SLU 78	0.51	-235.6	-211	-0.0000027	0.0004492	0.0035	2.028	266.47	4028.87	4028.87	17.1	No	Si
SLU 80	-1.89	-3706.42	-3266	-0.0000467	0.0004492	0.0035	2.028	4042.41	7755.88	7755.88	2.09	No	Si
SLU 80	0.51	-235.6	-211	-0.0000027	0.0004492	0.0035	2.028	266.47	4028.87	4028.87	17.1	No	Si
SLU 84	-1.89	-3823.19	-3376	-0.0000478	0.0004492	0.0035	2.028	4175.41	7888.37	7888.37	2.06	No	Si
SLU 84	0.51	-309.41	-270	-0.000004	0.0004492	0.0035	2.028	341.24	4101.93	4101.93	13.26	No	Si
SLU 73	-1.89	-3719.32	-3278	-0.0000469	0.0004492	0.0035	2.028	4056.66	7770.06	7770.06	2.09	No	Si
SLU 73	0.51	-255.52	-232	-0.0000027	0.0004492	0.0035	2.028	293.73	4055.5	4055.5	15.87	No	Si
SLU 82	-1.89	-3823.19	-3376	-0.0000478	0.0004492	0.0035	2.028	4175.41	7888.37	7888.37	2.06	No	Si
SLU 82	0.51	-309.41	-270	-0.000004	0.0004492	0.0035	2.028	341.24	4101.93	4101.93	13.26	No	Si
SLU 76	-1.89	-3719.32	-3278	-0.0000469	0.0004492	0.0035	2.028	4056.66	7770.06	7770.06	2.09	No	Si
SLU 76	0.51	-255.52	-232	-0.0000027	0.0004492	0.0035	2.028	293.73	4055.5	4055.5	15.87	No	Si
SLU 81	-1.89	-3803.85	-3358	-0.0000476	0.0004492	0.0035	2.028	4154.07	7867.1	7867.1	2.07	No	Si
SLU 81	0.51	-279.51	-237	-0.0000041	0.0004492	0.0035	2.028	300.37	4061.99	4061.99	14.53	No	Si
SLU 79	-1.89	-3687.08	-3248	-0.0000465	0.0004492	0.0035	2.028	4021.04	7734.61	7734.61	2.1	No	Si
SLU 79	0.51	-205.7	-178	-0.0000027	0.0004492	0.0035	2.028	225.57	3988.93	3988.93	19.39	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.89	-3706.42	-3266	-0.0000467	0.0004492	0.0035	2.028	4042.41	7755.88	7755.88	2.09	No	Si
SLU 75	0.51	-235.6	-211	-0.0000027	0.0004492	0.0035	2.028	266.47	4028.87	4028.87	17.1	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.89	-2158.18	-1854	-0.00003	0.0006738	0.0035	2.028		6043.64	6043.64	2.8		Si
SLV 9	0.51	416.74	274	-0.0003037	0.0006738	0.0035	2.028		327.42	327.42	0.79		No
SLV 3	-1.89	-3039.59	-2688	-0.0000371	0.0006738	0.0035	2.028		7060.6	7060.6	2.32		Si
SLV 3	0.51	-298.25	-223	-0.0000072	0.0006738	0.0035	2.028		4042.88	4042.88	13.56		Si
SLV 5	-1.89	-2307.07	-1992	-0.0000313	0.0006738	0.0035	2.028		6212.15	6212.15	2.69		Si
SLV 5	0.51	342.38	222	-0.0002435	0.0006738	0.0035	2.028		392.72	392.72	1.15		Si
SLV 7	-1.89	-3166.8	-2815	-0.0000377	0.0006738	0.0035	2.028		7214.7	7214.7	2.28		Si
SLV 7	0.51	-509.73	-369	-0.0000135	0.0006738	0.0035	2.028		4222.35	4222.35	8.28		Si
SLV 6	-1.89	-2303.93	-1989	-0.0000313	0.0006738	0.0035	2.028		6208.54	6208.54	2.69		Si
SLV 6	0.51	342.81	222	-0.0002439	0.0006738	0.0035	2.028		392.26	392.26	1.14		Si
SLV 8	-1.89	-3163.66	-2812	-0.0000377	0.0006738	0.0035	2.028		7211.12	7211.12	2.28		Si
SLV 8	0.51	-509.31	-368	-0.0000135	0.0006738	0.0035	2.028		4221.9	4221.9	8.29		Si
SLV 4	-1.89	-3036.47	-2685	-0.000037	0.0006738	0.0035	2.028		7057.04	7057.04	2.32		Si
SLV 4	0.51	-297.83	-223	-0.0000072	0.0006738	0.0035	2.028		4042.43	4042.43	13.57		Si
SLV 12	-1.89	-3014.77	-2674	-0.0000362	0.0006738	0.0035	2.028		7044.02	7044.02	2.34		Si
SLV 12	0.51	-434.95	-316	-0.0000114	0.0006738	0.0035	2.028		4157.62	4157.62	9.56		Si
SLV 11	-1.89	-3017.91	-2677	-0.0000363	0.0006738	0.0035	2.028		7047.6	7047.6	2.34		Si
SLV 11	0.51	-435.37	-317	-0.0000114	0.0006738	0.0035	2.028		4158.08	4158.08	9.55		Si
SLV 10	-1.89	-2155.04	-1851	-0.00003	0.0006738	0.0035	2.028		6040.03	6040.03	2.8		Si
SLV 10	0.51	417.17	274	-0.0003041	0.0006738	0.0035	2.028		326.96	326.96	0.78		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 63	-1.89	-3624.99	-3189	-2551	-3714	2.028	0.3924	0	0	0	74765	32797	10343	43139	No	11.62	Si
SLU 63	0.51	-178.96	-165	-132	-2944	2.028	0.5526	0	0	0	74765	32797	10343	43139	No	14.65	Si
SLU 84	-1.89	-3823.19	-3376	-2701	-3746	2.028	0.4051	0	0	0	74765	32797	10343	43139	No	11.52	Si
SLU 84	0.51	-309.41	-270	-216	-2912	2.028	0.3614	0	0	0	74765	32797	10343	43139	No	14.81	Si
SLU 52	-1.89	-3521.12	-3091	-2473	-3716	2.028	0.3847	0	0	0	74765	32797	10343	43139	No	11.61	Si
SLU 52	0.51	-125.08	-128	-102	-2896	2.028	0.8614	0	0	0	74765	32797	10343	43139	No	14.89	Si
SLU 80	-1.89	-3706.42	-3266	-2613	-3727	2.028	0.3977	0	0	0	74765	32797	10343	43139	No	11.57	Si
SLU 80	0.51	-235.6	-211	-168	-2931	2.028	0.4457	0	0	0	74765	32797	10343	43139	No	14.72	Si
SLU 78	-1.89	-3706.42	-3266	-2613	-3727	2.028	0.3977	0	0	0	74765	32797	10343	43139	No	11.57	Si
SLU 78	0.51	-235.6	-211	-168	-2931	2.028	0.4457	0	0	0	74765	32797	10343	43139	No	14.72	Si
SLU 76	-1.89	-3719.32	-3278	-2622	-3749	2.028	0.3982	0	0	0	74765	32797	10343	43139	No	11.51	Si
SLU 76	0.51	-255.52	-232	-186	-2865	2.028	0.5001	0	0	0	74765	32797	10343	43139	No	15.06	Si
SLU 75	-1.89	-3706.42	-3266	-2613	-3727	2.028	0.3977	0	0	0	74765	32797	10343	43139	No	11.57	Si
SLU 75	0.51	-235.6	-211	-168	-2931	2.028	0.4457	0	0	0	74765	32797	10343	43139	No	14.72	Si
SLU 82	-1.89	-3823.19	-3376	-2701	-3746	2.028	0.4051	0	0	0	74765	32797	10343	43139	No	11.52	Si
SLU 82	0.51	-309.41	-270	-216	-2912	2.028	0.3614	0	0	0	74765	32797	10343	43139	No	14.81	Si
SLU 55	-1.89	-3521.12	-3091	-2473	-3716	2.028	0.3847	0	0	0	74765	32797	10343	43139	No	11.61	Si
SLU 55	0.51	-125.08	-128	-102	-2896	2.028	0.8614	0	0	0	74765	32797	10343	43139	No	14.89	Si
SLU 73	-1.89	-3719.32	-3278	-2622	-3749	2.028	0.3982	0	0	0	74765	32797	10343	43139	No	11.51	Si
SLU 73	0.51	-255.52	-232	-186	-2865	2.028	0.5001	0	0	0	74765	32797	10343	43139	No	15.06	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.89	-3014.77	-2674	-2139	-2560	2.028	0.4205	0	0	0	74765	49195	10343	59538		23.26	Si
SLV 12	0.51	-434.95	-316	-253	-3092	2.028	0	0	0	0	74765	49195	10343	59538		19.26	Si
SLV 11	-1.89	-3017.91	-2677	-2142	-2560	2.028	0.4207	0	0	0	74765	49195	10343	59538		23.25	Si
SLV 11	0.51	-435.37	-317	-253	-3091	2.028	0	0	0	0	74765	49195	10343	59538		19.26	Si
SLV 7	-1.89	-3166.8	-2815	-2252	-2602	2.028	0.4277	0	0	0	74765	49195	10343	59538		22.89	Si
SLV 7	0.51	-509.73	-369	-295	-3082	2.028	0	0	0	0	74765	49195	10343	59538		19.32	Si
SLV 10	-1.89	-2155.04	-1851	-1481	-3024	2.028	0.3102	0	0	0	74765	49195	10343	59538		19.69	Si
SLV 10	0.51	417.17	274	219	-1636	2.028	0	0	0	0	74765	49195	10343	59538		36.4	Si
SLV 9	-1.89	-2158.18	-1854	-1483	-3025	2.028	0.3107	0	0	0	74765	49195	10343	59538		19.68	Si
SLV 9	0.51	416.74	274	219	-1635	2.028	0	0	0	0	74765	49195	10343	59538		36.42	Si
SLV 6	-1.89	-2303.93	-1989	-1591	-3066	2.028	0.3277	0	0	0	74765	49195	10343	59538		19.42	Si
SLV 6	0.51	342.81	222	178	-1627	2.028	0	0	0	0	74765	49195	10343	59538		36.6	Si
SLV 5	-1.89	-2307.07	-1992	-1594	-3066	2.028	0.3282	0	0	0	74765	49195	10343	59538		19.42	Si
SLV 5	0.51	342.38	222	177	-1626	2.028	0	0	0	0	74765	49195	10343	59538		36.62	Si
SLV 8	-1.89	-3163.66	-2812	-2250	-2601	2.028	0.4275	0	0	0	74765	49195	10343	59538		22.89	Si
SLV 8	0.51	-509.31	-368	-295	-3083	2.028	0	0	0	0	74765	49195	10343	59538		19.31	Si
SLV 2	-1.89	-2778.55	-2438	-1950	-2951	2.028	0.3836	0	0	0	74765	49195	10343	59538		20.17	Si
SLV 2	0.51	-42.19	-46	-36	-2126	2.028	1.0244	0	0	0	74765	49195	10343	59538		28.01	Si
SLV 1	-1.89	-2781.68	-2441	-1953	-2952	2.028	0.3838	0	0	0	74765	49195	10343	59538		20.17	Si
SLV 1	0.51	-42.61	-46	-37	-2125	2.028	1.0194	0	0	0	74765	49195	10343	59538		28.02	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 14	-1369	0.24	120.4	305.94	826.16	566.05	4.7	Si
SLV 13	-1369	0.24	120.4	306.04	826.28	566.16	4.7	Si
SLV 10	-1406	0.24	120.4	314.32	835.37	574.84	4.77	Si
SLV 9	-1407	0.24	120.4	314.42	835.48	574.95	4.78	Si
SLV 16	-1444	0.24	120.4	322.71	844.58	583.64	4.85	Si
SLV 15	-1445	0.24	120.4	322.81	844.7	583.75	4.85	Si
SLV 6	-1514	0.24	120.4	338.25	861.66	599.96	4.98	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-1515	0.24	120.4	338.36	861.78	600.07	4.98	Si
SLV 12	-1658	0.24	120.4	370.14	896.7	633.42	5.26	Si
SLV 11	-1659	0.24	120.4	370.25	896.81	633.53	5.26	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 7	-369	-2815	-1	5.201	511	0.946	79.87155	2.81112	Si
SLV 8	-368	-2812	-1	5.202	511	0.946	79.88157	2.81112	Si
SLV 11	-317	-2677	-74	5.271	508.9	0.952	80.47044	2.81112	Si
SLV 12	-316	-2674	-73	5.272	508.9	0.952	80.48045	2.81112	Si
SLV 3	-223	-2688	114	5.436	505.8	0.963	82.01615	2.83395	Si
SLV 4	-223	-2685	114	5.437	505.8	0.963	82.02005	2.83395	Si
SLV 1	-46	-2441	140	5.803	502.5	0.991	85.09434	2.83395	Si
SLV 2	-46	-2438	141	5.804	502.5	0.991	85.09764	2.83395	Si
SLV 15	-49	-2228	-128	5.801	502.5	0.991	85.11102	2.83395	Si
SLV 16	-49	-2225	-127	5.802	502.5	0.991	85.12063	2.83395	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	2.063	SLU 82	Si
V_SLU	11.507	SLU 73	Si
PF_SLV	0.784	SLV 10	No
V_SLV	19.255	SLV 12	Si
PFFP_SLV	4.701	SLV 14	Si
R_SLV	28.413	SLV 7	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	9.805	2.01	9.805	L1	L2	1.795	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 83	-0.5	563.37	-12571	-0.0000279	0.0003743	0.0035	1.795	9557.76	9894.83	9894.83	17.56	No	Si
SLU 83	-0.1	995.83	-12457	-0.0000306	0.0003743	0.0035	1.795	9486.84	9818.7	9818.7	9.86	No	Si
SLU 32	-0.5	476.06	-10138	-0.0000225	0.0003743	0.0035	1.795	7976.87	8284.22	8284.22	17.4	No	Si
SLU 32	-0.1	825.25	-10072	-0.0000246	0.0003743	0.0035	1.795	7932.8	8241.7	8241.7	9.99	No	Si
SLU 41	-0.5	534.21	-10945	-0.0000245	0.0003743	0.0035	1.795	8515.63	8814	8814	16.5	No	Si
SLU 41	-0.1	896.11	-10901	-0.0000268	0.0003743	0.0035	1.795	8486.57	8784.93	8784.93	9.8	No	Si
SLU 84	-0.5	550.22	-12498	-0.0000277	0.0003743	0.0035	1.795	9512.44	9846.14	9846.14	17.89	No	Si
SLU 84	-0.1	991.46	-12394	-0.0000304	0.0003743	0.0035	1.795	9447.21	9776.34	9776.34	9.86	No	Si
SLU 39	-0.5	534.21	-10945	-0.0000245	0.0003743	0.0035	1.795	8515.63	8814	8814	16.5	No	Si
SLU 39	-0.1	896.11	-10901	-0.0000268	0.0003743	0.0035	1.795	8486.57	8784.93	8784.93	9.8	No	Si
SLU 40	-0.5	521.07	-10872	-0.0000243	0.0003743	0.0035	1.795	8467.73	8766.13	8766.13	16.82	No	Si
SLU 40	-0.1	891.74	-10837	-0.0000266	0.0003743	0.0035	1.795	8444.78	8743.24	8743.24	9.8	No	Si
SLU 81	-0.5	563.37	-12571	-0.0000279	0.0003743	0.0035	1.795	9557.76	9894.83	9894.83	17.56	No	Si
SLU 81	-0.1	995.83	-12457	-0.0000306	0.0003743	0.0035	1.795	9486.84	9818.7	9818.7	9.86	No	Si
SLU 37	-0.5	476.06	-10138	-0.0000225	0.0003743	0.0035	1.795	7976.87	8284.22	8284.22	17.4	No	Si
SLU 37	-0.1	825.25	-10072	-0.0000246	0.0003743	0.0035	1.795	7932.8	8241.7	8241.7	9.99	No	Si
SLU 82	-0.5	550.22	-12498	-0.0000277	0.0003743	0.0035	1.795	9512.44	9846.14	9846.14	17.89	No	Si
SLU 82	-0.1	991.46	-12394	-0.0000304	0.0003743	0.0035	1.795	9447.21	9776.34	9776.34	9.86	No	Si
SLU 42	-0.5	521.07	-10872	-0.0000243	0.0003743	0.0035	1.795	8467.73	8766.13	8766.13	16.82	No	Si
SLU 42	-0.1	891.74	-10837	-0.0000266	0.0003743	0.0035	1.795	8444.78	8743.24	8743.24	9.8	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	-0.5	-497.88	-4579	-0.0000117	0.0005615	0.0035	1.795		4821.63	4821.63	9.68		Si
SLV 5	-0.1	465.47	-4932	-0.0000122	0.0005615	0.0035	1.795		4447.77	4447.77	9.56		Si
SLV 13	-0.5	1152.34	-5224	-0.0000171	0.0005615	0.0035	1.795		4693.07	4693.07	4.07		Si
SLV 13	-0.1	439.8	-4741	-0.0000117	0.0005615	0.0035	1.795		4287.53	4287.53	9.75		Si
SLV 1	-0.5	-963.53	-8042	-0.0000213	0.0005615	0.0035	1.795		7660.66	7660.66	7.95		Si
SLV 1	-0.1	679.67	-8524	-0.0000204	0.0005615	0.0035	1.795		7394.73	7394.73	10.88		Si
SLV 9	-0.5	136.88	-3733	-0.0000078	0.0005615	0.0035	1.795		3434.2	3434.2	25.09		Si
SLV 9	-0.1	393.51	-3797	-0.0000096	0.0005615	0.0035	1.795		3488.64	3488.64	8.87		Si
SLV 2	-0.5	-791.51	-8348	-0.0000208	0.0005615	0.0035	1.795		7905.46	7905.46	9.99		Si
SLV 2	-0.1	644.46	-8732	-0.0000206	0.0005615	0.0035	1.795		7560.47	7560.47	11.73		Si
SLV 12	-0.5	1094.03	-11117	-0.0000281	0.0005615	0.0035	1.795		9434.81	9434.81	8.62		Si
SLV 12	-0.1	730.49	-10485	-0.0000246	0.0005615	0.0035	1.795		8943.97	8943.97	12.24		Si
SLV 14	-0.5	1324.36	-5530	-0.0000187	0.0005615	0.0035	1.795		4949.15	4949.15	3.74		Si
SLV 14	-0.1	404.58	-4949	-0.0000118	0.0005615	0.0035	1.795		4461.75	4461.75	11.03		Si
SLV 11	-0.5	921.27	-10810	-0.0000264	0.0005615	0.0035	1.795		9198.03	9198.03	9.98		Si
SLV 11	-0.1	765.85	-10276	-0.0000244	0.0005615	0.0035	1.795		8780.94	8780.94	11.47		Si
SLV 15	-0.5	1387.66	-7347	-0.0000227	0.0005615	0.0035	1.795		6443.85	6443.85	4.64		Si
SLV 15	-0.1	551.5	-6685	-0.0000161	0.0005615	0.0035	1.795		5903.75	5903.75	10.7		Si
SLV 16	-0.5	1559.68	-7653	-0.0000243	0.0005615	0.0035	1.795		6692.17	6692.17	4.29		Si
SLV 16	-0.1	516.29	-6892	-0.0000163	0.0005615	0.0035	1.795		6074.31	6074.31	11.77		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-0.5	550.22	-12498	-11110	-2585	1.795	1.795	-13754	8778	7091	26168	24188	4577	28765	No	11.13	Si
SLU 84	-0.1	991.46	-12394	-11017	-2573	1.795	1.795	-13639	8763	7078	26168	24188	4577	28765	No	11.18	Si
SLU 79	-0.5	505.21	-11764	-10457	-2463	1.795	1.795	-12945	8670	7004	26168	24188	4577	28765	No	11.68	Si
SLU 79	-0.1	924.97	-11629	-10337	-2451	1.795	1.795	-12797	8651	6988	26168	24188	4577	28765	No	11.73	Si
SLU 75	-0.5	492.07	-11691	-10392	-2506	1.795	1.795	-12865	8660	6995	26168	24188	4577	28765	No	11.48	Si
SLU 75	-0.1	920.6	-11566	-10281	-2494	1.795	1.795	-12728	8641	6980	26168	24188	4577	28765	No	11.53	Si
SLU 78	-0.5	492.07	-11691	-10392	-2506	1.795	1.795	-12865	8660	6995	26168	24188	4577	28765	No	11.48	Si
SLU 78	-0.1	920.6	-11566	-10281	-2494	1.795	1.795	-12728	8641	6980	26168	24188	4577	28765	No	11.53	Si
SLU 80	-0.5	492.07	-11691	-10392	-2506	1.795	1.795	-12865	8660	6995	26168	24188	4577	28765	No	11.48	Si
SLU 80	-0.1	920.6	-11566	-10281	-2494	1.795	1.795	-12728	8641	6980	26168	24188	4577	28765	No	11.53	Si
SLU 82	-0.5	550.22	-12498	-11110	-2585	1.795	1.795	-13754	8778	7091	26168	24188	4577	28765	No	11.13	Si
SLU 82	-0.1	991.46	-12394	-11017	-2573	1.795	1.795	-13639	8763	7078	26168	24188	4577	28765	No	11.18	Si
SLU 81	-0.5	563.37	-12571	-11174	-2542	1.795	1.795	-13834	8789	7099	26168	24188	4577	28765	No	11.31	Si
SLU 81	-0.1	995.83	-12457	-11073	-2530	1.795	1.795	-13709	8772	7086	26168	24188	4577	28765	No	11.37	Si
SLU 83	-0.5	563.37	-12571	-11174	-2542	1.795	1.795	-13834	8789	7099	26168	24188	4577	28765	No	11.31	Si
SLU 83	-0.1	995.83	-12457	-11073	-2530	1.795	1.795	-13709	8772	7086	26168	24188	4577	28765	No	11.37	Si
SLU 73	-0.5	483.31	-11643	-10349	-2535	1.795	1.795	-12812	8653	6989	26168	24188	4577	28765	No	11.35	Si
SLU 73	-0.1	917.69	-11524	-10243	-2523	1.795	1.795	-12681	8635	6975	26168	24188	4577	28765	No	11.4	Si
SLU 76	-0.5	483.31	-11643	-10349	-2535	1.795	1.795	-12812	8653	6989	26168	24188	4577	28765	No	11.35	Si
SLU 76	-0.1	917.69	-11524	-10243	-2523	1.795	1.795	-12681	8635	6975	26168	24188	4577	28765	No	11.4	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-0.5	136.88	-3733	-3318	-2187	1.795	1.795	-4108	11238	9078	26168	36281	4577	35245		16.12	Si
SLV 9	-0.1	393.51	-3797	-3375	-2174	1.795	1.795	-4178	11252	9089	26168	36281	4577	35257		16.22	Si
SLV 16	-0.5	1559.68	-7653	-6803	2958	1.795	1.795	-8422	12101	9775	26168	36281	4577	35942		12.15	Si
SLV 16	-0.1	516.29	-6892	-6127	2961	1.795	1.795	-7585	11934	9639	26168	36281	4577	35807		12.09	Si
SLV 5	-0.5	-497.88	-4579	-4070	-4567	1.795	1.795	-5039	11424	9228	26168	36281	4577	35396		7.75	Si
SLV 5	-0.1	465.47	-4932	-4384	-4552	1.795	1.795	-5427	11502	9291	26168	36281	4577	35459		7.79	Si
SLV 1	-0.5	-963.53	-8042	-7149	-6464	1.795	1.795	-8850	12187	9844	26168	36281	4577	36011		5.57	Si
SLV 1	-0.1	679.67	-8524	-7577	-6452	1.795	1.795	-9381	12293	9929	26168	36281	4577	36097		5.59	Si
SLV 3	-0.5	-728.21	-10165	-9036	-5712	1.795	1.795	-11186	12654	10221	26168	36281	4577	36389		6.37	Si
SLV 3	-0.1	791.38	-10468	-9305	-5703	1.795	1.795	-11520	12721	10275	26168	36281	4577	36443		6.39	Si
SLV 6	-0.5	-325.12	-4886	-4343	-3826	1.795	1.795	-5376	11492	9283	26168	36281	4577	35450		9.27	Si
SLV 6	-0.1	430.1	-5141	-4569	-3811	1.795	1.795	-5657	11548	9328	26168	36281	4577	35496		9.31	Si
SLV 2	-0.5	-791.51	-8348	-7421	-5726	1.795	1.795	-9187	12254	9898	26168	36281	4577	36066		6.3	Si
SLV 2	-0.1	644.46	-8732	-7762	-5714	1.795	1.795	-9609	12338	9966	26168	36281	4577	36134		6.32	Si
SLV 4	-0.5	-556.19	-10471	-9308	-4974	1.795	1.795	-11523	12721	10276	26168	36281	4577	36443		7.33	Si
SLV 4	-0.1	756.16	-10676	-9489	-4966	1.795	1.795	-11748	12766	10312	26168	36281	4577	36480		7.35	Si
SLV 14	-0.5	1324.36	-5530	-4916	2206	1.795	1.795	-6085	11634	9397	26168	36281	4577	35565		16.12	Si
SLV 14	-0.1	404.58	-4949	-4399	2213	1.795	1.795	-5446	11506	9294	26168	36281	4577	35462		16.02	Si
SLV 15	-0.5	1387.66	-7347	-6531	2220	1.795	1.795	-8085	12034	9720	26168	36281	4577	35888		16.17	Si
SLV 15	-0.1	551.5	-6685	-5942	2223	1.795	1.795	-7356	11888	9602	26168	36281	4577	35770		16.09	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 9	179667	0.24	4341	-3506	87.25	766.52	8.79	Si
SLV 10	179667	0.24	4496	-3632	87.25	793.09	9.09	Si
SLV 13	179667	0.24	4987	-4028	87.25	876.73	10.05	Si
SLV 14	179667	0.24	5141	-4153	87.25	902.95	10.35	Si
SLV 5	179667	0.24	6016	-4860	87.25	1050.32	12.04	Si
SLV 6	179667	0.24	6171	-4985	87.25	1076.27	12.34	Si
SLV 15	179667	0.24	7215	-5828	87.25	1249.37	14.32	Si
SLV 16	179667	0.24	7370	-5953	87.25	1274.77	14.61	Si
SLV 1	179667	0.24	10571	-8538	87.25	1788.17	20.49	Si
SLV 2	179667	0.24	10725	-8663	87.25	1812.33	20.77	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 8	-9293	-12113	-53	1.017	1221.7	0.938	15.76698	2.81112	Si
SLV 7	-8989	-12073	-53	1.043	1191	0.936	16.1947	2.81112	Si
SLV 12	-8708	-10384	-85	1.066	1162.5	0.935	16.56691	2.81112	Si
SLV 11	-8404	-10344	-86	1.095	1131.8	0.934	17.04503	2.81112	Si
SLV 4	-7983	-11758	23	1.145	1089.3	0.931	17.85905	2.83395	Si
SLV 3	-7681	-11718	23	1.178	1058.8	0.93	18.41737	2.83395	Si
SLV 2	-6276	-9724	56	1.364	917.4	0.922	21.51319	2.83395	Si
SLV 16	-6033	-5995	-84	1.4	893	0.92	22.12279	2.83395	Si
SLV 1	-5973	-9684	56	1.414	887	0.92	22.34817	2.83395	Si
SLV 15	-5730	-5954	-84	1.453	862.6	0.918	23.00956	2.83395	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	9.803	SLU 39	Si
V_SLU	11.127	SLU 82	Si
PF_SLV	3.737	SLV 14	Si
V_SLV	5.571	SLV 1	Si
PFFP_SLV	8.785	SLV 9	Si
R_SLV	5.609	SLV 8	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
3.01	9.805	6.77	9.805	L1	L2	3.76	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 49	-0.5	5574.07	-16050	-0.0000227	0.0003743	0.0035	3.76	27362.19	28678.19	28678.19	5.14	No	Si
SLU 49	-0.1	3801.39	-13821	-0.000018	0.0003743	0.0035	3.76	23899.02	25036.94	25036.94	6.59	No	Si
SLU 5	-0.5	4442.62	-12933	-0.0000182	0.0003743	0.0035	3.76	22488.67	23565.39	23565.39	5.3	No	Si
SLU 5	-0.1	3020.4	-11215	-0.0000145	0.0003743	0.0035	3.76	19710.84	20677.18	20677.18	6.85	No	Si
SLU 48	-0.5	5565.15	-16181	-0.0000229	0.0003743	0.0035	3.76	27563.45	28891.49	28891.49	5.19	No	Si
SLU 48	-0.1	3805.22	-13961	-0.0000182	0.0003743	0.0035	3.76	24119.57	25266.96	25266.96	6.64	No	Si
SLU 47	-0.5	5580.02	-15962	-0.0000227	0.0003743	0.0035	3.76	27227.81	28536.07	28536.07	5.11	No	Si
SLU 47	-0.1	3798.83	-13728	-0.000018	0.0003743	0.0035	3.76	23751.75	24883.7	24883.7	6.55	No	Si
SLU 50	-0.5	5565.15	-16181	-0.0000229	0.0003743	0.0035	3.76	27563.45	28891.49	28891.49	5.19	No	Si
SLU 50	-0.1	3805.22	-13961	-0.0000182	0.0003743	0.0035	3.76	24119.57	25266.96	25266.96	6.64	No	Si
SLU 43	-0.5	5565.15	-16181	-0.0000229	0.0003743	0.0035	3.76	27563.45	28891.49	28891.49	5.19	No	Si
SLU 43	-0.1	3805.22	-13961	-0.0000182	0.0003743	0.0035	3.76	24119.57	25266.96	25266.96	6.64	No	Si
SLU 45	-0.5	5565.15	-16181	-0.0000229	0.0003743	0.0035	3.76	27563.45	28891.49	28891.49	5.19	No	Si
SLU 45	-0.1	3805.22	-13961	-0.0000182	0.0003743	0.0035	3.76	24119.57	25266.96	25266.96	6.64	No	Si
SLU 44	-0.5	5580.02	-15962	-0.0000227	0.0003743	0.0035	3.76	27227.81	28536.07	28536.07	5.11	No	Si
SLU 44	-0.1	3798.83	-13728	-0.000018	0.0003743	0.0035	3.76	23751.75	24883.7	24883.7	6.55	No	Si
SLU 46	-0.5	5574.07	-16050	-0.0000227	0.0003743	0.0035	3.76	27362.19	28678.19	28678.19	5.14	No	Si
SLU 46	-0.1	3801.39	-13821	-0.000018	0.0003743	0.0035	3.76	23899.02	25036.94	25036.94	6.59	No	Si
SLU 51	-0.5	5574.07	-16050	-0.0000227	0.0003743	0.0035	3.76	27362.19	28678.19	28678.19	5.14	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	-0.1	3801.39	-13821	-0.000018	0.0003743	0.0035	3.76	23899.02	25036.94	25036.94	6.59	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	-0.5	11555.67	-16120	-0.0000315	0.0005615	0.0035	3.76		29451.8	29451.8	2.55		Si
SLV 16	-0.1	5451.48	-14420	-0.0000208	0.0005615	0.0035	3.76		26551.14	26551.14	4.87		Si
SLV 14	-0.5	10999.91	-12730	-0.0000284	0.0005615	0.0035	3.76		23639.92	23639.92	2.15		Si
SLV 14	-0.1	4511.59	-10994	-0.0000163	0.0005615	0.0035	3.76		20614.35	20614.35	4.57		Si
SLV 11	-0.5	7253.96	-20389	-0.000029	0.0005615	0.0035	3.76		36598.78	36598.78	5.05		Si
SLV 11	-0.1	5383.19	-18751	-0.0000248	0.0005615	0.0035	3.76		33876.19	33876.19	6.29		Si
SLV 6	-0.5	2403.55	-9519	-0.000012	0.0005615	0.0035	3.76		18018.49	18018.49	7.5		Si
SLV 6	-0.1	1278.57	-7776	-0.0000088	0.0005615	0.0035	3.76		14919.55	14919.55	11.67		Si
SLV 7	-0.5	3585	-20731	-0.000024	0.0005615	0.0035	3.76		37163.34	37163.34	10.37		Si
SLV 7	-0.1	4397.11	-19110	-0.0000236	0.0005615	0.0035	3.76		34474.26	34474.26	7.84		Si
SLV 10	-0.5	6072.51	-9176	-0.0000169	0.0005615	0.0035	3.76		17411.27	17411.27	2.87		Si
SLV 10	-0.1	2264.66	-7417	-0.0000099	0.0005615	0.0035	3.76		14277.26	14277.26	6.3		Si
SLV 9	-0.5	5401.43	-9091	-0.0000159	0.0005615	0.0035	3.76		17259.84	17259.84	3.2		Si
SLV 9	-0.1	2250.23	-7332	-0.0000098	0.0005615	0.0035	3.76		14124.55	14124.55	6.28		Si
SLV 15	-0.5	10887.47	-16035	-0.0000303	0.0005615	0.0035	3.76		29307.47	29307.47	2.69		Si
SLV 15	-0.1	5437.12	-14335	-0.0000207	0.0005615	0.0035	3.76		26405.19	26405.19	4.86		Si
SLV 12	-0.5	7925.04	-20474	-0.0000301	0.0005615	0.0035	3.76		36740.09	36740.09	4.64		Si
SLV 12	-0.1	5397.62	-18836	-0.0000249	0.0005615	0.0035	3.76		34018.51	34018.51	6.3		Si
SLV 13	-0.5	10331.71	-12646	-0.0000269	0.0005615	0.0035	3.76		23492.18	23492.18	2.27		Si
SLV 13	-0.1	4497.23	-10909	-0.0000162	0.0005615	0.0035	3.76		20465.71	20465.71	4.55		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-0.5	7331.47	-24042	-21370	5778	3.76	3.76	-12630	8628	14599	26168	50666	9588	40767	No	7.06	Si
SLU 81	-0.1	5163.7	-21889	-19457	5776	3.76	3.76	-11500	8478	14344	26168	50666	9588	40512	No	7.01	Si
SLU 80	-0.5	6977.56	-22354	-19870	5655	3.76	3.76	-11744	8510	14399	26168	50666	9588	40567	No	7.17	Si
SLU 80	-0.1	4865.73	-20177	-17935	5651	3.76	3.76	-10600	8358	14141	26168	50666	9588	40309	No	7.13	Si
SLU 84	-0.5	7340.39	-23910	-21253	5816	3.76	3.76	-12561	8619	14584	26168	50666	9588	40751	No	7.01	Si
SLU 84	-0.1	5159.87	-21750	-19333	5812	3.76	3.76	-11426	8468	14328	26168	50666	9588	40495	No	6.97	Si
SLU 75	-0.5	6977.56	-22354	-19870	5655	3.76	3.76	-11744	8510	14399	26168	50666	9588	40567	No	7.17	Si
SLU 75	-0.1	4865.73	-20177	-17935	5651	3.76	3.76	-10600	8358	14141	26168	50666	9588	40309	No	7.13	Si
SLU 76	-0.5	6983.5	-22266	-19792	5680	3.76	3.76	-11698	8504	14389	26168	50666	9588	40557	No	7.14	Si
SLU 76	-0.1	4863.18	-20084	-17852	5675	3.76	3.76	-10551	8351	14130	26168	50666	9588	40298	No	7.1	Si
SLU 73	-0.5	6983.5	-22266	-19792	5680	3.76	3.76	-11698	8504	14389	26168	50666	9588	40557	No	7.14	Si
SLU 73	-0.1	4863.18	-20084	-17852	5675	3.76	3.76	-10551	8351	14130	26168	50666	9588	40298	No	7.1	Si
SLU 83	-0.5	7331.47	-24042	-21370	5778	3.76	3.76	-12630	8628	14599	26168	50666	9588	40767	No	7.06	Si
SLU 83	-0.1	5163.7	-21889	-19457	5776	3.76	3.76	-11500	8478	14344	26168	50666	9588	40512	No	7.01	Si
SLU 79	-0.5	6968.64	-22486	-19987	5617	3.76	3.76	-11813	8520	14415	26168	50666	9588	40583	No	7.22	Si
SLU 79	-0.1	4869.56	-20317	-18059	5615	3.76	3.76	-10673	8368	14158	26168	50666	9588	40326	No	7.18	Si
SLU 78	-0.5	6977.56	-22354	-19870	5655	3.76	3.76	-11744	8510	14399	26168	50666	9588	40567	No	7.17	Si
SLU 78	-0.1	4865.73	-20177	-17935	5651	3.76	3.76	-10600	8358	14141	26168	50666	9588	40309	No	7.13	Si
SLU 82	-0.5	7340.39	-23910	-21253	5816	3.76	3.76	-12561	8619	14584	26168	50666	9588	40751	No	7.01	Si
SLU 82	-0.1	5159.87	-21750	-19333	5812	3.76	3.76	-11426	8468	14328	26168	50666	9588	40495	No	6.97	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-0.5	-1898.17	-13788	-12256	-7370	3.76	3.76	-7243	11865	20076	26168	75999	9588	46244		6.27	Si
SLV 1	-0.1	1210.29	-12107	-10762	-7386	3.76	3.76	-6360	11689	19777	26168	75999	9588	45945		6.22	Si
SLV 3	-0.5	-1342.41	-17177	-15269	-8395	3.76	3.76	-9024	12221	20679	26168	75999	9588	46846		5.58	Si
SLV 3	-0.1	2150.18	-15533	-13807	-8344	3.76	3.76	-8160	12049	20386	26168	75999	9588	46554		5.58	Si
SLV 16	-0.5	11555.67	-16120	-14329	15458	3.76	3.4894	-8468	12110	19016	26168	75999	9588	45184		2.92	Si
SLV 16	-0.1	5451.48	-14420	-12818	15471	3.76	3.76	-7576	11932	20189	26168	75999	9588	46356		3	Si
SLV 10	-0.5	6072.51	-9176	-8157	9907	3.76	3.6547	-4821	11381	18717	26168	75999	9588	44885		4.53	Si
SLV 10	-0.1	2264.66	-7417	-6593	9787	3.76	3.76	-3897	11196	18944	26168	75999	9588	45111		4.61	Si
SLV 12	-0.5	7925.04	-20474	-18199	6488	3.76	3.76	-10756	12568	21265	26168	75999	9588	47432		7.31	Si
SLV 12	-0.1	5397.62	-18836	-16743	6593	3.76	3.76	-9896	12396	20974	26168	75999	9588	47141		7.15	Si
SLV 14	-0.5	10999.91	-12730	-11316	16484	3.76	3.0478	-6688	11754	16121	26168	75999	9588	42289		2.57	Si
SLV 14	-0.1	4511.59	-10994	-9773	16429	3.76	3.76	-5776	11572	19580	26168	75999	9588	45747		2.78	Si
SLV 15	-0.5	10887.47	-16035	-14253	13824	3.76	3.603	-8424	12101	19621	26168	75999	9588	45789		3.31	Si
SLV 15	-0.1	5437.12	-14335	-12742	13837	3.76	3.76	-7531	11923	20173	26168	75999	9588	46341		3.35	Si
SLV 4	-0.5	-674.2	-17262	-15344	-6762	3.76	3.76	-9069	12230	20694	26168	75999	9588	46861		6.93	Si
SLV 4	-0.1	2164.54	-15618	-13883	-6710	3.76	3.76	-8205	12058	20402	26168	75999	9588	46569		6.94	Si
SLV 13	-0.5	10331.71	-12646	-11241	14850	3.76	3.1889	-6643	11745	16855	26168	75999	9588	43023		2.9	Si
SLV 13	-0.1	4497.23	-10909	-9697	14795	3.76	3.76	-5731	11563	19564	26168	75999	9588	45732		3.09	Si
SLV 9	-0.5	5401.43	-9091	-8081	8266	3.76	3.76	-4776	11372	19241	26168	75999	9588	45409		5.49	Si
SLV 9	-0.1	2250.23	-7332	-6517	8146	3.76	3.76	-3852	11187	18928	26168	75999	9588	45096		5.54	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 9	179667	0.24	3698	-6257	182.77	1373.69	7.52	Si
SLV 10	179667	0.24	3727	-6306	182.77	1384.12	7.57	Si
SLV 5	179667	0.24	3887	-6577	182.77	1442.25	7.89	Si
SLV 6	179667	0.24	3916	-6626	182.77	1452.65	7.95	Si
SLV 13	179667	0.24	5804	-9820	182.77	2125.44	11.63	Si
SLV 14	179667	0.24	5832	-9868	182.77	2135.52	11.68	Si
SLV 1	179667	0.24	6435	-10888	182.77	2346.65	12.84	Si
SLV 2	179667	0.24	6464	-10937	182.77	2356.64	12.89	Si
SLV 15	179667	0.24	7798	-13194	182.77	2817.05	15.41	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.24	7826	-13242	182.77	2826.85	15.47	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 8	-14653	-20073	-1001	1.211	2073.1	0.926	19.01251	2.81112	Si
SLV 7	-14510	-20098	-999	1.22	2058.8	0.926	19.16042	2.81112	Si
SLV 12	-14333	-19734	-974	1.233	2041	0.925	19.36705	2.81112	Si
SLV 11	-14190	-19759	-971	1.242	2026.6	0.925	19.52063	2.81112	Si
SLV 4	-12277	-16178	-368	1.418	1834.5	0.919	22.4264	2.83395	Si
SLV 3	-12135	-16203	-366	1.43	1820.2	0.918	22.62846	2.83395	Si
SLV 16	-11212	-15048	-276	1.519	1727.9	0.915	24.11943	2.83395	Si
SLV 15	-11070	-15073	-274	1.533	1713.7	0.915	24.35336	2.83395	Si
SLV 2	-9922	-12500	202	1.66	1599.2	0.91	26.49313	2.83395	Si
SLV 1	-9780	-12525	204	1.676	1585.1	0.91	26.77077	2.83395	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	5.114	SLU 44	Si
V_SLU	6.968	SLU 82	Si
PF_SLV	2.149	SLV 14	Si
V_SLV	2.566	SLV 14	Si
PFFP_SLV	7.516	SLV 9	Si
R_SLV	6.763	SLV 8	Si

Maschio 9

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
7.77	9.805	9.795	9.805	L1	L2	2.025	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 49	-0.5	-2299.67	-11390	-0.0000311	0.0003743	0.0035	2.025	10116.31	11502.4	11502.4	5	No	Si
SLU 49	-0.1	82.31	-9654	-0.0000167	0.0003743	0.0035	2.025	8757.59	9205.67	9205.67	111.84	No	Si
SLU 50	-0.5	-2306.44	-11458	-0.0000313	0.0003743	0.0035	2.025	10168.14	11559.36	11559.36	5.01	No	Si
SLU 50	-0.1	80.58	-9715	-0.0000168	0.0003743	0.0035	2.025	8806.53	9257.93	9257.93	114.89	No	Si
SLU 47	-0.5	-2295.15	-11344	-0.000031	0.0003743	0.0035	2.025	10081.71	11464.46	11464.46	5	No	Si
SLU 47	-0.1	83.46	-9613	-0.0000167	0.0003743	0.0035	2.025	8724.92	9170.63	9170.63	109.87	No	Si
SLU 51	-0.5	-2299.67	-11390	-0.0000311	0.0003743	0.0035	2.025	10116.31	11502.4	11502.4	5	No	Si
SLU 51	-0.1	82.31	-9654	-0.0000167	0.0003743	0.0035	2.025	8757.59	9205.67	9205.67	111.84	No	Si
SLU 68	-0.5	-2453.71	-12443	-0.0000338	0.0003743	0.0035	2.025	10908.69	12365.13	12365.13	5.04	No	Si
SLU 68	-0.1	8.43	-10620	-0.000018	0.0003743	0.0035	2.025	9522.06	9993.22	9993.22	1185.89	No	Si
SLU 44	-0.5	-2295.15	-11344	-0.000031	0.0003743	0.0035	2.025	10081.71	11464.46	11464.46	5	No	Si
SLU 44	-0.1	83.46	-9613	-0.0000167	0.0003743	0.0035	2.025	8724.92	9170.63	9170.63	109.87	No	Si
SLU 48	-0.5	-2306.44	-11458	-0.0000313	0.0003743	0.0035	2.025	10168.14	11559.36	11559.36	5.01	No	Si
SLU 48	-0.1	80.58	-9715	-0.0000168	0.0003743	0.0035	2.025	8806.53	9257.93	9257.93	114.89	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	-0.5	-2306.44	-11458	-0.0000313	0.0003743	0.0035	2.025	10168.14	11559.36	11559.36	5.01	No	Si
SLU 43	-0.1	80.58	-9715	-0.0000168	0.0003743	0.0035	2.025	8806.53	9257.93	9257.93	114.89	No	Si
SLU 45	-0.5	-2306.44	-11458	-0.0000313	0.0003743	0.0035	2.025	10168.14	11559.36	11559.36	5.01	No	Si
SLU 45	-0.1	80.58	-9715	-0.0000168	0.0003743	0.0035	2.025	8806.53	9257.93	9257.93	114.89	No	Si
SLU 46	-0.5	-2299.67	-11390	-0.0000311	0.0003743	0.0035	2.025	10116.31	11502.4	11502.4	5	No	Si
SLU 46	-0.1	82.31	-9654	-0.0000167	0.0003743	0.0035	2.025	8757.59	9205.67	9205.67	111.84	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	-0.5	-2739.39	-7676	-0.0000265	0.0005615	0.0035	2.025		8459.8	8459.8	3.09		Si
SLV 2	-0.1	42.72	-6034	-0.0000103	0.0005615	0.0035	2.025		6098.57	6098.57	142.76		Si
SLV 7	-0.5	-2901.66	-13748	-0.0000379	0.0005615	0.0035	2.025		13864.48	13864.48	4.78		Si
SLV 7	-0.1	-68.88	-11709	-0.00002	0.0005615	0.0035	2.025		12093.72	12093.72	175.58		Si
SLV 3	-0.5	-3254.18	-10317	-0.0000337	0.0005615	0.0035	2.025		10860.16	10860.16	3.34		Si
SLV 3	-0.1	-1.33	-8309	-0.0000139	0.0005615	0.0035	2.025		9043.33	9043.33	6789.47		Si
SLV 11	-0.5	-2254.79	-14242	-0.0000355	0.0005615	0.0035	2.025		14282.43	14282.43	6.33		Si
SLV 11	-0.1	-93.85	-12449	-0.0000214	0.0005615	0.0035	2.025		12750.03	12750.03	135.85		Si
SLV 8	-0.5	-2730.54	-13555	-0.0000367	0.0005615	0.0035	2.025		13701.23	13701.23	5.02		Si
SLV 8	-0.1	-57.68	-11609	-0.0000198	0.0005615	0.0035	2.025		12004.13	12004.13	208.12		Si
SLV 6	-0.5	-1582.54	-5395	-0.0000168	0.0005615	0.0035	2.025		6345.7	6345.7	4.01		Si
SLV 6	-0.1	51.99	-4359	-0.0000075	0.0005615	0.0035	2.025		4506.43	4506.43	86.68		Si
SLV 9	-0.5	-1106.8	-6081	-0.0000156	0.0005615	0.0035	2.025		6990.2	6990.2	6.32		Si
SLV 9	-0.1	15.82	-5200	-0.0000087	0.0005615	0.0035	2.025		5312.21	5312.21	335.76		Si
SLV 5	-0.5	-1753.67	-5588	-0.000018	0.0005615	0.0035	2.025		6527.37	6527.37	3.72		Si
SLV 5	-0.1	40.8	-4460	-0.0000076	0.0005615	0.0035	2.025		4603.15	4603.15	112.84		Si
SLV 4	-0.5	-3083.78	-10124	-0.0000325	0.0005615	0.0035	2.025		10688.38	10688.38	3.47		Si
SLV 4	-0.1	9.82	-8208	-0.0000138	0.0005615	0.0035	2.025		8124.53	8124.53	827.57		Si
SLV 1	-0.5	-2909.78	-7869	-0.0000277	0.0005615	0.0035	2.025		8636.89	8636.89	2.97		Si
SLV 1	-0.1	31.57	-6134	-0.0000104	0.0005615	0.0035	2.025		6193.26	6193.26	196.18		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-0.5	-2659	-13893	-12349	-8936	2.025	2.025	-13552	8751	7975	26168	27287	5164	32451	No	3.63	Si
SLU 80	-0.1	-138.62	-11983	-10651	-8952	2.025	2.025	-11689	8503	7748	26168	27287	5164	32451	No	3.63	Si
SLU 82	-0.5	-2745.05	-14495	-12884	-9084	2.025	2.025	-14139	8830	8046	26168	27287	5164	32451	No	3.57	Si
SLU 82	-0.1	-201.14	-12549	-11155	-9101	2.025	2.025	-12241	8577	7815	26168	27287	5164	32451	No	3.57	Si
SLU 75	-0.5	-2659	-13893	-12349	-8936	2.025	2.025	-13552	8751	7975	26168	27287	5164	32451	No	3.63	Si
SLU 75	-0.1	-138.62	-11983	-10651	-8952	2.025	2.025	-11689	8503	7748	26168	27287	5164	32451	No	3.63	Si
SLU 77	-0.5	-2665.77	-13961	-12409	-8966	2.025	2.025	-13618	8760	7983	26168	27287	5164	32451	No	3.62	Si
SLU 77	-0.1	-140.35	-12044	-10706	-8982	2.025	2.025	-11748	8511	7756	26168	27287	5164	32451	No	3.61	Si
SLU 79	-0.5	-2665.77	-13961	-12409	-8966	2.025	2.025	-13618	8760	7983	26168	27287	5164	32451	No	3.62	Si
SLU 79	-0.1	-140.35	-12044	-10706	-8982	2.025	2.025	-11748	8511	7756	26168	27287	5164	32451	No	3.61	Si
SLU 74	-0.5	-2665.77	-13961	-12409	-8966	2.025	2.025	-13618	8760	7983	26168	27287	5164	32451	No	3.62	Si
SLU 74	-0.1	-140.35	-12044	-10706	-8982	2.025	2.025	-11748	8511	7756	26168	27287	5164	32451	No	3.61	Si
SLU 83	-0.5	-2751.82	-14563	-12945	-9114	2.025	2.025	-14205	8838	8054	26168	27287	5164	32451	No	3.56	Si
SLU 83	-0.1	-202.87	-12610	-11209	-9131	2.025	2.025	-12301	8585	7823	26168	27287	5164	32451	No	3.55	Si
SLU 81	-0.5	-2751.82	-14563	-12945	-9114	2.025	2.025	-14205	8838	8054	26168	27287	5164	32451	No	3.56	Si
SLU 81	-0.1	-202.87	-12610	-11209	-9131	2.025	2.025	-12301	8585	7823	26168	27287	5164	32451	No	3.55	Si
SLU 78	-0.5	-2659	-13893	-12349	-8936	2.025	2.025	-13552	8751	7975	26168	27287	5164	32451	No	3.63	Si
SLU 78	-0.1	-138.62	-11983	-10651	-8952	2.025	2.025	-11689	8503	7748	26168	27287	5164	32451	No	3.63	Si
SLU 84	-0.5	-2745.05	-14495	-12884	-9084	2.025	2.025	-14139	8830	8046	26168	27287	5164	32451	No	3.57	Si
SLU 84	-0.1	-201.14	-12549	-11155	-9101	2.025	2.025	-12241	8577	7815	26168	27287	5164	32451	No	3.57	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-0.5	-2254.79	-14242	-12659	-8287	2.025	2.025	-13892	13195	12024	26168	40930	5164	38192		4.61	Si
SLV 11	-0.1	-93.85	-12449	-11066	-8294	2.025	2.025	-12144	12845	11705	26168	40930	5164	37873		4.57	Si
SLV 1	-0.5	-2909.78	-7869	-6994	-9973	2.025	1.9281	-7676	11952	10370	26168	40930	5164	36538		3.66	Si
SLV 1	-0.1	31.57	-6134	-5452	-9992	2.025	2.025	-5983	11613	10583	26168	40930	5164	36750		3.68	Si
SLV 3	-0.5	-3254.18	-10317	-9170	-11449	2.025	2.025	-10064	12429	11326	26168	40930	5164	37494		3.27	Si
SLV 3	-0.1	-1.33	-8309	-7386	-11468	2.025	2.025	-8105	12038	10969	26168	40930	5164	37137		3.24	Si
SLV 5	-0.5	-1753.67	-5588	-4967	-5621	2.025	2.025	-5451	11507	10486	26168	40930	5164	36653		6.52	Si
SLV 5	-0.1	40.8	-4460	-3964	-5636	2.025	2.025	-4350	11287	10285	26168	40930	5164	36453		6.47	Si
SLV 12	-0.5	-2083.67	-14049	-12488	-7654	2.025	2.025	-13704	13157	11990	26168	40930	5164	38157		4.99	Si
SLV 12	-0.1	-82.65	-12348	-10976	-7662	2.025	2.025	-12045	12826	11687	26168	40930	5164	37855		4.94	Si
SLV 8	-0.5	-2730.54	-13555	-12049	-9909	2.025	2.025	-13223	13061	11902	26168	40930	5164	38070		3.84	Si
SLV 8	-0.1	-57.68	-11609	-10319	-9922	2.025	2.025	-11324	12681	11556	26168	40930	5164	37724		3.8	Si
SLV 4	-0.5	-3083.78	-10124	-9000	-10820	2.025	2.025	-9876	12392	11292	26168	40930	5164	37460		3.46	Si
SLV 4	-0.1	9.82	-8208	-7296	-10838	2.025	2.025	-8007	12018	10951	26168	40930	5164	37119		3.42	Si
SLV 2	-0.5	-2739.39	-7676	-6823	-9343	2.025	1.9669	-7488	11914	10546	26168	40930	5164	36713		3.93	Si
SLV 2	-0.1	42.72	-6034	-5363	-9362	2.025	2.025	-5885	11594	10565	26168	40930	5164	36732		3.92	Si
SLV 6	-0.5	-1582.54	-5395	-4796	-4988	2.025	2.025	-5263	11469	10451	26168	40930	5164	36619		7.34	Si
SLV 6	-0.1	51.99	-4359	-3875	-5003	2.025	2.025	-4252	11267	10267	26168	40930	5164	36435		7.28	Si
SLV 7	-0.5	-2901.66	-13748	-12221	-10542	2.025	2.025	-13411	13099	11936	26168	40930	5164	38104		3.61	Si
SLV 7	-0.1	-68.88	-11709	-10408	-10554	2.025	2.025	-11422	12701	11574	26168	40930	5164	37742		3.58	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 6	179667	0.24	4040	-3681	98.43	806.42	8.19	Si
SLV 5	179667	0.24	4107	-3742	98.43	819.33	8.32	Si
SLV 10	179667	0.24	5112	-4658	98.43	1012.98	10.29	Si
SLV 9	179667	0.24	5178	-4719	98.43	1025.7	10.42	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.24	5340	-4866	98.43	1056.67	10.73	Si
SLV 1	179667	0.24	5407	-4927	98.43	1069.3	10.86	Si
SLV 4	179667	0.24	7527	-6859	98.43	1467.14	14.9	Si
SLV 3	179667	0.24	7593	-6919	98.43	1479.38	15.03	Si
SLV 14	179667	0.24	8913	-8122	98.43	1720.73	17.48	Si
SLV 13	179667	0.24	8979	-8182	98.43	1732.72	17.6	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 11	-10473	-11718	-194	1.007	1377.1	0.938	15.61411	2.81112	Si
SLV 12	-10312	-11697	-194	1.019	1360.8	0.937	15.80954	2.81112	Si
SLV 7	-10205	-10413	-239	1.024	1350	0.937	15.88534	2.81112	Si
SLV 8	-10044	-10392	-239	1.036	1333.8	0.936	16.08903	2.81112	Si
SLV 15	-8556	-10918	12	1.191	1183.5	0.929	18.62315	2.83395	Si
SLV 16	-8396	-10897	12	1.208	1167.3	0.929	18.90475	2.83395	Si
SLV 3	-7664	-6569	-139	1.279	1093.6	0.925	20.10472	2.83395	Si
SLV 4	-7504	-6548	-139	1.299	1077.5	0.924	20.43826	2.83395	Si
SLV 13	-6646	-8927	144	1.419	991.4	0.919	22.43837	2.83395	Si
SLV 14	-6486	-8906	143	1.444	975.4	0.918	22.86065	2.83395	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	4.995	SLU 44	Si
V_SLU	3.554	SLU 81	Si
PF_SLV	2.968	SLV 1	Si
V_SLV	3.238	SLV 3	Si
PFFP_SLV	8.193	SLV 6	Si
R_SLV	5.554	SLV 11	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
6.57	5.33	6.57	2.01	L1	L2	3.32	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	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 42	-1.89	-3856.11	-32237	-0.0000571	0.0004492	0.0035	3.32	39338.03	51443.31	51443.31	13.34	No	Si
SLU 42	0.31	-26191.47	-25399	-0.0001386	0.0004492	0.0035	2.656	33362.49	43131.75	43131.75	1.65	No	Si
SLU 40	-1.89	-3856.11	-32237	-0.0000571	0.0004492	0.0035	3.32	39338.03	51443.31	51443.31	13.34	No	Si
SLU 40	0.31	-26191.47	-25399	-0.0001386	0.0004492	0.0035	2.656	33362.49	43131.75	43131.75	1.65	No	Si
SLU 84	-1.89	-5033.77	-36321	-0.0000668	0.0004492	0.0035	3.32	42298.55	56047.54	56047.54	11.13	No	Si
SLU 84	0.31	-28847.34	-27963	-0.0001551	0.0004492	0.0035	2.656	35752.54	46311.81	46311.81	1.61	No	Si
SLU 39	-1.89	-4183.72	-32122	-0.0000578	0.0004492	0.0035	3.32	39248.5	51314.26	51314.26	12.27	No	Si
SLU 39	0.31	-26066.14	-25297	-0.0001378	0.0004492	0.0035	2.656	33264.52	43002.1	43002.1	1.65	No	Si
SLU 81	-1.89	-5361.38	-36207	-0.0000675	0.0004492	0.0035	3.32	42221.77	55918.49	55918.49	10.43	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.31	-28722.02	-27861	-0.0001542	0.0004492	0.0035	2.656	35661.64	46189.97	46189.97	1.61	No	Si
SLU 83	-1.89	-5361.38	-36207	-0.0000675	0.0004492	0.0035	3.32	42221.77	55918.49	55918.49	10.43	No	Si
SLU 83	0.31	-28722.02	-27861	-0.0001542	0.0004492	0.0035	2.656	35661.64	46189.97	46189.97	1.61	No	Si
SLU 41	-1.89	-4183.72	-32122	-0.0000578	0.0004492	0.0035	3.32	39248.5	51314.26	51314.26	12.27	No	Si
SLU 41	0.31	-26066.14	-25297	-0.0001378	0.0004492	0.0035	2.656	33264.52	43002.1	43002.1	1.65	No	Si
SLU 63	-1.89	-5014.79	-31877	-0.0000597	0.0004492	0.0035	3.32	39055.29	51026.37	51026.37	10.18	No	Si
SLU 63	0.31	-25192.19	-24124	-0.0001338	0.0004492	0.0035	2.656	32107.92	41498.55	41498.55	1.65	No	Si
SLU 82	-1.89	-5033.77	-36321	-0.0000668	0.0004492	0.0035	3.32	42298.55	56047.54	56047.54	11.13	No	Si
SLU 82	0.31	-28847.34	-27963	-0.0001551	0.0004492	0.0035	2.656	35752.54	46311.81	46311.81	1.61	No	Si
SLU 61	-1.89	-5014.79	-31877	-0.0000597	0.0004492	0.0035	3.32	39055.29	51026.37	51026.37	10.18	No	Si
SLU 61	0.31	-25192.19	-24124	-0.0001338	0.0004492	0.0035	2.656	32107.92	41498.55	41498.55	1.65	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.89	14718.89	-30039	-0.0000817	0.0006738	0.0035	3.32		44854.52	44854.52	3.05		Si
SLV 10	0.31	-23836.68	-22139	-0.0001238	0.0006738	0.0035	2.656		39876.12	39876.12	1.67		Si
SLV 12	-1.89	-22093.94	-15937	-0.0001857	0.0006738	0.0035	2.656		31051.18	31051.18	1.41		Si
SLV 12	0.31	-8495.96	-9884	-0.0000384	0.0006738	0.0035	3.32		22076.01	22076.01	2.6		Si
SLV 1	-1.89	1324.06	-19851	-0.0000312	0.0006738	0.0035	3.32		31582.49	31582.49	23.85		Si
SLV 1	0.31	-17682.01	-16769	-0.0000885	0.0006738	0.0035	2.656		32274.48	32274.48	1.83		Si
SLV 11	-1.89	-22801.54	-15878	-0.0002195	0.0006738	0.0035	2.656		30963.68	30963.68	1.36		Si
SLV 11	0.31	-8368.55	-9784	-0.0000378	0.0006738	0.0035	3.32		21925.6	21925.6	2.62		Si
SLV 2	-1.89	2028.63	-19911	-0.0000331	0.0006738	0.0035	3.32		31667.57	31667.57	15.61		Si
SLV 2	0.31	-17808.87	-16868	-0.0000892	0.0006738	0.0035	2.656		32419.68	32419.68	1.82		Si
SLV 5	-1.89	14101.63	-27583	-0.0000763	0.0006738	0.0035	3.32		41845.25	41845.25	2.97		Si
SLV 5	0.31	-23405.45	-21587	-0.0001221	0.0006738	0.0035	2.656		39103.42	39103.42	1.67		Si
SLV 7	-1.89	-22711.2	-13481	-0.0004186	0.0006738	0.0035	2.656		27440.28	27440.28	1.21		Si
SLV 7	0.31	-8064.73	-9332	-0.0000364	0.0006738	0.0035	3.32		21237.86	21237.86	2.63		Si
SLV 9	-1.89	14011.28	-29980	-0.0000797	0.0006738	0.0035	3.32		44781.59	44781.59	3.2		Si
SLV 9	0.31	-23709.27	-22040	-0.0001229	0.0006738	0.0035	2.656		39737.28	39737.28	1.68		Si
SLV 8	-1.89	-22003.59	-13541	-0.0003542	0.0006738	0.0035	2.656		27527.79	27527.79	1.25		Si
SLV 8	0.31	-8192.13	-9431	-0.000037	0.0006738	0.0035	3.32		21389.34	21389.34	2.61		Si
SLV 6	-1.89	14809.23	-27643	-0.0000782	0.0006738	0.0035	3.32		41918.18	41918.18	2.83		Si
SLV 6	0.31	-23532.86	-21686	-0.0001229	0.0006738	0.0035	2.656		39242.26	39242.26	1.67		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	-1.89	-4750.12	-33702	-24511	4893	3.32	3.32	-24609	10833	10790	74765	35794	16932	52726	No	10.78	Si
SLU 73	0.31	-26116.66	-25472	-18525	12309	2.656	1.9041	0	0	0	74765	28635	13546	42181	No	3.43	Si
SLU 40	-1.89	-3856.11	-32237	-23445	5850	3.32	3.32	-23539	10833	10790	74765	35794	16932	52726	No	9.01	Si
SLU 40	0.31	-26191.47	-25399	-18472	12422	2.656	1.8863	0	0	0	74765	28635	13546	42181	No	3.4	Si
SLU 83	-1.89	-5361.38	-36207	-26332	5506	3.32	3.32	-26438	10833	10790	74765	35794	16932	52726	No	9.58	Si
SLU 83	0.31	-28722.02	-27861	-20263	13307	2.656	1.8873	0	0	0	74765	28635	13546	42181	No	3.17	Si
SLU 42	-1.89	-3856.11	-32237	-23445	5850	3.32	3.32	-23539	10833	10790	74765	35794	16932	52726	No	9.01	Si
SLU 42	0.31	-26191.47	-25399	-18472	12422	2.656	1.8863	0	0	0	74765	28635	13546	42181	No	3.4	Si
SLU 76	-1.89	-4750.12	-33702	-24511	4893	3.32	3.32	-24609	10833	10790	74765	35794	16932	52726	No	10.78	Si
SLU 76	0.31	-26116.66	-25472	-18525	12309	2.656	1.9041	0	0	0	74765	28635	13546	42181	No	3.43	Si
SLU 84	-1.89	-5033.77	-36321	-26415	5734	3.32	3.32	-26521	10833	10790	74765	35794	16932	52726	No	9.2	Si
SLU 84	0.31	-28847.34	-27963	-20336	13514	2.656	1.8851	0	0	0	74765	28635	13546	42181	No	3.12	Si
SLU 81	-1.89	-5361.38	-36207	-26332	5506	3.32	3.32	-26438	10833	10790	74765	35794	16932	52726	No	9.58	Si
SLU 81	0.31	-28722.02	-27861	-20263	13307	2.656	1.8873	0	0	0	74765	28635	13546	42181	No	3.17	Si
SLU 39	-1.89	-4183.72	-32122	-23362	5623	3.32	3.32	-23456	10833	10790	74765	35794	16932	52726	No	9.38	Si
SLU 39	0.31	-26066.14	-25297	-18398	12215	2.656	1.8888	0	0	0	74765	28635	13546	42181	No	3.45	Si
SLU 41	-1.89	-4183.72	-32122	-23362	5623	3.32	3.32	-23456	10833	10790	74765	35794	16932	52726	No	9.38	Si
SLU 41	0.31	-26066.14	-25297	-18398	12215	2.656	1.8888	0	0	0	74765	28635	13546	42181	No	3.45	Si
SLU 82	-1.89	-5033.77	-36321	-26415	5734	3.32	3.32	-26521	10833	10790	74765	35794	16932	52726	No	9.2	Si
SLU 82	0.31	-28847.34	-27963	-20336	13514	2.656	1.8851	0	0	0	74765	28635	13546	42181	No	3.12	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.89	1022.91	-27840	-20248	7792	3.32	3.32	-20329	16250	16185	74765	53691	16932	70623		9.06	Si
SLV 13	0.31	-18694.76	-18279	-13294	12882	2.656	1.9118	0	0	0	74765	42953	13546	56498		4.39	Si
SLV 12	-1.89	-22093.94	-15937	-11591	-10169	2.656	0.8211	0	0	0	74765	42953	13546	56498		5.56	Si
SLV 12	0.31	-8495.96	-9884	-7188	-3812	3.32	2.4012	-10018	14504	10448	74765	53691	16932	70623		18.53	Si
SLV 11	-1.89	-22801.54	-15878	-11548	-10585	2.656	0.6718	0	0	0	74765	42953	13546	56498		5.34	Si
SLV 11	0.31	-8368.55	-9784	-7116	-4141	3.32	2.4141	-9864	14473	10482	74765	53691	16932	70623		17.05	Si
SLV 5	-1.89	14101.63	-27583	-20060	14319	3.32	3.32	-20141	16250	16185	74765	53691	16932	70623		4.93	Si
SLV 5	0.31	-23405.45	-21587	-15700	18347	2.656	1.7273	0	0	0	74765	42953	13546	56498		3.08	Si
SLV 6	-1.89	14809.23	-27643	-20104	14735	3.32	3.32	-20184	16250	16185	74765	53691	16932	70623		4.79	Si
SLV 6	0.31	-23532.86	-21686	-15772	18677	2.656	1.7245	0	0	0	74765	42953	13546	56498		3.03	Si
SLV 7	-1.89	-22711.2	-13481	-9804	-11790	2.656	0	0	0	0	74765	42953	13546	56498		4.79	Si
SLV 7	0.31	-8064.73	-9332	-6787	-5465	3.32	2.3873	-9511	14403	10315	74765	53691	16932	70623		12.92	Si
SLV 10	-1.89	14718.89	-30039	-21847	15940	3.32	3.32	-21935	16250	16185	74765	53691	16932	70623		4.43	Si
SLV 10	0.31	-23836.68	-22139	-16101	20001	2.656	1.75	0	0	0	74765	42953	13546	56498		2.82	Si
SLV 9	-1.89	14011.28	-29980	-21803	15524	3.32	3.32	-21891	16250	16185	74765	53691	16932	70623		4.55	Si
SLV 9	0.31	-23709.27	-22040	-16029	19671	2.656	1.7528	0	0	0	74765	42953	13546	56498		2.87	Si
SLV 14	-1.89	1727.48	-27900	-20291	8207	3.32	3.32	-20372	16250	16185	74765	53691	16932	70623		8.61	Si
SLV 14	0.31	-18821.62	-18378	-13366	13210	2.656	1.9075	0	0	0	74765	42953	13546	56498		4.28	Si
SLV 8	-1.89	-22003.59	-13541	-9848	-11374	2.656	0.105	0	0	0	74765	42953	13546	56498		4.97	Si
SLV 8	0.31	-8192.13	-9431	-6859	-5136	3.32	2.374	-9666	14434	10280	74765	53691	16932	70623		13.75	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 7	-12933	0.24	111.55	1802.53	2575.69	2189.11	19.63	Si
SLV 8	-12989	0.24	111.55	1809.67	2584.62	2197.15	19.7	Si
SLV 11	-14445	0.24	111.55	1995.29	2819.24	2407.26	21.58	Si
SLV 12	-14500	0.24	111.55	2002.29	2828.18	2415.23	21.65	Si
SLV 3	-15687	0.24	111.55	2150.87	3019.45	2585.16	23.18	Si
SLV 4	-15742	0.24	111.55	2157.73	3028.33	2593.03	23.25	Si
SLV 1	-19560	0.24	111.55	2619.56	3639.06	3129.31	28.05	Si
SLV 2	-19615	0.24	111.55	2626.07	3647.87	3136.97	28.12	Si
SLV 15	-20727	0.24	111.55	2755.98	3825.05	3290.52	29.5	Si
SLV 16	-20782	0.24	111.55	2762.39	3833.85	3298.12	29.57	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	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17034	-30039	-34	1.04	2071.8	0.953	15.86335	3.34959	Si
SLV 9	-16982	-29980	-34	1.042	2066.5	0.952	15.90572	3.34959	Si
SLV 6	-16799	-27643	2	1.054	2048	0.952	16.08211	3.34959	Si
SLV 5	-16747	-27583	3	1.056	2042.7	0.952	16.12534	3.34959	Si
SLV 14	-14334	-27900	-69	1.198	1797.8	0.946	18.39328	3.39259	Si
SLV 13	-14283	-27840	-69	1.201	1792.6	0.946	18.4509	3.39259	Si
SLV 2	-13552	-19911	53	1.255	1718.4	0.944	19.32151	3.39259	Si
SLV 1	-13500	-19851	53	1.259	1713.2	0.944	19.38493	3.39259	Si
SLV 16	-11786	-23669	-62	1.406	1539.6	0.939	21.76272	3.39259	Si
SLV 15	-11734	-23610	-62	1.411	1534.3	0.939	21.84436	3.39259	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	1.605	SLU 82	Si
V_SLU	3.121	SLU 82	Si
PF_SLV	1.208	SLV 7	Si
V_SLV	2.825	SLV 10	Si
PFFP_SLV	19.625	SLV 7	Si
R_SLV	4.736	SLV 10	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
6.57	9.805	6.57	6.33	L1	L2	3.475	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	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 35	-1.89	5757.73	-46834	-0.000081	0.0004492	0.0035	3.475	51455.46	65316.13	65316.13	11.34	No	Si
SLU 35	0.31	9902.86	-28742	-0.0000639	0.0004492	0.0035	3.475	38671.33	43753.34	43753.34	4.42	No	Si
SLU 37	-1.89	5757.73	-46834	-0.000081	0.0004492	0.0035	3.475	51455.46	65316.13	65316.13	11.34	No	Si
SLU 37	0.31	9902.86	-28742	-0.0000639	0.0004492	0.0035	3.475	38671.33	43753.34	43753.34	4.42	No	Si
SLU 81	-1.89	7290.18	-58272	-0.0001035	0.0004492	0.0035	3.475	54930.48	76480.03	76480.03	10.49	No	Si
SLU 81	0.31	12061.53	-35283	-0.0000794	0.0004492	0.0035	3.475	44323.67	52004.51	52004.51	4.31	No	Si
SLU 83	-1.89	7290.18	-58272	-0.0001035	0.0004492	0.0035	3.475	54930.48	76480.03	76480.03	10.49	No	Si
SLU 83	0.31	12061.53	-35283	-0.0000794	0.0004492	0.0035	3.475	44323.67	52004.51	52004.51	4.31	No	Si
SLU 82	-1.89	7541.94	-58205	-0.0001041	0.0004492	0.0035	3.475	54920.45	76414.18	76414.18	10.13	No	Si
SLU 82	0.31	11978.92	-35181	-0.000079	0.0004492	0.0035	3.475	44244.71	51876.22	51876.22	4.33	No	Si
SLU 42	-1.89	6328.17	-50276	-0.0000879	0.0004492	0.0035	3.475	52876.53	68675.52	68675.52	10.85	No	Si
SLU 42	0.31	11263.76	-31837	-0.000072	0.0004492	0.0035	3.475	41490.92	47656.98	47656.98	4.23	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.89	7541.94	-58205	-0.0001041	0.0004492	0.0035	3.475	54920.45	76414.18	76414.18	10.13	No	Si
SLU 84	0.31	11978.92	-35181	-0.000079	0.0004492	0.0035	3.475	44244.71	51876.22	51876.22	4.33	No	Si
SLU 41	-1.89	6076.41	-50344	-0.0000874	0.0004492	0.0035	3.475	52901.16	68741.36	68741.36	11.31	No	Si
SLU 41	0.31	11346.37	-31938	-0.0000724	0.0004492	0.0035	3.475	41579.15	47785.27	47785.27	4.21	No	Si
SLU 39	-1.89	6076.41	-50344	-0.0000874	0.0004492	0.0035	3.475	52901.16	68741.36	68741.36	11.31	No	Si
SLU 39	0.31	11346.37	-31938	-0.0000724	0.0004492	0.0035	3.475	41579.15	47785.27	47785.27	4.21	No	Si
SLU 40	-1.89	6328.17	-50276	-0.0000879	0.0004492	0.0035	3.475	52876.53	68675.52	68675.52	10.85	No	Si
SLU 40	0.31	11263.76	-31837	-0.000072	0.0004492	0.0035	3.475	41490.92	47656.98	47656.98	4.23	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.89	-10092.81	-43197	-0.0000841	0.0006738	0.0035	3.475		70292.28	70292.28	6.96		Si
SLV 11	0.31	10358.22	-27836	-0.0000624	0.0006738	0.0035	3.475		44644.84	44644.84	4.31		Si
SLV 1	-1.89	11078.78	-31408	-0.0000693	0.0006738	0.0035	3.475		49198.39	49198.39	4.44		Si
SLV 1	0.31	4093.46	-14951	-0.0000295	0.0006738	0.0035	3.475		25762.56	25762.56	6.29		Si
SLV 5	-1.89	19372.77	-30345	-0.0000884	0.0006738	0.0035	3.475		47843.6	47843.6	2.47		Si
SLV 5	0.31	2306.1	-12329	-0.0000217	0.0006738	0.0035	3.475		21652.97	21652.97	9.39		Si
SLV 7	-1.89	-8762.37	-40932	-0.0000775	0.0006738	0.0035	3.475		67448.79	67448.79	7.7		Si
SLV 7	0.31	9679.13	-25986	-0.0000581	0.0006738	0.0035	3.475		42268.71	42268.71	4.37		Si
SLV 8	-1.89	-8234.63	-41215	-0.0000766	0.0006738	0.0035	3.475		67804.53	67804.53	8.23		Si
SLV 8	0.31	9241.65	-25895	-0.0000569	0.0006738	0.0035	3.475		42136.22	42136.22	4.56		Si
SLV 12	-1.89	-9565.07	-43481	-0.0000832	0.0006738	0.0035	3.475		70648.02	70648.02	7.39		Si
SLV 12	0.31	9920.73	-27745	-0.0000612	0.0006738	0.0035	3.475		44528.17	44528.17	4.49		Si
SLV 9	-1.89	18042.33	-32611	-0.0000881	0.0006738	0.0035	3.475		50731.93	50731.93	2.81		Si
SLV 9	0.31	2985.18	-14179	-0.0000258	0.0006738	0.0035	3.475		24557.87	24557.87	8.23		Si
SLV 10	-1.89	18570.07	-32894	-0.0000899	0.0006738	0.0035	3.475		51093.29	51093.29	2.75		Si
SLV 10	0.31	2547.7	-14087	-0.0000247	0.0006738	0.0035	3.475		24414.22	24414.22	9.58		Si
SLV 2	-1.89	11604.26	-31690	-0.000071	0.0006738	0.0035	3.475		49558.2	49558.2	4.27		Si
SLV 2	0.31	3657.85	-14860	-0.0000283	0.0006738	0.0035	3.475		25621.75	25621.75	7		Si
SLV 6	-1.89	19900.51	-30629	-0.0000902	0.0006738	0.0035	3.475		48204.96	48204.96	2.42		Si
SLV 6	0.31	1868.62	-12237	-0.0000206	0.0006738	0.0035	3.475		21507.08	21507.08	11.51		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	-1.89	6195.67	-40761	-29644	12769	3.475	3.475	-28436	10833	11294	74765	37465	17722	55187	No	4.32	Si
SLU 47	0.31	5175.11	-19730	-14349	12958	3.475	3.475	-13764	10169	10601	74765	37465	17722	55187	No	4.26	Si
SLU 68	-1.89	6647.5	-46462	-33791	12725	3.475	3.475	-32413	10833	11294	74765	37465	17722	55187	No	4.34	Si
SLU 68	0.31	7112.16	-24460	-17789	12923	3.475	3.475	-17064	10609	11059	74765	37465	17722	55187	No	4.27	Si
SLU 65	-1.89	6647.5	-46462	-33791	12725	3.475	3.475	-32413	10833	11294	74765	37465	17722	55187	No	4.34	Si
SLU 65	0.31	7112.16	-24460	-17789	12923	3.475	3.475	-17064	10609	11059	74765	37465	17722	55187	No	4.27	Si
SLU 46	-1.89	6027.83	-40806	-29677	12653	3.475	3.475	-28467	10833	11294	74765	37465	17722	55187	No	4.36	Si
SLU 46	0.31	5230.19	-19797	-14398	12820	3.475	3.475	-13811	10175	10607	74765	37465	17722	55187	No	4.3	Si
SLU 44	-1.89	6195.67	-40761	-29644	12769	3.475	3.475	-28436	10833	11294	74765	37465	17722	55187	No	4.32	Si
SLU 44	0.31	5175.11	-19730	-14349	12958	3.475	3.475	-13764	10169	10601	74765	37465	17722	55187	No	4.26	Si
SLU 67	-1.89	6479.67	-46507	-33823	12610	3.475	3.475	-32445	10833	11294	74765	37465	17722	55187	No	4.38	Si
SLU 67	0.31	7167.23	-24528	-17838	12785	3.475	3.475	-17111	10615	11066	74765	37465	17722	55187	No	4.32	Si
SLU 72	-1.89	6479.67	-46507	-33823	12610	3.475	3.475	-32445	10833	11294	74765	37465	17722	55187	No	4.38	Si
SLU 72	0.31	7167.23	-24528	-17838	12785	3.475	3.475	-17111	10615	11066	74765	37465	17722	55187	No	4.32	Si
SLU 51	-1.89	6027.83	-40806	-29677	12653	3.475	3.475	-28467	10833	11294	74765	37465	17722	55187	No	4.36	Si
SLU 51	0.31	5230.19	-19797	-14398	12820	3.475	3.475	-13811	10175	10607	74765	37465	17722	55187	No	4.3	Si
SLU 70	-1.89	6479.67	-46507	-33823	12610	3.475	3.475	-32445	10833	11294	74765	37465	17722	55187	No	4.38	Si
SLU 70	0.31	7167.23	-24528	-17838	12785	3.475	3.475	-17111	10615	11066	74765	37465	17722	55187	No	4.32	Si
SLU 49	-1.89	6027.83	-40806	-29677	12653	3.475	3.475	-28467	10833	11294	74765	37465	17722	55187	No	4.36	Si
SLU 49	0.31	5230.19	-19797	-14398	12820	3.475	3.475	-13811	10175	10607	74765	37465	17722	55187	No	4.3	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-1.89	7169.46	-39242	-28540	11582	3.475	3.475	-27376	16250	16941	74765	56197	17722	73920		6.38	Si
SLV 14	0.31	5921.47	-21026	-15291	11691	3.475	3.475	-14668	15434	16090	74765	56197	17722	73920		6.32	Si
SLV 6	-1.89	19900.51	-30629	-22275	19467	3.475	3.2633	-21367	16250	15909	74765	56197	17722	73920		3.8	Si
SLV 6	0.31	1868.62	-12237	-8900	19464	3.475	3.475	-8537	14207	14811	74765	56197	17722	73920		3.8	Si
SLV 5	-1.89	19372.77	-30345	-22069	18733	3.475	3.2973	-21170	16250	16074	74765	56197	17722	73920		3.95	Si
SLV 5	0.31	2306.1	-12329	-8967	18731	3.475	3.475	-8601	14220	14825	74765	56197	17722	73920		3.95	Si
SLV 10	-1.89	18570.07	-32894	-23923	18866	3.475	3.475	-22948	16250	16941	74765	56197	17722	73920		3.92	Si
SLV 10	0.31	2547.7	-14087	-10245	18882	3.475	3.475	-9828	14466	15080	74765	56197	17722	73920		3.91	Si
SLV 4	-1.89	3163.72	-34866	-25357	7941	3.475	3.475	-24323	16250	16941	74765	56197	17722	73920		9.31	Si
SLV 4	0.31	5869.76	-18957	-13787	8052	3.475	3.475	-13225	15145	15789	74765	56197	17722	73920		9.18	Si
SLV 9	-1.89	18042.33	-32611	-23717	18133	3.475	3.475	-22750	16250	16941	74765	56197	17722	73920		4.08	Si
SLV 9	0.31	2985.18	-14179	-10312	18148	3.475	3.475	-9891	14478	15094	74765	56197	17722	73920		4.07	Si
SLV 2	-1.89	11604.26	-31690	-23047	13583	3.475	3.475	-22108	16250	16941	74765	56197	17722	73920		5.44	Si
SLV 2	0.31	3657.85	-14860	-10807	13632	3.475	3.475	-10366	14573	15193	74765	56197	17722	73920		5.42	Si
SLV 3	-1.89	2638.24	-34584	-25152	7211	3.475	3.475	-24127	16250	16941	74765	56197	17722	73920		10.25	Si
SLV 3	0.31	6305.37	-19048	-13853	7322	3.475	3.475	-13288	15158	15802	74765	56197	17722	73920		10.1	Si
SLV 1	-1.89	11078.78	-31408	-22842	12853	3.475	3.475	-21911	16250	16941	74765	56197	17722	73920		5.75	Si
SLV 1	0.31	4093.46	-14951	-10873	12902	3.475	3.475	-10430	14586	15206	74765	56197	17722	73920		5.73	Si
SLV 13	-1.89	6643.98	-38960	-28335	10852	3.475	3.475	-27179	16250	16941	74765	56197	17722	73920		6.81	Si
SLV 13	0.31	6357.07	-21117	-15358	10961	3.475	3.475	-14732	15446	16103	74765	56197	17722	73920		6.74	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 5	-21227	0.24	116.75	2830.34	3909.86	3370.1	28.86	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-21338	0.24	116.75	2843.29	3927.57	3385.43	29	Si
SLV 1	-22851	0.24	116.75	3017.68	4168.67	3593.18	30.78	Si
SLV 2	-22961	0.24	116.75	3030.29	4186.28	3608.29	30.91	Si
SLV 9	-23261	0.24	116.75	3064.36	4233.61	3648.99	31.25	Si
SLV 10	-23372	0.24	116.75	3076.96	4251.12	3664.04	31.38	Si
SLV 3	-26276	0.24	116.75	3399.34	4708.7	4054.02	34.72	Si
SLV 4	-26386	0.24	116.75	3411.36	4726.03	4068.69	34.85	Si
SLV 13	-29630	0.24	116.75	3755.23	5232.71	4493.97	38.49	Si
SLV 14	-29740	0.24	116.75	3766.66	5249.9	4508.28	38.61	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	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-24835	-43197	-20	0.788	2880.9	0.963	11.88259	3.34959	Si
SLV 12	-24815	-43481	-19	0.788	2878.9	0.963	11.89078	3.34959	Si
SLV 7	-23193	-40932	64	0.833	2713.9	0.961	12.58889	3.34959	Si
SLV 15	-22761	-42136	-132	0.843	2669.9	0.961	12.75628	3.39259	Si
SLV 8	-23174	-41215	64	0.833	2711.9	0.961	12.59803	3.34959	Si
SLV 16	-22742	-42418	-132	0.844	2668	0.961	12.76583	3.39259	Si
SLV 13	-19343	-38960	-146	0.966	2322.4	0.955	14.69745	3.39259	Si
SLV 14	-19323	-39242	-145	0.967	2320.4	0.955	14.71036	3.39259	Si
SLV 3	-17290	-34584	146	1.061	2113.8	0.951	16.20721	3.39259	Si
SLV 4	-17270	-34866	146	1.062	2111.8	0.951	16.22288	3.39259	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	4.212	SLU 39	Si
V_SLU	4.259	SLU 44	Si
PF_SLV	2.422	SLV 6	Si
V_SLV	3.797	SLV 6	Si
PFFP_SLV	28.865	SLV 5	Si
R_SLV	3.547	SLV 11	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
9	0.225	9.795	1.46	L1	L2	1.469	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 68	-1.89	-629.33	-8311	-0.0000256	0.0003743	0.0035	1.4688	5349.33	6032.08	6032.08	9.58	No	Si
SLU 68	0.51	2.15	-4888	-0.0000113	0.0003743	0.0035	1.4688	3328.73	3506.07	3506.07	1632.53	No	Si
SLU 78	-1.89	-701.55	-9498	-0.0000292	0.0003743	0.0035	1.4688	5990.5	6725.18	6725.18	9.59	No	Si
SLU 78	0.51	-49.04	-6204	-0.0000149	0.0003743	0.0035	1.4688	4136.16	4731.21	4731.21	96.47	No	Si
SLU 84	-1.89	-734.67	-10017	-0.0000308	0.0003743	0.0035	1.4688	6261.01	7023.51	7023.51	9.56	No	Si
SLU 84	0.51	-69.82	-6773	-0.0000164	0.0003743	0.0035	1.4688	4473.55	5087.73	5087.73	72.87	No	Si
SLU 80	-1.89	-701.55	-9498	-0.0000292	0.0003743	0.0035	1.4688	5990.5	6725.18	6725.18	9.59	No	Si
SLU 80	0.51	-49.04	-6204	-0.0000149	0.0003743	0.0035	1.4688	4136.16	4731.21	4731.21	96.47	No	Si
SLU 73	-1.89	-706.6	-9521	-0.0000293	0.0003743	0.0035	1.4688	6002.77	6738.82	6738.82	9.54	No	Si
SLU 73	0.51	-46.34	-6216	-0.0000149	0.0003743	0.0035	1.4688	4143.15	4738.56	4738.56	102.25	No	Si
SLU 75	-1.89	-701.55	-9498	-0.0000292	0.0003743	0.0035	1.4688	5990.5	6725.18	6725.18	9.59	No	Si
SLU 75	0.51	-49.04	-6204	-0.0000149	0.0003743	0.0035	1.4688	4136.16	4731.21	4731.21	96.47	No	Si
SLU 76	-1.89	-706.6	-9521	-0.0000293	0.0003743	0.0035	1.4688	6002.77	6738.82	6738.82	9.54	No	Si
SLU 76	0.51	-46.34	-6216	-0.0000149	0.0003743	0.0035	1.4688	4143.15	4738.56	4738.56	102.25	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	-1.89	-629.33	-8311	-0.0000256	0.0003743	0.0035	1.4688	5349.33	6032.08	6032.08	9.58	No	Si
SLU 65	0.51	2.15	-4888	-0.0000113	0.0003743	0.0035	1.4688	3328.73	3506.07	3506.07	1632.53	No	Si
SLU 82	-1.89	-734.67	-10017	-0.0000308	0.0003743	0.0035	1.4688	6261.01	7023.51	7023.51	9.56	No	Si
SLU 82	0.51	-69.82	-6773	-0.0000164	0.0003743	0.0035	1.4688	4473.55	5087.73	5087.73	72.87	No	Si
SLU 52	-1.89	-645.13	-8603	-0.0000264	0.0003743	0.0035	1.4688	5510.41	6205.71	6205.71	9.62	No	Si
SLU 52	0.51	-30.23	-5300	-0.0000126	0.0003743	0.0035	1.4688	3585.66	4158.5	4158.5	137.54	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.89	234.82	-4855	-0.0000134	0.0005615	0.0035	1.4688		3542.93	3542.93	15.09		Si
SLV 11	0.51	-143.19	-2376	-0.0000068	0.0005615	0.0035	1.4688		2214.13	2214.13	15.46		Si
SLV 4	-1.89	-945.34	-3820	-0.0000176	0.0005615	0.0035	1.4688		3217.95	3217.95	3.4		Si
SLV 4	0.51	88.62	-2672	-0.0000069	0.0005615	0.0035	1.4688		2038.07	2038.07	23		Si
SLV 10	-1.89	-876.42	-9333	-0.0000301	0.0005615	0.0035	1.4688		6840.46	6840.46	7.81		Si
SLV 10	0.51	72.4	-5903	-0.0000143	0.0005615	0.0035	1.4688		4247.42	4247.42	58.67		Si
SLV 9	-1.89	-739.68	-9323	-0.0000287	0.0005615	0.0035	1.4688		6834.13	6834.13	9.24		Si
SLV 9	0.51	-24.82	-5854	-0.0000137	0.0005615	0.0035	1.4688		4587.14	4587.14	184.83		Si
SLV 1	-1.89	-1101.54	-5150	-0.0000223	0.0005615	0.0035	1.4688		4116.74	4116.74	3.74		Si
SLV 1	0.51	27.34	-3667	-0.0000087	0.0005615	0.0035	1.4688		2729.9	2729.9	99.86		Si
SLV 3	-1.89	-809.18	-3810	-0.0000163	0.0005615	0.0035	1.4688		3211.05	3211.05	3.97		Si
SLV 3	0.51	-8.18	-2624	-0.0000061	0.0005615	0.0035	1.4688		2387.54	2387.54	292		Si
SLV 5	-1.89	-1063.98	-8119	-0.000029	0.0005615	0.0035	1.4688		6070.81	6070.81	5.71		Si
SLV 5	0.51	18.28	-5407	-0.0000126	0.0005615	0.0035	1.4688		3914.52	3914.52	214.15		Si
SLV 6	-1.89	-1200.71	-8129	-0.0000303	0.0005615	0.0035	1.4688		6077.38	6077.38	5.06		Si
SLV 6	0.51	115.49	-5455	-0.0000136	0.0005615	0.0035	1.4688		3947.07	3947.07	34.18		Si
SLV 2	-1.89	-1237.69	-5160	-0.0000236	0.0005615	0.0035	1.4688		4123.51	4123.51	3.33		Si
SLV 2	0.51	124.13	-3716	-0.0000097	0.0005615	0.0035	1.4688		2763.35	2763.35	22.26		Si
SLV 8	-1.89	-226.21	-3661	-0.0000105	0.0005615	0.0035	1.4688		3108.92	3108.92	13.74		Si
SLV 8	0.51	-2.88	-1977	-0.0000045	0.0005615	0.0035	1.4688		1933.4	1933.4	670.77		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.89	-734.67	-10017	-8904	748	1.4688	1.4688	-13471	8741	5777	26168	19792	3745	23537	No	31.45	Si
SLU 82	0.51	-69.82	-6773	-6021	-972	1.4688	1.4688	-9109	8159	5393	26168	19792	3745	23537	No	24.22	Si
SLU 84	-1.89	-734.67	-10017	-8904	748	1.4688	1.4688	-13471	8741	5777	26168	19792	3745	23537	No	31.45	Si
SLU 84	0.51	-69.82	-6773	-6021	-972	1.4688	1.4688	-9109	8159	5393	26168	19792	3745	23537	No	24.22	Si
SLU 76	-1.89	-706.6	-9521	-8463	683	1.4688	1.4688	-12805	8652	5718	26168	19792	3745	23537	No	34.46	Si
SLU 76	0.51	-46.34	-6216	-5525	-954	1.4688	1.4688	-8360	8059	5327	26168	19792	3745	23537	No	24.68	Si
SLU 78	-1.89	-701.55	-9498	-8442	697	1.4688	1.4688	-12773	8648	5716	26168	19792	3745	23537	No	33.77	Si
SLU 78	0.51	-49.04	-6204	-5515	-938	1.4688	1.4688	-8344	8057	5325	26168	19792	3745	23537	No	25.1	Si
SLU 74	-1.89	-693.97	-9463	-8411	718	1.4688	1.4688	-12726	8641	5711	26168	19792	3745	23537	No	32.78	Si
SLU 74	0.51	-53.09	-6187	-5499	-913	1.4688	1.4688	-8320	8054	5323	26168	19792	3745	23537	No	25.77	Si
SLU 75	-1.89	-701.55	-9498	-8442	697	1.4688	1.4688	-12773	8648	5716	26168	19792	3745	23537	No	33.77	Si
SLU 75	0.51	-49.04	-6204	-5515	-938	1.4688	1.4688	-8344	8057	5325	26168	19792	3745	23537	No	25.1	Si
SLU 81	-1.89	-727.08	-9982	-8873	769	1.4688	1.4688	-13424	8734	5773	26168	19792	3745	23537	No	30.6	Si
SLU 81	0.51	-73.87	-6756	-6005	-948	1.4688	1.4688	-9086	8156	5391	26168	19792	3745	23537	No	24.83	Si
SLU 83	-1.89	-727.08	-9982	-8873	769	1.4688	1.4688	-13424	8734	5773	26168	19792	3745	23537	No	30.6	Si
SLU 83	0.51	-73.87	-6756	-6005	-948	1.4688	1.4688	-9086	8156	5391	26168	19792	3745	23537	No	24.83	Si
SLU 80	-1.89	-701.55	-9498	-8442	697	1.4688	1.4688	-12773	8648	5716	26168	19792	3745	23537	No	33.77	Si
SLU 80	0.51	-49.04	-6204	-5515	-938	1.4688	1.4688	-8344	8057	5325	26168	19792	3745	23537	No	25.1	Si
SLU 73	-1.89	-706.6	-9521	-8463	683	1.4688	1.4688	-12805	8652	5718	26168	19792	3745	23537	No	34.46	Si
SLU 73	0.51	-46.34	-6216	-5525	-954	1.4688	1.4688	-8360	8059	5327	26168	19792	3745	23537	No	24.68	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.89	-1200.71	-8129	-7226	-1619	1.4688	1.4688	-10933	12603	8330	26168	29687	3745	33433		20.65	Si
SLV 6	0.51	115.49	-5455	-4849	-2625	1.4688	1.4688	-7337	11884	7855	26168	29687	3745	33433		12.74	Si
SLV 4	-1.89	-945.34	-3820	-3396	-1404	1.4688	1.4607	-5137	11444	7523	26168	29687	3745	33433		23.81	Si
SLV 4	0.51	88.62	-2672	-2375	-2380	1.4688	1.4688	-3594	11135	7360	26168	29687	3745	33433		14.05	Si
SLV 15	-1.89	271.79	-7824	-6955	3120	1.4688	1.4688	-10522	12521	8276	26168	29687	3745	33433		10.72	Si
SLV 15	0.51	-151.84	-4115	-3658	1805	1.4688	1.4688	-5535	11524	7616	26168	29687	3745	33433		18.52	Si
SLV 12	-1.89	98.08	-4865	-4325	2141	1.4688	1.4688	-6543	11725	7750	26168	29687	3745	33433		15.62	Si
SLV 12	0.51	-45.98	-2424	-2155	890	1.4688	1.4688	-3261	11069	7316	26168	29687	3745	33433		37.57	Si
SLV 5	-1.89	-1063.98	-8119	-7217	-1184	1.4688	1.4688	-10919	12600	8328	26168	29687	3745	33433		28.23	Si
SLV 5	0.51	18.28	-5407	-4806	-2182	1.4688	1.4688	-7271	11871	7846	26168	29687	3745	33433		15.32	Si
SLV 2	-1.89	-1237.69	-5160	-4587	-2164	1.4688	1.4688	-6940	11805	7802	26168	29687	3745	33433		15.45	Si
SLV 2	0.51	124.13	-3716	-3303	-3098	1.4688	1.4688	-4997	11416	7545	26168	29687	3745	33433		10.79	Si
SLV 11	-1.89	234.82	-4855	-4316	2575	1.4688	1.4688	-6530	11723	7748	26168	29687	3745	33433		12.98	Si
SLV 11	0.51	-143.19	-2376	-2112	1333	1.4688	1.4688	-3195	11056	7307	26168	29687	3745	33433		25.09	Si
SLV 16	-1.89	135.64	-7834	-6964	2687	1.4688	1.4688	-10536	12524	8278	26168	29687	3745	33433		12.44	Si
SLV 16	0.51	-55.04	-4164	-3701	1364	1.4688	1.4688	-5600	11537	7625	26168	29687	3745	33433		24.51	Si
SLV 13	-1.89	-20.56	-9164	-8146	2361	1.4688	1.4688	-12325	12882	8514	26168	29687	3745	33433		14.16	Si
SLV 13	0.51	-116.32	-5159	-4586	1088	1.4688	1.4688	-6938	11804	7802	26168	29687	3745	33433		30.74	Si
SLV 1	-1.89	-1101.54	-5150	-4578	-1731	1.4688	1.4688	-6927	11802	7800	26168	29687	3745	33433		19.32	Si
SLV 1	0.51	27.34	-3667	-3260	-2657	1.4688	1.4688	-4932	11403	7537	26168	29687	3745	33433		12.58	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 7	179667	0.24	3743	-2474	71.39	543.03	7.61	Si
SLV 8	179667	0.24	3815	-2521	71.39	553.12	7.75	Si
SLV 3	179667	0.24	4247	-2807	71.39	614.06	8.6	Si
SLV 4	179667	0.24	4318	-2854	71.39	624.03	8.74	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	4672	-3088	71.39	673.59	9.43	Si
SLV 12	179667	0.24	4744	-3135	71.39	683.55	9.57	Si
SLV 1	179667	0.24	5608	-3707	71.39	803.39	11.25	Si
SLV 2	179667	0.24	5679	-3754	71.39	813.18	11.39	Si
SLV 15	179667	0.24	7344	-4854	71.39	1039.68	14.56	Si
SLV 16	179667	0.24	7416	-4901	71.39	1049.23	14.7	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 10	-5903	-9333	-8	1.236	827.8	0.927	19.37867	2.81112	Si
SLV 9	-5854	-9323	-6	1.244	822.9	0.927	19.50875	2.81112	Si
SLV 6	-5455	-8129	-53	1.304	782.8	0.924	20.51178	2.81112	Si
SLV 5	-5407	-8119	-51	1.313	777.9	0.924	20.65897	2.81112	Si
SLV 14	-5207	-9174	97	1.343	757.9	0.922	21.16146	2.83395	Si
SLV 13	-5159	-9164	99	1.352	753	0.922	21.31066	2.83395	Si
SLV 16	-4164	-7834	142	1.568	653.4	0.913	24.95074	2.83395	Si
SLV 15	-4115	-7824	144	1.58	648.6	0.913	25.16286	2.83395	Si
SLV 2	-3716	-5160	-53	1.713	608.8	0.909	27.39878	2.83395	Si
SLV 1	-3667	-5150	-52	1.729	604	0.908	27.6642	2.83395	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	9.537	SLU 73	Si
V_SLU	24.216	SLU 82	Si
PF_SLV	3.332	SLV 2	Si
V_SLV	10.715	SLV 15	Si
PFFP_SLV	7.606	SLV 7	Si
R_SLV	6.894	SLV 10	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
9.795	9.805	9.795	1.46	L1	L2	8.345	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 1	-1.89	-1006.7	-36245	-0.0000143	0.0004492	0.0035	8.345	139285.46	183869.77	183869.77	182.65	No	Si
SLU 1	0.51	-4447.23	-22598	-0.0000099	0.0004492	0.0035	8.345	89647.74	132034.9	132034.9	29.69	No	Si
SLU 49	-1.89	-1105.73	-45280	-0.0000178	0.0004492	0.0035	8.345	170286.23	216459.28	216459.28	195.76	No	Si
SLU 49	0.51	-5796.28	-27559	-0.0000122	0.0004492	0.0035	8.345	108082.6	150897.95	150897.95	26.03	No	Si
SLU 48	-1.89	-1431.1	-45308	-0.000018	0.0004492	0.0035	8.345	170379.21	216559.44	216559.44	151.32	No	Si
SLU 48	0.51	-5916.56	-27578	-0.0000123	0.0004492	0.0035	8.345	108153.53	150971.41	150971.41	25.52	No	Si
SLU 43	-1.89	-1431.1	-45308	-0.000018	0.0004492	0.0035	8.345	170379.21	216559.44	216559.44	151.32	No	Si
SLU 43	0.51	-5916.56	-27578	-0.0000123	0.0004492	0.0035	8.345	108153.53	150971.41	150971.41	25.52	No	Si
SLU 47	-1.89	-888.81	-45261	-0.0000178	0.0004492	0.0035	8.345	170224.23	216392.51	216392.51	243.46	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	0.51	-5716.09	-27546	-0.0000122	0.0004492	0.0035	8.345	108035.32	150848.97	150848.97	26.39	No	Si
SLU 50	-1.89	-1431.1	-45308	-0.000018	0.0004492	0.0035	8.345	170379.21	216559.44	216559.44	151.32	No	Si
SLU 50	0.51	-5916.56	-27578	-0.0000123	0.0004492	0.0035	8.345	108153.53	150971.41	150971.41	25.52	No	Si
SLU 46	-1.89	-1105.73	-45280	-0.0000178	0.0004492	0.0035	8.345	170286.23	216459.28	216459.28	195.76	No	Si
SLU 46	0.51	-5796.28	-27559	-0.0000122	0.0004492	0.0035	8.345	108082.6	150897.95	150897.95	26.03	No	Si
SLU 45	-1.89	-1431.1	-45308	-0.000018	0.0004492	0.0035	8.345	170379.21	216559.44	216559.44	151.32	No	Si
SLU 45	0.51	-5916.56	-27578	-0.0000123	0.0004492	0.0035	8.345	108153.53	150971.41	150971.41	25.52	No	Si
SLU 44	-1.89	-888.81	-45261	-0.0000178	0.0004492	0.0035	8.345	170224.23	216392.51	216392.51	243.46	No	Si
SLU 44	0.51	-5716.09	-27546	-0.0000122	0.0004492	0.0035	8.345	108035.32	150848.97	150848.97	26.39	No	Si
SLU 51	-1.89	-1105.73	-45280	-0.0000178	0.0004492	0.0035	8.345	170286.23	216459.28	216459.28	195.76	No	Si
SLU 51	0.51	-5796.28	-27559	-0.0000122	0.0004492	0.0035	8.345	108082.6	150897.95	150897.95	26.03	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	-1.89	9540.05	-26365	-0.0000127	0.0006738	0.0035	8.345		113082.54	113082.54	11.85		Si
SLV 2	0.51	-1387.89	-16763	-0.0000068	0.0006738	0.0035	8.345		109929.59	109929.59	79.21		Si
SLV 7	-1.89	-21328.82	-37679	-0.0000204	0.0006738	0.0035	8.345		191143.57	191143.57	8.96		Si
SLV 7	0.51	-14508.45	-25304	-0.0000137	0.0006738	0.0035	8.345		143446.31	143446.31	9.89		Si
SLV 12	-1.89	-23302.64	-45369	-0.000024	0.0006738	0.0035	8.345		220005.82	220005.82	9.44		Si
SLV 12	0.51	-15245.37	-30774	-0.000016	0.0006738	0.0035	8.345		164653.77	164653.77	10.8		Si
SLV 1	-1.89	9300.22	-26360	-0.0000127	0.0006738	0.0035	8.345		113061.36	113061.36	12.16		Si
SLV 1	0.51	-548.05	-16622	-0.0000065	0.0006738	0.0035	8.345		109369.94	109369.94	199.56		Si
SLV 5	-1.89	21816.92	-34057	-0.0000192	0.0006738	0.0035	8.345		143036.18	143036.18	6.56		Si
SLV 5	0.51	7163.08	-21508	-0.0000102	0.0006738	0.0035	8.345		93920.71	93920.71	13.11		Si
SLV 8	-1.89	-21087.96	-37684	-0.0000204	0.0006738	0.0035	8.345		191164.11	191164.11	9.07		Si
SLV 8	0.51	-15351.91	-25447	-0.000014	0.0006738	0.0035	8.345		144002.55	144002.55	9.38		Si
SLV 11	-1.89	-23543.5	-45363	-0.0000241	0.0006738	0.0035	8.345		219985.91	219985.91	9.34		Si
SLV 11	0.51	-14401.92	-30632	-0.0000157	0.0006738	0.0035	8.345		164103.98	164103.98	11.39		Si
SLV 9	-1.89	19602.24	-41742	-0.0000215	0.0006738	0.0035	8.345		172490.16	172490.16	8.8		Si
SLV 9	0.51	7269.61	-26836	-0.0000123	0.0006738	0.0035	8.345		114940.35	114940.35	15.81		Si
SLV 6	-1.89	22057.79	-34063	-0.0000192	0.0006738	0.0035	8.345		143057.12	143057.12	6.49		Si
SLV 6	0.51	6319.62	-21651	-0.00001	0.0006738	0.0035	8.345		94482.4	94482.4	14.95		Si
SLV 10	-1.89	19843.11	-41747	-0.0000216	0.0006738	0.0035	8.345		172510.78	172510.78	8.69		Si
SLV 10	0.51	6426.15	-26978	-0.0000121	0.0006738	0.0035	8.345		115502.04	115502.04	17.97		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.89	-507.65	-57446	-45957	-4690	8.345	8.345	-12238	9965	37421	74765	134954	42559	112186	No	23.92	Si
SLU 79	0.51	-4495.26	-39978	-31983	-6049	8.345	8.345	-8517	9469	35558	74765	134954	42559	110323	No	18.24	Si
SLU 74	-1.89	-507.65	-57446	-45957	-4690	8.345	8.345	-12238	9965	37421	74765	134954	42559	112186	No	23.92	Si
SLU 74	0.51	-4495.26	-39978	-31983	-6049	8.345	8.345	-8517	9469	35558	74765	134954	42559	110323	No	18.24	Si
SLU 75	-1.89	-182.27	-57419	-45935	-4483	8.345	8.345	-12232	9964	37418	74765	134954	42559	112183	No	25.02	Si
SLU 75	0.51	-4374.98	-39959	-31967	-5833	8.345	8.345	-8513	9468	35556	74765	134954	42559	110321	No	18.91	Si
SLU 84	-1.89	60.51	-60358	-48286	-4777	8.345	8.345	-12858	10048	37732	74765	134954	42559	112497	No	23.55	Si
SLU 84	0.51	-3934.8	-43024	-34419	-6196	8.345	8.345	-9166	9555	35883	74765	134954	42559	110648	No	17.86	Si
SLU 82	-1.89	60.51	-60358	-48286	-4777	8.345	8.345	-12858	10048	37732	74765	134954	42559	112497	No	23.55	Si
SLU 82	0.51	-3934.8	-43024	-34419	-6196	8.345	8.345	-9166	9555	35883	74765	134954	42559	110648	No	17.86	Si
SLU 83	-1.89	-264.87	-60385	-48308	-4983	8.345	8.345	-12864	10049	37735	74765	134954	42559	112500	No	22.58	Si
SLU 83	0.51	-4055.08	-43043	-34435	-6413	8.345	8.345	-9170	9556	35885	74765	134954	42559	110650	No	17.25	Si
SLU 80	-1.89	-182.27	-57419	-45935	-4483	8.345	8.345	-12232	9964	37418	74765	134954	42559	112183	No	25.02	Si
SLU 80	0.51	-4374.98	-39959	-31967	-5833	8.345	8.345	-8513	9468	35556	74765	134954	42559	110321	No	18.91	Si
SLU 81	-1.89	-264.87	-60385	-48308	-4983	8.345	8.345	-12864	10049	37735	74765	134954	42559	112500	No	22.58	Si
SLU 81	0.51	-4055.08	-43043	-34435	-6413	8.345	8.345	-9170	9556	35885	74765	134954	42559	110650	No	17.25	Si
SLU 78	-1.89	-182.27	-57419	-45935	-4483	8.345	8.345	-12232	9964	37418	74765	134954	42559	112183	No	25.02	Si
SLU 78	0.51	-4374.98	-39959	-31967	-5833	8.345	8.345	-8513	9468	35556	74765	134954	42559	110321	No	18.91	Si
SLU 77	-1.89	-507.65	-57446	-45957	-4690	8.345	8.345	-12238	9965	37421	74765	134954	42559	112186	No	23.92	Si
SLU 77	0.51	-4495.26	-39978	-31983	-6049	8.345	8.345	-8517	9469	35558	74765	134954	42559	110323	No	18.24	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.89	-23543.5	-45363	-36291	-17118	8.345	8.345	-9664	14433	54199	74765	202431	42559	128964		7.53	Si
SLV 11	0.51	-14401.92	-30632	-24506	-17221	8.345	8.345	-6526	13805	51842	74765	202431	42559	126607		7.35	Si
SLV 8	-1.89	-21087.96	-37684	-30147	-13589	8.345	8.345	-8028	14106	52970	74765	202431	42559	127735		9.4	Si
SLV 8	0.51	-15351.91	-25447	-20357	-13716	8.345	8.345	-5421	13584	51012	74765	202431	42559	125777		9.17	Si
SLV 10	-1.89	19843.11	-41747	-33398	9373	8.345	8.345	-8894	14279	53620	74765	202431	42559	128385		13.7	Si
SLV 10	0.51	6426.15	-26978	-21583	7611	8.345	8.345	-5747	13649	51257	74765	202431	42559	126022		16.56	Si
SLV 7	-1.89	-21328.82	-37679	-30143	-15718	8.345	8.345	-8027	14105	52969	74765	202431	42559	127734		8.13	Si
SLV 7	0.51	-14508.45	-25304	-20244	-15834	8.345	8.345	-5391	13578	50989	74765	202431	42559	125754		7.94	Si
SLV 6	-1.89	22057.79	-34063	-27250	10773	8.345	8.345	-7257	13951	52391	74765	202431	42559	127155		11.8	Si
SLV 6	0.51	6319.62	-21651	-17320	8998	8.345	8.345	-4612	13422	50405	74765	202431	42559	125170		13.91	Si
SLV 16	-1.89	-10785.93	-53066	-42453	-8101	8.345	8.345	-11305	14761	55431	74765	202431	42559	130196		16.07	Si
SLV 16	0.51	-7534.25	-35661	-28529	-8776	8.345	8.345	-7597	14019	52646	74765	202431	42559	127411		14.52	Si
SLV 12	-1.89	-23302.64	-45369	-36295	-14990	8.345	8.345	-9665	14433	54200	74765	202431	42559	128964		8.6	Si
SLV 12	0.51	-15245.37	-30774	-24620	-15103	8.345	8.345	-6556	13811	51865	74765	202431	42559	126629		8.38	Si
SLV 5	-1.89	21816.92	-34057	-27246	8645	8.345	8.345	-7255	13951	52390	74765	202431	42559	127155		14.71	Si
SLV 5	0.51	7163.08	-21508	-17207	6880	8.345	8.345	-4582	13416	50382	74765	202431	42559	125147		18.19	Si
SLV 9	-1.89	19602.24	-41742	-33394	7244	8.345	8.345	-8892	14278	53619	74765	202431	42559	128384		17.72	Si
SLV 9	0.51	7269.61	-26836	-21469	5493	8.345	8.345	-5717	13643	51234	74765	202431	42559	125999		22.94	Si
SLV 15	-1.89	-11025.77	-53061	-42449	-10221	8.345	8.345	-11304	14761	55430	74765	202431	42559	130195		12.74	Si
SLV 15	0.51	-6694.41	-35519	-28415	-10885	8.345	8.345	-7567	14013	52624	74765	202431	42559	127388		11.7	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 1	-21861	0.24	412.49	4762.6	6896.86	5829.73	14.13	Si
SLV 2	-21951	0.24	412.49	4781.35	6917.93	5849.64	14.18	Si
SLV 3	-22877	0.24	412.49	4976.25	7137.31	6056.78	14.68	Si
SLV 4	-22966	0.24	412.49	4994.94	7158.39	6076.67	14.73	Si
SLV 5	-28061	0.24	412.49	6056.28	8362	7209.14	17.48	Si
SLV 6	-28150	0.24	412.49	6074.75	8383.12	7228.94	17.52	Si
SLV 7	-31446	0.24	412.49	6752.1	9161.21	7956.66	19.29	Si
SLV 8	-31535	0.24	412.49	6770.38	9182.29	7976.34	19.34	Si
SLV 9	-34390	0.24	412.49	7351.19	9854.66	8602.92	20.86	Si
SLV 10	-34480	0.24	412.49	7369.29	9875.58	8622.44	20.9	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 16	-35661	-53066	-1359	1.151	4917.6	0.93	17.98951	2.83395	Si
SLV 15	-35519	-53061	-1360	1.154	4903.3	0.93	18.04618	2.83395	Si
SLV 14	-34522	-51980	-1418	1.178	4802.8	0.928	18.43558	2.83395	Si
SLV 13	-34380	-51975	-1419	1.181	4788.5	0.928	18.49536	2.83395	Si
SLV 12	-30774	-45369	-480	1.306	4425.5	0.924	20.55327	2.81112	Si
SLV 11	-30632	-45363	-481	1.311	4411.1	0.924	20.62741	2.81112	Si
SLV 10	-26978	-41747	-678	1.432	4044.4	0.918	22.66001	2.81112	Si
SLV 9	-26836	-41742	-679	1.437	4030.1	0.918	22.75131	2.81112	Si
SLV 8	-25447	-37684	214	1.507	3891.1	0.916	23.90622	2.81112	Si
SLV 7	-25304	-37679	213	1.513	3876.8	0.916	24.00782	2.81112	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	25.517	SLU 43	Si
V_SLU	17.254	SLU 81	Si
PF_SLV	6.486	SLV 6	Si
V_SLV	7.352	SLV 11	Si
PFFP_SLV	14.133	SLV 1	Si
R_SLV	6.348	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	0.225	0.215	2.365	L2	L3	2.14	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 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

									εlim,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	εlim,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 45	1.51	3312.22	-9805	-0.000046	0.0003743	0.0035	2.14	8917.51	9297	9297	2.81	No	Si
SLU 45	3.41	-32.42	-3565	-0.0000085	0.0003743	0.0035	2.14	3606.74	4940.37	4940.37	152.38	No	Si
SLU 49	1.51	3276.29	-9780	-0.0000457	0.0003743	0.0035	2.14	8898.61	9276.61	9276.61	2.83	No	Si
SLU 49	3.41	-10.5	-3583	-0.0000084	0.0003743	0.0035	2.14	3623.83	4958.19	4958.19	472.18	No	Si
SLU 50	1.51	3312.22	-9805	-0.000046	0.0003743	0.0035	2.14	8917.51	9297	9297	2.81	No	Si
SLU 50	3.41	-32.42	-3565	-0.0000085	0.0003743	0.0035	2.14	3606.74	4940.37	4940.37	152.38	No	Si
SLU 47	1.51	3252.34	-9763	-0.0000455	0.0003743	0.0035	2.14	8886	9263.02	9263.02	2.85	No	Si
SLU 47	3.41	4.11	-3595	-0.0000084	0.0003743	0.0035	2.14	3635.23	3926.21	3926.21	954.57	No	Si
SLU 46	1.51	3276.29	-9780	-0.0000457	0.0003743	0.0035	2.14	8898.61	9276.61	9276.61	2.83	No	Si
SLU 46	3.41	-10.5	-3583	-0.0000084	0.0003743	0.0035	2.14	3623.83	4958.19	4958.19	472.18	No	Si
SLU 69	1.51	3585.04	-11483	-0.0000523	0.0003743	0.0035	2.14	10128.02	10674.5	10674.5	2.98	No	Si
SLU 69	3.41	432.48	-5242	-0.0000151	0.0003743	0.0035	2.14	5158.74	5512.76	5512.76	12.75	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	1.51	3276.29	-9780	-0.0000457	0.0003743	0.0035	2.14	8898.61	9276.61	9276.61	2.83	No	Si
SLU 51	3.41	-10.5	-3583	-0.0000084	0.0003743	0.0035	2.14	3623.83	4958.19	4958.19	472.18	No	Si
SLU 44	1.51	3252.34	-9763	-0.0000455	0.0003743	0.0035	2.14	8886	9263.02	9263.02	2.85	No	Si
SLU 44	3.41	4.11	-3595	-0.0000084	0.0003743	0.0035	2.14	3635.23	3926.21	3926.21	954.57	No	Si
SLU 43	1.51	3312.22	-9805	-0.000046	0.0003743	0.0035	2.14	8917.51	9297	9297	2.81	No	Si
SLU 43	3.41	-32.42	-3565	-0.0000085	0.0003743	0.0035	2.14	3606.74	4940.37	4940.37	152.38	No	Si
SLU 48	1.51	3312.22	-9805	-0.000046	0.0003743	0.0035	2.14	8917.51	9297	9297	2.81	No	Si
SLU 48	3.41	-32.42	-3565	-0.0000085	0.0003743	0.0035	2.14	3606.74	4940.37	4940.37	152.38	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	1.51	-575.81	-6030	-0.0000178	0.0005615	0.0035	2.14		7391.97	7391.97	12.84		Si
SLV 9	3.41	2532.7	-5954	-0.0000308	0.0005615	0.0035	2.14		6308.26	6308.26	2.49		Si
SLV 15	1.51	2437.97	-6220	-0.0000306	0.0005615	0.0035	2.14		6565.05	6565.05	2.69		Si
SLV 15	3.41	461.93	-4169	-0.0000127	0.0005615	0.0035	2.14		4550.51	4550.51	9.85		Si
SLV 4	1.51	4828.55	-13478	-0.0000649	0.0005615	0.0035	2.14		12855.17	12855.17	2.66		Si
SLV 4	3.41	-489.56	-4312	-0.0000132	0.0005615	0.0035	2.14		5721.7	5721.7	11.69		Si
SLV 8	1.51	6159.28	-12504	-0.0000747	0.0005615	0.0035	2.14		12073.22	12073.22	1.96		Si
SLV 8	3.41	-1501.74	-3295	-0.0000177	0.0005615	0.0035	2.14		4705.17	4705.17	3.13		Si
SLV 11	1.51	5034.35	-9911	-0.0000602	0.0005615	0.0035	2.14		10022.78	10022.78	1.99		Si
SLV 11	3.41	-995.94	-3396	-0.0000143	0.0005615	0.0035	2.14		4807.57	4807.57	4.83		Si
SLV 16	1.51	3016.91	-6810	-0.0000364	0.0005615	0.0035	2.14		7132.88	7132.88	2.36		Si
SLV 16	3.41	149.07	-3964	-0.0000102	0.0005615	0.0035	2.14		4344.83	4344.83	29.15		Si
SLV 7	1.51	5577.85	-11912	-0.000068	0.0005615	0.0035	2.14		11600.93	11600.93	2.08		Si
SLV 7	3.41	-1187.53	-3501	-0.0000158	0.0005615	0.0035	2.14		4912.46	4912.46	4.14		Si
SLV 12	1.51	5615.79	-10503	-0.0000673	0.0005615	0.0035	2.14		10487.22	10487.22	1.87		Si
SLV 12	3.41	-1310.15	-3190	-0.000016	0.0005615	0.0035	2.14		4600.31	4600.31	3.51		Si
SLV 10	1.51	5.62	-6622	-0.0000155	0.0005615	0.0035	2.14		6952.81	6952.81	1236.95		Si
SLV 10	3.41	2218.49	-5748	-0.000028	0.0005615	0.0035	2.14		6108	6108	2.75		Si
SLV 5	1.51	-32.32	-8030	-0.000019	0.0005615	0.0035	2.14		9293.51	9293.51	287.57		Si
SLV 5	3.41	2341.11	-6059	-0.0000295	0.0005615	0.0035	2.14		6409.49	6409.49	2.74		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	1.51	3276.29	-9780	-8236	3501	2.14	2.14	-12828	8655	5556	45199	19224	5457	24681	No	7.05	Si
SLU 51	3.41	-10.5	-3583	-3017	3502	2.14	2.14	-4700	7571	4861	45199	19224	5457	24681	No	7.05	Si
SLU 47	1.51	3252.34	-9763	-8221	3464	2.14	2.14	-12806	8652	5555	45199	19224	5457	24681	No	7.12	Si
SLU 47	3.41	4.11	-3595	-3027	3465	2.14	2.14	-4716	7573	4862	45199	19224	5457	24681	No	7.12	Si
SLU 46	1.51	3276.29	-9780	-8236	3501	2.14	2.14	-12828	8655	5556	45199	19224	5457	24681	No	7.05	Si
SLU 46	3.41	-10.5	-3583	-3017	3502	2.14	2.14	-4700	7571	4861	45199	19224	5457	24681	No	7.05	Si
SLU 48	1.51	3312.22	-9805	-8257	3556	2.14	2.14	-12861	8659	5559	45199	19224	5457	24681	No	6.94	Si
SLU 48	3.41	-32.42	-3565	-3002	3557	2.14	2.14	-4677	7568	4859	45199	19224	5457	24681	No	6.94	Si
SLU 45	1.51	3312.22	-9805	-8257	3556	2.14	2.14	-12861	8659	5559	45199	19224	5457	24681	No	6.94	Si
SLU 45	3.41	-32.42	-3565	-3002	3557	2.14	2.14	-4677	7568	4859	45199	19224	5457	24681	No	6.94	Si
SLU 66	1.51	3585.04	-11483	-9670	3424	2.14	2.14	-15062	8953	5748	45199	19224	5457	24681	No	7.21	Si
SLU 66	3.41	432.48	-5242	-4414	3426	2.14	2.14	-6875	7861	5047	45199	19224	5457	24681	No	7.2	Si
SLU 44	1.51	3252.34	-9763	-8221	3464	2.14	2.14	-12806	8652	5555	45199	19224	5457	24681	No	7.12	Si
SLU 44	3.41	4.11	-3595	-3027	3465	2.14	2.14	-4716	7573	4862	45199	19224	5457	24681	No	7.12	Si
SLU 43	1.51	3312.22	-9805	-8257	3556	2.14	2.14	-12861	8659	5559	45199	19224	5457	24681	No	6.94	Si
SLU 43	3.41	-32.42	-3565	-3002	3557	2.14	2.14	-4677	7568	4859	45199	19224	5457	24681	No	6.94	Si
SLU 49	1.51	3276.29	-9780	-8236	3501	2.14	2.14	-12828	8655	5556	45199	19224	5457	24681	No	7.05	Si
SLU 49	3.41	-10.5	-3583	-3017	3502	2.14	2.14	-4700	7571	4861	45199	19224	5457	24681	No	7.05	Si
SLU 50	1.51	3312.22	-9805	-8257	3556	2.14	2.14	-12861	8659	5559	45199	19224	5457	24681	No	6.94	Si
SLU 50	3.41	-32.42	-3565	-3002	3557	2.14	2.14	-4677	7568	4859	45199	19224	5457	24681	No	6.94	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	1.51	6159.28	-12504	-10530	8193	2.14	1.7322	-16401	13697	7118	45199	28836	5457	34293		4.19	Si
SLV 8	3.41	-1501.74	-3295	-2774	7374	2.14	1.8425	-5030	11423	6314	45199	28836	5457	34293		4.65	Si
SLV 2	1.51	3145.5	-12314	-10370	3985	2.14	2.14	-16152	13647	8761	45199	28836	5457	34293		8.61	Si
SLV 2	3.41	569.03	-5079	-4277	4196	2.14	2.14	-6662	11749	7543	45199	28836	5457	34293		8.17	Si
SLV 4	1.51	4828.55	-13478	-11350	6706	2.14	2.1353	-17679	13953	8938	45199	28836	5457	34293		5.11	Si
SLV 4	3.41	-489.56	-4312	-3631	6431	2.14	2.14	-5656	11548	7414	45199	28836	5457	34293		5.33	Si
SLV 12	1.51	5615.79	-10503	-8845	6745	2.14	1.606	-13777	13172	6346	45199	28836	5457	34293		5.08	Si
SLV 12	3.41	-1310.15	-3190	-2686	5946	2.14	1.978	-4534	11324	6719	45199	28836	5457	34293		5.77	Si
SLV 7	1.51	5577.85	-11912	-10031	7272	2.14	1.8052	-15624	13542	7334	45199	28836	5457	34293		4.72	Si
SLV 7	3.41	-1187.53	-3501	-2948	6453	2.14	2.14	-4592	11335	7277	45199	28836	5457	34293		5.31	Si
SLV 3	1.51	4249.61	-12889	-10854	5789	2.14	2.14	-16906	13798	8858	45199	28836	5457	34293		5.92	Si
SLV 3	3.41	-176.7	-4517	-3804	5514	2.14	2.14	-5925	11602	7448	45199	28836	5457	34293		6.22	Si
SLV 9	1.51	-575.81	-6030	-5078	-3246	2.14	2.14	-7909	11999	7703	45199	28836	5457	34293		10.56	Si
SLV 9	3.41	2532.7	-5954	-5014	-2424	2.14	1.9339	-7810	11979	6950	45199	28836	5457	34293		14.15	Si
SLV 1	1.51	2566.56	-11724	-9873	3068	2.14	2.14	-15379	13492	8662	45199	28836	5457	34293		11.18	Si
SLV 1	3.41	881.89	-5285	-4450	3279	2.14	2.14	-6932	11803	7578	45199	28836	5457	34293		10.46	Si
SLV 11	1.51	5034.35	-9911	-8346	5824	2.14	1.6861	-13000	13017	6584	45199	28836	5457	34293		5.89	Si
SLV 11	3.41	-995.94	-3396	-2860	5025	2.14	2.14	-4455	11308	7260	45199	28836	5457	34293		6.82	Si
SLV 10	1.51	5.62	-6622	-5577	-2325	2.14	2.14	-8686	12154	7803	45199	28836	5457	34293		14.75	Si
SLV 10	3.41	2218.49	-5748	-4840	-1503	2.14	2.0521	-7539	11925	7341	45199	28836	5457	34293		22.81	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 15	179667	0.45	7778	-4994	366.31	710.89	1.94	Si
SLV 13	179667	0.45	7852	-5041	366.31	717.26	1.96	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.45	7940	-5097	366.31	724.87	1.98	Si
SLV 14	179667	0.45	8014	-5145	366.31	731.23	2	Si
SLV 11	179667	0.45	9159	-5880	366.31	829.12	2.26	Si
SLV 12	179667	0.45	9322	-5984	366.31	842.88	2.3	Si
SLV 9	179667	0.45	9405	-6038	366.31	849.92	2.32	Si
SLV 10	179667	0.45	9567	-6142	366.31	863.62	2.36	Si
SLV 7	179667	0.45	10417	-6688	366.31	934.71	2.55	Si
SLV 8	179667	0.45	10579	-6792	366.31	948.21	2.59	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-3249	-11602	-85	2.188	720.6	0.892	35.66986	16.81776	Si
SLV 2	-3237	-11927	-84	2.193	719.5	0.891	35.74688	16.81776	Si
SLV 3	-3193	-11806	-91	2.209	715.2	0.891	36.02016	16.81776	Si
SLV 4	-3181	-12132	-91	2.214	714.1	0.891	36.09864	16.81776	Si
SLV 13	-3137	-5011	92	2.231	710	0.891	36.38787	16.81776	Si
SLV 14	-3125	-5337	93	2.235	708.8	0.891	36.46657	16.81776	Si
SLV 5	-3276	-9056	-15	2.19	723.1	0.892	35.69975	16.41895	Si
SLV 6	-3264	-9383	-15	2.195	722	0.892	35.77685	16.41895	Si
SLV 9	-3242	-7078	38	2.199	719.9	0.891	35.85279	16.41895	Si
SLV 15	-3080	-5216	86	2.255	704.6	0.891	36.79016	16.81776	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	2.807	SLU 43	Si
V_SLU	6.94	SLU 43	Si
PF_SLV	1.867	SLV 12	Si
V_SLV	4.186	SLV 8	Si
PFFP_SLV	1.941	SLV 15	Si
R_SLV	2.121	SLV 1	Si

Maschio 16

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
0.215	3.365	0.215	4.515	L2	L3	1.15	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 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

									εlim,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	εlim,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 1	1.51	664.81	-6735	-0.0000461	0.0003743	0.0035	1.15	3130.19	3335.27	3335.27	5.02	No	Si
SLU 1	3.73	-143.62	-4078	-0.0000212	0.0003743	0.0035	1.15	2072.7	2481.1	2481.1	17.27	No	Si
SLU 47	1.51	856.48	-8136	-0.0000578	0.0003743	0.0035	1.15	3594.56	3926.47	3926.47	4.58	No	Si
SLU 47	3.73	-216.38	-4779	-0.0000261	0.0003743	0.0035	1.15	2373.93	2810.45	2810.45	12.99	No	Si
SLU 44	1.51	856.48	-8136	-0.0000578	0.0003743	0.0035	1.15	3594.56	3926.47	3926.47	4.58	No	Si
SLU 44	3.73	-216.38	-4779	-0.0000261	0.0003743	0.0035	1.15	2373.93	2810.45	2810.45	12.99	No	Si
SLU 45	1.51	892.51	-8150	-0.0000588	0.0003743	0.0035	1.15	3599.03	3931.23	3931.23	4.4	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	3.73	-252.41	-4768	-0.0000269	0.0003743	0.0035	1.15	2369.36	2805.44	2805.44	11.11	No	Si
SLU 46	1.51	870.89	-8142	-0.0000582	0.0003743	0.0035	1.15	3596.35	3928.37	3928.37	4.51	No	Si
SLU 46	3.73	-230.79	-4774	-0.0000264	0.0003743	0.0035	1.15	2372.1	2808.45	2808.45	12.17	No	Si
SLU 43	1.51	892.51	-8150	-0.0000588	0.0003743	0.0035	1.15	3599.03	3931.23	3931.23	4.4	No	Si
SLU 43	3.73	-252.41	-4768	-0.0000269	0.0003743	0.0035	1.15	2369.36	2805.44	2805.44	11.11	No	Si
SLU 51	1.51	870.89	-8142	-0.0000582	0.0003743	0.0035	1.15	3596.35	3928.37	3928.37	4.51	No	Si
SLU 51	3.73	-230.79	-4774	-0.0000264	0.0003743	0.0035	1.15	2372.1	2808.45	2808.45	12.17	No	Si
SLU 50	1.51	892.51	-8150	-0.0000588	0.0003743	0.0035	1.15	3599.03	3931.23	3931.23	4.4	No	Si
SLU 50	3.73	-252.41	-4768	-0.0000269	0.0003743	0.0035	1.15	2369.36	2805.44	2805.44	11.11	No	Si
SLU 49	1.51	870.89	-8142	-0.0000582	0.0003743	0.0035	1.15	3596.35	3928.37	3928.37	4.51	No	Si
SLU 49	3.73	-230.79	-4774	-0.0000264	0.0003743	0.0035	1.15	2372.1	2808.45	2808.45	12.17	No	Si
SLU 48	1.51	892.51	-8150	-0.0000588	0.0003743	0.0035	1.15	3599.03	3931.23	3931.23	4.4	No	Si
SLU 48	3.73	-252.41	-4768	-0.0000269	0.0003743	0.0035	1.15	2369.36	2805.44	2805.44	11.11	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	1.51	1987.37	-8119	-0.0000856	0.0005615	0.0035	1.15		4098.54	4098.54	2.06		Si
SLV 11	3.73	-1362.39	-4518	-0.0000562	0.0005615	0.0035	1.15		2759.14	2759.14	2.03		Si
SLV 7	1.51	2113.27	-8828	-0.000092	0.0005615	0.0035	1.15		4407.98	4407.98	2.09		Si
SLV 7	3.73	-1444.45	-4960	-0.0000596	0.0005615	0.0035	1.15		2980.75	2980.75	2.06		Si
SLV 6	1.51	-834.09	-8248	-0.0000563	0.0005615	0.0035	1.15		4516.5	4516.5	5.41		Si
SLV 6	3.73	1429.77	-6253	-0.0000617	0.0005615	0.0035	1.15		3300.28	3300.28	2.31		Si
SLV 9	1.51	-1265.18	-7405	-0.0000625	0.0005615	0.0035	1.15		4140.03	4140.03	3.27		Si
SLV 9	3.73	1833.93	-5906	-0.0000772	0.0005615	0.0035	1.15		3153.97	3153.97	1.72		Si
SLV 8	1.51	2418.45	-8962	-0.0001037	0.0005615	0.0035	1.15		4466.74	4466.74	1.85		Si
SLV 8	3.73	-1766.55	-4865	-0.0000794	0.0005615	0.0035	0.92		2934.21	2934.21	1.66		Si
SLV 13	1.51	-273.02	-6828	-0.0000364	0.0005615	0.0035	1.15		3871.82	3871.82	14.18		Si
SLV 13	3.73	810.26	-4903	-0.0000401	0.0005615	0.0035	1.15		2689.6	2689.6	3.32		Si
SLV 4	1.51	1426.3	-9539	-0.0000768	0.0005615	0.0035	1.15		4721.6	4721.6	3.31		Si
SLV 4	3.73	-742.88	-5868	-0.000043	0.0005615	0.0035	1.15		3420.81	3420.81	4.6		Si
SLV 10	1.51	-960	-7539	-0.0000559	0.0005615	0.0035	1.15		4200.72	4200.72	4.38		Si
SLV 10	3.73	1511.83	-5811	-0.0000631	0.0005615	0.0035	1.15		3113.43	3113.43	2.06		Si
SLV 5	1.51	-1139.27	-8114	-0.0000629	0.0005615	0.0035	1.15		4456.55	4456.55	3.91		Si
SLV 5	3.73	1751.87	-6348	-0.0000732	0.0005615	0.0035	1.15		3340.35	3340.35	1.91		Si
SLV 12	1.51	2292.55	-8253	-0.0000976	0.0005615	0.0035	1.15		4156.71	4156.71	1.81		Si
SLV 12	3.73	-1684.49	-4423	-0.0000787	0.0005615	0.0035	0.92		2711.09	2711.09	1.61		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	1.51	870.89	-8142	-6856	982	1.15	1.15	-19873	9594	3310	45199	10331	2933	13263	No	13.51	Si
SLU 46	3.73	-230.79	-4774	-4021	209	1.15	1.15	-11654	8498	2932	45199	10331	2933	13263	No	63.37	Si
SLU 49	1.51	870.89	-8142	-6856	982	1.15	1.15	-19873	9594	3310	45199	10331	2933	13263	No	13.51	Si
SLU 49	3.73	-230.79	-4774	-4021	209	1.15	1.15	-11654	8498	2932	45199	10331	2933	13263	No	63.37	Si
SLU 51	1.51	870.89	-8142	-6856	982	1.15	1.15	-19873	9594	3310	45199	10331	2933	13263	No	13.51	Si
SLU 51	3.73	-230.79	-4774	-4021	209	1.15	1.15	-11654	8498	2932	45199	10331	2933	13263	No	63.37	Si
SLU 71	1.51	810.08	-9917	-8351	936	1.15	1.15	-24205	10172	3509	45199	10331	2933	13263	No	14.17	Si
SLU 71	3.73	-60.79	-6325	-5326	110	1.15	1.15	-15438	9003	3106	45199	10331	2933	13263	No	120.7	Si
SLU 47	1.51	856.48	-8136	-6851	966	1.15	1.15	-19859	9592	3309	45199	10331	2933	13263	No	13.74	Si
SLU 47	3.73	-216.38	-4779	-4024	197	1.15	1.15	-11664	8500	2932	45199	10331	2933	13263	No	67.3	Si
SLU 45	1.51	892.51	-8150	-6864	1006	1.15	1.15	-19894	9597	3311	45199	10331	2933	13263	No	13.18	Si
SLU 45	3.73	-252.41	-4768	-4015	228	1.15	1.15	-11638	8496	2931	45199	10331	2933	13263	No	58.28	Si
SLU 50	1.51	892.51	-8150	-6864	1006	1.15	1.15	-19894	9597	3311	45199	10331	2933	13263	No	13.18	Si
SLU 50	3.73	-252.41	-4768	-4015	228	1.15	1.15	-11638	8496	2931	45199	10331	2933	13263	No	58.28	Si
SLU 44	1.51	856.48	-8136	-6851	966	1.15	1.15	-19859	9592	3309	45199	10331	2933	13263	No	13.74	Si
SLU 44	3.73	-216.38	-4779	-4024	197	1.15	1.15	-11664	8500	2932	45199	10331	2933	13263	No	67.3	Si
SLU 48	1.51	892.51	-8150	-6864	1006	1.15	1.15	-19894	9597	3311	45199	10331	2933	13263	No	13.18	Si
SLU 48	3.73	-252.41	-4768	-4015	228	1.15	1.15	-11638	8496	2931	45199	10331	2933	13263	No	58.28	Si
SLU 43	1.51	892.51	-8150	-6864	1006	1.15	1.15	-19894	9597	3311	45199	10331	2933	13263	No	13.18	Si
SLU 43	3.73	-252.41	-4768	-4015	228	1.15	1.15	-11638	8496	2931	45199	10331	2933	13263	No	58.28	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	1.51	-1265.18	-7405	-6236	-1615	1.15	1.15	-18075	14032	4841	45199	15496	2933	18429		11.41	Si
SLV 9	3.73	1833.93	-5906	-4973	-1304	1.15	0.7934	-14415	13300	3166	45199	15496	2933	18429		14.13	Si
SLV 12	1.51	2292.55	-8253	-6950	2723	1.15	0.8916	-20145	14446	3864	45199	15496	2933	18429		6.77	Si
SLV 12	3.73	-1684.49	-4423	-3724	1358	0.92	0.5824	0	0	0	45199	12397	2346	14743		10.86	Si
SLV 5	1.51	-1139.27	-8114	-6833	-1375	1.15	1.15	-19806	14378	4960	45199	15496	2933	18429		13.4	Si
SLV 5	3.73	1751.87	-6348	-5346	-1286	1.15	0.8971	-15496	13516	3638	45199	15496	2933	18429		14.33	Si
SLV 3	1.51	1122.43	-9406	-7921	1494	1.15	1.15	-22959	15009	5178	45199	15496	2933	18429		12.34	Si
SLV 3	3.73	-422.16	-5962	-5021	291	1.15	1.15	-14553	13327	4598	45199	15496	2933	18429		63.34	Si
SLV 4	1.51	1426.3	-9539	-8033	1848	1.15	1.15	-23285	15074	5200	45199	15496	2933	18429		9.97	Si
SLV 4	3.73	-742.88	-5868	-4941	558	1.15	1.15	-14323	13281	4582	45199	15496	2933	18429		33.04	Si
SLV 11	1.51	1987.37	-8119	-6837	2366	1.15	0.9907	-19818	14380	4274	45199	15496	2933	18429		7.79	Si
SLV 11	3.73	-1362.39	-4518	-3804	1090	1.15	0.8203	-15574	13532	3330	45199	15496	2933	18429		16.91	Si
SLV 16	1.51	1006.61	-7175	-6042	1049	1.15	1.15	-17514	13919	4802	45199	15496	2933	18429		17.57	Si
SLV 16	3.73	-469.35	-4392	-3699	499	1.15	1.15	-10721	12561	4333	45199	15496	2933	18429		36.95	Si
SLV 7	1.51	2113.27	-8828	-7434	2606	1.15	1.0069	-21549	14726	4448	45199	15496	2933	18429		7.07	Si
SLV 7	3.73	-1444.45	-4960	-4177	1108	1.15	0.8514	-16485	13714	3503	45199	15496	2933	18429		16.64	Si
SLV 8	1.51	2418.45	-8962	-7547	2963	1.15	0.9155	-21876	14792	4062	45199	15496	2933	18429		6.22	Si
SLV 8	3.73	-1766.55	-4865	-4097	1376	0.92	0.6357	0	0	0	45199	12397	2346	14743		10.72	Si
SLV 10	1.51	-960	-7539	-6349	-1259	1.15	1.15	-18402	14097	4863	45199	15496	2933	18429		14.64	Si
SLV 10	3.73	1511.83	-5811	-4893	-1036	1.15	0.9445	-14183	13253	3755	45199	15496	2933	18429		17.79	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 13	179667	0.45	18022	-6218	196.85	822.58	4.18	Si
SLV 14	179667	0.45	18408	-6351	196.85	837.8	4.26	Si
SLV 15	179667	0.45	18677	-6444	196.85	848.35	4.31	Si
SLV 16	179667	0.45	19064	-6577	196.85	863.4	4.39	Si
SLV 9	179667	0.45	19353	-6677	196.85	874.6	4.44	Si
SLV 10	179667	0.45	19741	-6811	196.85	889.54	4.52	Si
SLV 5	179667	0.45	21150	-7297	196.85	942.94	4.79	Si
SLV 11	179667	0.45	21538	-7431	196.85	957.4	4.86	Si
SLV 6	179667	0.45	21538	-7431	196.85	957.4	4.86	Si
SLV 12	179667	0.45	21926	-7564	196.85	971.76	4.94	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2646	-8954	-346	1.615	474.3	0.902	26.03769	16.81776	Si
SLV 2	-2631	-9478	-346	1.621	472.9	0.901	26.1368	16.81776	Si
SLV 3	-2577	-10536	-342	1.645	467.5	0.901	26.53551	16.81776	Si
SLV 4	-2563	-11061	-342	1.651	466.1	0.901	26.63829	16.81776	Si
SLV 5	-2620	-6121	-110	1.687	471.8	0.901	27.19637	16.41895	Si
SLV 6	-2606	-6648	-110	1.693	470.3	0.901	27.3011	16.41895	Si
SLV 13	-2343	-6139	342	1.749	444.7	0.898	28.3029	16.81776	Si
SLV 14	-2329	-6664	342	1.756	443.3	0.898	28.41944	16.81776	Si
SLV 9	-2529	-5277	96	1.73	462.9	0.9	27.92639	16.41895	Si
SLV 10	-2515	-5804	96	1.736	461.5	0.9	28.03648	16.41895	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	4.405	SLU 43	Si
V_SLU	13.18	SLU 43	Si
PF_SLV	1.609	SLV 12	Si
V_SLV	6.22	SLV 8	Si
PFFP_SLV	4.179	SLV 13	Si
R_SLV	1.548	SLV 1	Si

Maschio 17

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
0.215	5.915	0.215	7.065	L2	L3	1.15	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 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

									εlim,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	εlim,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 41	1.51	-156.49	-12346	-0.0000616	0.0003743	0.0035	1.15	4603.8	5568.93	5568.93	35.59	No	Si
SLU 41	3.73	-732.56	-9079	-0.0000595	0.0003743	0.0035	1.15	3871.01	4590.08	4590.08	6.27	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	1.51	-227.57	-13549	-0.0000698	0.0003743	0.0035	1.15	4785.53	5900.82	5900.82	25.93	No	Si
SLU 82	3.73	-771.72	-9675	-0.0000635	0.0003743	0.0035	1.15	4030.73	4806.45	4806.45	6.23	No	Si
SLU 74	1.51	-211.32	-12162	-0.0000621	0.0003743	0.0035	1.15	4571.82	5520.02	5520.02	26.12	No	Si
SLU 74	3.73	-700.52	-8505	-0.0000558	0.0003743	0.0035	1.15	3706.38	4377.67	4377.67	6.25	No	Si
SLU 77	1.51	-211.32	-12162	-0.0000621	0.0003743	0.0035	1.15	4571.82	5520.02	5520.02	26.12	No	Si
SLU 77	3.73	-700.52	-8505	-0.0000558	0.0003743	0.0035	1.15	3706.38	4377.67	4377.67	6.25	No	Si
SLU 79	1.51	-211.32	-12162	-0.0000621	0.0003743	0.0035	1.15	4571.82	5520.02	5520.02	26.12	No	Si
SLU 79	3.73	-700.52	-8505	-0.0000558	0.0003743	0.0035	1.15	3706.38	4377.67	4377.67	6.25	No	Si
SLU 84	1.51	-227.57	-13549	-0.0000698	0.0003743	0.0035	1.15	4785.53	5900.82	5900.82	25.93	No	Si
SLU 84	3.73	-771.72	-9675	-0.0000635	0.0003743	0.0035	1.15	4030.73	4806.45	4806.45	6.23	No	Si
SLU 81	1.51	-205.72	-13556	-0.0000693	0.0003743	0.0035	1.15	4786.43	5902.79	5902.79	28.69	No	Si
SLU 81	3.73	-792.62	-9696	-0.0000642	0.0003743	0.0035	1.15	4036.16	4813.59	4813.59	6.07	No	Si
SLU 62	1.51	-200.55	-11844	-0.0000602	0.0003743	0.0035	1.15	4513.91	5436.61	5436.61	27.11	No	Si
SLU 62	3.73	-687.44	-8271	-0.0000543	0.0003743	0.0035	1.15	3635.81	4288.53	4288.53	6.24	No	Si
SLU 60	1.51	-200.55	-11844	-0.0000602	0.0003743	0.0035	1.15	4513.91	5436.61	5436.61	27.11	No	Si
SLU 60	3.73	-687.44	-8271	-0.0000543	0.0003743	0.0035	1.15	3635.81	4288.53	4288.53	6.24	No	Si
SLU 83	1.51	-205.72	-13556	-0.0000693	0.0003743	0.0035	1.15	4786.43	5902.79	5902.79	28.69	No	Si
SLU 83	3.73	-792.62	-9696	-0.0000642	0.0003743	0.0035	1.15	4036.16	4813.59	4813.59	6.07	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	1.51	384.87	-6418	-0.0000371	0.0005615	0.0035	1.15		3369.9	3369.9	8.76		Si
SLV 15	3.73	-933.51	-4633	-0.0000417	0.0005615	0.0035	1.15		2817.41	2817.41	3.02		Si
SLV 11	1.51	1296.32	-6916	-0.0000609	0.0005615	0.0035	1.15		3581.02	3581.02	2.76		Si
SLV 11	3.73	-1839.67	-5564	-0.0000788	0.0005615	0.0035	0.92		3273.67	3273.67	1.78		Si
SLV 8	1.51	1450.56	-7361	-0.0000668	0.0005615	0.0035	1.15		3771.32	3771.32	2.6		Si
SLV 8	3.73	-2016.46	-5953	-0.0000878	0.0005615	0.0035	0.92		3461.29	3461.29	1.72		Si
SLV 6	1.51	-1631.81	-7898	-0.0000739	0.0005615	0.0035	1.15		4360.05	4360.05	2.67		Si
SLV 6	3.73	1015.98	-4209	-0.0000425	0.0005615	0.0035	1.15		2342.12	2342.12	2.31		Si
SLV 12	1.51	1593.48	-6774	-0.0000685	0.0005615	0.0035	1.15		3520.51	3520.51	2.21		Si
SLV 12	3.73	-2148.91	-5678	-0.0001016	0.0005615	0.0035	0.92		3329.2	3329.2	1.55		Si
SLV 7	1.51	1153.4	-7503	-0.0000603	0.0005615	0.0035	1.15		3832.4	3832.4	3.32		Si
SLV 7	3.73	-1707.22	-5839	-0.0000711	0.0005615	0.0035	1.15		3407.32	3407.32	2		Si
SLV 5	1.51	-1928.97	-8040	-0.0000834	0.0005615	0.0035	1.15		4423.46	4423.46	2.29		Si
SLV 5	3.73	1325.23	-4095	-0.0000554	0.0005615	0.0035	1.15		2284.96	2284.96	1.72		Si
SLV 10	1.51	-1488.89	-7311	-0.0000676	0.0005615	0.0035	1.15		4096.47	4096.47	2.75		Si
SLV 10	3.73	883.53	-3934	-0.0000377	0.0005615	0.0035	1.15		2202.4	2202.4	2.49		Si
SLV 16	1.51	680.75	-6277	-0.0000434	0.0005615	0.0035	1.15		3310.13	3310.13	4.86		Si
SLV 16	3.73	-1241.43	-4746	-0.0000513	0.0005615	0.0035	1.15		2874.4	2874.4	2.32		Si
SLV 9	1.51	-1786.04	-7453	-0.0000768	0.0005615	0.0035	1.15		4162.12	4162.12	2.33		Si
SLV 9	3.73	1192.77	-3820	-0.0000492	0.0005615	0.0035	1.15		2144.22	2144.22	1.8		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	1.51	-211.32	-12162	-10242	-257	1.15	1.15	-29687	10833	3738	45199	10331	2933	13263	No	51.52	Si
SLU 74	3.73	-700.52	-8505	-7163	357	1.15	1.15	-20761	9713	3351	45199	10331	2933	13263	No	37.15	Si
SLU 80	1.51	-233.18	-12155	-10236	-282	1.15	1.15	-29670	10833	3738	45199	10331	2933	13263	No	47.08	Si
SLU 80	3.73	-679.62	-8484	-7145	344	1.15	1.15	-20710	9706	3348	45199	10331	2933	13263	No	38.59	Si
SLU 79	1.51	-211.32	-12162	-10242	-257	1.15	1.15	-29687	10833	3738	45199	10331	2933	13263	No	51.52	Si
SLU 79	3.73	-700.52	-8505	-7163	357	1.15	1.15	-20761	9713	3351	45199	10331	2933	13263	No	37.15	Si
SLU 81	1.51	-205.72	-13556	-11416	-266	1.15	1.15	-33089	10833	3738	45199	10331	2933	13263	No	49.86	Si
SLU 81	3.73	-792.62	-9696	-8165	384	1.15	1.15	-23666	10100	3484	45199	10331	2933	13263	No	34.56	Si
SLU 62	1.51	-200.55	-11844	-9974	-243	1.15	1.15	-28910	10799	3726	45199	10331	2933	13263	No	54.59	Si
SLU 62	3.73	-687.44	-8271	-6965	350	1.15	1.15	-20187	9636	3324	45199	10331	2933	13263	No	37.93	Si
SLU 84	1.51	-227.57	-13549	-11410	-290	1.15	1.15	-33072	10833	3738	45199	10331	2933	13263	No	45.69	Si
SLU 84	3.73	-771.72	-9675	-8147	370	1.15	1.15	-23615	10093	3482	45199	10331	2933	13263	No	35.8	Si
SLU 82	1.51	-227.57	-13549	-11410	-290	1.15	1.15	-33072	10833	3738	45199	10331	2933	13263	No	45.69	Si
SLU 82	3.73	-771.72	-9675	-8147	370	1.15	1.15	-23615	10093	3482	45199	10331	2933	13263	No	35.8	Si
SLU 77	1.51	-211.32	-12162	-10242	-257	1.15	1.15	-29687	10833	3738	45199	10331	2933	13263	No	51.52	Si
SLU 77	3.73	-700.52	-8505	-7163	357	1.15	1.15	-20761	9713	3351	45199	10331	2933	13263	No	37.15	Si
SLU 83	1.51	-205.72	-13556	-11416	-266	1.15	1.15	-33089	10833	3738	45199	10331	2933	13263	No	49.86	Si
SLU 83	3.73	-792.62	-9696	-8165	384	1.15	1.15	-23666	10100	3484	45199	10331	2933	13263	No	34.56	Si
SLU 60	1.51	-200.55	-11844	-9974	-243	1.15	1.15	-28910	10799	3726	45199	10331	2933	13263	No	54.59	Si
SLU 60	3.73	-687.44	-8271	-6965	350	1.15	1.15	-20187	9636	3324	45199	10331	2933	13263	No	37.93	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	1.51	-1016.24	-8537	-7189	-1234	1.15	1.15	-20838	14584	5032	45199	15496	2933	18429		14.94	Si
SLV 1	3.73	417.74	-5027	-4233	-255	1.15	1.15	-12270	12871	4440	45199	15496	2933	18429		72.21	Si
SLV 2	1.51	-720.36	-8396	-7070	-887	1.15	1.15	-20493	14515	5008	45199	15496	2933	18429		20.78	Si
SLV 2	3.73	109.82	-5140	-4328	-5	1.15	1.15	-12546	12926	4459	45199	15496	2933	18429		3802.91	Si
SLV 8	1.51	1450.56	-7361	-6199	1808	1.15	1.1338	-17967	14010	4765	45199	15496	2933	18429		10.19	Si
SLV 8	3.73	-2016.46	-5953	-5013	1458	0.92	0.7088	0	0	0	45199	12397	2346	14743		10.12	Si
SLV 11	1.51	1296.32	-6916	-5824	1642	1.15	1.15	-16881	13793	4759	45199	15496	2933	18429		11.22	Si
SLV 11	3.73	-1839.67	-5564	-4686	1227	0.92	0.7331	0	0	0	45199	12397	2346	14743		12.01	Si
SLV 10	1.51	-1488.89	-7311	-6156	-1826	1.15	1.114	-17845	13986	4674	45199	15496	2933	18429		10.09	Si
SLV 10	3.73	883.53	-3934	-3312	-732	1.15	1.0512	-9601	12337	3890	45199	15496	2933	18429		25.18	Si
SLV 9	1.51	-1786.04	-7453	-6276	-2175	1.15	1.0061	-21016	14620	4413	45199	15496	2933	18429		8.47	Si
SLV 9	3.73	1192.77	-3820	-3217	-983	1.15	0.7882	-9324	12281	2904	45199	15496	2933	18429		18.74	Si
SLV 5	1.51	-1928.97	-8040	-6771	-2357	1.15	1.0053	-22713	14959	4511	45199	15496	2933	18429		7.82	Si
SLV 5	3.73	1325.23	-4095	-3448	-1005	1.15	0.7541	-9995	12416	2809	45199	15496	2933	18429		18.34	Si
SLV 12	1.51	1593.48	-6774	-5704	1991	1.15	1.0193	-16534	13723	4196	45199	15496	2933	18429		9.26	Si
SLV 12	3.73	-2148.91	-5678	-4781	1479	0.92	0.5896	0	0	0	45199	12397	2346	14743		9.97	Si
SLV 6	1.51	-1631.81	-7898	-6651	-2009	1.15	1.1052	-19278	14272	4732	45199	15496	2933	18429		9.17	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	3.73	1015.98	-4209	-3544	-753	1.15	1.0008	-10273	12471	3744	45199	15496	2933	18429		24.47	Si
SLV 7	1.51	1153.4	-7503	-6318	1460	1.15	1.15	-18314	14080	4857	45199	15496	2933	18429		12.63	Si
SLV 7	3.73	-1707.22	-5839	-4917	1206	1.15	0.8479	-19519	14321	3643	45199	15496	2933	18429		15.28	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 16	179667	0.45	15866	-5474	196.85	735.78	3.74	Si
SLV 15	179667	0.45	16277	-5615	196.85	752.54	3.82	Si
SLV 14	179667	0.45	16334	-5635	196.85	754.88	3.83	Si
SLV 13	179667	0.45	16744	-5777	196.85	771.51	3.92	Si
SLV 12	179667	0.45	17380	-5996	196.85	797.05	4.05	Si
SLV 11	179667	0.45	17792	-6138	196.85	813.47	4.13	Si
SLV 10	179667	0.45	18939	-6534	196.85	858.54	4.36	Si
SLV 8	179667	0.45	19146	-6605	196.85	866.58	4.4	Si
SLV 9	179667	0.45	19351	-6676	196.85	874.52	4.44	Si
SLV 7	179667	0.45	19558	-6747	196.85	882.5	4.48	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-2347	-7735	-141	1.803	445.1	0.898	29.17601	16.81776	Si
SLV 4	-2342	-7212	-141	1.805	444.6	0.898	29.21978	16.81776	Si
SLV 1	-2325	-9218	-134	1.816	442.9	0.898	29.3923	16.81776	Si
SLV 2	-2320	-8695	-134	1.818	442.4	0.898	29.43666	16.81776	Si
SLV 7	-2285	-5189	-53	1.859	439.1	0.897	30.1023	16.41895	Si
SLV 8	-2280	-4664	-53	1.861	438.6	0.897	30.14841	16.41895	Si
SLV 15	-2097	-5402	135	1.936	420.8	0.895	31.4384	16.81776	Si
SLV 16	-2092	-4879	135	1.939	420.3	0.895	31.48889	16.81776	Si
SLV 5	-2212	-10133	-30	1.904	431.9	0.896	30.86672	16.41895	Si
SLV 13	-2075	-6885	142	1.947	418.7	0.895	31.61812	16.81776	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	6.073	SLU 81	Si
V_SLU	34.561	SLU 81	Si
PF_SLV	1.549	SLV 12	Si
V_SLV	7.818	SLV 5	Si
PFFP_SLV	3.738	SLV 16	Si
R_SLV	1.735	SLV 3	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
0.215	8.065	0.215	9.805	L2	L3	1.74	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 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

									εlim,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	εlim,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 76	1.51	-2118.82	-9520	-0.0000503	0.0003743	0.0035	1.74	6798.49	8022.46	8022.46	3.79	No	Si
SLU 76	3.41	-1093.71	-7116	-0.0000319	0.0003743	0.0035	1.74	5361.93	6408.71	6408.71	5.86	No	Si
SLU 80	1.51	-2097.49	-9486	-0.0000499	0.0003743	0.0035	1.74	6779.81	8000.46	8000.46	3.81	No	Si
SLU 80	3.41	-1114.51	-7125	-0.0000322	0.0003743	0.0035	1.74	5367.98	6415.45	6415.45	5.76	No	Si
SLU 82	1.51	-2299.78	-10426	-0.0000552	0.0003743	0.0035	1.74	7291.38	8600.92	8600.92	3.74	No	Si
SLU 82	3.41	-1347.41	-8237	-0.000038	0.0003743	0.0035	1.74	6055.4	7176.55	7176.55	5.33	No	Si
SLU 75	1.51	-2097.49	-9486	-0.0000499	0.0003743	0.0035	1.74	6779.81	8000.46	8000.46	3.81	No	Si
SLU 75	3.41	-1114.51	-7125	-0.0000322	0.0003743	0.0035	1.74	5367.98	6415.45	6415.45	5.76	No	Si
SLU 78	1.51	-2097.49	-9486	-0.0000499	0.0003743	0.0035	1.74	6779.81	8000.46	8000.46	3.81	No	Si
SLU 78	3.41	-1114.51	-7125	-0.0000322	0.0003743	0.0035	1.74	5367.98	6415.45	6415.45	5.76	No	Si
SLU 73	1.51	-2118.82	-9520	-0.0000503	0.0003743	0.0035	1.74	6798.49	8022.46	8022.46	3.79	No	Si
SLU 73	3.41	-1093.71	-7116	-0.0000319	0.0003743	0.0035	1.74	5361.93	6408.71	6408.71	5.86	No	Si
SLU 81	1.51	-2267.79	-10376	-0.0000547	0.0003743	0.0035	1.74	7264.84	8570.17	8570.17	3.78	No	Si
SLU 81	3.41	-1378.61	-8251	-0.0000384	0.0003743	0.0035	1.74	6063.95	7186.46	7186.46	5.21	No	Si
SLU 83	1.51	-2267.79	-10376	-0.0000547	0.0003743	0.0035	1.74	7264.84	8570.17	8570.17	3.78	No	Si
SLU 83	3.41	-1378.61	-8251	-0.0000384	0.0003743	0.0035	1.74	6063.95	7186.46	7186.46	5.21	No	Si
SLU 40	1.51	-2071.74	-9357	-0.0000492	0.0003743	0.0035	1.74	6707.49	7915.82	7915.82	3.82	No	Si
SLU 40	3.41	-1335.51	-7823	-0.0000366	0.0003743	0.0035	1.74	5803.88	6890.04	6890.04	5.16	No	Si
SLU 84	1.51	-2299.78	-10426	-0.0000552	0.0003743	0.0035	1.74	7291.38	8600.92	8600.92	3.74	No	Si
SLU 84	3.41	-1347.41	-8237	-0.000038	0.0003743	0.0035	1.74	6055.4	7176.55	7176.55	5.33	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	1.51	809.2	-3151	-0.0000169	0.0005615	0.0035	1.74		2808.83	2808.83	3.47		Si
SLV 11	3.41	-1819.09	-5323	-0.0000337	0.0005615	0.0035	1.74		5207.81	5207.81	2.86		Si
SLV 8	1.51	920.63	-4157	-0.000021	0.0005615	0.0035	1.74		3621.66	3621.66	3.93		Si
SLV 8	3.41	-2035.53	-5397	-0.0000367	0.0005615	0.0035	1.74		5266.74	5266.74	2.59		Si
SLV 12	1.51	1250.29	-2468	-0.0000225	0.0005615	0.0035	1.74		2248.13	2248.13	1.8		Si
SLV 12	3.41	-2056.87	-5622	-0.0000374	0.0005615	0.0035	1.74		5441.39	5441.39	2.65		Si
SLV 10	1.51	-3076.62	-7020	-0.0000553	0.0005615	0.0035	1.74		6504.82	6504.82	2.11		Si
SLV 10	3.41	673.59	-2813	-0.0000146	0.0005615	0.0035	1.74		2533.34	2533.34	3.76		Si
SLV 6	1.51	-3406.28	-8709	-0.0000621	0.0005615	0.0035	1.74		7752.06	7752.06	2.28		Si
SLV 6	3.41	694.93	-2589	-0.0000142	0.0005615	0.0035	1.74		2347.79	2347.79	3.38		Si
SLV 7	1.51	479.54	-4840	-0.0000186	0.0005615	0.0035	1.74		4165.31	4165.31	8.69		Si
SLV 7	3.41	-1797.75	-5099	-0.0000329	0.0005615	0.0035	1.74		5028.58	5028.58	2.8		Si
SLV 1	1.51	-2716.61	-9768	-0.0000561	0.0005615	0.0035	1.74		8516.39	8516.39	3.13		Si
SLV 1	3.41	1.43	-3012	-0.0000086	0.0005615	0.0035	1.74		2695.6	2695.6	1879.32		Si
SLV 5	1.51	-3847.37	-9392	-0.0000701	0.0005615	0.0035	1.74		8248.93	8248.93	2.14		Si
SLV 5	3.41	932.71	-2290	-0.0000163	0.0005615	0.0035	1.74		2101.3	2101.3	2.25		Si
SLV 9	1.51	-3517.71	-7703	-0.0000638	0.0005615	0.0035	1.74		7015.98	7015.98	1.99		Si
SLV 9	3.41	911.37	-2515	-0.0000164	0.0005615	0.0035	1.74		2286.89	2286.89	2.51		Si
SLV 13	1.51	-1617.74	-4138	-0.0000288	0.0005615	0.0035	1.74		4267.8	4267.8	2.64		Si
SLV 13	3.41	-69.7	-3761	-0.0000114	0.0005615	0.0035	1.74		3971.17	3971.17	56.98		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	1.51	-1646.8	-7325	-6169	-785	1.74	1.74	-11818	8520	4448	45199	15631	4437	20068	No	25.58	Si
SLU 68	3.41	-550.29	-4523	-3809	-629	1.74	1.74	-7296	7917	4133	45199	15631	4437	20068	No	31.92	Si
SLU 46	1.51	-1343.01	-6074	-5115	-754	1.74	1.74	-9799	8251	4307	45199	15631	4437	20068	No	26.63	Si
SLU 46	3.41	-314.08	-3248	-2735	-659	1.74	1.74	-5240	7643	3990	45199	15631	4437	20068	No	30.47	Si
SLU 67	1.51	-1625.48	-7292	-6141	-717	1.74	1.74	-11764	8513	4444	45199	15631	4437	20068	No	27.98	Si
SLU 67	3.41	-571.09	-4532	-3817	-622	1.74	1.74	-7311	7919	4134	45199	15631	4437	20068	No	32.27	Si
SLU 51	1.51	-1343.01	-6074	-5115	-754	1.74	1.74	-9799	8251	4307	45199	15631	4437	20068	No	26.63	Si
SLU 51	3.41	-314.08	-3248	-2735	-659	1.74	1.74	-5240	7643	3990	45199	15631	4437	20068	No	30.47	Si
SLU 65	1.51	-1646.8	-7325	-6169	-785	1.74	1.74	-11818	8520	4448	45199	15631	4437	20068	No	25.58	Si
SLU 65	3.41	-550.29	-4523	-3809	-629	1.74	1.74	-7296	7917	4133	45199	15631	4437	20068	No	31.92	Si
SLU 72	1.51	-1625.48	-7292	-6141	-717	1.74	1.74	-11764	8513	4444	45199	15631	4437	20068	No	27.98	Si
SLU 72	3.41	-571.09	-4532	-3817	-622	1.74	1.74	-7311	7919	4134	45199	15631	4437	20068	No	32.27	Si
SLU 70	1.51	-1625.48	-7292	-6141	-717	1.74	1.74	-11764	8513	4444	45199	15631	4437	20068	No	27.98	Si
SLU 70	3.41	-571.09	-4532	-3817	-622	1.74	1.74	-7311	7919	4134	45199	15631	4437	20068	No	32.27	Si
SLU 49	1.51	-1343.01	-6074	-5115	-754	1.74	1.74	-9799	8251	4307	45199	15631	4437	20068	No	26.63	Si
SLU 49	3.41	-314.08	-3248	-2735	-659	1.74	1.74	-5240	7643	3990	45199	15631	4437	20068	No	30.47	Si
SLU 44	1.51	-1364.34	-6108	-5143	-821	1.74	1.74	-9853	8258	4311	45199	15631	4437	20068	No	24.45	Si
SLU 44	3.41	-293.28	-3239	-2727	-665	1.74	1.74	-5225	7641	3989	45199	15631	4437	20068	No	30.16	Si
SLU 47	1.51	-1364.34	-6108	-5143	-821	1.74	1.74	-9853	8258	4311	45199	15631	4437	20068	No	24.45	Si
SLU 47	3.41	-293.28	-3239	-2727	-665	1.74	1.74	-5225	7641	3989	45199	15631	4437	20068	No	30.16	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	1.51	119.53	-2092	-1762	2860	1.74	1.74	-3375	11092	5790	45199	23446	4437	27883		9.75	Si
SLV 16	3.41	-1125.6	-4900	-4127	2746	1.74	1.74	-7905	11998	6263	45199	23446	4437	27883		10.15	Si
SLV 11	1.51	809.2	-3151	-2653	3545	1.74	1.74	-5083	11433	5968	45199	23446	4437	27883		7.87	Si
SLV 11	3.41	-1819.09	-5323	-4483	2859	1.74	1.5849	-9463	12309	5853	45199	23446	4437	27883		9.75	Si
SLV 6	1.51	-3406.28	-8709	-7334	-4383	1.74	1.4366	-17159	13849	5969	45199	23446	4437	27883		6.36	Si
SLV 6	3.41	694.93	-2589	-2180	-3690	1.74	1.74	-4176	11252	5873	45199	23446	4437	27883		7.56	Si
SLV 1	1.51	-2716.61	-9768	-8226	-3699	1.74	1.74	-15758	13568	7083	45199	23446	4437	27883		7.54	Si
SLV 1	3.41	1.43	-3012	-2536	-3577	1.74	1.74	-4859	11388	5945	45199	23446	4437	27883		7.8	Si
SLV 2	1.51	-2277.41	-9088	-7653	-2896	1.74	1.74	-14661	13349	6968	45199	23446	4437	27883		9.63	Si
SLV 2	3.41	-235.32	-3309	-2786	-2774	1.74	1.74	-5338	11484	5995	45199	23446	4437	27883		10.05	Si
SLV 10	1.51	-3076.62	-7020	-5911	-3350	1.74	1.2952	-15326	13482	5238	45199	23446	4437	27883		8.32	Si
SLV 10	3.41	673.59	-2813	-2369	-2598	1.74	1.74	-4538	11324	5911	45199	23446	4437	27883		10.73	Si
SLV 9	1.51	-3517.71	-7703	-6487	-4156	1.74	1.24	-17586	13934	5183	45199	23446	4437	27883		6.71	Si
SLV 9	3.41	911.37	-2515	-2118	-3404	1.74	1.5228	-4057	11228	5130	45199	23446	4437	27883		8.19	Si
SLV 5	1.51	-3847.37	-9392	-7909	-5190	1.74	1.3811	-19268	14270	5913	45199	23446	4437	27883		5.37	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	3.41	932.71	-2290	-1929	-4497	1.74	1.3882	-3695	11156	4646	45199	23446	4437	27883		6.2	Si
SLV 12	1.51	1250.29	-2468	-2078	4351	1.74	1.0902	-3981	11213	3667	45199	23446	4437	27883		6.41	Si
SLV 12	3.41	-2056.87	-5622	-4734	3666	1.74	1.5124	-10485	12514	5678	45199	23446	4437	27883		7.61	Si
SLV 8	1.51	920.63	-4157	-3501	3318	1.74	1.74	-6706	11758	6138	45199	23446	4437	27883		8.4	Si
SLV 8	3.41	-2035.53	-5397	-4545	2573	1.74	1.4785	-10295	12476	5534	45199	23446	4437	27883		10.84	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 14	179667	0.45	7573	-3953	297.84	563.59	1.89	Si
SLV 13	179667	0.45	7698	-4018	297.84	572.37	1.92	Si
SLV 16	179667	0.45	7705	-4022	297.84	572.88	1.92	Si
SLV 15	179667	0.45	7830	-4087	297.84	581.64	1.95	Si
SLV 10	179667	0.45	8437	-4404	297.84	624.15	2.1	Si
SLV 9	179667	0.45	8563	-4470	297.84	632.86	2.12	Si
SLV 12	179667	0.45	8877	-4634	297.84	654.65	2.2	Si
SLV 11	179667	0.45	9002	-4699	297.84	663.3	2.23	Si
SLV 6	179667	0.45	9310	-4860	297.84	684.53	2.3	Si
SLV 5	179667	0.45	9435	-4925	297.84	693.13	2.33	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-2762	-2327	71	2.132	597.3	0.892	34.73256	16.81776	Si
SLV 15	-2725	-2766	71	2.149	593.8	0.892	35.0093	16.81776	Si
SLV 12	-2808	-3694	32	2.12	601.7	0.893	34.5206	16.41895	Si
SLV 14	-2673	-2797	63	2.175	588.8	0.892	35.44471	16.81776	Si
SLV 11	-2771	-4134	32	2.136	598.2	0.892	34.7944	16.41895	Si
SLV 13	-2636	-3236	63	2.192	585.4	0.891	35.73209	16.81776	Si
SLV 8	-2758	-5336	-8	2.147	597	0.892	34.97832	16.41895	Si
SLV 4	-2596	-7801	-64	2.211	581.6	0.891	36.05183	16.81776	Si
SLV 7	-2722	-5777	-8	2.164	593.5	0.892	35.25907	16.41895	Si
SLV 3	-2560	-8240	-64	2.229	578.2	0.891	36.34922	16.81776	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	3.74	SLU 82	Si
V_SLU	24.45	SLU 44	Si
PF_SLV	1.798	SLV 12	Si
V_SLV	5.373	SLV 5	Si
PFFP_SLV	1.892	SLV 14	Si
R_SLV	2.065	SLV 16	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
0.215	0.225	9.035	0.225	L2	L3	8.82	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 81	0.51	61375.46	-38783	-0.0000433	0.0004492	0.0035	8.82	150515.73	165582.47	165582.47	2.7	No	Si
SLU 81	4.56	20377.56	-10712	-0.0000131	0.0004492	0.0035	8.82	45675.53	53523.72	53523.72	2.63	No	Si
SLU 84	0.51	61522	-38917	-0.0000434	0.0004492	0.0035	8.82	150966.41	166091.99	166091.99	2.7	No	Si
SLU 84	4.56	20379.66	-10718	-0.0000131	0.0004492	0.0035	8.82	45700.51	53549.18	53549.18	2.63	No	Si
SLU 77	0.51	57810.9	-36168	-0.0000405	0.0004492	0.0035	8.82	141659.31	155621.58	155621.58	2.69	No	Si
SLU 77	4.56	17408.86	-9003	-0.0000112	0.0004492	0.0035	8.82	38599.15	46350.83	46350.83	2.66	No	Si
SLU 78	0.51	57957.45	-36303	-0.0000406	0.0004492	0.0035	8.82	142119.58	156140.29	156140.29	2.69	No	Si
SLU 78	4.56	17410.96	-9009	-0.0000112	0.0004492	0.0035	8.82	38624.42	46376.3	46376.3	2.66	No	Si
SLU 74	0.51	57810.9	-36168	-0.0000405	0.0004492	0.0035	8.82	141659.31	155621.58	155621.58	2.69	No	Si
SLU 74	4.56	17408.86	-9003	-0.0000112	0.0004492	0.0035	8.82	38599.15	46350.83	46350.83	2.66	No	Si
SLU 83	0.51	61375.46	-38783	-0.0000433	0.0004492	0.0035	8.82	150515.73	165582.47	165582.47	2.7	No	Si
SLU 83	4.56	20377.56	-10712	-0.0000131	0.0004492	0.0035	8.82	45675.53	53523.72	53523.72	2.63	No	Si
SLU 79	0.51	57810.9	-36168	-0.0000405	0.0004492	0.0035	8.82	141659.31	155621.58	155621.58	2.69	No	Si
SLU 79	4.56	17408.86	-9003	-0.0000112	0.0004492	0.0035	8.82	38599.15	46350.83	46350.83	2.66	No	Si
SLU 82	0.51	61522	-38917	-0.0000434	0.0004492	0.0035	8.82	150966.41	166091.99	166091.99	2.7	No	Si
SLU 82	4.56	20379.66	-10718	-0.0000131	0.0004492	0.0035	8.82	45700.51	53549.18	53549.18	2.63	No	Si
SLU 80	0.51	57957.45	-36303	-0.0000406	0.0004492	0.0035	8.82	142119.58	156140.29	156140.29	2.69	No	Si
SLU 80	4.56	17410.96	-9009	-0.0000112	0.0004492	0.0035	8.82	38624.42	46376.3	46376.3	2.66	No	Si
SLU 75	0.51	57957.45	-36303	-0.0000406	0.0004492	0.0035	8.82	142119.58	156140.29	156140.29	2.69	No	Si
SLU 75	4.56	17410.96	-9009	-0.0000112	0.0004492	0.0035	8.82	38624.42	46376.3	46376.3	2.66	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	0.51	16003.5	-19405	-0.0000158	0.0006738	0.0035	8.82		90300.77	90300.77	5.64		Si
SLV 4	4.56	10891.76	-4332	-0.000007	0.0006738	0.0035	8.82		26622.52	26622.52	2.44		Si
SLV 3	0.51	16581.45	-19823	-0.0000163	0.0006738	0.0035	8.82		92042.03	92042.03	5.55		Si
SLV 3	4.56	10427.87	-4338	-0.0000066	0.0006738	0.0035	8.82		26649.84	26649.84	2.56		Si
SLV 13	0.51	62049.68	-28806	-0.0000397	0.0006738	0.0035	8.82		128780.54	128780.54	2.08		Si
SLV 13	4.56	7661.17	-4792	-0.0000052	0.0006738	0.0035	8.82		28602.59	28602.59	3.73		Si
SLV 15	0.51	56780.17	-23091	-0.0000368	0.0006738	0.0035	8.82		105486.66	105486.66	1.86		Si
SLV 15	4.56	7536.14	-4580	-0.0000051	0.0006738	0.0035	8.82		27688.88	27688.88	3.67		Si
SLV 16	0.51	56202.22	-22673	-0.0000365	0.0006738	0.0035	8.82		103771.48	103771.48	1.85		Si
SLV 16	4.56	8000.03	-4573	-0.0000052	0.0006738	0.0035	8.82		27661.56	27661.56	3.46		Si
SLV 2	0.51	21273	-25120	-0.0000207	0.0006738	0.0035	8.82		113816.58	113816.58	5.35		Si
SLV 2	4.56	11016.79	-4544	-0.000007	0.0006738	0.0035	8.82		27537.03	27537.03	2.5		Si
SLV 11	0.51	36564.11	-15281	-0.0000233	0.0006738	0.0035	8.82		73110.24	73110.24	2		Si
SLV 11	4.56	8401.38	-4247	-0.0000053	0.0006738	0.0035	8.82		26258.35	26258.35	3.13		Si
SLV 14	0.51	61471.72	-28388	-0.0000393	0.0006738	0.0035	8.82		127091.45	127091.45	2.07		Si
SLV 14	4.56	8125.06	-4786	-0.0000054	0.0006738	0.0035	8.82		28575.37	28575.37	3.52		Si
SLV 12	0.51	35983.67	-14862	-0.000023	0.0006738	0.0035	8.82		71361.5	71361.5	1.98		Si
SLV 12	4.56	8867.27	-4241	-0.0000056	0.0006738	0.0035	8.82		26230.91	26230.91	2.96		Si
SLV 1	0.51	21850.95	-25538	-0.0000212	0.0006738	0.0035	8.82		115531.75	115531.75	5.29		Si
SLV 1	4.56	10552.9	-4551	-0.0000066	0.0006738	0.0035	8.82		27564.35	27564.35	2.61		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	0.51	53299.42	-33704	-24512	854	8.82	8.4858	-9264	9568	24359	129139	95091	44982	140073	No	164.01	Si
SLU 40	4.56	19683.5	-10541	-7666	531	8.82	7.628	-2897	8720	19954	129139	95091	44982	140073	No	263.86	Si
SLU 84	0.51	61522	-38917	-28303	861	8.82	8.4875	-10697	9760	24850	129139	95091	44982	140073	No	162.75	Si
SLU 84	4.56	20379.66	-10718	-7795	525	8.82	7.5258	-2946	8726	19701	129139	95091	44982	140073	No	266.86	Si
SLU 41	0.51	53152.88	-33569	-24414	808	8.82	8.4798	-9227	9564	24329	129139	95091	44982	140073	No	173.36	Si
SLU 41	4.56	19681.4	-10535	-7662	485	8.82	7.6254	-2896	8719	19947	129139	95091	44982	140073	No	289.04	Si
SLU 76	0.51	58055.14	-36393	-26467	772	8.82	8.4443	-10003	9667	24489	129139	95091	44982	140073	No	181.45	Si
SLU 76	4.56	17412.36	-9013	-6555	485	8.82	7.4346	-2477	8664	19323	129139	95091	44982	140073	No	289.06	Si
SLU 73	0.51	58055.14	-36393	-26467	772	8.82	8.4443	-10003	9667	24489	129139	95091	44982	140073	No	181.45	Si
SLU 73	4.56	17412.36	-9013	-6555	485	8.82	7.4346	-2477	8664	19323	129139	95091	44982	140073	No	289.06	Si
SLU 39	0.51	53152.88	-33569	-24414	808	8.82	8.4798	-9227	9564	24329	129139	95091	44982	140073	No	173.36	Si
SLU 39	4.56	19681.4	-10535	-7662	485	8.82	7.6254	-2896	8719	19947	129139	95091	44982	140073	No	289.04	Si
SLU 81	0.51	61375.46	-38783	-28206	815	8.82	8.4824	-10660	9755	24823	129139	95091	44982	140073	No	171.96	Si
SLU 81	4.56	20377.56	-10712	-7791	479	8.82	7.5232	-2944	8726	19694	129139	95091	44982	140073	No	292.64	Si
SLU 83	0.51	61375.46	-38783	-28206	815	8.82	8.4824	-10660	9755	24823	129139	95091	44982	140073	No	171.96	Si
SLU 83	4.56	20377.56	-10712	-7791	479	8.82	7.5232	-2944	8726	19694	129139	95091	44982	140073	No	292.64	Si
SLU 82	0.51	61522	-38917	-28303	861	8.82	8.4875	-10697	9760	24850	129139	95091	44982	140073	No	162.75	Si
SLU 82	4.56	20379.66	-10718	-7795	525	8.82	7.5258	-2946	8726	19701	129139	95091	44982	140073	No	266.86	Si
SLU 42	0.51	53299.42	-33704	-24512	854	8.82	8.4858	-9264	9568	24359	129139	95091	44982	140073	No	164.01	Si
SLU 42	4.56	19683.5	-10541	-7666	531	8.82	7.628	-2897	8720	19954	129139	95091	44982	140073	No	263.86	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.51	16003.5	-19405	-14113	-20498	8.82	8.82	-5334	13567	35898	129139	142636	44982	165037		8.05	Si
SLV 4	4.56	10891.76	-4332	-3151	-13107	8.82	5.6872	-1191	12738	21733	129139	142636	44982	150872		11.51	Si
SLV 16	0.51	56202.22	-22673	-16490	16475	8.82	5.7937	-6232	13746	23893	129139	142636	44982	153032		9.29	Si
SLV 16	4.56	8000.03	-4573	-3326	9119	8.82	7.9822	-1257	12751	30535	129139	142636	44982	159674		17.51	Si
SLV 13	0.51	62049.68	-28806	-20950	21218	8.82	6.7678	-7918	14084	28594	129139	142636	44982	157734		7.43	Si
SLV 13	4.56	7661.17	-4792	-3485	13519	8.82	8.4339	-1317	12763	32294	129139	142636	44982	161433		11.94	Si
SLV 2	0.51	21273	-25120	-18269	-18401	8.82	8.82	-6904	13881	36729	129139	142636	44982	165868		9.01	Si
SLV 2	4.56	11016.79	-4544	-3305	-11349	8.82	5.9573	-1249	12750	22786	129139	142636	44982	151925		13.39	Si
SLV 3	0.51	16581.45	-19823	-14417	-17852	8.82	8.82	-5449	13590	35958	129139	142636	44982	165098		9.25	Si
SLV 3	4.56	10427.87	-4338	-3155	-10465	8.82	6.019	-1192	12738	23002	129139	142636	44982	152141		14.54	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.51	56780.17	-23091	-16794	19122	8.82	5.8532	-6347	13769	24178	129139	142636	44982	153317		8.02	Si
SLV 15	4.56	7536.14	-4580	-3331	11761	8.82	8.2933	-1259	12752	31726	129139	142636	44982	160866		13.68	Si
SLV 1	0.51	21850.95	-25538	-18573	-15755	8.82	8.82	-7019	13904	36790	129139	142636	44982	165929		10.53	Si
SLV 1	4.56	10552.9	-4551	-3310	-8707	8.82	6.2732	-1251	12750	23995	129139	142636	44982	153135		17.59	Si
SLV 9	0.51	54129.12	-34330	-24967	10730	8.82	8.4998	-9436	14387	36686	129139	142636	44982	165826		15.45	Si
SLV 9	4.56	8818.14	-4956	-3604	7796	8.82	7.8916	-1362	12772	30239	129139	142636	44982	159378		20.44	Si
SLV 14	0.51	61471.72	-28388	-20646	18572	8.82	6.7338	-7803	14061	28404	129139	142636	44982	157543		8.48	Si
SLV 14	4.56	8125.06	-4786	-3481	10877	8.82	8.1368	-1315	12763	31155	129139	142636	44982	160294		14.74	Si
SLV 8	0.51	23924.05	-13881	-10095	-10010	8.82	8.0596	-3815	13263	32068	129139	142636	44982	161208		16.11	Si
SLV 8	4.56	9734.79	-4169	-3032	-7385	8.82	6.2242	-1146	12729	23769	129139	142636	44982	152908		20.71	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 8	-10086	0.45	1547.55	0	2831.59	1415.79	0.91	No
SLV 7	-10253	0.45	1547.55	0	2859.63	1429.81	0.92	No
SLV 12	-10841	0.45	1547.55	1589.8	2958.16	2273.98	1.47	Si
SLV 11	-11008	0.45	1547.55	1613.77	2986.17	2299.97	1.49	Si
SLV 4	-11950	0.45	1547.55	1748.33	3143.09	2445.71	1.58	Si
SLV 3	-12117	0.45	1547.55	1772.08	3170.8	2471.44	1.6	Si
SLV 2	-14303	0.45	1547.55	2082.2	3533.91	2808.06	1.81	Si
SLV 16	-14468	0.45	1547.55	2105.48	3561.15	2833.31	1.83	Si
SLV 1	-14470	0.45	1547.55	2105.71	3561.42	2833.57	1.83	Si
SLV 15	-14635	0.45	1547.55	2128.97	3588.66	2858.81	1.85	Si

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 9	-4956	-34330	1461	3.355	2222.3	0.899	54.22021	16.41895	Si
SLV 10	-4949	-33910	1461	3.356	2221.8	0.899	54.24128	16.41895	Si
SLV 13	-4792	-28806	555	3.455	2209.8	0.9	55.77992	16.81776	Si
SLV 14	-4786	-28388	555	3.456	2209.3	0.9	55.80162	16.81776	Si
SLV 5	-4883	-33350	1305	3.382	2216.7	0.9	54.63513	16.41895	Si
SLV 6	-4877	-32930	1305	3.383	2216.2	0.9	54.65642	16.41895	Si
SLV 15	-4580	-23091	-378	3.518	2193.7	0.902	56.71631	16.81776	Si
SLV 16	-4573	-22673	-378	3.52	2193.2	0.902	56.73869	16.81776	Si
SLV 3	-4338	-19823	-899	3.541	2175.7	0.903	56.97359	16.81776	Si
SLV 4	-4332	-19405	-899	3.543	2175.3	0.903	56.99621	16.81776	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	2.627	SLU 81	Si
V_SLU	162.752	SLU 82	Si
PF_SLV	1.846	SLV 16	Si
V_SLV	7.434	SLV 13	Si
PFFP_SLV	0.915	SLV 8	No
R_SLV	3.302	SLV 9	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	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
2.01	9.805	0.215	9.805	L2	L3	1.795	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 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

									εlim,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	εlim,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 81	1.51	-158.08	-4396	-0.0000137	0.0003743	0.0035	1.795	3628.83	5188.49	5188.49	32.82	No	Si
SLU 81	3.41	783.35	-1394	-0.0000138	0.0003743	0.0035	1.795	1219.35	1546.99	1546.99	1.97	No	Si
SLU 80	1.51	-145.46	-4069	-0.0000127	0.0003743	0.0035	1.795	3380.51	4926.9	4926.9	33.87	No	Si
SLU 80	3.41	728.2	-1302	-0.0000127	0.0003743	0.0035	1.795	1141.06	1468.29	1468.29	2.02	No	Si
SLU 78	1.51	-145.46	-4069	-0.0000127	0.0003743	0.0035	1.795	3380.51	4926.9	4926.9	33.87	No	Si
SLU 78	3.41	728.2	-1302	-0.0000127	0.0003743	0.0035	1.795	1141.06	1468.29	1468.29	2.02	No	Si
SLU 74	1.51	-163.32	-4106	-0.000013	0.0003743	0.0035	1.795	3409.44	4957.07	4957.07	30.35	No	Si
SLU 74	3.41	725.36	-1276	-0.0000128	0.0003743	0.0035	1.795	1118.41	1445.56	1445.56	1.99	No	Si
SLU 84	1.51	-140.22	-4358	-0.0000135	0.0003743	0.0035	1.795	3600.25	5158.07	5158.07	36.78	No	Si
SLU 84	3.41	786.19	-1421	-0.0000137	0.0003743	0.0035	1.795	1241.89	1569.39	1569.39	2	No	Si
SLU 79	1.51	-163.32	-4106	-0.000013	0.0003743	0.0035	1.795	3409.44	4957.07	4957.07	30.35	No	Si
SLU 79	3.41	725.36	-1276	-0.0000128	0.0003743	0.0035	1.795	1118.41	1445.56	1445.56	1.99	No	Si
SLU 83	1.51	-158.08	-4396	-0.0000137	0.0003743	0.0035	1.795	3628.83	5188.49	5188.49	32.82	No	Si
SLU 83	3.41	783.35	-1394	-0.0000138	0.0003743	0.0035	1.795	1219.35	1546.99	1546.99	1.97	No	Si
SLU 82	1.51	-140.22	-4358	-0.0000135	0.0003743	0.0035	1.795	3600.25	5158.07	5158.07	36.78	No	Si
SLU 82	3.41	786.19	-1421	-0.0000137	0.0003743	0.0035	1.795	1241.89	1569.39	1569.39	2	No	Si
SLU 77	1.51	-163.32	-4106	-0.000013	0.0003743	0.0035	1.795	3409.44	4957.07	4957.07	30.35	No	Si
SLU 77	3.41	725.36	-1276	-0.0000128	0.0003743	0.0035	1.795	1118.41	1445.56	1445.56	1.99	No	Si
SLU 75	1.51	-145.46	-4069	-0.0000127	0.0003743	0.0035	1.795	3380.51	4926.9	4926.9	33.87	No	Si
SLU 75	3.41	728.2	-1302	-0.0000127	0.0003743	0.0035	1.795	1141.06	1468.29	1468.29	2.02	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	1.51	861.84	177	-0.0040286	0.0005615	0.0035	1.436		0	0	0		No
SLV 6	3.41	-88.29	-2137	-0.0000067	0.0005615	0.0035	1.795		3382.68	3382.68	38.31		Si
SLV 13	1.51	-1538.76	-2482	-0.0000297	0.0005615	0.0035	1.436		3672.13	3672.13	2.39		Si
SLV 13	3.41	1896.77	950	0.0284521	0.0005615	0.0035	1.436		0	0	0		No
SLV 5	1.51	1170.79	727	0.0269825	0.0005615	0.0035	1.436		0	0	0		No
SLV 5	3.41	-332.14	-2569	-0.0000101	0.0005615	0.0035	1.795		3745.95	3745.95	11.28		Si
SLV 14	1.51	-1846.39	-3029	-0.000035	0.0005615	0.0035	1.436		4128.35	4128.35	2.24		Si
SLV 14	3.41	2139.57	1380	0.0525839	0.0005615	0.0035	1.436		0	0	0		No
SLV 11	1.51	-1137.99	-5719	-0.0000265	0.0005615	0.0035	1.795		6324.64	6324.64	5.56		Si
SLV 11	3.41	1036.54	495	0.0138127	0.0005615	0.0035	1.436		0	0	0		No
SLV 15	1.51	-1917.5	-4259	-0.0000318	0.0005615	0.0035	1.795		5140.02	5140.02	2.68		Si
SLV 15	3.41	2018.49	1465	0.0594119	0.0005615	0.0035	1.436		0	0	0		No
SLV 12	1.51	-1446.94	-6269	-0.000031	0.0005615	0.0035	1.795		6756.9	6756.9	4.67		Si
SLV 12	3.41	1280.39	927	0.0375089	0.0005615	0.0035	1.436		0	0	0		No
SLV 16	1.51	-2225.12	-4806	-0.0000371	0.0005615	0.0035	1.795		5586.27	5586.27	2.51		Si
SLV 16	3.41	2261.29	1895	0.0810329	0.0005615	0.0035	1.436		0	0	0		No
SLV 9	1.51	124.47	203	0.0097916	0.0005615	0.0035	1.436		0	0	0		No
SLV 9	3.41	630.8	-1223	-0.0000105	0.0005615	0.0035	1.795		1407.8	1407.8	2.23		Si
SLV 1	1.51	1948.98	-736	-0.0068336	0.0005615	0.0035	1.795		983.77	983.77	0.5		No
SLV 1	3.41	-1313.04	-3537	-0.0000223	0.0005615	0.0035	1.795		4547.92	4547.92	3.46		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	1.51	-102.86	-3742	-3151	-661	1.795	1.795	-5852	7725	4160	90397	16125	4577	20702	No	31.3	Si
SLU 41	3.41	688.63	-1224	-1031	-657	1.795	1.0046	-1914	7200	2170	90397	16125	4577	20702	No	31.49	Si
SLU 60	1.51	-187.81	-4116	-3466	-617	1.795	1.795	-6437	7803	4202	90397	16125	4577	20702	No	33.58	Si
SLU 60	3.41	699.53	-1271	-1071	-612	1.795	1.0419	-1988	7210	2253	90397	16125	4577	20702	No	33.8	Si
SLU 81	1.51	-158.08	-4396	-3702	-698	1.795	1.795	-6874	7861	4233	90397	16125	4577	20702	No	29.64	Si
SLU 81	3.41	783.35	-1394	-1174	-694	1.795	1.0067	-2180	7235	2185	90397	16125	4577	20702	No	29.83	Si
SLU 40	1.51	-85.01	-3704	-3119	-630	1.795	1.795	-5793	7717	4155	90397	16125	4577	20702	No	32.84	Si
SLU 40	3.41	691.47	-1250	-1053	-610	1.795	1.0335	-1955	7205	2234	90397	16125	4577	20702	No	33.94	Si
SLU 82	1.51	-140.22	-4358	-3670	-667	1.795	1.795	-6815	7853	4229	90397	16125	4577	20702	No	31.02	Si
SLU 82	3.41	786.19	-1421	-1196	-646	1.795	1.0322	-2221	7241	2242	90397	16125	4577	20702	No	32.02	Si
SLU 42	1.51	-85.01	-3704	-3119	-630	1.795	1.795	-5793	7717	4155	90397	16125	4577	20702	No	32.84	Si
SLU 42	3.41	691.47	-1250	-1053	-610	1.795	1.0335	-1955	7205	2234	90397	16125	4577	20702	No	33.94	Si
SLU 84	1.51	-140.22	-4358	-3670	-667	1.795	1.795	-6815	7853	4229	90397	16125	4577	20702	No	31.02	Si
SLU 84	3.41	786.19	-1421	-1196	-646	1.795	1.0322	-2221	7241	2242	90397	16125	4577	20702	No	32.02	Si
SLU 83	1.51	-158.08	-4396	-3702	-698	1.795	1.795	-6874	7861	4233	90397	16125	4577	20702	No	29.64	Si
SLU 83	3.41	783.35	-1394	-1174	-694	1.795	1.0067	-2180	7235	2185	90397	16125	4577	20702	No	29.83	Si
SLU 62	1.51	-187.81	-4116	-3466	-617	1.795	1.795	-6437	7803	4202	90397	16125	4577	20702	No	33.58	Si
SLU 62	3.41	699.53	-1271	-1071	-612	1.795	1.0419	-1988	7210	2253	90397	16125	4577	20702	No	33.8	Si
SLU 39	1.51	-102.86	-3742	-3151	-661	1.795	1.795	-5852	7725	4160	90397	16125	4577	20702	No	31.3	Si
SLU 39	3.41	688.63	-1224	-1031	-657	1.795	1.0046	-1914	7200	2170	90397	16125	4577	20702	No	31.49	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.51	-1538.76	-2482	-2090	-2812	1.436	0.8324	0	0	0	90397	19350	3662	23012		8.18	Si
SLV 13	3.41	1896.77	950	800	-2087	1.436	0	0	0	0	90397	19350	3662	23012		11.02	Si
SLV 2	1.51	1641.35	-1283	-1081	3519	1.436	0	0	0	0	90397	19350	3662	23012		6.54	Si
SLV 2	3.41	-1070.23	-3107	-2617	2816	1.795	1.6593	-5267	11470	5710	90397	24188	4577	28765		10.22	Si
SLV 15	1.51	-1917.5	-4259	-3586	-4145	1.795	1.3417	-8944	12206	4913	90397	24188	4577	28765		6.94	Si
SLV 15	3.41	2018.49	1465	1234	-3436	1.436	0	0	0	0	90397	19350	3662	23012		6.7	Si
SLV 5	1.51	1170.79	727	612	3348	1.436	0	0	0	0	90397	19350	3662	23012		6.87	Si
SLV 5	3.41	-332.14	-2569	-2164	3163	1.795	1.795	-4018	11220	6042	90397	24188	4577	28765		9.09	Si
SLV 16	1.51	-2225.12	-4806	-4047	-4896	1.795	1.3035	-10397	12496	4886	90397	24188	4577	28765		5.88	Si
SLV 16	3.41	2261.29	1895	1596	-4187	1.436	0	0	0	0	90397	19350	3662	23012		5.5	Si
SLV 11	1.51	-1137.99	-5719	-4816	-3219	1.795	1.795	-8944	12205	6573	90397	24188	4577	28765		8.93	Si
SLV 11	3.41	1036.54	495	417	-3029	1.436	0	0	0	0	90397	19350	3662	23012		7.6	Si
SLV 6	1.51	861.84	177	149	2593	1.436	0	0	0	0	90397	19350	3662	23012		8.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	3.41	-88.29	-2137	-1800	2408	1.795	1.795	-3342	11085	5969	90397	24188	4577	28765		11.94	Si
SLV 14	1.51	-1846.39	-3029	-2551	-3563	1.436	0.8638	0	0	0	90397	19350	3662	23012		6.46	Si
SLV 14	3.41	2139.57	1380	1162	-2839	1.436	0	0	0	0	90397	19350	3662	23012		8.11	Si
SLV 1	1.51	1948.98	-736	-620	4270	1.795	0	0	16250	0	90397	24188	4577	28765		6.74	Si
SLV 1	3.41	-1313.04	-3537	-2979	3567	1.795	1.579	-6306	11678	5532	90397	24188	4577	28765		8.06	Si
SLV 12	1.51	-1446.94	-6269	-5279	-3974	1.795	1.795	-9803	12377	6665	90397	24188	4577	28765		7.24	Si
SLV 12	3.41	1280.39	927	781	-3783	1.436	0	0	0	0	90397	19350	3662	23012		6.08	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 10	179667	0.45	0	-754	307.25	0	0	No, e>t/2
SLV 13	179667	0.45	0	-348	307.25	0	0	No, e>t/2
SLV 12	179667	0.45	0	-1650	307.25	0	0	No, e>t/2
SLV 5	179667	0.45	0	-1498	307.25	0	0	No, e>t/2
SLV 11	179667	0.45	0	-1718	307.25	0	0	No, e>t/2
SLV 9	179667	0.45	0	-822	307.25	0	0	No, e>t/2
SLV 6	179667	0.45	0	-1430	307.25	0	0	No, e>t/2
SLV 16	179667	0.45	0	-548	307.25	0	0	No, e>t/2
SLV 15	179667	0.45	0	-616	307.25	0	0	No, e>t/2
SLV 14	179667	0.45	0	-280	307.25	0	0	No, e>t/2

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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-441	-2830	-99	4.221	414.1	0.93	65.93534	16.81776	Si
SLV 2	-372	-3195	-99	4.344	410.6	0.937	67.36655	16.81776	Si
SLV 3	-338	-4475	-48	4.431	409	0.941	68.42313	16.81776	Si
SLV 5	-335	-582	-106	4.411	408.9	0.941	68.09278	16.41895	Si
SLV 4	-269	-4840	-48	4.567	406.1	0.95	69.88001	16.81776	Si
SLV 6	-265	-949	-106	4.547	405.9	0.95	69.54772	16.41895	Si
SLV 9	-140	-301	-62	4.836	402	0.97	72.47321	16.41895	Si
SLV 10	-71	-668	-62	5	400.7	0.983	73.88622	16.41895	Si
SLV 7	10	-6066	62	5.192	400.2	1	75.45054	16.41895	Si, Trazione
SLV 8	79	-6433	62	5.284	400.2	1	76.79153	16.41895	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	1.975	SLU 81	Si
V_SLU	29.642	SLU 81	Si
PF_SLV	0	SLV 5	No
V_SLV	5.496	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	3.921	SLV 1	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
5.005	9.805	3.01	9.805	L2	L3	1.995	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 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

									εlim,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	εlim,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	2.51	-1010.09	-1755	-0.0000138	0.0003743	0.0035	1.596	1699.72	2782.48	2782.48	2.75	No	Si
SLU 47	3.41	848.89	-1084	-0.0000168	0.0003743	0.0035	1.995	1062.36	1272.51	1272.51	1.5	No	Si
SLU 45	2.51	-1004.02	-1803	-0.0000135	0.0003743	0.0035	1.995	1745.38	2828.77	2828.77	2.82	No	Si
SLU 45	3.41	876.89	-1134	-0.0000168	0.0003743	0.0035	1.995	1109.8	1320.31	1320.31	1.51	No	Si
SLU 49	2.51	-1007.66	-1774	-0.0000137	0.0003743	0.0035	1.596	1717.99	2800.99	2800.99	2.78	No	Si
SLU 49	3.41	860.09	-1104	-0.0000168	0.0003743	0.0035	1.995	1081.35	1291.63	1291.63	1.5	No	Si
SLU 44	2.51	-1010.09	-1755	-0.0000138	0.0003743	0.0035	1.596	1699.72	2782.48	2782.48	2.75	No	Si
SLU 44	3.41	848.89	-1084	-0.0000168	0.0003743	0.0035	1.995	1062.36	1272.51	1272.51	1.5	No	Si
SLU 50	2.51	-1004.02	-1803	-0.0000135	0.0003743	0.0035	1.995	1745.38	2828.77	2828.77	2.82	No	Si
SLU 50	3.41	876.89	-1134	-0.0000168	0.0003743	0.0035	1.995	1109.8	1320.31	1320.31	1.51	No	Si
SLU 43	2.51	-1004.02	-1803	-0.0000135	0.0003743	0.0035	1.995	1745.38	2828.77	2828.77	2.82	No	Si
SLU 43	3.41	876.89	-1134	-0.0000168	0.0003743	0.0035	1.995	1109.8	1320.31	1320.31	1.51	No	Si
SLU 51	2.51	-1007.66	-1774	-0.0000137	0.0003743	0.0035	1.596	1717.99	2800.99	2800.99	2.78	No	Si
SLU 51	3.41	860.09	-1104	-0.0000168	0.0003743	0.0035	1.995	1081.35	1291.63	1291.63	1.5	No	Si
SLU 48	2.51	-1004.02	-1803	-0.0000135	0.0003743	0.0035	1.995	1745.38	2828.77	2828.77	2.82	No	Si
SLU 48	3.41	876.89	-1134	-0.0000168	0.0003743	0.0035	1.995	1109.8	1320.31	1320.31	1.51	No	Si
SLU 68	2.51	-1113.99	-1910	-0.0000153	0.0003743	0.0035	1.596	1845.19	2928.52	2928.52	2.63	No	Si
SLU 68	3.41	868.49	-1195	-0.0000146	0.0003743	0.0035	1.995	1168.42	1379.53	1379.53	1.59	No	Si
SLU 46	2.51	-1007.66	-1774	-0.0000137	0.0003743	0.0035	1.596	1717.99	2800.99	2800.99	2.78	No	Si
SLU 46	3.41	860.09	-1104	-0.0000168	0.0003743	0.0035	1.995	1081.35	1291.63	1291.63	1.5	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	2.51	-2116.06	-1905	-0.0001968	0.0005615	0.0035	1.596		2932.43	2932.43	1.39		Si
SLV 14	3.41	2738.56	-2126	-0.0041206	0.0005615	0.0035	1.596		2282.36	2282.36	0.83		No
SLV 13	2.51	-1910.31	-1677	-0.0001895	0.0005615	0.0035	1.596		2715.04	2715.04	1.42		Si
SLV 13	3.41	2315.81	-1767	-0.0031916	0.0005615	0.0035	1.596		1938.06	1938.06	0.84		No
SLV 6	2.51	-505.18	-77	-0.0001623	0.0005615	0.0035	1.596		1165.33	1165.33	2.31		Si
SLV 6	3.41	-558.62	691	0.0606194	0.0005615	0.0035	1.596		0	0	0		No
SLV 16	2.51	-2180.24	-2755	-0.0000443	0.0005615	0.0035	1.596		3738.97	3738.97	1.71		Si
SLV 16	3.41	3238.51	-3008	-0.0017849	0.0005615	0.0035	1.596		3121.03	3121.03	0.96		No
SLV 1	2.51	453.45	-389	-0.00021	0.0005615	0.0035	1.596		598.12	598.12	1.32		Si
SLV 1	3.41	-1860.82	984	0.0880371	0.0005615	0.0035	1.596		0	0	0		No
SLV 5	2.51	-298.55	152	0.0136107	0.0005615	0.0035	1.596		0	0	0		No
SLV 5	3.41	-983.19	1051	0.0924986	0.0005615	0.0035	1.596		0	0	0		No
SLV 9	2.51	-1007.68	-234	-0.0002949	0.0005615	0.0035	1.596		1320.56	1320.56	1.31		Si
SLV 9	3.41	269.8	225	0.0166424	0.0005615	0.0035	1.596		0	0	0		No
SLV 3	2.51	389.27	-1239	-0.0000059	0.0005615	0.0035	1.995		1427.48	1427.48	3.67		Si
SLV 3	3.41	-1360.87	102	0.0013811	0.0005615	0.0035	1.596		0	0	0		No
SLV 2	2.51	247.7	-617	-0.0000034	0.0005615	0.0035	1.995		821.45	821.45	3.32		Si
SLV 2	3.41	-1438.07	626	0.0562747	0.0005615	0.0035	1.596		0	0	0		No
SLV 10	2.51	-1214.31	-463	-0.0002939	0.0005615	0.0035	1.596		1544.04	1544.04	1.27		Si
SLV 10	3.41	694.37	-134	-0.0024811	0.0005615	0.0035	1.596		346.94	346.94	0.5		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	2.51	-1113.99	-1910	-1608	-2714	1.596	1.2424	0	0	0	45199	14337	4070	18407	No	6.78	Si
SLU 68	3.41	868.49	-1195	-1006	-2594	1.995	0.8118	-1681	7169	1746	45199	17922	5087	23009	No	8.87	Si
SLU 69	2.51	-1107.92	-1958	-1649	-2739	1.596	1.2952	0	0	0	45199	14337	4070	18407	No	6.72	Si
SLU 69	3.41	896.49	-1244	-1048	-2619	1.995	0.8307	-1751	7178	1789	45199	17922	5087	23009	No	8.78	Si
SLU 67	2.51	-1111.57	-1929	-1625	-2724	1.596	1.2639	0	0	0	45199	14337	4070	18407	No	6.76	Si
SLU 67	3.41	879.69	-1215	-1023	-2604	1.995	0.8195	-1709	7172	1763	45199	17922	5087	23009	No	8.84	Si
SLU 70	2.51	-1111.57	-1929	-1625	-2724	1.596	1.2639	0	0	0	45199	14337	4070	18407	No	6.76	Si
SLU 70	3.41	879.69	-1215	-1023	-2604	1.995	0.8195	-1709	7172	1763	45199	17922	5087	23009	No	8.84	Si
SLU 71	2.51	-1107.92	-1958	-1649	-2739	1.596	1.2952	0	0	0	45199	14337	4070	18407	No	6.72	Si
SLU 71	3.41	896.49	-1244	-1048	-2619	1.995	0.8307	-1751	7178	1789	45199	17922	5087	23009	No	8.78	Si
SLU 72	2.51	-1111.57	-1929	-1625	-2724	1.596	1.2639	0	0	0	45199	14337	4070	18407	No	6.76	Si
SLU 72	3.41	879.69	-1215	-1023	-2604	1.995	0.8195	-1709	7172	1763	45199	17922	5087	23009	No	8.84	Si
SLU 66	2.51	-1107.92	-1958	-1649	-2739	1.596	1.2952	0	0	0	45199	14337	4070	18407	No	6.72	Si
SLU 66	3.41	896.49	-1244	-1048	-2619	1.995	0.8307	-1751	7178	1789	45199	17922	5087	23009	No	8.78	Si
SLU 64	2.51	-1107.92	-1958	-1649	-2739	1.596	1.2952	0	0	0	45199	14337	4070	18407	No	6.72	Si
SLU 64	3.41	896.49	-1244	-1048	-2619	1.995	0.8307	-1751	7178	1789	45199	17922	5087	23009	No	8.78	Si
SLU 51	2.51	-1007.66	-1774	-1494	-2604	1.596	1.2884	0	0	0	45199	14337	4070	18407	No	7.07	Si
SLU 51	3.41	860.09	-1104	-930	-2476	1.995	0.6554	-4743	7577	1490	45199	17922	5087	23009	No	9.29	Si
SLU 65	2.51	-1113.99	-1910	-1608	-2714	1.596	1.2424	0	0	0	45199	14337	4070	18407	No	6.78	Si
SLU 65	3.41	868.49	-1195	-1006	-2594	1.995	0.8118	-1681	7169	1746	45199	17922	5087	23009	No	8.87	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	2.51	-1910.31	-1677	-1412	-6083	1.596	0	0	0	0	45199	21506	4070	25576		4.2	Si
SLV 13	3.41	2315.81	-1767	-1488	-4938	1.596	0	0	0	0	45199	21506	4070	25576		5.18	Si
SLV 11	2.51	-1221.61	-3067	-2583	-4136	1.995	1.7977	-4795	11376	6135	45199	26882	5087	31970		7.73	Si
SLV 11	3.41	1936.31	-2715	-2286	-3834	1.995	0.8525	-3819	11181	2859	45199	26882	5087	31970		8.34	Si
SLV 16	2.51	-2180.24	-2755	-2320	-7574	1.596	0.6183	0	0	0	45199	21506	4070	25576		3.38	Si
SLV 16	3.41	3238.51	-3008	-2533	-6330	1.596	0	0	0	0	45199	21506	4070	25576		4.04	Si
SLV 3	2.51	389.27	-1239	-1044	2748	1.995	1.995	-1744	10765	6443	45199	26882	5087	31970		11.64	Si
SLV 3	3.41	-1360.87	102	86	1639	1.596	0	0	0	0	45199	21506	4070	25576		15.6	Si
SLV 10	2.51	-1214.31	-463	-390	-2898	1.596	0	0	0	0	45199	21506	4070	25576		8.83	Si
SLV 10	3.41	694.37	-134	-113	-2367	1.596	0	0	0	0	45199	21506	4070	25576		10.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	2.51	-2116.06	-1905	-1604	-6943	1.596	0	0	0	0	45199	21506	4070	25576		3.68	Si
SLV 14	3.41	2738.56	-2126	-1790	-5670	1.596	0	0	0	0	45199	21506	4070	25576		4.51	Si
SLV 1	2.51	453.45	-389	-328	3378	1.596	0	0	0	0	45199	21506	4070	25576		7.57	Si
SLV 1	3.41	-1860.82	984	829	2299	1.596	0	0	0	0	45199	21506	4070	25576		11.12	Si
SLV 12	2.51	-1428.24	-3296	-2776	-5000	1.995	1.6926	-5479	11513	5846	45199	26882	5087	31970		6.39	Si
SLV 12	3.41	2360.88	-3074	-2589	-4569	1.995	0.6888	-12605	12938	2673	45199	26882	5087	31970		7	Si
SLV 15	2.51	-1974.49	-2527	-2128	-6714	1.596	0.6486	0	0	0	45199	21506	4070	25576		3.81	Si
SLV 15	3.41	2815.76	-2649	-2231	-5599	1.596	0	0	0	0	45199	21506	4070	25576		4.57	Si
SLV 9	2.51	-1007.68	-234	-197	-2034	1.596	0	0	0	0	45199	21506	4070	25576		12.57	Si
SLV 9	3.41	269.8	225	190	-1633	1.596	0	0	0	0	45199	21506	4070	25576		15.66	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	151	341.49	0	0	No, Trazione
SLV 9	179667	0.45	0	-236	341.49	0	0	No, e>t/2
SLV 3	179667	0.45	0	-1235	341.49	0	0	No, e>t/2
SLV 6	179667	0.45	0	-78	341.49	0	0	No, e>t/2
SLV 10	179667	0.45	0	-464	341.49	0	0	No, e>t/2
SLV 13	179667	0.45	0	-1676	341.49	0	0	No, e>t/2
SLV 2	179667	0.45	0	-616	341.49	0	0	No, e>t/2
SLV 1	179667	0.45	0	-388	341.49	0	0	No, e>t/2
SLV 4	179667	0.45	0	-1463	341.49	0	0	No, e>t/2
SLV 14	179667	0.45	0	-1903	341.49	0	0	No, e>t/2

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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-161	-2598	323	4.717	446.9	0.969	70.74921	16.41895	Si
SLV 16	-138	-313	110	4.857	446.3	0.973	72.55116	16.81776	Si
SLV 11	-110	-2748	323	4.821	445.8	0.978	71.66686	16.41895	Si
SLV 15	-87	-462	110	4.964	445.4	0.982	73.47417	16.81776	Si
SLV 8	-52	-3601	315	4.948	445	0.989	72.74057	16.41895	Si
SLV 14	-9	642	-82	5.152	444.8	0.998	75.03276	16.81776	Si, Trazione
SLV 7	-2	-3752	315	5.063	444.8	1	73.60513	16.41895	Si
SLV 13	42	493	-82	5.222	444.8	1	75.89972	16.81776	Si, Trazione
SLV 4	224	-3658	82	5.45	444.8	1	79.20552	16.81776	Si, Trazione
SLV 3	275	-3808	82	5.516	444.8	1	80.1726	16.81776	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	1.499	SLU 44	Si
V_SLU	6.72	SLU 64	Si
PF_SLV	0	SLV 1	No
V_SLV	3.377	SLV 16	Si
PFFP_SLV	0	SLV 5	No
R_SLV	4.309	SLV 12	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
6.77	9.805	5.505	9.805	L2	L3	1.265	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 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

									εlim,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	εlim,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 43	2.51	-476.69	-1998	-0.0000168	0.0003743	0.0035	1.265	1198.14	1578.58	1578.58	3.31	No	Si
SLU 43	3.41	-626.39	-2754	-0.0000227	0.0003743	0.0035	1.265	1617.95	2012.04	2012.04	3.21	No	Si
SLU 50	2.51	-476.69	-1998	-0.0000168	0.0003743	0.0035	1.265	1198.14	1578.58	1578.58	3.31	No	Si
SLU 50	3.41	-626.39	-2754	-0.0000227	0.0003743	0.0035	1.265	1617.95	2012.04	2012.04	3.21	No	Si
SLU 49	2.51	-478.13	-1999	-0.0000169	0.0003743	0.0035	1.265	1199.11	1579.56	1579.56	3.3	No	Si
SLU 49	3.41	-628.25	-2766	-0.0000228	0.0003743	0.0035	1.265	1624.13	2018.5	2018.5	3.21	No	Si
SLU 46	2.51	-478.13	-1999	-0.0000169	0.0003743	0.0035	1.265	1199.11	1579.56	1579.56	3.3	No	Si
SLU 46	3.41	-628.25	-2766	-0.0000228	0.0003743	0.0035	1.265	1624.13	2018.5	2018.5	3.21	No	Si
SLU 51	2.51	-478.13	-1999	-0.0000169	0.0003743	0.0035	1.265	1199.11	1579.56	1579.56	3.3	No	Si
SLU 51	3.41	-628.25	-2766	-0.0000228	0.0003743	0.0035	1.265	1624.13	2018.5	2018.5	3.21	No	Si
SLU 45	2.51	-476.69	-1998	-0.0000168	0.0003743	0.0035	1.265	1198.14	1578.58	1578.58	3.31	No	Si
SLU 45	3.41	-626.39	-2754	-0.0000227	0.0003743	0.0035	1.265	1617.95	2012.04	2012.04	3.21	No	Si
SLU 69	2.51	-504.46	-2474	-0.0000192	0.0003743	0.0035	1.265	1464.8	1852.32	1852.32	3.67	No	Si
SLU 69	3.41	-663.97	-3113	-0.0000249	0.0003743	0.0035	1.265	1810.41	2213.87	2213.87	3.33	No	Si
SLU 48	2.51	-476.69	-1998	-0.0000168	0.0003743	0.0035	1.265	1198.14	1578.58	1578.58	3.31	No	Si
SLU 48	3.41	-626.39	-2754	-0.0000227	0.0003743	0.0035	1.265	1617.95	2012.04	2012.04	3.21	No	Si
SLU 44	2.51	-479.09	-2000	-0.0000169	0.0003743	0.0035	1.265	1199.75	1580.22	1580.22	3.3	No	Si
SLU 44	3.41	-629.5	-2773	-0.0000229	0.0003743	0.0035	1.265	1628.25	2022.8	2022.8	3.21	No	Si
SLU 47	2.51	-479.09	-2000	-0.0000169	0.0003743	0.0035	1.265	1199.75	1580.22	1580.22	3.3	No	Si
SLU 47	3.41	-629.5	-2773	-0.0000229	0.0003743	0.0035	1.265	1628.25	2022.8	2022.8	3.21	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	2.51	-691.01	-854	-0.0002446	0.0005615	0.0035	1.012		902.34	902.34	1.31		Si
SLV 10	3.41	63.07	-1420	-0.0000067	0.0005615	0.0035	1.265		972.74	972.74	15.42		Si
SLV 3	2.51	405.28	-3241	-0.0000203	0.0005615	0.0035	1.265		2050.4	2050.4	5.06		Si
SLV 3	3.41	-1788.62	-3838	-0.0000795	0.0005615	0.0035	1.012		2659.82	2659.82	1.49		Si
SLV 16	2.51	-1160.19	-1402	-0.0004575	0.0005615	0.0035	1.012		1235.08	1235.08	1.06		Si
SLV 16	3.41	671.39	-1539	-0.0000261	0.0005615	0.0035	1.265		1045.07	1045.07	1.56		Si
SLV 1	2.51	389.46	-2710	-0.0000179	0.0005615	0.0035	1.265		1741.9	1741.9	4.47		Si
SLV 1	3.41	-1707.8	-3445	-0.0000867	0.0005615	0.0035	1.012		2437.18	2437.18	1.43		Si
SLV 15	2.51	-1033.93	-1524	-0.0002366	0.0005615	0.0035	1.012		1308.31	1308.31	1.27		Si
SLV 15	3.41	451.12	-1748	-0.0000154	0.0005615	0.0035	1.265		1169.98	1169.98	2.59		Si
SLV 4	2.51	279.02	-3119	-0.0000175	0.0005615	0.0035	1.265		1979.86	1979.86	7.1		Si
SLV 4	3.41	-1568.34	-3629	-0.0000617	0.0005615	0.0035	1.012		2541.9	2541.9	1.62		Si
SLV 2	2.51	263.2	-2589	-0.0000151	0.0005615	0.0035	1.265		1670.17	1670.17	6.35		Si
SLV 2	3.41	-1487.52	-3237	-0.0000638	0.0005615	0.0035	1.012		2315.8	2315.8	1.56		Si
SLV 14	2.51	-1176.01	-872	-0.0008494	0.0005615	0.0035	1.012		913.36	913.36	0.78		No
SLV 14	3.41	752.22	-1147	-0.0004606	0.0005615	0.0035	1.012		805.77	805.77	1.07		Si
SLV 9	2.51	-564.21	-976	-0.0000518	0.0005615	0.0035	1.012		976.68	976.68	1.73		Si
SLV 9	3.41	-158.15	-1630	-0.0000093	0.0005615	0.0035	1.265		1371.97	1371.97	8.68		Si
SLV 13	2.51	-1049.75	-994	-0.0005799	0.0005615	0.0035	1.012		987.35	987.35	0.94		No
SLV 13	3.41	531.94	-1355	-0.0000187	0.0005615	0.0035	1.265		933.07	933.07	1.75		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	2.51	-506.86	-2477	-2086	-1437	1.265	1.265	-5497	7677	2914	45199	11364	3226	14590	No	10.15	Si
SLU 68	3.41	-667.08	-3132	-2638	-590	1.265	1.2586	-6950	7871	2972	45199	11364	3226	14590	No	24.71	Si
SLU 50	2.51	-476.69	-1998	-1682	-1466	1.265	1.1816	-4432	7535	2671	45199	11364	3226	14590	No	9.95	Si
SLU 50	3.41	-626.39	-2754	-2319	-623	1.265	1.2153	-6112	7759	2829	45199	11364	3226	14590	No	23.41	Si
SLU 51	2.51	-478.13	-1999	-1684	-1469	1.265	1.1801	-4436	7536	2668	45199	11364	3226	14590	No	9.93	Si
SLU 51	3.41	-628.25	-2766	-2329	-629	1.265	1.2161	-6137	7763	2832	45199	11364	3226	14590	No	23.21	Si
SLU 43	2.51	-476.69	-1998	-1682	-1466	1.265	1.1816	-4432	7535	2671	45199	11364	3226	14590	No	9.95	Si
SLU 43	3.41	-626.39	-2754	-2319	-623	1.265	1.2153	-6112	7759	2829	45199	11364	3226	14590	No	23.41	Si
SLU 49	2.51	-478.13	-1999	-1684	-1469	1.265	1.1801	-4436	7536	2668	45199	11364	3226	14590	No	9.93	Si
SLU 49	3.41	-628.25	-2766	-2329	-629	1.265	1.2161	-6137	7763	2832	45199	11364	3226	14590	No	23.21	Si
SLU 44	2.51	-479.09	-2000	-1685	-1470	1.265	1.179	-4439	7536	2666	45199	11364	3226	14590	No	9.92	Si
SLU 44	3.41	-629.5	-2773	-2335	-632	1.265	1.2166	-6154	7765	2834	45199	11364	3226	14590	No	23.07	Si
SLU 46	2.51	-478.13	-1999	-1684	-1469	1.265	1.1801	-4436	7536	2668	45199	11364	3226	14590	No	9.93	Si
SLU 46	3.41	-628.25	-2766	-2329	-629	1.265	1.2161	-6137	7763	2832	45199	11364	3226	14590	No	23.21	Si
SLU 48	2.51	-476.69	-1998	-1682	-1466	1.265	1.1816	-4432	7535	2671	45199	11364	3226	14590	No	9.95	Si
SLU 48	3.41	-626.39	-2754	-2319	-623	1.265	1.2153	-6112	7759	2829	45199	11364	3226	14590	No	23.41	Si
SLU 47	2.51	-479.09	-2000	-1685	-1470	1.265	1.179	-4439	7536	2666	45199	11364	3226	14590	No	9.92	Si
SLU 47	3.41	-629.5	-2773	-2335	-632	1.265	1.2166	-6154	7765	2834	45199	11364	3226	14590	No	23.07	Si
SLU 45	2.51	-476.69	-1998	-1682	-1466	1.265	1.1816	-4432	7535	2671	45199	11364	3226	14590	No	9.95	Si
SLU 45	3.41	-626.39	-2754	-2319	-623	1.265	1.2153	-6112	7759	2829	45199	11364	3226	14590	No	23.41	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	2.51	-1160.19	-1402	-1181	-4207	1.012	0	0	0	0	45199	13637	2581	16218		3.85	Si
SLV 16	3.41	671.39	-1539	-1296	-2862	1.265	0.589	-3415	11100	1961	45199	17046	3226	20272		7.08	Si
SLV 15	2.51	-1033.93	-1524	-1283	-3698	1.012	0	0	0	0	45199	13637	2581	16218		4.39	Si
SLV 15	3.41	451.12	-1748	-1472	-2422	1.265	1.1231	-3878	11192	3771	45199	17046	3226	20272		8.37	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	2.51	263.2	-2589	-2180	1590	1.265	1.265	-5745	11566	4389	45199	17046	3226	20272		12.75	Si
SLV 2	3.41	-1487.52	-3237	-2726	1602	1.012	0.5188	0	0	0	45199	13637	2581	16218		10.12	Si
SLV 9	2.51	-564.21	-976	-822	-1946	1.012	0.1635	0	0	0	45199	13637	2581	16218		8.33	Si
SLV 9	3.41	-158.15	-1630	-1372	-1218	1.265	1.265	-3616	11140	4228	45199	17046	3226	20272		16.64	Si
SLV 3	2.51	405.28	-3241	-2729	2252	1.265	1.265	-7191	11855	4499	45199	17046	3226	20272		9	Si
SLV 3	3.41	-1788.62	-3838	-3232	2239	1.012	0.4993	0	0	0	45199	13637	2581	16218		7.24	Si
SLV 1	2.51	389.46	-2710	-2282	2099	1.265	1.265	-6014	11620	4410	45199	17046	3226	20272		9.66	Si
SLV 1	3.41	-1707.8	-3445	-2901	2042	1.012	0.4104	0	0	0	45199	13637	2581	16218		7.94	Si
SLV 13	2.51	-1049.75	-994	-837	-3851	1.012	0	0	0	0	45199	13637	2581	16218		4.21	Si
SLV 13	3.41	531.94	-1355	-1141	-2620	1.265	0.7201	-3007	11018	2380	45199	17046	3226	20272		7.74	Si
SLV 10	2.51	-691.01	-854	-719	-2457	1.012	0	0	0	0	45199	13637	2581	16218		6.6	Si
SLV 10	3.41	63.07	-1420	-1196	-1660	1.265	1.265	-3152	11047	4192	45199	17046	3226	20272		12.21	Si
SLV 14	2.51	-1176.01	-872	-734	-4360	1.012	0	0	0	0	45199	13637	2581	16218		3.72	Si
SLV 14	3.41	752.22	-1147	-966	-3060	1.012	0	0	0	0	45199	13637	2581	16218		5.3	Si
SLV 4	2.51	279.02	-3119	-2627	1743	1.265	1.265	-6921	11801	4479	45199	17046	3226	20272		11.63	Si
SLV 4	3.41	-1568.34	-3629	-3056	1800	1.012	0.6011	0	0	0	45199	13637	2581	16218		9.01	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 9	179667	0.45	0	-976	216.54	0	0	No, e>t/2
SLV 10	179667	0.45	0	-854	216.54	0	0	No, e>t/2
SLV 6	179667	0.45	0	-1369	216.54	0	0	No, e>t/2
SLV 14	179667	0.45	0	-872	216.54	0	0	No, e>t/2
SLV 13	179667	0.45	0	-994	216.54	0	0	No, e>t/2
SLV 16	179667	0.45	0	-1402	216.54	0	0	No, e>t/2
SLV 5	179667	0.45	3929	-1491	216.54	217.92	1.01	Si
SLV 15	179667	0.45	4016	-1524	216.54	222.58	1.03	Si
SLV 2	179667	0.45	6822	-2589	216.54	371	1.71	Si
SLV 12	179667	0.45	6908	-2622	216.54	375.47	1.73	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-633	-2378	21	3.576	312.9	0.903	57.56438	16.81776	Si
SLV 4	-611	-2633	21	3.614	311.3	0.904	58.11246	16.81776	Si
SLV 1	-599	-1608	7	3.644	310.3	0.905	58.54889	16.81776	Si
SLV 2	-577	-1863	7	3.685	308.8	0.906	59.10973	16.81776	Si
SLV 7	-609	-3967	32	3.613	311.1	0.904	58.07577	16.41895	Si
SLV 8	-588	-4223	31	3.652	309.5	0.905	58.63344	16.41895	Si
SLV 11	-555	-4559	27	3.716	307.2	0.907	59.52846	16.41895	Si
SLV 12	-533	-4815	26	3.758	305.6	0.909	60.10501	16.41895	Si
SLV 15	-450	-4352	5	3.938	300.1	0.915	62.53185	16.81776	Si
SLV 5	-494	-1400	-15	3.841	303	0.912	61.23368	16.41895	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	3.212	SLU 43	Si
V_SLU	9.922	SLU 44	Si
PF_SLV	0.777	SLV 14	No
V_SLV	3.72	SLV 14	Si
PFFP_SLV	0	SLV 6	No
R_SLV	3.423	SLV 3	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
9.795	9.805	7.77	9.805	L2	L3	2.025	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 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

									εlim,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	εlim,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 45	1.51	2030.37	-8261	-0.000036	0.0003743	0.0035	2.025	7247.18	7616.65	7616.65	3.75	No	Si
SLU 45	3.41	-1202.86	-1051	-0.0001134	0.0003743	0.0035	1.62	0	2140.6	2140.6	1.78	No	Si
SLU 44	1.51	2023.02	-8217	-0.0000359	0.0003743	0.0035	2.025	7214.53	7584.79	7584.79	3.75	No	Si
SLU 44	3.41	-1202.93	-1063	-0.0001097	0.0003743	0.0035	1.62	0	2152.38	2152.38	1.79	No	Si
SLU 46	1.51	2025.96	-8235	-0.0000359	0.0003743	0.0035	2.025	7227.59	7597.53	7597.53	3.75	No	Si
SLU 46	3.41	-1202.9	-1058	-0.0001112	0.0003743	0.0035	1.62	0	2147.67	2147.67	1.79	No	Si
SLU 1	1.51	1583.2	-6544	-0.0000281	0.0003743	0.0035	2.025	5924.47	6317.71	6317.71	3.99	No	Si
SLU 1	3.41	-902.46	-902	-0.0000496	0.0003743	0.0035	1.62	899.94	1995.13	1995.13	2.21	No	Si
SLU 51	1.51	2025.96	-8235	-0.0000359	0.0003743	0.0035	2.025	7227.59	7597.53	7597.53	3.75	No	Si
SLU 51	3.41	-1202.9	-1058	-0.0001112	0.0003743	0.0035	1.62	0	2147.67	2147.67	1.79	No	Si
SLU 50	1.51	2030.37	-8261	-0.000036	0.0003743	0.0035	2.025	7247.18	7616.65	7616.65	3.75	No	Si
SLU 50	3.41	-1202.86	-1051	-0.0001134	0.0003743	0.0035	1.62	0	2140.6	2140.6	1.78	No	Si
SLU 48	1.51	2030.37	-8261	-0.000036	0.0003743	0.0035	2.025	7247.18	7616.65	7616.65	3.75	No	Si
SLU 48	3.41	-1202.86	-1051	-0.0001134	0.0003743	0.0035	1.62	0	2140.6	2140.6	1.78	No	Si
SLU 43	1.51	2030.37	-8261	-0.000036	0.0003743	0.0035	2.025	7247.18	7616.65	7616.65	3.75	No	Si
SLU 43	3.41	-1202.86	-1051	-0.0001134	0.0003743	0.0035	1.62	0	2140.6	2140.6	1.78	No	Si
SLU 49	1.51	2025.96	-8235	-0.0000359	0.0003743	0.0035	2.025	7227.59	7597.53	7597.53	3.75	No	Si
SLU 49	3.41	-1202.9	-1058	-0.0001112	0.0003743	0.0035	1.62	0	2147.67	2147.67	1.79	No	Si
SLU 47	1.51	2023.02	-8217	-0.0000359	0.0003743	0.0035	2.025	7214.53	7584.79	7584.79	3.75	No	Si
SLU 47	3.41	-1202.93	-1063	-0.0001097	0.0003743	0.0035	1.62	0	2152.38	2152.38	1.79	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.51	2611.29	-10009	-0.0000444	0.0005615	0.0035	2.025		9513.44	9513.44	3.64		Si
SLV 7	3.41	-1327.8	-988	-0.0001736	0.0005615	0.0035	1.62		2079.14	2079.14	1.57		Si
SLV 8	1.51	2247.41	-9671	-0.0000408	0.0005615	0.0035	2.025		9225.6	9225.6	4.1		Si
SLV 8	3.41	-1012.65	-1318	-0.0000177	0.0005615	0.0035	1.62		2401.66	2401.66	2.37		Si
SLV 1	1.51	3492.76	-7545	-0.0000464	0.0005615	0.0035	2.025		7369.27	7369.27	2.11		Si
SLV 1	3.41	-2708.65	820	0.0746267	0.0005615	0.0035	1.62		0	0	0		No
SLV 3	1.51	3658.22	-9039	-0.0000504	0.0005615	0.0035	2.025		8680.95	8680.95	2.37		Si
SLV 3	3.41	-2617.14	535	0.0497644	0.0005615	0.0035	1.62		0	0	0		No
SLV 16	1.51	-249.07	-6488	-0.0000178	0.0005615	0.0035	2.025		7267.34	7267.34	29.18		Si
SLV 16	3.41	1077.38	-3199	-0.0000156	0.0005615	0.0035	2.025		3357.34	3357.34	3.12		Si
SLV 6	1.51	1695.88	-4688	-0.0000239	0.0005615	0.0035	2.025		4765.96	4765.96	2.81		Si
SLV 6	3.41	-1317.68	-369	-0.0003606	0.0005615	0.0035	1.62		1469.6	1469.6	1.12		Si
SLV 2	1.51	3130.43	-7208	-0.0000419	0.0005615	0.0035	2.025		7068.41	7068.41	2.26		Si
SLV 2	3.41	-2394.85	491	0.0456759	0.0005615	0.0035	1.62		0	0	0		No
SLV 5	1.51	2059.76	-5027	-0.0000278	0.0005615	0.0035	2.025		5082.16	5082.16	2.47		Si
SLV 5	3.41	-1632.84	-39	-0.0007507	0.0005615	0.0035	1.62		1140.46	1140.46	0.7		No
SLV 14	1.51	-414.53	-4994	-0.0000153	0.0005615	0.0035	2.025		5890.01	5890.01	14.21		Si
SLV 14	3.41	985.87	-2914	-0.0000142	0.0005615	0.0035	2.025		3085	3085	3.13		Si
SLV 4	1.51	3295.89	-8703	-0.0000464	0.0005615	0.0035	2.025		8388.18	8388.18	2.55		Si
SLV 4	3.41	-2303.34	207	0.0106904	0.0005615	0.0035	1.62		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	1.51	2107.01	-8951	-7538	4165	2.025	2.025	-12408	8599	5224	45199	18191	5164	23355	No	5.61	Si
SLU 67	3.41	-1116.41	-1413	-1190	4146	1.62	0.668	0	0	0	45199	14553	4131	18684	No	4.51	Si
SLU 68	1.51	2104.07	-8934	-7523	4155	2.025	2.025	-12383	8596	5222	45199	18191	5164	23355	No	5.62	Si
SLU 68	3.41	-1116.44	-1418	-1194	4129	1.62	0.676	0	0	0	45199	14553	4131	18684	No	4.52	Si
SLU 70	1.51	2107.01	-8951	-7538	4165	2.025	2.025	-12408	8599	5224	45199	18191	5164	23355	No	5.61	Si
SLU 70	3.41	-1116.41	-1413	-1190	4146	1.62	0.668	0	0	0	45199	14553	4131	18684	No	4.51	Si
SLU 72	1.51	2107.01	-8951	-7538	4165	2.025	2.025	-12408	8599	5224	45199	18191	5164	23355	No	5.61	Si
SLU 72	3.41	-1116.41	-1413	-1190	4146	1.62	0.668	0	0	0	45199	14553	4131	18684	No	4.51	Si
SLU 69	1.51	2111.42	-8977	-7560	4180	2.025	2.025	-12444	8604	5227	45199	18191	5164	23355	No	5.59	Si
SLU 69	3.41	-1116.36	-1406	-1184	4173	1.62	0.6559	0	0	0	45199	14553	4131	18684	No	4.48	Si
SLU 65	1.51	2104.07	-8934	-7523	4155	2.025	2.025	-12383	8596	5222	45199	18191	5164	23355	No	5.62	Si
SLU 65	3.41	-1116.44	-1418	-1194	4129	1.62	0.676	0	0	0	45199	14553	4131	18684	No	4.52	Si
SLU 64	1.51	2111.42	-8977	-7560	4180	2.025	2.025	-12444	8604	5227	45199	18191	5164	23355	No	5.59	Si
SLU 64	3.41	-1116.36	-1406	-1184	4173	1.62	0.6559	0	0	0	45199	14553	4131	18684	No	4.48	Si
SLU 66	1.51	2111.42	-8977	-7560	4180	2.025	2.025	-12444	8604	5227	45199	18191	5164	23355	No	5.59	Si
SLU 66	3.41	-1116.36	-1406	-1184	4173	1.62	0.6559	0	0	0	45199	14553	4131	18684	No	4.48	Si
SLU 56	1.51	2084.58	-9200	-7747	4086	2.025	2.025	-12753	8645	5252	45199	18191	5164	23355	No	5.72	Si
SLU 56	3.41	-985.45	-1701	-1433	4078	1.62	1.2996	0	0	0	45199	14553	4131	18684	No	4.58	Si
SLU 71	1.51	2111.42	-8977	-7560	4180	2.025	2.025	-12444	8604	5227	45199	18191	5164	23355	No	5.59	Si
SLU 71	3.41	-1116.36	-1406	-1184	4173	1.62	0.6559	0	0	0	45199	14553	4131	18684	No	4.48	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	1.51	3130.43	-7208	-6070	6137	2.025	1.7346	-9992	12415	6460	45199	27287	5164	32451		5.29	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	3.41	-2394.85	491	414	5254	1.62	0	0	0	0	45199	21830	4131	25961		4.94	Si
SLV 1	1.51	3492.76	-7545	-6353	6847	2.025	1.6487	-10458	12508	6187	45199	27287	5164	32451		4.74	Si
SLV 1	3.41	-2708.65	820	690	5964	1.62	0	0	0	0	45199	21830	4131	25961		4.35	Si
SLV 5	1.51	2059.76	-5027	-4233	3363	2.025	1.8082	-6968	11810	6407	45199	27287	5164	32451		9.65	Si
SLV 5	3.41	-1632.84	-39	-33	3048	1.62	0	0	0	0	45199	21830	4131	25961		8.52	Si
SLV 6	1.51	1695.88	-4688	-3948	2650	2.025	1.9524	-6499	11716	6862	45199	27287	5164	32451		12.25	Si
SLV 6	3.41	-1317.68	-369	-311	2335	1.62	0	0	0	0	45199	21830	4131	25961		11.12	Si
SLV 12	1.51	1183.92	-9006	-7584	3035	2.025	2.025	-12484	12914	7845	45199	27287	5164	32451		10.69	Si
SLV 12	3.41	1.57	-2339	-1970	3338	2.025	2.025	-3243	11065	6722	45199	27287	5164	32451		9.72	Si
SLV 7	1.51	2611.29	-10009	-8429	5958	2.025	2.025	-13874	13191	8014	45199	27287	5164	32451		5.45	Si
SLV 7	3.41	-1327.8	-988	-832	5743	1.62	0	0	0	0	45199	21830	4131	25961		4.52	Si
SLV 3	1.51	3658.22	-9039	-7612	7626	2.025	1.8234	-12530	12923	7069	45199	27287	5164	32451		4.26	Si
SLV 3	3.41	-2617.14	535	451	6772	1.62	0	0	0	0	45199	21830	4131	25961		3.83	Si
SLV 4	1.51	3295.89	-8703	-7329	6916	2.025	1.9013	-12063	12829	7318	45199	27287	5164	32451		4.69	Si
SLV 4	3.41	-2303.34	207	174	6062	1.62	0	0	0	0	45199	21830	4131	25961		4.28	Si
SLV 8	1.51	2247.41	-9671	-8144	5245	2.025	2.025	-13405	13098	7957	45199	27287	5164	32451		6.19	Si
SLV 8	3.41	-1012.65	-1318	-1110	5030	1.62	0.7322	0	0	0	45199	21830	4131	25961		5.16	Si
SLV 11	1.51	1547.8	-9345	-7869	3749	2.025	2.025	-12953	13007	7902	45199	27287	5164	32451		8.66	Si
SLV 11	3.41	-313.59	-2009	-1692	4052	2.025	2.025	-2785	10974	6667	45199	27287	5164	32451		8.01	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	-2065	346.62	0	0	No, e>t/2
SLV 6	179667	0.45	0	-2140	346.62	0	0	No, e>t/2
SLV 1	179667	0.45	4004	-2432	346.62	355.29	1.03	Si
SLV 9	179667	0.45	4062	-2468	346.62	360.29	1.04	Si
SLV 2	179667	0.45	4127	-2507	346.62	365.9	1.06	Si
SLV 10	179667	0.45	4185	-2543	346.62	370.94	1.07	Si
SLV 3	179667	0.45	5184	-3150	346.62	456.4	1.32	Si
SLV 4	179667	0.45	5307	-3224	346.62	466.83	1.35	Si
SLV 13	179667	0.45	6212	-3774	346.62	543.07	1.57	Si
SLV 14	179667	0.45	6335	-3849	346.62	553.36	1.6	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-311	-7734	22	4.565	458.4	0.949	69.9266	16.81776	Si
SLV 14	-274	-6020	-48	4.621	457	0.953	70.45287	16.81776	Si
SLV 15	-270	-7932	22	4.639	456.8	0.954	70.6931	16.81776	Si
SLV 13	-234	-6217	-49	4.697	455.6	0.959	71.21372	16.81776	Si
SLV 12	-205	-9798	114	4.725	454.7	0.963	71.3388	16.41895	Si
SLV 11	-164	-9996	114	4.806	453.6	0.969	72.0926	16.41895	Si
SLV 10	-83	-4082	-122	4.97	452	0.983	73.4939	16.41895	Si
SLV 8	-78	-9852	121	4.983	452	0.984	73.59835	16.41895	Si
SLV 9	-42	-4281	-122	5.06	451.6	0.991	74.20851	16.41895	Si
SLV 7	-37	-10050	121	5.073	451.6	0.992	74.31292	16.41895	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	1.78	SLU 43	Si
V_SLU	4.478	SLU 64	Si
PF_SLV	0	SLV 1	No
V_SLV	3.833	SLV 3	Si
PFFP_SLV	0	SLV 5	No
R_SLV	4.158	SLV 16	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
6.57	9.805	6.571	5.2	L2	L3	4.605	0.15	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 82	0.51	8343.68	-30822	-0.0000789	0.0004492	0.0035	4.6051	45052.68	60778.25	60778.25	7.28	No	Si
SLU 82	4.56	-25649.29	-12167	-0.0002778	0.0004492	0.0035	3.6841	23976.11	37984.58	37984.58	1.48	No	Si
SLU 76	0.51	7629.53	-27726	-0.0000708	0.0004492	0.0035	4.6051	42868.86	55625.23	55625.23	7.29	No	Si
SLU 76	4.56	-22085.68	-10255	-0.0002487	0.0004492	0.0035	3.6841	20743.86	34181.05	34181.05	1.55	No	Si
SLU 73	0.51	7629.53	-27726	-0.0000708	0.0004492	0.0035	4.6051	42868.86	55625.23	55625.23	7.29	No	Si
SLU 73	4.56	-22085.68	-10255	-0.0002487	0.0004492	0.0035	3.6841	20743.86	34181.05	34181.05	1.55	No	Si
SLU 83	0.51	8296.13	-30895	-0.000079	0.0004492	0.0035	4.6051	45098.29	60900.92	60900.92	7.34	No	Si
SLU 83	4.56	-25660.22	-12176	-0.0002776	0.0004492	0.0035	3.6841	23991.64	38003.44	38003.44	1.48	No	Si
SLU 81	0.51	8296.13	-30895	-0.000079	0.0004492	0.0035	4.6051	45098.29	60900.92	60900.92	7.34	No	Si
SLU 81	4.56	-25660.22	-12176	-0.0002776	0.0004492	0.0035	3.6841	23991.64	38003.44	38003.44	1.48	No	Si
SLU 41	0.51	7402.31	-28052	-0.0000708	0.0004492	0.0035	4.6051	43123.96	56168.93	56168.93	7.59	No	Si
SLU 41	4.56	-24526.5	-11918	-0.0002415	0.0004492	0.0035	3.6841	23566.22	37488.95	37488.95	1.53	No	Si
SLU 84	0.51	8343.68	-30822	-0.0000789	0.0004492	0.0035	4.6051	45052.68	60778.25	60778.25	7.28	No	Si
SLU 84	4.56	-25649.29	-12167	-0.0002778	0.0004492	0.0035	3.6841	23976.11	37984.58	37984.58	1.48	No	Si
SLU 39	0.51	7402.31	-28052	-0.0000708	0.0004492	0.0035	4.6051	43123.96	56168.93	56168.93	7.59	No	Si
SLU 39	4.56	-24526.5	-11918	-0.0002415	0.0004492	0.0035	3.6841	23566.22	37488.95	37488.95	1.53	No	Si
SLU 40	0.51	7449.86	-27979	-0.0000708	0.0004492	0.0035	4.6051	43066.91	56046.27	56046.27	7.52	No	Si
SLU 40	4.56	-24515.57	-11908	-0.0002417	0.0004492	0.0035	3.6841	23550.55	37470.08	37470.08	1.53	No	Si
SLU 42	0.51	7449.86	-27979	-0.0000708	0.0004492	0.0035	4.6051	43066.91	56046.27	56046.27	7.52	No	Si
SLU 42	4.56	-24515.57	-11908	-0.0002417	0.0004492	0.0035	3.6841	23550.55	37470.08	37470.08	1.53	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	0.51	5147.5	-18550	-0.0000458	0.0006738	0.0035	4.6051		41257.32	41257.32	8.02		Si
SLV 13	4.56	-12124.25	-5246	-0.000151	0.0006738	0.0035	3.6841		23926.27	23926.27	1.97		Si
SLV 9	0.51	7954.3	-13659	-0.0000434	0.0006738	0.0035	4.6051		31511.34	31511.34	3.96		Si
SLV 9	4.56	-12874.51	-5068	-0.000198	0.0006738	0.0035	3.6841		23541.37	23541.37	1.83		Si
SLV 1	0.51	6683.18	-13164	-0.0000394	0.0006738	0.0035	4.6051		30498.39	30498.39	4.56		Si
SLV 1	4.56	-12585.91	-5179	-0.0001771	0.0006738	0.0035	3.6841		23780.92	23780.92	1.89		Si
SLV 14	0.51	4796.91	-18501	-0.0000448	0.0006738	0.0035	4.6051		41161.72	41161.72	8.58		Si
SLV 14	4.56	-12075.82	-5225	-0.0001504	0.0006738	0.0035	3.6841		23880.55	23880.55	1.98		Si
SLV 10	0.51	7602.21	-13610	-0.0000425	0.0006738	0.0035	4.6051		31410.58	31410.58	4.13		Si
SLV 10	4.56	-12825.88	-5046	-0.0001974	0.0006738	0.0035	3.6841		23495.45	23495.45	1.83		Si
SLV 5	0.51	8415	-12044	-0.0000415	0.0006738	0.0035	4.6051		28206.25	28206.25	3.35		Si
SLV 5	4.56	-13013.01	-5047	-0.0002055	0.0006738	0.0035	3.6841		23497.76	23497.76	1.81		Si
SLV 2	0.51	6332.59	-13115	-0.0000385	0.0006738	0.0035	4.6051		30398.06	30398.06	4.8		Si
SLV 2	4.56	-12537.49	-5158	-0.0001765	0.0006738	0.0035	3.6841		23735.2	23735.2	1.89		Si
SLV 4	0.51	4388.11	-15692	-0.0000386	0.0006738	0.0035	4.6051		35610.67	35610.67	8.12		Si
SLV 4	4.56	-12032.99	-5291	-0.0001435	0.0006738	0.0035	3.6841		24021.6	24021.6	2		Si
SLV 6	0.51	8062.91	-11994	-0.0000405	0.0006738	0.0035	4.6051		28105.5	28105.5	3.49		Si
SLV 6	4.56	-12964.38	-5026	-0.0002049	0.0006738	0.0035	3.6841		23451.84	23451.84	1.81		Si
SLV 3	0.51	4738.69	-15741	-0.0000396	0.0006738	0.0035	4.6051		35709.42	35709.42	7.54		Si
SLV 3	4.56	-12081.42	-5312	-0.0001442	0.0006738	0.0035	3.6841		24067.32	24067.32	1.99		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.51	8343.68	-30822	-17612	10475	4.6051	4.6051	-25497	10833	7483	129139	24824	23486	48310	No	4.61	Si
SLU 82	4.56	-25649.29	-12167	-6952	23710	3.6841	0.5832	0	0	0	129139	19859	18789	38648	No	1.63	Si
SLU 80	0.51	7597.83	-27775	-15871	11093	4.6051	4.6051	-22976	10833	7483	129139	24824	23486	48310	No	4.36	Si
SLU 80	4.56	-22092.96	-10261	-5864	22026	3.6841	0.4486	0	0	0	129139	19859	18789	38648	No	1.75	Si
SLU 75	0.51	7597.83	-27775	-15871	11093	4.6051	4.6051	-22976	10833	7483	129139	24824	23486	48310	No	4.36	Si
SLU 75	4.56	-22092.96	-10261	-5864	22026	3.6841	0.4486	0	0	0	129139	19859	18789	38648	No	1.75	Si
SLU 79	0.51	7550.28	-27848	-15913	10917	4.6051	4.6051	-23037	10833	7483	129139	24824	23486	48310	No	4.43	Si
SLU 79	4.56	-22103.89	-10271	-5869	22098	3.6841	0.4514	0	0	0	129139	19859	18789	38648	No	1.75	Si
SLU 81	0.51	8296.13	-30895	-17655	10299	4.6051	4.6051	-25558	10833	7483	129139	24824	23486	48310	No	4.69	Si
SLU 81	4.56	-25660.22	-12176	-6958	23782	3.6841	0.5854	0	0	0	129139	19859	18789	38648	No	1.63	Si
SLU 77	0.51	7550.28	-27848	-15913	10917	4.6051	4.6051	-23037	10833	7483	129139	24824	23486	48310	No	4.43	Si
SLU 77	4.56	-22103.89	-10271	-5869	22098	3.6841	0.4514	0	0	0	129139	19859	18789	38648	No	1.75	Si
SLU 74	0.51	7550.28	-27848	-15913	10917	4.6051	4.6051	-23037	10833	7483	129139	24824	23486	48310	No	4.43	Si
SLU 74	4.56	-22103.89	-10271	-5869	22098	3.6841	0.4514	0	0	0	129139	19859	18789	38648	No	1.75	Si
SLU 84	0.51	8343.68	-30822	-17612	10475	4.6051	4.6051	-25497	10833	7483	129139	24824	23486	48310	No	4.61	Si
SLU 84	4.56	-25649.29	-12167	-6952	23710	3.6841	0.5832	0	0	0	129139	19859	18789	38648	No	1.63	Si
SLU 83	0.51	8296.13	-30895	-17655	10299	4.6051	4.6051	-25558	10833	7483	129139	24824	23486	48310	No	4.69	Si
SLU 83	4.56	-25660.22	-12176	-6958	23782	3.6841	0.5854	0	0	0	129139	19859	18789	38648	No	1.63	Si
SLU 78	0.51	7597.83	-27775	-15871	11093	4.6051	4.6051	-22976	10833	7483	129139	24824	23486	48310	No	4.36	Si
SLU 78	4.56	-22092.96	-10261	-5864	22026	3.6841	0.4486	0	0	0	129139	19859	18789	38648	No	1.75	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.51	4388.11	-15692	-8967	7340	4.6051	4.6051	-12981	15096	10428	129139	37237	23486	60723		8.27	Si
SLV 4	4.56	-12032.99	-5291	-3023	13745	3.6841	0.0846	0	0	0	129139	29789	18789	48578		3.53	Si
SLV 10	0.51	7602.21	-13610	-7777	15358	4.6051	4.6051	-11259	14752	10190	129139	37237	23486	60723		3.95	Si
SLV 10	4.56	-12825.88	-5046	-2884	17495	3.6841	0	0	0	0	129139	29789	18789	48578		2.78	Si
SLV 6	0.51	8062.91	-11994	-6854	15404	4.6051	4.6051	-9922	14484	10005	129139	37237	23486	60723		3.94	Si
SLV 6	4.56	-12964.38	-5026	-2872	17537	3.6841	0	0	0	0	129139	29789	18789	48578		2.77	Si
SLV 1	0.51	6683.18	-13164	-7522	11150	4.6051	4.6051	-10890	14678	10139	129139	37237	23486	60723		5.45	Si
SLV 1	4.56	-12585.91	-5179	-2959	15594	3.6841	0	0	0	0	129139	29789	18789	48578		3.12	Si
SLV 2	0.51	6332.59	-13115	-7494	11087	4.6051	4.6051	-10849	14670	10133	129139	37237	23486	60723		5.48	Si
SLV 2	4.56	-12537.49	-5158	-2947	15518	3.6841	0	0	0	0	129139	29789	18789	48578		3.13	Si
SLV 5	0.51	8415	-12044	-6882	15468	4.6051	4.6051	-9963	14493	10011	129139	37237	23486	60723		3.93	Si
SLV 5	4.56	-13013.01	-5047	-2884	17614	3.6841	0	0	0	0	129139	29789	18789	48578		2.76	Si
SLV 14	0.51	4796.91	-18501	-10572	10931	4.6051	4.6051	-15305	15561	10749	129139	37237	23486	60723		5.55	Si
SLV 14	4.56	-12075.82	-5225	-2986	15378	3.6841	0	0	0	0	129139	29789	18789	48578		3.16	Si
SLV 9	0.51	7954.3	-13659	-7805	15421	4.6051	4.6051	-11300	14760	10196	129139	37237	23486	60723		3.94	Si
SLV 9	4.56	-12874.51	-5068	-2896	17572	3.6841	0	0	0	0	129139	29789	18789	48578		2.76	Si
SLV 13	0.51	5147.5	-18550	-10600	10994	4.6051	4.6051	-15345	15569	10755	129139	37237	23486	60723		5.52	Si
SLV 13	4.56	-12124.25	-5246	-2998	15454	3.6841	0	0	0	0	129139	29789	18789	48578		3.14	Si
SLV 3	0.51	4738.69	-15741	-8995	7403	4.6051	4.6051	-13021	15104	10433	129139	37237	23486	60723		8.2	Si
SLV 3	4.56	-12081.42	-5312	-3035	13821	3.6841	0.0845	0	0	0	129139	29789	18789	48578		3.51	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.535 Ta 0.18 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-10548	0.45	427.27	725.21	1278.88	1002.05	2.35	Si
SLV 5	-10584	0.45	427.27	727.41	1282.05	1004.73	2.35	Si
SLV 2	-10991	0.45	427.27	752.78	1318.75	1035.76	2.42	Si
SLV 1	-11026	0.45	427.27	754.95	1321.91	1038.43	2.43	Si
SLV 10	-11253	0.45	427.27	768.93	1342.28	1055.61	2.47	Si
SLV 9	-11288	0.45	427.27	771.1	1345.45	1058.28	2.48	Si
SLV 4	-12075	0.45	427.27	819.25	1415.95	1117.6	2.62	Si
SLV 3	-12110	0.45	427.27	821.38	1419.07	1120.22	2.62	Si
SLV 14	-13339	0.45	427.27	894.99	1528.52	1211.76	2.84	Si
SLV 13	-13374	0.45	427.27	897.07	1531.65	1214.36	2.84	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 = 0.1826

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-5511	-22247	-14	3.244	970.6	0.903	52.2254	18.64567	Si
SLV 7	-5491	-20632	66	3.246	968.6	0.903	52.25908	18.64567	Si
SLV 12	-5490	-22198	-14	3.253	968.5	0.903	52.37113	18.64567	Si
SLV 8	-5469	-20582	66	3.255	966.5	0.903	52.40507	18.64567	Si
SLV 15	-5379	-21127	-125	3.284	957.7	0.902	52.90943	18.64567	Si
SLV 16	-5358	-21078	-125	3.293	955.6	0.902	53.0588	18.64567	Si
SLV 3	-5312	-15741	140	3.31	951.1	0.902	53.35554	18.64567	Si
SLV 4	-5291	-15692	140	3.319	949	0.902	53.50724	18.64567	Si
SLV 13	-5246	-18550	-141	3.338	944.6	0.901	53.82519	18.64567	Si
SLV 14	-5225	-18501	-141	3.347	942.6	0.901	53.97965	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	1.481	SLU 82	Si
V_SLU	1.625	SLU 81	Si
PF_SLV	1.806	SLV 5	Si
V_SLV	2.758	SLV 5	Si
PFFP_SLV	2.345	SLV 6	Si
R_SLV	2.801	SLV 11	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
9.035	0.225	9.795	1.456	L2	L3	1.447	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 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

									εlim,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	εlim,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 51	0.51	-506.99	-3266	-0.0000186	0.0003743	0.0035	1.4466	2187.66	2730.49	2730.49	5.39	No	Si
SLU 51	4.56	190.52	-534	-0.0000048	0.0003743	0.0035	1.4466	381.55	500.22	500.22	2.63	No	Si
SLU 45	0.51	-500.17	-3250	-0.0000184	0.0003743	0.0035	1.4466	2177.66	2720.08	2720.08	5.44	No	Si
SLU 45	4.56	185.16	-533	-0.0000046	0.0003743	0.0035	1.4466	380.92	499.6	499.6	2.7	No	Si
SLU 48	0.51	-500.17	-3250	-0.0000184	0.0003743	0.0035	1.4466	2177.66	2720.08	2720.08	5.44	No	Si
SLU 48	4.56	185.16	-533	-0.0000046	0.0003743	0.0035	1.4466	380.92	499.6	499.6	2.7	No	Si
SLU 50	0.51	-500.17	-3250	-0.0000184	0.0003743	0.0035	1.4466	2177.66	2720.08	2720.08	5.44	No	Si
SLU 50	4.56	185.16	-533	-0.0000046	0.0003743	0.0035	1.4466	380.92	499.6	499.6	2.7	No	Si
SLU 49	0.51	-506.99	-3266	-0.0000186	0.0003743	0.0035	1.4466	2187.66	2730.49	2730.49	5.39	No	Si
SLU 49	4.56	190.52	-534	-0.0000048	0.0003743	0.0035	1.4466	381.55	500.22	500.22	2.63	No	Si
SLU 44	0.51	-511.54	-3277	-0.0000187	0.0003743	0.0035	1.4466	2194.32	2737.43	2737.43	5.35	No	Si
SLU 44	4.56	194.09	-535	-0.0000049	0.0003743	0.0035	1.4466	381.96	500.64	500.64	2.58	No	Si
SLU 43	0.51	-500.17	-3250	-0.0000184	0.0003743	0.0035	1.4466	2177.66	2720.08	2720.08	5.44	No	Si
SLU 43	4.56	185.16	-533	-0.0000046	0.0003743	0.0035	1.4466	380.92	499.6	499.6	2.7	No	Si
SLU 47	0.51	-511.54	-3277	-0.0000187	0.0003743	0.0035	1.4466	2194.32	2737.43	2737.43	5.35	No	Si
SLU 47	4.56	194.09	-535	-0.0000049	0.0003743	0.0035	1.4466	381.96	500.64	500.64	2.58	No	Si
SLU 5	0.51	-432.54	-2673	-0.0000154	0.0003743	0.0035	1.4466	1816.44	2343.86	2343.86	5.42	No	Si
SLU 5	4.56	171.67	-514	-0.0000043	0.0003743	0.0035	1.4466	367.16	485.92	485.92	2.83	No	Si
SLU 46	0.51	-506.99	-3266	-0.0000186	0.0003743	0.0035	1.4466	2187.66	2730.49	2730.49	5.39	No	Si
SLU 46	4.56	190.52	-534	-0.0000048	0.0003743	0.0035	1.4466	381.55	500.22	500.22	2.63	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.51	-1468.91	-4224	-0.0000377	0.0005615	0.0035	1.4466		3397.23	3397.23	2.31		Si
SLV 5	4.56	549.53	-856	-0.000035	0.0005615	0.0035	1.4466		729.06	729.06	1.33		Si
SLV 3	0.51	-990.65	-2195	-0.0000268	0.0005615	0.0035	1.1573		2044.8	2044.8	2.06		Si
SLV 3	4.56	268.67	-871	-0.0000069	0.0005615	0.0035	1.4466		739.19	739.19	2.75		Si
SLV 1	0.51	-1445.65	-2980	-0.000042	0.0005615	0.0035	1.1573		2574.68	2574.68	1.78		Si
SLV 1	4.56	454.2	-873	-0.0000142	0.0005615	0.0035	1.4466		741.01	741.01	1.63		Si
SLV 2	0.51	-1509.41	-3021	-0.0000454	0.0005615	0.0035	1.1573		2602.06	2602.06	1.72		Si
SLV 2	4.56	526.99	-875	-0.000024	0.0005615	0.0035	1.4466		742.24	742.24	1.41		Si
SLV 4	0.51	-1054.41	-2236	-0.0000296	0.0005615	0.0035	1.1573		2072.71	2072.71	1.97		Si
SLV 4	4.56	341.46	-872	-0.0000086	0.0005615	0.0035	1.4466		740.42	740.42	2.17		Si
SLV 11	0.51	482.69	-1888	-0.0000133	0.0005615	0.0035	1.4466		1449.29	1449.29	3		Si
SLV 11	4.56	-172.6	-831	-0.0000053	0.0005615	0.0035	1.4466		1102.12	1102.12	6.39		Si
SLV 9	0.51	-1033.96	-4505	-0.0000304	0.0005615	0.0035	1.4466		3577.94	3577.94	3.46		Si
SLV 9	4.56	445.85	-839	-0.0000144	0.0005615	0.0035	1.4466		716.98	716.98	1.61		Si
SLV 10	0.51	-1098	-4546	-0.0000315	0.0005615	0.0035	1.4466		3604.26	3604.26	3.28		Si
SLV 10	4.56	518.95	-841	-0.0000263	0.0005615	0.0035	1.4466		718.22	718.22	1.38		Si
SLV 6	0.51	-1532.94	-4265	-0.0000394	0.0005615	0.0035	1.4466		3423.71	3423.71	2.23		Si
SLV 6	4.56	622.64	-858	-0.0001851	0.0005615	0.0035	1.1573		730.29	730.29	1.17		Si
SLV 12	0.51	418.66	-1929	-0.0000125	0.0005615	0.0035	1.4466		1477.35	1477.35	3.53		Si
SLV 12	4.56	-99.5	-832	-0.0000042	0.0005615	0.0035	1.4466		1103.34	1103.34	11.09		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.51	-960.74	-5165	-4350	-2152	1.4466	1.4466	-10023	8281	3594	45199	12995	3689	16684	No	7.75	Si
SLU 81	4.56	463.56	-2028	-1708	-1599	1.4466	1.4466	-3935	7469	3241	45199	12995	3689	16684	No	10.43	Si
SLU 40	0.51	-888.57	-4578	-3855	-2041	1.4466	1.4466	-8883	8129	3528	45199	12995	3689	16684	No	8.18	Si
SLU 40	4.56	446.5	-2008	-1691	-1506	1.4466	1.4466	-3896	7464	3239	45199	12995	3689	16684	No	11.08	Si
SLU 82	0.51	-967.56	-5182	-4363	-2179	1.4466	1.4466	-10054	8285	3596	45199	12995	3689	16684	No	7.66	Si
SLU 82	4.56	468.92	-2029	-1708	-1626	1.4466	1.4466	-3937	7469	3242	45199	12995	3689	16684	No	10.26	Si
SLU 84	0.51	-967.56	-5182	-4363	-2179	1.4466	1.4466	-10054	8285	3596	45199	12995	3689	16684	No	7.66	Si
SLU 84	4.56	468.92	-2029	-1708	-1626	1.4466	1.4466	-3937	7469	3242	45199	12995	3689	16684	No	10.26	Si
SLU 42	0.51	-888.57	-4578	-3855	-2041	1.4466	1.4466	-8883	8129	3528	45199	12995	3689	16684	No	8.18	Si
SLU 42	4.56	446.5	-2008	-1691	-1506	1.4466	1.4466	-3896	7464	3239	45199	12995	3689	16684	No	11.08	Si
SLU 83	0.51	-960.74	-5165	-4350	-2152	1.4466	1.4466	-10023	8281	3594	45199	12995	3689	16684	No	7.75	Si
SLU 83	4.56	463.56	-2028	-1708	-1599	1.4466	1.4466	-3935	7469	3241	45199	12995	3689	16684	No	10.43	Si
SLU 41	0.51	-881.75	-4562	-3841	-2014	1.4466	1.4466	-8851	8125	3526	45199	12995	3689	16684	No	8.28	Si
SLU 41	4.56	441.14	-2007	-1690	-1479	1.4466	1.4466	-3894	7464	3239	45199	12995	3689	16684	No	11.28	Si
SLU 76	0.51	-875.37	-4784	-4029	-1946	1.4466	1.4466	-9283	8182	3551	45199	12995	3689	16684	No	8.57	Si
SLU 76	4.56	412.07	-1697	-1429	-1476	1.4466	1.4415	-3293	7383	3193	45199	12995	3689	16684	No	11.31	Si
SLU 39	0.51	-881.75	-4562	-3841	-2014	1.4466	1.4466	-8851	8125	3526	45199	12995	3689	16684	No	8.28	Si
SLU 39	4.56	441.14	-2007	-1690	-1479	1.4466	1.4466	-3894	7464	3239	45199	12995	3689	16684	No	11.28	Si
SLU 73	0.51	-875.37	-4784	-4029	-1946	1.4466	1.4466	-9283	8182	3551	45199	12995	3689	16684	No	8.57	Si
SLU 73	4.56	412.07	-1697	-1429	-1476	1.4466	1.4415	-3293	7383	3193	45199	12995	3689	16684	No	11.31	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	0.51	-1445.65	-2980	-2510	-4183	1.1573	0.7147	0	0	0	45199	15594	2951	18546		4.43	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	4.56	454.2	-873	-735	-888	1.4466	0.6094	-1694	10756	1966	45199	19493	3689	23182		26.1	Si
SLV 2	0.51	-1509.41	-3021	-2544	-4536	1.1573	0.6711	0	0	0	45199	15594	2951	18546		4.09	Si
SLV 2	4.56	526.99	-875	-737	-1247	1.4466	0.3629	-6785	11774	1282	45199	19493	3689	23182		18.59	Si
SLV 9	0.51	-1033.96	-4505	-3794	-2538	1.4466	1.4466	-8741	12165	5279	45199	19493	3689	23182		9.13	Si
SLV 9	4.56	445.85	-839	-707	-2369	1.4466	0.5759	-1628	10742	1856	45199	19493	3689	23182		9.78	Si
SLV 4	0.51	-1054.41	-2236	-1883	-3114	1.1573	0.7553	0	0	0	45199	15594	2951	18546		5.96	Si
SLV 4	4.56	341.46	-872	-735	-281	1.4466	0.9956	-1693	10755	3212	45199	19493	3689	23182		82.62	Si
SLV 15	0.51	459.16	-3132	-2638	2323	1.4466	1.4466	-6078	11632	5048	45199	19493	3689	23182		9.98	Si
SLV 15	4.56	-76.96	-814	-685	-467	1.4466	1.4466	-1579	10732	4658	45199	19493	3689	23182		49.63	Si
SLV 11	0.51	482.69	-1888	-1590	2204	1.4466	1.403	-3664	11149	4693	45199	19493	3689	23182		10.52	Si
SLV 11	4.56	-172.6	-831	-699	852	1.4466	1.4466	-1612	10739	4661	45199	19493	3689	23182		27.21	Si
SLV 6	0.51	-1532.94	-4265	-3592	-4418	1.4466	1.0916	-11023	12621	4133	45199	19493	3689	23182		5.25	Si
SLV 6	4.56	622.64	-858	-722	-2566	1.1573	0	0	0	0	45199	15594	2951	18546		7.23	Si
SLV 3	0.51	-990.65	-2195	-1849	-2761	1.1573	0.8161	0	0	0	45199	15594	2951	18546		6.72	Si
SLV 3	4.56	268.67	-871	-733	78	1.4466	1.2441	-1689	10755	4014	45199	19493	3689	23182		296	Si
SLV 10	0.51	-1098	-4546	-3828	-2893	1.4466	1.4453	-8821	12181	5282	45199	19493	3689	23182		8.01	Si
SLV 10	4.56	518.95	-841	-708	-2730	1.4466	0.3184	-7430	11903	1137	45199	19493	3689	23182		8.49	Si
SLV 5	0.51	-1468.91	-4224	-3557	-4063	1.4466	1.1266	-10572	12531	4235	45199	19493	3689	23182		5.71	Si
SLV 5	4.56	549.53	-856	-721	-2206	1.4466	0.2444	-9832	12385	908	45199	19493	3689	23182		10.51	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 16	179667	0.45	0	-1527	247.62	0	0	No, e>t/2
SLV 12	179667	0.45	0	-1619	247.62	0	0	No, e>t/2
SLV 15	179667	0.45	0	-1510	247.62	0	0	No, e>t/2
SLV 11	179667	0.45	0	-1602	247.62	0	0	No, e>t/2
SLV 13	179667	0.45	3891	-1688	247.62	246.81	1	No, M>Mu
SLV 14	179667	0.45	3930	-1706	247.62	249.27	1.01	Si
SLV 7	179667	0.45	4283	-1859	247.62	270.99	1.09	Si
SLV 8	179667	0.45	4323	-1876	247.62	273.44	1.1	Si
SLV 9	179667	0.45	5062	-2197	247.62	318.59	1.29	Si
SLV 10	179667	0.45	5102	-2214	247.62	321.01	1.3	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 = 2.535 Wa = 0.05 Ta = 0.0913

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-875	-3021	133	3.314	369.3	0.897	53.68886	16.81776	Si
SLV 1	-873	-2980	133	3.316	369.2	0.897	53.71994	16.81776	Si
SLV 4	-872	-2236	118	3.324	369.1	0.897	53.83699	16.81776	Si
SLV 3	-871	-2195	119	3.326	369	0.897	53.86818	16.81776	Si
SLV 16	-815	-3173	-146	3.39	364.7	0.899	54.80345	16.81776	Si
SLV 15	-814	-3132	-145	3.393	364.6	0.899	54.84234	16.81776	Si
SLV 14	-818	-3958	-131	3.393	364.9	0.899	54.84982	16.81776	Si
SLV 13	-816	-3917	-130	3.396	364.8	0.899	54.88872	16.81776	Si
SLV 6	-858	-4265	58	3.368	368	0.898	54.52473	16.41895	Si
SLV 5	-856	-4224	58	3.37	367.9	0.898	54.55659	16.41895	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	2.579	SLU 44	Si
V_SLU	7.657	SLU 82	Si
PF_SLV	1.173	SLV 6	Si
V_SLV	4.088	SLV 2	Si
PFFP_SLV	0	SLV 11	No
R_SLV	3.192	SLV 2	Si

Maschio 26

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
9.795	9.805	9.795	1.46	L2	L3	8.345	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	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,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	εlim,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 66	0.51	-9339.77	-22495	-0.0000162	0.0004492	0.0035	8.345	86958.83	130351.84	130351.84	13.96	No	Si
SLU 66	4.56	1391.73	-7247	-0.0000045	0.0004492	0.0035	8.345	29520.25	36319.66	36319.66	26.1	No	Si
SLU 43	0.51	-9493.26	-20168	-0.000015	0.0004492	0.0035	8.345	78601.21	121508.18	121508.18	12.8	No	Si
SLU 43	4.56	1270.32	-4283	-0.0000028	0.0004492	0.0035	8.345	17620.78	24364.49	24364.49	19.18	No	Si
SLU 47	0.51	-9176.35	-20134	-0.0000148	0.0004492	0.0035	8.345	78480.03	121381.1	121381.1	13.23	No	Si
SLU 47	4.56	1233.41	-4278	-0.0000028	0.0004492	0.0035	8.345	17600.56	24344.37	24344.37	19.74	No	Si
SLU 44	0.51	-9176.35	-20134	-0.0000148	0.0004492	0.0035	8.345	78480.03	121381.1	121381.1	13.23	No	Si
SLU 44	4.56	1233.41	-4278	-0.0000028	0.0004492	0.0035	8.345	17600.56	24344.37	24344.37	19.74	No	Si
SLU 45	0.51	-9493.26	-20168	-0.000015	0.0004492	0.0035	8.345	78601.21	121508.18	121508.18	12.8	No	Si
SLU 45	4.56	1270.32	-4283	-0.0000028	0.0004492	0.0035	8.345	17620.78	24364.49	24364.49	19.18	No	Si
SLU 51	0.51	-9303.11	-20147	-0.0000149	0.0004492	0.0035	8.345	78528.51	121431.93	121431.93	13.05	No	Si
SLU 51	4.56	1248.18	-4280	-0.0000028	0.0004492	0.0035	8.345	17608.65	24352.42	24352.42	19.51	No	Si
SLU 46	0.51	-9303.11	-20147	-0.0000149	0.0004492	0.0035	8.345	78528.51	121431.93	121431.93	13.05	No	Si
SLU 46	4.56	1248.18	-4280	-0.0000028	0.0004492	0.0035	8.345	17608.65	24352.42	24352.42	19.51	No	Si
SLU 49	0.51	-9303.11	-20147	-0.0000149	0.0004492	0.0035	8.345	78528.51	121431.93	121431.93	13.05	No	Si
SLU 49	4.56	1248.18	-4280	-0.0000028	0.0004492	0.0035	8.345	17608.65	24352.42	24352.42	19.51	No	Si
SLU 50	0.51	-9493.26	-20168	-0.000015	0.0004492	0.0035	8.345	78601.21	121508.18	121508.18	12.8	No	Si
SLU 50	4.56	1270.32	-4283	-0.0000028	0.0004492	0.0035	8.345	17620.78	24364.49	24364.49	19.18	No	Si
SLU 48	0.51	-9493.26	-20168	-0.000015	0.0004492	0.0035	8.345	78601.21	121508.18	121508.18	12.8	No	Si
SLU 48	4.56	1270.32	-4283	-0.0000028	0.0004492	0.0035	8.345	17620.78	24364.49	24364.49	19.18	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	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.51	-21912.66	-17139	-0.0000182	0.0006738	0.0035	8.345		110695.72	110695.72	5.05		Si
SLV 8	4.56	2421.16	-6620	-0.0000046	0.0006738	0.0035	8.345		33936.79	33936.79	14.02		Si
SLV 6	0.51	8338.77	-13998	-0.000011	0.0006738	0.0035	8.345		63510.77	63510.77	7.62		Si
SLV 6	4.56	-637.25	-6493	-0.0000038	0.0006738	0.0035	8.345		68768.04	68768.04	107.91		Si
SLV 5	0.51	8281.4	-13842	-0.0000109	0.0006738	0.0035	8.345		62897.58	62897.58	7.6		Si
SLV 5	4.56	-236.67	-6500	-0.0000037	0.0006738	0.0035	8.345		68795.3	68795.3	290.68		Si
SLV 12	0.51	-22199.26	-22093	-0.0000211	0.0006738	0.0035	8.345		129874.5	129874.5	5.85		Si
SLV 12	4.56	2435.15	-6780	-0.0000047	0.0006738	0.0035	8.345		34583.98	34583.98	14.2		Si
SLV 3	0.51	-11047.53	-10104	-0.0000099	0.0006738	0.0035	8.345		83097.06	83097.06	7.52		Si
SLV 3	4.56	1734.11	-6396	-0.0000042	0.0006738	0.0035	8.345		33029.16	33029.16	19.05		Si
SLV 10	0.51	8052.17	-18952	-0.0000136	0.0006738	0.0035	8.345		83041.31	83041.31	10.31		Si
SLV 10	4.56	-623.25	-6653	-0.0000039	0.0006738	0.0035	8.345		69405.78	69405.78	111.36		Si
SLV 9	0.51	7994.8	-18797	-0.0000135	0.0006738	0.0035	8.345		82428.11	82428.11	10.31		Si
SLV 9	4.56	-222.68	-6660	-0.0000037	0.0006738	0.0035	8.345		69433.04	69433.04	311.81		Si
SLV 7	0.51	-21970.03	-16983	-0.0000181	0.0006738	0.0035	8.345		110088.44	110088.44	5.01		Si
SLV 7	4.56	2821.73	-6627	-0.0000047	0.0006738	0.0035	8.345		33964.45	33964.45	12.04		Si
SLV 4	0.51	-10990.41	-10259	-0.00001	0.0006738	0.0035	8.345		83708.03	83708.03	7.62		Si
SLV 4	4.56	1335.25	-6389	-0.000004	0.0006738	0.0035	8.345		33001.51	33001.51	24.72		Si
SLV 11	0.51	-22256.63	-21937	-0.000021	0.0006738	0.0035	8.345		129274.25	129274.25	5.81		Si
SLV 11	4.56	2835.73	-6787	-0.0000048	0.0006738	0.0035	8.345		34611.65	34611.65	12.21		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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	0.51	-9493.26	-20168	-14667	-8838	8.345	8.345	-5859	9114	22818	129139	89970	42559	132529	No	15	Si
SLU 43	4.56	1270.32	-4283	-3115	-8767	8.345	8.345	-1244	8499	21278	129139	89970	42559	132529	No	15.12	Si
SLU 45	0.51	-9493.26	-20168	-14667	-8838	8.345	8.345	-5859	9114	22818	129139	89970	42559	132529	No	15	Si
SLU 45	4.56	1270.32	-4283	-3115	-8767	8.345	8.345	-1244	8499	21278	129139	89970	42559	132529	No	15.12	Si
SLU 46	0.51	-9303.11	-20147	-14653	-8599	8.345	8.345	-5853	9114	22816	129139	89970	42559	132529	No	15.41	Si
SLU 46	4.56	1248.18	-4280	-3113	-8638	8.345	8.345	-1243	8499	21278	129139	89970	42559	132529	No	15.34	Si
SLU 48	0.51	-9493.26	-20168	-14667	-8838	8.345	8.345	-5859	9114	22818	129139	89970	42559	132529	No	15	Si
SLU 48	4.56	1270.32	-4283	-3115	-8767	8.345	8.345	-1244	8499	21278	129139	89970	42559	132529	No	15.12	Si
SLU 66	0.51	-9339.77	-22495	-16360	-8686	8.345	8.345	-6535	9205	23044	129139	89970	42559	132529	No	15.26	Si
SLU 66	4.56	1391.73	-7247	-5270	-8579	8.345	8.345	-2105	8614	21565	129139	89970	42559	132529	No	15.45	Si
SLU 64	0.51	-9339.77	-22495	-16360	-8686	8.345	8.345	-6535	9205	23044	129139	89970	42559	132529	No	15.26	Si
SLU 64	4.56	1391.73	-7247	-5270	-8579	8.345	8.345	-2105	8614	21565	129139	89970	42559	132529	No	15.45	Si
SLU 69	0.51	-9339.77	-22495	-16360	-8686	8.345	8.345	-6535	9205	23044	129139	89970	42559	132529	No	15.26	Si
SLU 69	4.56	1391.73	-7247	-5270	-8579	8.345	8.345	-2105	8614	21565	129139	89970	42559	132529	No	15.45	Si
SLU 49	0.51	-9303.11	-20147	-14653	-8599	8.345	8.345	-5853	9114	22816	129139	89970	42559	132529	No	15.41	Si
SLU 49	4.56	1248.18	-4280	-3113	-8638	8.345	8.345	-1243	8499	21278	129139	89970	42559	132529	No	15.34	Si
SLU 50	0.51	-9493.26	-20168	-14667	-8838	8.345	8.345	-5859	9114	22818	129139	89970	42559	132529	No	15	Si
SLU 50	4.56	1270.32	-4283	-3115	-8767	8.345	8.345	-1244	8499	21278	129139	89970	42559	132529	No	15.12	Si
SLU 71	0.51	-9339.77	-22495	-16360	-8686	8.345	8.345	-6535	9205	23044	129139	89970	42559	132529	No	15.26	Si
SLU 71	4.56	1391.73	-7247	-5270	-8579	8.345	8.345	-2105	8614	21565	129139	89970	42559	132529	No	15.45	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	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.51	8052.17	-18952	-13783	11654	8.345	8.345	-5506	13601	34050	129139	134954	42559	163190		14	Si
SLV 10	4.56	-623.25	-6653	-4839	4511	8.345	8.345	-1933	12887	32261	129139	134954	42559	161401		35.78	Si
SLV 4	0.51	-10990.41	-10259	-7461	-12293	8.345	8.345	-2980	13096	32786	129139	134954	42559	161925		13.17	Si
SLV 4	4.56	1335.25	-6389	-4646	-8530	8.345	8.345	-1856	12871	32223	129139	134954	42559	161362		18.92	Si
SLV 15	0.51	-12002.88	-26618	-19359	-10512	8.345	8.345	-7733	14047	35166	129139	134954	42559	164305		15.63	Si
SLV 15	4.56	1780.76	-6930	-5040	-10039	8.345	8.345	-2013	12903	32302	129139	134954	42559	161441		16.08	Si
SLV 6	0.51	8338.77	-13998	-10180	10461	8.345	8.345	-4066	13313	33330	129139	134954	42559	162469		15.53	Si
SLV 6	4.56	-637.25	-6493	-4722	4306	8.345	8.345	-1886	12877	32238	129139	134954	42559	161377		37.48	Si
SLV 9	0.51	7994.8	-18797	-13670	9448	8.345	8.345	-5460	13592	34028	129139	134954	42559	163167		17.27	Si
SLV 9	4.56	-222.68	-6660	-4844	2308	8.345	8.345	-1935	12887	32262	129139	134954	42559	161402		69.92	Si
SLV 3	0.51	-11047.53	-10104	-7348	-14490	8.345	8.345	-2935	13087	32763	129139	134954	42559	161903		11.17	Si
SLV 3	4.56	1734.11	-6396	-4651	-10723	8.345	8.345	-1858	12872	32224	129139	134954	42559	161363		15.05	Si
SLV 11	0.51	-22256.63	-21937	-15954	-23409	8.345	8.345	-6373	13775	34485	129139	134954	42559	163624		6.99	Si
SLV 11	4.56	2835.73	-6787	-4936	-17064	8.345	8.345	-1972	12894	32281	129139	134954	42559	161420		9.46	Si
SLV 8	0.51	-21912.66	-17139	-12464	-22396	8.345	8.345	-4979	13496	33787	129139	134954	42559	162926		7.27	Si
SLV 8	4.56	2421.16	-6620	-4815	-15067	8.345	8.345	-1923	12885	32257	129139	134954	42559	161396		10.71	Si
SLV 12	0.51	-22199.26	-22093	-16067	-21202	8.345	8.345	-6418	13784	34507	129139	134954	42559	163646		7.72	Si
SLV 12	4.56	2435.15	-6780	-4931	-14862	8.345	8.345	-1970	12894	32280	129139	134954	42559	161419		10.86	Si
SLV 7	0.51	-21970.03	-16983	-12351	-24602	8.345	8.345	-4934	13487	33764	129139	134954	42559	162903		6.62	Si
SLV 7	4.56	2821.73	-6627	-4820	-17269	8.345	8.345	-1925	12885	32258	129139	134954	42559	161397		9.35	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM 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 1	-9887	0.45	1464.21	1451.1	2745.65	2098.37	1.43	Si
SLV 2	-9921	0.45	1464.21	1456	2751.37	2103.69	1.44	Si
SLV 3	-10241	0.45	1464.21	1501.92	2805.01	2153.46	1.47	Si
SLV 4	-10276	0.45	1464.21	1506.81	2810.73	2158.77	1.47	Si
SLV 5	-11390	0.45	1464.21	1666.03	2996.82	2331.42	1.59	Si
SLV 6	-11424	0.45	1464.21	1670.92	3002.52	2336.72	1.6	Si
SLV 7	-12571	0.45	1464.21	1833.94	3193.27	2513.61	1.72	Si
SLV 8	-12605	0.45	1464.21	1838.81	3198.97	2518.89	1.72	Si
SLV 9	-13032	0.45	1464.21	1899.26	3269.96	2584.61	1.77	Si
SLV 10	-13066	0.45	1464.21	1904.11	3275.64	2589.88	1.77	Si

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 13	-6891	-25676	-1520	2.89	2283.1	0.891	47.1461	16.81776	Si
SLV 14	-6885	-25831	-1520	2.891	2282.5	0.891	47.16525	16.81776	Si
SLV 15	-6930	-26618	-1394	2.891	2286.3	0.891	47.16761	16.81776	Si
SLV 16	-6923	-26773	-1394	2.892	2285.7	0.891	47.18675	16.81776	Si
SLV 3	-6396	-10104	1520	2.981	2240.9	0.892	48.57034	16.81776	Si
SLV 4	-6389	-10259	1520	2.982	2240.3	0.892	48.59038	16.81776	Si
SLV 1	-6357	-9162	1394	2.996	2237.7	0.892	48.81609	16.81776	Si
SLV 2	-6351	-9317	1394	2.998	2237.1	0.892	48.83626	16.81776	Si
SLV 9	-6660	-18797	-648	2.987	2263.3	0.891	48.70355	16.41895	Si
SLV 10	-6653	-18952	-648	2.988	2262.7	0.891	48.72362	16.41895	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	12.799	SLU 43	Si
V_SLU	14.996	SLU 43	Si
PF_SLV	5.011	SLV 7	Si
V_SLV	6.622	SLV 7	Si
PFFP_SLV	1.433	SLV 1	Si
R_SLV	2.803	SLV 13	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]*
fb_: *resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]*
fhk: *resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fhmedio: *resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]*
τ0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]*
fv0: *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 ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fvk,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]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *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.*
εlim,conv / ε,CNR DT-200: *dati relativi ai parametri per il calcolo della deformazione di progetto.*
αt: *coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
α: *coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
εlim,conv: *deformazione limite convenzionale del rinforzo FRCM.*
ε,fd: *deformazione di progetto del rinforzo FRCM ovvero CRM.*
γF,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 tglio tipo Fibrenet.*
Comb.: *combinazione.*
Sez.: *sezione di verifica.*
M: *momento flettente nel piano. [daN*m]*
N: *sforzo normale. [daN]*
εm: *deformazione della muratura.*
εm_: *deformazione elastica della muratura.*
εmu: *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
0.215	2.25	-1.89	-0.5	1.39	0.215	2.75	-1.89	-0.5	1.39	0.5	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	1963.34	-4001	-0.0004954	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.66	Si
SLU 82	fin.	100.81	-2544	-0.0000208	0.0001872	0.0035	1.39		5230.97	5230.97	No	51.89	Si
SLU 78	ini.	1863.72	-3786	-0.0004651	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.81	Si
SLU 78	fin.	80.29	-2397	-0.0000165	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.15	Si
SLU 75	ini.	1863.72	-3786	-0.0004651	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.81	Si
SLU 75	fin.	80.29	-2397	-0.0000165	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.15	Si
SLU 81	ini.	1978.74	-4002	-0.0005001	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.64	Si
SLU 81	fin.	98.95	-2526	-0.0000204	0.0001872	0.0035	1.39		5230.97	5230.97	No	52.87	Si
SLU 83	ini.	1978.74	-4002	-0.0005001	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.64	Si
SLU 83	fin.	98.95	-2526	-0.0000204	0.0001872	0.0035	1.39		5230.97	5230.97	No	52.87	Si
SLU 74	ini.	1879.12	-3786	-0.0004698	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.78	Si
SLU 74	fin.	78.43	-2379	-0.0000161	0.0001872	0.0035	1.39		5230.97	5230.97	No	66.69	Si
SLU 77	ini.	1879.12	-3786	-0.0004698	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.78	Si
SLU 77	fin.	78.43	-2379	-0.0000161	0.0001872	0.0035	1.39		5230.97	5230.97	No	66.69	Si
SLU 80	ini.	1863.72	-3786	-0.0004651	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.81	Si
SLU 80	fin.	80.29	-2397	-0.0000165	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.15	Si
SLU 79	ini.	1879.12	-3786	-0.0004698	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.78	Si
SLU 79	fin.	78.43	-2379	-0.0000161	0.0001872	0.0035	1.39		5230.97	5230.97	No	66.69	Si
SLU 84	ini.	1963.34	-4001	-0.0004954	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.66	Si
SLU 84	fin.	100.81	-2544	-0.0000208	0.0001872	0.0035	1.39		5230.97	5230.97	No	51.89	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 82	ini.	1963.34	-6591	1.39	0	1491	3965	9365	3545	5456	No	0.83	No
SLU 82	fin.	100.81	-5065	1.39	0	1309	3965	9365	3545	5274	No	1.04	Si
SLU 77	ini.	1879.12	-6322	1.39	0	1466	3965	9365	3545	5431	No	0.86	No
SLU 77	fin.	78.43	-4922	1.39	0	1287	3965	9365	3545	5251	No	1.07	Si
SLU 75	ini.	1863.72	-6267	1.39	0	1466	3965	9365	3545	5430	No	0.87	No
SLU 75	fin.	80.29	-4863	1.39	0	1289	3965	9365	3545	5254	No	1.08	Si
SLU 80	ini.	1863.72	-6267	1.39	0	1466	3965	9365	3545	5430	No	0.87	No
SLU 80	fin.	80.29	-4863	1.39	0	1289	3965	9365	3545	5254	No	1.08	Si
SLU 83	ini.	1978.74	-6645	1.39	0	1491	3965	9365	3545	5456	No	0.82	No
SLU 83	fin.	98.95	-5125	1.39	0	1306	3965	9365	3545	5271	No	1.03	Si
SLU 78	ini.	1863.72	-6267	1.39	0	1466	3965	9365	3545	5430	No	0.87	No
SLU 78	fin.	80.29	-4863	1.39	0	1289	3965	9365	3545	5254	No	1.08	Si
SLU 81	ini.	1978.74	-6645	1.39	0	1491	3965	9365	3545	5456	No	0.82	No
SLU 81	fin.	98.95	-5125	1.39	0	1306	3965	9365	3545	5271	No	1.03	Si
SLU 74	ini.	1879.12	-6322	1.39	0	1466	3965	9365	3545	5431	No	0.86	No
SLU 74	fin.	78.43	-4922	1.39	0	1287	3965	9365	3545	5251	No	1.07	Si
SLU 79	ini.	1879.12	-6322	1.39	0	1466	3965	9365	3545	5431	No	0.86	No
SLU 79	fin.	78.43	-4922	1.39	0	1287	3965	9365	3545	5251	No	1.07	Si
SLU 84	ini.	1963.34	-6591	1.39	0	1491	3965	9365	3545	5456	No	0.83	No
SLU 84	fin.	100.81	-5065	1.39	0	1309	3965	9365	3545	5274	No	1.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 4	ini.	1912.83	-4666	-0.0004535	0.0002807	0.0035	1.39		7569.61	7569.61		3.96	Si
SLV 4	fin.	-342.07	-2790	-0.0000713	0.0002807	0.0035	1.39		7578.45	7578.45		22.16	Si
SLV 3	ini.	1808.69	-4528	-0.0004245	0.0002807	0.0035	1.39		7569.61	7569.61		4.19	Si
SLV 3	fin.	-302.8	-2822	-0.000063	0.0002807	0.0035	1.39		7578.45	7578.45		25.03	Si
SLV 11	ini.	1931.18	-1680	-0.0004586	0.0002807	0.0035	1.39		7569.61	7569.61		3.92	Si
SLV 11	fin.	79.72	38	-0.0000164	0.0002807	0.0035	1.39		7569.61	7569.61		94.95	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	1153.38	-383	-0.0002551	0.0002807	0.0035	1.39		7569.61	7569.61		6.56	Si
SLV 15	fin.	363.83	289	-0.0000761	0.0002807	0.0035	1.39		7569.61	7569.61		20.81	Si
SLV 8	ini.	2232.36	-3063	-0.0005457	0.0002807	0.0035	1.39		7569.61	7569.61		3.39	Si
SLV 8	fin.	-159.7	-863	-0.0000329	0.0002807	0.0035	1.39		7578.45	7578.45		47.45	Si
SLV 12	ini.	2035.77	-1819	-0.0004884	0.0002807	0.0035	1.39		7569.61	7569.61		3.72	Si
SLV 12	fin.	40.29	70	-0.0000083	0.0002807	0.0035	1.39		7569.61	7569.61		187.88	Si
SLV 16	ini.	1257.52	-521	-0.0002806	0.0002807	0.0035	1.39		7569.61	7569.61		6.02	Si
SLV 16	fin.	324.57	321	-0.0000677	0.0002807	0.0035	1.39		7569.61	7569.61		23.32	Si
SLV 7	ini.	2127.77	-2924	-0.000515	0.0002807	0.0035	1.39		7569.61	7569.61		3.56	Si
SLV 7	fin.	-120.27	-895	-0.0000247	0.0002807	0.0035	1.39		7578.45	7578.45		63.01	Si
SLV 1	ini.	1338.41	-4660	-0.0003007	0.0002807	0.0035	1.39		7569.61	7569.61		5.66	Si
SLV 1	fin.	-259.2	-3540	-0.0000538	0.0002807	0.0035	1.39		7578.45	7578.45		29.24	Si
SLV 2	ini.	1442.55	-4798	-0.0003271	0.0002807	0.0035	1.39		7569.61	7569.61		5.25	Si
SLV 2	fin.	-298.46	-3508	-0.0000621	0.0002807	0.0035	1.39		7578.45	7578.45		25.39	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 4	ini.	1912.83	-7748	1.39	0	2074	3965	14048	3545	6039		0.78	No
SLV 4	fin.	-342.07	-6396	1.39	0	1821	3965	14048	3545	5786		0.9	No
SLV 1	ini.	1338.41	-5616	1.39	0	2073	3965	14048	3545	6038		1.08	Si
SLV 1	fin.	-259.2	-4108	1.39	0	1926	3965	14048	3545	5891		1.43	Si
SLV 2	ini.	1442.55	-6125	1.39	0	2091	3965	14048	3545	6055		0.99	No
SLV 2	fin.	-298.46	-4611	1.39	0	1922	3965	14048	3545	5886		1.28	Si
SLV 3	ini.	1808.69	-7239	1.39	0	2056	3965	14048	3545	6021		0.83	No
SLV 3	fin.	-302.8	-5893	1.39	0	1825	3965	14048	3545	5790		0.98	No
SLV 15	ini.	1153.38	-2625	1.39	0	1432	3965	14048	3545	5397		2.06	Si
SLV 15	fin.	363.83	-2345	1.39	0	1303	3965	14048	3545	5268		2.25	Si
SLV 16	ini.	1257.52	-3134	1.39	0	1457	3965	14048	3545	5422		1.73	Si
SLV 16	fin.	324.57	-2848	1.39	0	1296	3965	14048	3545	5261		1.85	Si
SLV 11	ini.	1931.18	-6132	1.39	0	1653	3965	14048	3545	5618		0.92	No
SLV 11	fin.	79.72	-5668	1.39	0	1352	3965	14048	3545	5317		0.94	No
SLV 8	ini.	2232.36	-8027	1.39	0	1860	3965	14048	3545	5825		0.73	No
SLV 8	fin.	-159.7	-7238	1.39	0	1517	3965	14048	3545	5482		0.76	No
SLV 7	ini.	2127.77	-7516	1.39	0	1840	3965	14048	3545	5805		0.77	No
SLV 7	fin.	-120.27	-6733	1.39	0	1523	3965	14048	3545	5488		0.82	No
SLV 12	ini.	2035.77	-6643	1.39	0	1675	3965	14048	3545	5640		0.85	No
SLV 12	fin.	40.29	-6174	1.39	0	1346	3965	14048	3545	5311		0.86	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.391	SLV 8	Si
V_SLV	0.726	SLV 8	No
PF_SLU	2.644	SLU 81	Si
V_SLU	0.821	SLU 81	No

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
0.215	2.25	-0.1	0.51	0.61	0.215	2.75	-0.1	0.51	0.61	0.5	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 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

									εlim,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	εlim,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

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.	668.59	-709	-0.0010171	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.51	Si
SLU 79	fin.	-743.13	-709	-0.001169	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.36	Si
SLU 84	ini.	682.15	-785	-0.0010447	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.48	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-766.51	-785	-0.0012202	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 83	ini.	690.29	-780	-0.0010614	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.46	Si
SLU 83	fin.	-773.64	-780	-0.0012361	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.31	Si
SLU 81	ini.	690.29	-780	-0.0010614	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.46	Si
SLU 81	fin.	-773.64	-780	-0.0012361	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.31	Si
SLU 77	ini.	668.59	-709	-0.0010171	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.51	Si
SLU 77	fin.	-743.13	-709	-0.001169	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.36	Si
SLU 74	ini.	668.59	-709	-0.0010171	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.51	Si
SLU 74	fin.	-743.13	-709	-0.001169	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.36	Si
SLU 78	ini.	660.46	-714	-0.0010007	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.53	Si
SLU 78	fin.	-735.99	-714	-0.0011536	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.38	Si
SLU 82	ini.	682.15	-785	-0.0010447	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.48	Si
SLU 82	fin.	-766.51	-785	-0.0012202	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 80	ini.	660.46	-714	-0.0010007	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.53	Si
SLU 80	fin.	-735.99	-714	-0.0011536	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.38	Si
SLU 75	ini.	660.46	-714	-0.0010007	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.53	Si
SLU 75	fin.	-735.99	-714	-0.0011536	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.38	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 83	ini.	690.29	-2767	0.61	0	527	3965	4110	1556	4492	No	1.62	Si
SLU 83	fin.	-773.64	-3088	0.61	0	527	3965	4110	1556	4492	No	1.45	Si
SLU 77	ini.	668.59	-2663	0.61	0	517	3965	4110	1556	4482	No	1.68	Si
SLU 77	fin.	-743.13	-2984	0.61	0	517	3965	4110	1556	4482	No	1.5	Si
SLU 81	ini.	690.29	-2767	0.61	0	527	3965	4110	1556	4492	No	1.62	Si
SLU 81	fin.	-773.64	-3088	0.61	0	527	3965	4110	1556	4492	No	1.45	Si
SLU 74	ini.	668.59	-2663	0.61	0	517	3965	4110	1556	4482	No	1.68	Si
SLU 74	fin.	-743.13	-2984	0.61	0	517	3965	4110	1556	4482	No	1.5	Si
SLU 82	ini.	682.15	-2737	0.61	0	528	3965	4110	1556	4493	No	1.64	Si
SLU 82	fin.	-766.51	-3058	0.61	0	528	3965	4110	1556	4493	No	1.47	Si
SLU 84	ini.	682.15	-2737	0.61	0	528	3965	4110	1556	4493	No	1.64	Si
SLU 84	fin.	-766.51	-3058	0.61	0	528	3965	4110	1556	4493	No	1.47	Si
SLU 75	ini.	660.46	-2632	0.61	0	518	3965	4110	1556	4483	No	1.7	Si
SLU 75	fin.	-735.99	-2953	0.61	0	518	3965	4110	1556	4483	No	1.52	Si
SLU 78	ini.	660.46	-2632	0.61	0	518	3965	4110	1556	4483	No	1.7	Si
SLU 78	fin.	-735.99	-2953	0.61	0	518	3965	4110	1556	4483	No	1.52	Si
SLU 79	ini.	668.59	-2663	0.61	0	517	3965	4110	1556	4482	No	1.68	Si
SLU 79	fin.	-743.13	-2984	0.61	0	517	3965	4110	1556	4482	No	1.5	Si
SLU 80	ini.	660.46	-2632	0.61	0	518	3965	4110	1556	4483	No	1.7	Si
SLU 80	fin.	-735.99	-2953	0.61	0	518	3965	4110	1556	4483	No	1.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 12	ini.	874.1	-114	-0.00138	0.0002807	0.0035	0.61		1459.78	1459.78		1.67	Si
SLV 12	fin.	-853.54	-114	-0.0013278	0.0002807	0.0035	0.61		1463.7	1463.7		1.71	Si
SLV 4	ini.	918.39	-458	-0.0014856	0.0002807	0.0035	0.61		1459.78	1459.78		1.59	Si
SLV 4	fin.	-950.4	-458	-0.0015593	0.0002807	0.0035	0.61		1463.7	1463.7		1.54	Si
SLV 7	ini.	960.36	-207	-0.0015917	0.0002807	0.0035	0.61		1459.78	1459.78		1.52	Si
SLV 7	fin.	-954.86	-207	-0.0015707	0.0002807	0.0035	0.61		1463.7	1463.7		1.53	Si
SLV 2	ini.	656.33	-628	-0.0009296	0.0002807	0.0035	0.61		1459.78	1459.78		2.22	Si
SLV 2	fin.	-722.98	-628	-0.0010536	0.0002807	0.0035	0.61		1463.7	1463.7		2.02	Si
SLV 11	ini.	798.73	-139	-0.0012127	0.0002807	0.0035	0.61		1459.78	1459.78		1.83	Si
SLV 11	fin.	-787.63	-139	-0.0011848	0.0002807	0.0035	0.61		1463.7	1463.7		1.86	Si
SLV 1	ini.	581.29	-653	-0.0007943	0.0002807	0.0035	0.61		1459.78	1459.78		2.51	Si
SLV 1	fin.	-657.36	-654	-0.0009282	0.0002807	0.0035	0.61		1463.7	1463.7		2.23	Si
SLV 8	ini.	1035.73	-181	-0.001801	0.0002807	0.0035	0.61		1459.78	1459.78		1.41	Si
SLV 8	fin.	-1020.76	-181	-0.0017493	0.0002807	0.0035	0.61		1463.7	1463.7		1.43	Si
SLV 3	ini.	843.35	-483	-0.00131	0.0002807	0.0035	0.61		1459.78	1459.78		1.73	Si
SLV 3	fin.	-884.77	-484	-0.0013993	0.0002807	0.0035	0.61		1463.7	1463.7		1.65	Si
SLV 16	ini.	379.63	-234	-0.0004701	0.0002807	0.0035	0.61		1459.78	1459.78		3.85	Si
SLV 16	fin.	-392.98	-233	-0.0004883	0.0002807	0.0035	0.61		1463.7	1463.7		3.72	Si
SLV 15	ini.	304.59	-259	-0.0003634	0.0002807	0.0035	0.61		1459.78	1459.78		4.79	Si
SLV 15	fin.	-327.36	-259	-0.0003937	0.0002807	0.0035	0.61		1463.7	1463.7		4.47	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.	581.29	-2353	0.61	0	712	3965	6165	1556	4677		1.99	Si
SLV 1	fin.	-657.36	-2591	0.61	0	712	3965	6165	1556	4677		1.8	Si
SLV 7	ini.	960.36	-3703	0.61	0	635	3965	6165	1556	4600		1.24	Si
SLV 7	fin.	-954.86	-3943	0.61	0	635	3965	6165	1556	4600		1.17	Si
SLV 16	ini.	379.63	-1423	0.61	0	640	3965	6165	1556	4605		3.24	Si
SLV 16	fin.	-392.98	-1678	0.61	0	640	3965	6165	1556	4605		2.74	Si
SLV 11	ini.	798.73	-3046	0.61	0	623	3965	6165	1556	4588		1.51	Si
SLV 11	fin.	-787.63	-3292	0.61	0	623	3965	6165	1556	4588		1.39	Si
SLV 12	ini.	874.1	-3329	0.61	0	618	3965	6165	1556	4583		1.38	Si
SLV 12	fin.	-853.54	-3575	0.61	0	618	3965	6165	1556	4583		1.28	Si
SLV 4	ini.	918.39	-3611	0.61	0	679	3965	6165	1556	4644		1.29	Si
SLV 4	fin.	-950.4	-3847	0.61	0	679	3965	6165	1556	4644		1.21	Si
SLV 15	ini.	304.59	-1141	0.61	0	645	3965	6165	1556	4610		4.04	Si
SLV 15	fin.	-327.36	-1397	0.61	0	645	3965	6165	1556	4610		3.3	Si
SLV 2	ini.	656.33	-2634	0.61	0	708	3965	6165	1556	4672		1.77	Si
SLV 2	fin.	-722.98	-2873	0.61	0	708	3965	6165	1556	4673		1.63	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	843.35	-3330	0.61	0	684	3965	6165	1556	4649		1.4	Si
SLV 3	fin.	-884.77	-3566	0.61	0	684	3965	6165	1556	4649		1.3	Si
SLV 8	ini.	1035.73	-3985	0.61	0	631	3965	6165	1556	4596		1.15	Si
SLV 8	fin.	-1020.76	-4226	0.61	0	631	3965	6165	1556	4596		1.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.409	SLV 8	Si
V_SLV	1.088	SLV 8	Si
PF_SLU	1.31	SLU 81	Si
V_SLU	1.455	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
0.215	3.07	-0.1	0.51	0.61	0.215	3.57	-0.1	0.51	0.61	0.5	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	777.23	-1972	-0.0012488	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.3	Si
SLU 82	fin.	-958.73	-1972	-0.0017009	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.06	Si
SLU 79	ini.	752.53	-1862	-0.0011939	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.34	Si
SLU 79	fin.	-929.14	-1862	-0.0016181	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.09	Si
SLU 80	ini.	744.98	-1856	-0.0011774	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.36	Si
SLU 80	fin.	-920.96	-1856	-0.0015959	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.1	Si
SLU 83	ini.	784.78	-1978	-0.0012659	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.29	Si
SLU 83	fin.	-966.92	-1978	-0.0017245	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.05	Si
SLU 78	ini.	744.98	-1856	-0.0011774	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.36	Si
SLU 78	fin.	-920.96	-1856	-0.0015959	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.1	Si
SLU 74	ini.	752.53	-1862	-0.0011939	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.34	Si
SLU 74	fin.	-929.14	-1862	-0.0016181	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.09	Si
SLU 84	ini.	777.23	-1972	-0.0012488	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.3	Si
SLU 84	fin.	-958.73	-1972	-0.0017009	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.06	Si
SLU 75	ini.	744.98	-1856	-0.0011774	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.36	Si
SLU 75	fin.	-920.96	-1856	-0.0015959	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.1	Si
SLU 81	ini.	784.78	-1978	-0.0012659	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.29	Si
SLU 81	fin.	-966.92	-1978	-0.0017245	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.05	Si
SLU 77	ini.	752.53	-1862	-0.0011939	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.34	Si
SLU 77	fin.	-929.14	-1862	-0.0016181	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.09	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.	744.98	-3171	0.61	0	666	3965	4110	1556	4631	No	1.46	Si
SLU 75	fin.	-920.96	-3492	0.61	0	666	3965	4110	1556	4631	No	1.33	Si
SLU 81	ini.	784.78	-3343	0.61	0	680	3965	4110	1556	4645	No	1.39	Si
SLU 81	fin.	-966.92	-3664	0.61	0	680	3965	4110	1556	4645	No	1.27	Si
SLU 77	ini.	752.53	-3203	0.61	0	667	3965	4110	1556	4632	No	1.45	Si
SLU 77	fin.	-929.14	-3524	0.61	0	667	3965	4110	1556	4632	No	1.31	Si
SLU 83	ini.	784.78	-3343	0.61	0	680	3965	4110	1556	4645	No	1.39	Si
SLU 83	fin.	-966.92	-3664	0.61	0	680	3965	4110	1556	4645	No	1.27	Si
SLU 84	ini.	777.23	-3311	0.61	0	679	3965	4110	1556	4644	No	1.4	Si
SLU 84	fin.	-958.73	-3633	0.61	0	679	3965	4110	1556	4644	No	1.28	Si
SLU 80	ini.	744.98	-3171	0.61	0	666	3965	4110	1556	4631	No	1.46	Si
SLU 80	fin.	-920.96	-3492	0.61	0	666	3965	4110	1556	4631	No	1.33	Si
SLU 74	ini.	752.53	-3203	0.61	0	667	3965	4110	1556	4632	No	1.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-929.14	-3524	0.61	0	667	3965	4110	1556	4632	No	1.31	Si
SLU 79	ini.	752.53	-3203	0.61	0	667	3965	4110	1556	4632	No	1.45	Si
SLU 79	fin.	-929.14	-3524	0.61	0	667	3965	4110	1556	4632	No	1.31	Si
SLU 78	ini.	744.98	-3171	0.61	0	666	3965	4110	1556	4631	No	1.46	Si
SLU 78	fin.	-920.96	-3492	0.61	0	666	3965	4110	1556	4631	No	1.33	Si
SLU 82	ini.	777.23	-3311	0.61	0	679	3965	4110	1556	4644	No	1.4	Si
SLU 82	fin.	-958.73	-3633	0.61	0	679	3965	4110	1556	4644	No	1.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	830.89	-1401	-0.0012824	0.0002807	0.0035	0.61		1459.78	1459.78		1.76	Si
SLV 11	fin.	-967.6	-1400	-0.0016038	0.0002807	0.0035	0.61		1463.7	1463.7		1.51	Si
SLV 8	ini.	1005.71	-1757	-0.0017143	0.0002807	0.0035	0.61		1459.78	1459.78		1.45	Si
SLV 8	fin.	-1192.87	-1757	-0.0023343	0.0002807	0.0035	0.61		1463.7	1463.7		1.23	Si
SLV 7	ini.	947.75	-1687	-0.0015591	0.0002807	0.0035	0.61		1459.78	1459.78		1.54	Si
SLV 7	fin.	-1126.68	-1687	-0.0020856	0.0002807	0.0035	0.61		1463.7	1463.7		1.3	Si
SLV 15	ini.	423.67	-846	-0.0005362	0.0002807	0.0035	0.61		1459.78	1459.78		3.45	Si
SLV 15	fin.	-486.59	-845	-0.0006331	0.0002807	0.0035	0.61		1463.7	1463.7		3.01	Si
SLV 4	ini.	870.93	-1870	-0.0013727	0.0002807	0.0035	0.61		1459.78	1459.78		1.68	Si
SLV 4	fin.	-1082.75	-1871	-0.0019377	0.0002807	0.0035	0.61		1463.7	1463.7		1.35	Si
SLV 3	ini.	813.23	-1800	-0.0012438	0.0002807	0.0035	0.61		1459.78	1459.78		1.8	Si
SLV 3	fin.	-1016.84	-1801	-0.0017381	0.0002807	0.0035	0.61		1463.7	1463.7		1.44	Si
SLV 16	ini.	481.37	-915	-0.0006268	0.0002807	0.0035	0.61		1459.78	1459.78		3.03	Si
SLV 16	fin.	-552.5	-914	-0.0007421	0.0002807	0.0035	0.61		1463.7	1463.7		2.65	Si
SLV 12	ini.	888.84	-1471	-0.0014145	0.0002807	0.0035	0.61		1459.78	1459.78		1.64	Si
SLV 12	fin.	-1033.8	-1471	-0.0017871	0.0002807	0.0035	0.61		1463.7	1463.7		1.42	Si
SLV 2	ini.	638.65	-1680	-0.000897	0.0002807	0.0035	0.61		1459.78	1459.78		2.29	Si
SLV 2	fin.	-829.4	-1681	-0.0012742	0.0002807	0.0035	0.61		1463.7	1463.7		1.76	Si
SLV 1	ini.	580.95	-1611	-0.0007937	0.0002807	0.0035	0.61		1459.78	1459.78		2.51	Si
SLV 1	fin.	-763.49	-1612	-0.0011348	0.0002807	0.0035	0.61		1463.7	1463.7		1.92	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 3	ini.	813.23	-3527	0.61	0	878	3965	6165	1556	4843		1.37	Si
SLV 3	fin.	-1016.84	-3759	0.61	0	878	3965	6165	1556	4843		1.29	Si
SLV 8	ini.	1005.71	-4268	0.61	0	873	3965	6165	1556	4837		1.13	Si
SLV 8	fin.	-1192.87	-4511	0.61	0	873	3965	6165	1556	4837		1.07	Si
SLV 2	ini.	638.65	-2805	0.61	0	862	3965	6165	1556	4827		1.72	Si
SLV 2	fin.	-829.4	-3036	0.61	0	862	3965	6165	1556	4827		1.59	Si
SLV 15	ini.	423.67	-1705	0.61	0	742	3965	6165	1556	4707		2.76	Si
SLV 15	fin.	-486.59	-1968	0.61	0	742	3965	6165	1556	4707		2.39	Si
SLV 11	ini.	830.89	-3473	0.61	0	824	3965	6165	1556	4789		1.38	Si
SLV 11	fin.	-967.6	-3726	0.61	0	824	3965	6165	1556	4789		1.29	Si
SLV 12	ini.	888.84	-3722	0.61	0	834	3965	6165	1556	4799		1.29	Si
SLV 12	fin.	-1033.8	-3974	0.61	0	834	3965	6165	1556	4799		1.21	Si
SLV 1	ini.	580.95	-2558	0.61	0	853	3965	6165	1556	4818		1.88	Si
SLV 1	fin.	-763.49	-2789	0.61	0	853	3965	6165	1556	4818		1.73	Si
SLV 4	ini.	870.93	-3775	0.61	0	887	3965	6165	1556	4852		1.29	Si
SLV 4	fin.	-1082.75	-4006	0.61	0	887	3965	6165	1556	4852		1.21	Si
SLV 7	ini.	947.75	-4020	0.61	0	863	3965	6165	1556	4828		1.2	Si
SLV 7	fin.	-1126.68	-4263	0.61	0	863	3965	6165	1556	4828		1.13	Si
SLV 16	ini.	481.37	-1952	0.61	0	753	3965	6165	1556	4718		2.42	Si
SLV 16	fin.	-552.5	-2215	0.61	0	753	3965	6165	1556	4718		2.13	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.227	SLV 8	Si
V_SLV	1.072	SLV 8	Si
PF_SLU	1.049	SLU 81	Si
V_SLU	1.268	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
2.01	9.805	-1.89	-0.5	1.39	3.01	9.805	-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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	198.79	922	-0.0000413	0.0001872	0.0035	1.39		5230.97	5230.97	No	26.31	Si
SLU 84	fin.	436.26	438	-0.0000926	0.0001872	0.0035	1.39		5230.97	5230.97	No	11.99	Si
SLU 82	ini.	198.79	922	-0.0000413	0.0001872	0.0035	1.39		5230.97	5230.97	No	26.31	Si
SLU 82	fin.	436.26	438	-0.0000926	0.0001872	0.0035	1.39		5230.97	5230.97	No	11.99	Si
SLU 75	ini.	187.63	928	-0.000039	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.88	Si
SLU 75	fin.	419.09	473	-0.0000888	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.48	Si
SLU 80	ini.	187.63	928	-0.000039	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.88	Si
SLU 80	fin.	419.09	473	-0.0000888	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.48	Si
SLU 81	ini.	199.13	873	-0.0000414	0.0001872	0.0035	1.39		5230.97	5230.97	No	26.27	Si
SLU 81	fin.	426.75	381	-0.0000905	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.26	Si
SLU 83	ini.	199.13	873	-0.0000414	0.0001872	0.0035	1.39		5230.97	5230.97	No	26.27	Si
SLU 83	fin.	426.75	381	-0.0000905	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.26	Si
SLU 73	ini.	187.41	960	-0.0000389	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.91	Si
SLU 73	fin.	425.43	511	-0.0000902	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.3	Si
SLU 78	ini.	187.63	928	-0.000039	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.88	Si
SLU 78	fin.	419.09	473	-0.0000888	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.48	Si
SLU 76	ini.	187.41	960	-0.0000389	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.91	Si
SLU 76	fin.	425.43	511	-0.0000902	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.3	Si
SLU 79	ini.	187.97	879	-0.000039	0.0001872	0.0035	1.39		5230.97	5230.97	No	27.83	Si
SLU 79	fin.	409.58	416	-0.0000867	0.0001872	0.0035	1.39		5230.97	5230.97	No	12.77	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 79	ini.	187.97	-193	1.39	0	717	7930	9365	3545	8646	No	44.77	Si
SLU 79	fin.	409.58	1583	1.39	0	822	7930	9365	3545	8752	No	5.53	Si
SLU 78	ini.	187.63	-167	1.39	0	705	7930	9365	3545	8634	No	51.64	Si
SLU 78	fin.	419.09	1572	1.39	0	810	7930	9365	3545	8740	No	5.56	Si
SLU 80	ini.	187.63	-167	1.39	0	705	7930	9365	3545	8634	No	51.64	Si
SLU 80	fin.	419.09	1572	1.39	0	810	7930	9365	3545	8740	No	5.56	Si
SLU 84	ini.	198.79	-235	1.39	0	706	7930	9365	3545	8636	No	36.77	Si
SLU 84	fin.	436.26	1693	1.39	0	818	7930	9365	3545	8747	No	5.17	Si
SLU 75	ini.	187.63	-167	1.39	0	705	7930	9365	3545	8634	No	51.64	Si
SLU 75	fin.	419.09	1572	1.39	0	810	7930	9365	3545	8740	No	5.56	Si
SLU 77	ini.	187.97	-193	1.39	0	717	7930	9365	3545	8646	No	44.77	Si
SLU 77	fin.	409.58	1583	1.39	0	822	7930	9365	3545	8752	No	5.53	Si
SLU 82	ini.	198.79	-235	1.39	0	706	7930	9365	3545	8636	No	36.77	Si
SLU 82	fin.	436.26	1693	1.39	0	818	7930	9365	3545	8747	No	5.17	Si
SLU 83	ini.	199.13	-261	1.39	0	718	7930	9365	3545	8648	No	33.16	Si
SLU 83	fin.	426.75	1704	1.39	0	830	7930	9365	3545	8759	No	5.14	Si
SLU 74	ini.	187.97	-193	1.39	0	717	7930	9365	3545	8646	No	44.77	Si
SLU 74	fin.	409.58	1583	1.39	0	822	7930	9365	3545	8752	No	5.53	Si
SLU 81	ini.	199.13	-261	1.39	0	718	7930	9365	3545	8648	No	33.16	Si
SLU 81	fin.	426.75	1704	1.39	0	830	7930	9365	3545	8759	No	5.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 2	ini.	-678.08	2200	-0.0001446	0.0002807	0.0035	1.39		7578.45	7578.45		11.18	Si
SLV 2	fin.	1478.99	34	-0.0003365	0.0002807	0.0035	1.39		7569.61	7569.61		5.12	Si
SLV 16	ini.	1076.07	-1184	-0.0002366	0.0002807	0.0035	1.39		7569.61	7569.61		7.03	Si
SLV 16	fin.	-1136.52	708	-0.0002507	0.0002807	0.0035	1.39		7578.45	7578.45		6.67	Si
SLV 14	ini.	1013.26	-356	-0.0002217	0.0002807	0.0035	1.39		7569.61	7569.61		7.47	Si
SLV 14	fin.	-957.36	1735	-0.0002083	0.0002807	0.0035	1.39		7578.45	7578.45		7.92	Si
SLV 3	ini.	-756.15	1707	-0.0001621	0.0002807	0.0035	1.39		7578.45	7578.45		10.02	Si
SLV 3	fin.	1532.49	-1003	-0.0003504	0.0002807	0.0035	1.39		7569.61	7569.61		4.94	Si
SLV 5	ini.	-300.57	2607	-0.0000625	0.0002807	0.0035	1.39		7578.45	7578.45		25.21	Si
SLV 5	fin.	1068.44	1819	-0.0002347	0.0002807	0.0035	1.39		7569.61	7569.61		7.08	Si
SLV 13	ini.	872.38	-21	-0.0001888	0.0002807	0.0035	1.39		7569.61	7569.61		8.68	Si
SLV 13	fin.	-724.71	1726	-0.000155	0.0002807	0.0035	1.39		7578.45	7578.45		10.46	Si
SLV 4	ini.	-615.27	1372	-0.0001306	0.0002807	0.0035	1.39		7578.45	7578.45		12.32	Si
SLV 4	fin.	1299.83	-993	-0.0002911	0.0002807	0.0035	1.39		7569.61	7569.61		5.82	Si
SLV 15	ini.	935.19	-849	-0.0002034	0.0002807	0.0035	1.39		7569.61	7569.61		8.09	Si
SLV 15	fin.	-903.87	698	-0.0001958	0.0002807	0.0035	1.39		7578.45	7578.45		8.38	Si
SLV 6	ini.	-159.08	2271	-0.0000328	0.0002807	0.0035	1.39		7578.45	7578.45		47.64	Si
SLV 6	fin.	834.79	1829	-0.0001802	0.0002807	0.0035	1.39		7569.61	7569.61		9.07	Si
SLV 1	ini.	-818.96	2535	-0.0001763	0.0002807	0.0035	1.39		7578.45	7578.45		9.25	Si
SLV 1	fin.	1711.65	25	-0.000398	0.0002807	0.0035	1.39		7569.61	7569.61		4.42	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 4	ini.	-615.27	2436	1.39	0	1062	7930	14048	3545	8992		3.69	Si
SLV 4	fin.	1299.83	4498	1.39	0	1540	7930	14048	3545	9469		2.11	Si
SLV 7	ini.	-91.21	412	1.39	0	1389	7930	14048	3545	9319		22.62	Si
SLV 7	fin.	471.24	2766	1.39	0	1641	7930	14048	3545	9571		3.46	Si
SLV 16	ini.	1076.07	-3590	1.39	0	1572	7930	14048	3545	9502		2.65	Si
SLV 16	fin.	-1136.52	-2841	1.39	0	1215	7930	14048	3545	9145		3.22	Si
SLV 1	ini.	-818.96	3480	1.39	0	719	7930	14048	3545	8648		2.49	Si
SLV 1	fin.	1711.65	4908	1.39	0	1355	7930	14048	3545	9285		1.89	Si
SLV 5	ini.	-300.57	1889	1.39	0	692	7930	14048	3545	8622		4.56	Si
SLV 5	fin.	1068.44	2111	1.39	0	945	7930	14048	3545	8875		4.2	Si
SLV 15	ini.	935.19	-2989	1.39	0	1515	7930	14048	3545	9445		3.16	Si
SLV 15	fin.	-903.87	-2235	1.39	0	1217	7930	14048	3545	9147		4.09	Si
SLV 3	ini.	-756.15	3037	1.39	0	976	7930	14048	3545	8905		2.93	Si
SLV 3	fin.	1532.49	5104	1.39	0	1541	7930	14048	3545	9471		1.86	Si
SLV 13	ini.	872.38	-2546	1.39	0	1364	7930	14048	3545	9293		3.65	Si
SLV 13	fin.	-724.71	-2432	1.39	0	971	7930	14048	3545	8900		3.66	Si
SLV 2	ini.	-678.08	2879	1.39	0	832	7930	14048	3545	8762		3.04	Si
SLV 2	fin.	1478.99	4302	1.39	0	1353	7930	14048	3545	9283		2.16	Si
SLV 14	ini.	1013.26	-3147	1.39	0	1427	7930	14048	3545	9357		2.97	Si
SLV 14	fin.	-957.36	-3038	1.39	0	968	7930	14048	3545	8898		2.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.422	SLV 1	Si
V_SLV	1.856	SLV 3	Si
PF_SLU	11.991	SLU 82	Si
V_SLU	5.14	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
2.01	9.805	-0.1	0.51	0.61	3.01	9.805	-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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-201.16	-250	-0.0002358	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.04	Si
SLU 80	fin.	-119.22	-13	-0.0001333	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.5	Si
SLU 81	ini.	-212	-272	-0.0002502	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.78	Si
SLU 81	fin.	-133.66	-41	-0.0001506	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.59	Si
SLU 79	ini.	-199.95	-250	-0.0002342	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.07	Si
SLU 79	fin.	-122.37	-23	-0.000137	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.29	Si
SLU 82	ini.	-213.21	-272	-0.0002518	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.76	Si
SLU 82	fin.	-130.51	-31	-0.0001468	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.77	Si
SLU 84	ini.	-213.21	-272	-0.0002518	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.76	Si
SLU 84	fin.	-130.51	-31	-0.0001468	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.77	Si
SLU 75	ini.	-201.16	-250	-0.0002358	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.04	Si
SLU 75	fin.	-119.22	-13	-0.0001333	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.5	Si
SLU 73	ini.	-201.96	-250	-0.0002368	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.02	Si
SLU 73	fin.	-117.12	-7	-0.0001308	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.66	Si
SLU 83	ini.	-212	-272	-0.0002502	0.0001872	0.0035	0.61		1013.84	1013.84	No	4.78	Si
SLU 83	fin.	-133.66	-41	-0.0001506	0.0001872	0.0035	0.61		1013.84	1013.84	No	7.59	Si
SLU 78	ini.	-201.16	-250	-0.0002358	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.04	Si
SLU 78	fin.	-119.22	-13	-0.0001333	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.5	Si
SLU 76	ini.	-201.96	-250	-0.0002368	0.0001872	0.0035	0.61		1013.84	1013.84	No	5.02	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	-117.12	-7	-0.0001308	0.0001872	0.0035	0.61		1013.84	1013.84	No	8.66	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 73	ini.	-201.96	1363	0.61	0	296	4837	4110	1556	5133	No	3.77	Si
SLU 73	fin.	-117.12	-1042	0.61	0	266	4837	4110	1556	5103	No	4.9	Si
SLU 78	ini.	-201.16	1360	0.61	0	296	4837	4110	1556	5133	No	3.77	Si
SLU 78	fin.	-119.22	-1049	0.61	0	267	4837	4110	1556	5104	No	4.86	Si
SLU 83	ini.	-212	1435	0.61	0	298	4837	4110	1556	5135	No	3.58	Si
SLU 83	fin.	-133.66	-1135	0.61	0	270	4837	4110	1556	5107	No	4.5	Si
SLU 84	ini.	-213.21	1439	0.61	0	298	4837	4110	1556	5135	No	3.57	Si
SLU 84	fin.	-130.51	-1124	0.61	0	269	4837	4110	1556	5106	No	4.54	Si
SLU 80	ini.	-201.16	1360	0.61	0	296	4837	4110	1556	5133	No	3.77	Si
SLU 80	fin.	-119.22	-1049	0.61	0	267	4837	4110	1556	5104	No	4.86	Si
SLU 75	ini.	-201.16	1360	0.61	0	296	4837	4110	1556	5133	No	3.77	Si
SLU 75	fin.	-119.22	-1049	0.61	0	267	4837	4110	1556	5104	No	4.86	Si
SLU 81	ini.	-212	1435	0.61	0	298	4837	4110	1556	5135	No	3.58	Si
SLU 81	fin.	-133.66	-1135	0.61	0	270	4837	4110	1556	5107	No	4.5	Si
SLU 82	ini.	-213.21	1439	0.61	0	298	4837	4110	1556	5135	No	3.57	Si
SLU 82	fin.	-130.51	-1124	0.61	0	269	4837	4110	1556	5106	No	4.54	Si
SLU 79	ini.	-199.95	1357	0.61	0	296	4837	4110	1556	5133	No	3.78	Si
SLU 79	fin.	-122.37	-1060	0.61	0	268	4837	4110	1556	5105	No	4.81	Si
SLU 76	ini.	-201.96	1363	0.61	0	296	4837	4110	1556	5133	No	3.77	Si
SLU 76	fin.	-117.12	-1042	0.61	0	266	4837	4110	1556	5103	No	4.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	326.66	893	-0.000394	0.0002807	0.0035	0.61		1459.78	1459.78		4.47	Si
SLV 15	fin.	-550.94	-1032	-0.0007395	0.0002807	0.0035	0.61		1463.7	1463.7		2.66	Si
SLV 2	ini.	-596.62	-1212	-0.0008184	0.0002807	0.0035	0.61		1463.7	1463.7		2.45	Si
SLV 2	fin.	396.4	1048	-0.000495	0.0002807	0.0035	0.61		1459.78	1459.78		3.68	Si
SLV 4	ini.	-562.25	-1172	-0.0007587	0.0002807	0.0035	0.61		1463.7	1463.7		2.6	Si
SLV 4	fin.	310.43	824	-0.0003714	0.0002807	0.0035	0.61		1459.78	1459.78		4.7	Si
SLV 12	ini.	107.55	332	-0.0001183	0.0002807	0.0035	0.61		1459.78	1459.78		13.57	Si
SLV 12	fin.	-406.31	-768	-0.0005082	0.0002807	0.0035	0.61		1463.7	1463.7		3.6	Si
SLV 13	ini.	292.3	853	-0.0003467	0.0002807	0.0035	0.61		1459.78	1459.78		4.99	Si
SLV 13	fin.	-464.98	-808	-0.0005987	0.0002807	0.0035	0.61		1463.7	1463.7		3.15	Si
SLV 14	ini.	371.9	1029	-0.0004587	0.0002807	0.0035	0.61		1459.78	1459.78		3.93	Si
SLV 14	fin.	-551.71	-999	-0.0007408	0.0002807	0.0035	0.61		1463.7	1463.7		2.65	Si
SLV 3	ini.	-641.85	-1348	-0.0008997	0.0002807	0.0035	0.61		1463.7	1463.7		2.28	Si
SLV 3	fin.	397.17	1015	-0.0004961	0.0002807	0.0035	0.61		1459.78	1459.78		3.68	Si
SLV 5	ini.	-377.5	-651	-0.0004655	0.0002807	0.0035	0.61		1463.7	1463.7		3.88	Si
SLV 5	fin.	251.76	784	-0.000293	0.0002807	0.0035	0.61		1459.78	1459.78		5.8	Si
SLV 16	ini.	406.26	1069	-0.0005098	0.0002807	0.0035	0.61		1459.78	1459.78		3.59	Si
SLV 16	fin.	-637.67	-1223	-0.000892	0.0002807	0.0035	0.61		1463.7	1463.7		2.3	Si
SLV 1	ini.	-676.22	-1388	-0.0009635	0.0002807	0.0035	0.61		1463.7	1463.7		2.16	Si
SLV 1	fin.	483.13	1239	-0.0006296	0.0002807	0.0035	0.61		1459.78	1459.78		3.02	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.	-676.22	2748	0.61	0	548	4837	6165	1556	5385		1.96	Si
SLV 1	fin.	483.13	1229	0.61	0	177	4837	6165	1556	5014		4.08	Si
SLV 16	ini.	406.26	-904	0.61	0	221	4837	6165	1556	5058		5.59	Si
SLV 16	fin.	-637.67	-2634	0.61	0	533	4837	6165	1556	5370		2.04	Si
SLV 2	ini.	-596.62	2483	0.61	0	531	4837	6165	1556	5369		2.16	Si
SLV 2	fin.	396.4	927	0.61	0	226	4837	6165	1556	5063		5.46	Si
SLV 14	ini.	371.9	-845	0.61	0	230	4837	6165	1556	5067		6	Si
SLV 14	fin.	-551.71	-2309	0.61	0	511	4837	6165	1556	5348		2.32	Si
SLV 15	ini.	326.66	-640	0.61	0	258	4837	6165	1556	5095		7.96	Si
SLV 15	fin.	-550.94	-2332	0.61	0	514	4837	6165	1556	5351		2.29	Si
SLV 13	ini.	292.3	-580	0.61	0	266	4837	6165	1556	5103		8.79	Si
SLV 13	fin.	-464.98	-2007	0.61	0	491	4837	6165	1556	5328		2.66	Si
SLV 4	ini.	-562.25	2424	0.61	0	528	4837	6165	1556	5365		2.21	Si
SLV 4	fin.	310.43	602	0.61	0	272	4837	6165	1556	5109		8.49	Si
SLV 12	ini.	107.55	190	0.61	0	353	4837	6165	1556	5190		27.27	Si
SLV 12	fin.	-406.31	-1882	0.61	0	487	4837	6165	1556	5324		2.83	Si
SLV 3	ini.	-641.85	2688	0.61	0	544	4837	6165	1556	5382		2	Si
SLV 3	fin.	397.17	904	0.61	0	233	4837	6165	1556	5070		5.61	Si
SLV 5	ini.	-377.5	1653	0.61	0	474	4837	6165	1556	5311		3.21	Si
SLV 5	fin.	251.76	477	0.61	0	279	4837	6165	1556	5116		10.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.165	SLV 1	Si
V_SLV	1.96	SLV 1	Si
PF_SLU	4.755	SLU 82	Si
V_SLU	3.569	SLU 82	Si

Trave di accoppiamento 7

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
6.77	9.805	-1.89	-0.5	1.39	7.77	9.805	-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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-2743.51	-2201	-0.0007484	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 80	fin.	2608.4	-6374	-0.0007034	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.01	Si
SLU 82	ini.	-2802.69	-2375	-0.000769	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.87	Si
SLU 82	fin.	2648.21	-6615	-0.0007169	0.0001872	0.0035	1.39		5230.97	5230.97	No	1.98	Si
SLU 74	ini.	-2746.65	-2216	-0.0007495	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 74	fin.	2610.36	-6403	-0.000704	0.0001872	0.0035	1.39		5230.97	5230.97	No	2	Si
SLU 84	ini.	-2802.69	-2375	-0.000769	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.87	Si
SLU 84	fin.	2648.21	-6615	-0.0007169	0.0001872	0.0035	1.39		5230.97	5230.97	No	1.98	Si
SLU 79	ini.	-2746.65	-2216	-0.0007495	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 79	fin.	2610.36	-6403	-0.000704	0.0001872	0.0035	1.39		5230.97	5230.97	No	2	Si
SLU 83	ini.	-2805.84	-2390	-0.0007701	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.87	Si
SLU 83	fin.	2650.17	-6643	-0.0007176	0.0001872	0.0035	1.39		5230.97	5230.97	No	1.97	Si
SLU 81	ini.	-2805.84	-2390	-0.0007701	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.87	Si
SLU 81	fin.	2650.17	-6643	-0.0007176	0.0001872	0.0035	1.39		5230.97	5230.97	No	1.97	Si
SLU 78	ini.	-2743.51	-2201	-0.0007484	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 78	fin.	2608.4	-6374	-0.0007034	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.01	Si
SLU 75	ini.	-2743.51	-2201	-0.0007484	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 75	fin.	2608.4	-6374	-0.0007034	0.0001872	0.0035	1.39		5230.97	5230.97	No	2.01	Si
SLU 77	ini.	-2746.65	-2216	-0.0007495	0.0001872	0.0035	1.39		5240.94	5240.94	No	1.91	Si
SLU 77	fin.	2610.36	-6403	-0.000704	0.0001872	0.0035	1.39		5230.97	5230.97	No	2	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 83	ini.	-2805.84	9020	1.39	0	1288	7930	9365	3545	9218	No	1.02	Si
SLU 83	fin.	2650.17	9166	1.39	0	1775	7930	9365	3545	9704	No	1.06	Si
SLU 77	ini.	-2746.65	8863	1.39	0	1264	7930	9365	3545	9194	No	1.04	Si
SLU 77	fin.	2610.36	8956	1.39	0	1751	7930	9365	3545	9680	No	1.08	Si
SLU 78	ini.	-2743.51	8853	1.39	0	1262	7930	9365	3545	9192	No	1.04	Si
SLU 78	fin.	2608.4	8935	1.39	0	1748	7930	9365	3545	9677	No	1.08	Si
SLU 75	ini.	-2743.51	8853	1.39	0	1262	7930	9365	3545	9192	No	1.04	Si
SLU 75	fin.	2608.4	8935	1.39	0	1748	7930	9365	3545	9677	No	1.08	Si
SLU 74	ini.	-2746.65	8863	1.39	0	1264	7930	9365	3545	9194	No	1.04	Si
SLU 74	fin.	2610.36	8956	1.39	0	1751	7930	9365	3545	9680	No	1.08	Si
SLU 81	ini.	-2805.84	9020	1.39	0	1288	7930	9365	3545	9218	No	1.02	Si
SLU 81	fin.	2650.17	9166	1.39	0	1775	7930	9365	3545	9704	No	1.06	Si
SLU 80	ini.	-2743.51	8853	1.39	0	1262	7930	9365	3545	9192	No	1.04	Si
SLU 80	fin.	2608.4	8935	1.39	0	1748	7930	9365	3545	9677	No	1.08	Si
SLU 84	ini.	-2802.69	9010	1.39	0	1286	7930	9365	3545	9216	No	1.02	Si
SLU 84	fin.	2648.21	9145	1.39	0	1772	7930	9365	3545	9701	No	1.06	Si
SLU 79	ini.	-2746.65	8863	1.39	0	1264	7930	9365	3545	9194	No	1.04	Si
SLU 79	fin.	2610.36	8956	1.39	0	1751	7930	9365	3545	9680	No	1.08	Si
SLU 82	ini.	-2802.69	9010	1.39	0	1286	7930	9365	3545	9216	No	1.02	Si
SLU 82	fin.	2648.21	9145	1.39	0	1772	7930	9365	3545	9701	No	1.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 4	ini.	-2622.34	379	-0.0006641	0.0002807	0.0035	1.39		7578.45	7578.45		2.89	Si
SLV 4	fin.	3171.73	-4888	-0.0008463	0.0002807	0.0035	1.39		7569.61	7569.61		2.39	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-2694.03	-1689	-0.0006868	0.0002807	0.0035	1.39		7578.45	7578.45		2.81	Si
SLV 7	fin.	2739.82	-6550	-0.0007025	0.0002807	0.0035	1.39		7569.61	7569.61		2.76	Si
SLV 6	ini.	-1662.22	60	-0.0003842	0.0002807	0.0035	1.39		7578.45	7578.45		4.56	Si
SLV 6	fin.	1848.37	-2494	-0.0004355	0.0002807	0.0035	1.39		7569.61	7569.61		4.1	Si
SLV 2	ini.	-2352.2	912	-0.0005807	0.0002807	0.0035	1.39		7578.45	7578.45		3.22	Si
SLV 2	fin.	2943.32	-3750	-0.000769	0.0002807	0.0035	1.39		7569.61	7569.61		2.57	Si
SLV 5	ini.	-1793.55	89	-0.0004198	0.0002807	0.0035	1.39		7578.45	7578.45		4.23	Si
SLV 5	fin.	1978.47	-2755	-0.000472	0.0002807	0.0035	1.39		7569.61	7569.61		3.83	Si
SLV 3	ini.	-2753.1	408	-0.0007057	0.0002807	0.0035	1.39		7578.45	7578.45		2.75	Si
SLV 3	fin.	3301.27	-5148	-0.0008915	0.0002807	0.0035	1.39		7569.61	7569.61		2.29	Si
SLV 1	ini.	-2482.96	941	-0.0006206	0.0002807	0.0035	1.39		7578.45	7578.45		3.05	Si
SLV 1	fin.	3072.87	-4009	-0.0008125	0.0002807	0.0035	1.39		7569.61	7569.61		2.46	Si
SLV 8	ini.	-2562.71	-1718	-0.0006454	0.0002807	0.0035	1.39		7578.45	7578.45		2.96	Si
SLV 8	fin.	2609.72	-6289	-0.0006611	0.0002807	0.0035	1.39		7569.61	7569.61		2.9	Si
SLV 11	ini.	-2373.01	-2953	-0.000587	0.0002807	0.0035	1.39		7578.45	7578.45		3.19	Si
SLV 11	fin.	2029.93	-6613	-0.0004867	0.0002807	0.0035	1.39		7569.61	7569.61		3.73	Si
SLV 12	ini.	-2241.69	-2982	-0.0005477	0.0002807	0.0035	1.39		7578.45	7578.45		3.38	Si
SLV 12	fin.	1899.83	-6352	-0.0004498	0.0002807	0.0035	1.39		7569.61	7569.61		3.98	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 6	ini.	-1662.22	5779	1.39	0	1348	7930	14048	3545	9278		1.61	Si
SLV 6	fin.	1848.37	5115	1.39	0	1778	7930	14048	3545	9707		1.9	Si
SLV 12	ini.	-2241.69	6884	1.39	0	1848	7930	14048	3545	9778		1.42	Si
SLV 12	fin.	1899.83	7537	1.39	0	2278	7930	14048	3545	10207		1.35	Si
SLV 1	ini.	-2482.96	9183	1.39	0	1164	7930	14048	3545	9093		0.99	No
SLV 1	fin.	3072.87	8840	1.39	0	1989	7930	14048	3545	9919		1.12	Si
SLV 2	ini.	-2352.2	8737	1.39	0	1170	7930	14048	3545	9100		1.04	Si
SLV 2	fin.	2943.32	8394	1.39	0	1954	7930	14048	3545	9884		1.18	Si
SLV 4	ini.	-2622.34	9577	1.39	0	1285	7930	14048	3545	9214		0.96	No
SLV 4	fin.	3171.73	9601	1.39	0	2102	7930	14048	3545	10031		1.04	Si
SLV 7	ini.	-2694.03	9027	1.39	0	1654	7930	14048	3545	9584		1.06	Si
SLV 7	fin.	2739.82	9587	1.39	0	2300	7930	14048	3545	10230		1.07	Si
SLV 5	ini.	-1793.55	6227	1.39	0	1342	7930	14048	3545	9272		1.49	Si
SLV 5	fin.	1978.47	5562	1.39	0	1816	7930	14048	3545	9745		1.75	Si
SLV 11	ini.	-2373.01	7332	1.39	0	1844	7930	14048	3545	9774		1.33	Si
SLV 11	fin.	2029.93	7984	1.39	0	2307	7930	14048	3545	10237		1.28	Si
SLV 3	ini.	-2753.1	10023	1.39	0	1279	7930	14048	3545	9208		0.92	No
SLV 3	fin.	3301.27	10047	1.39	0	2134	7930	14048	3545	10064		1	Si
SLV 8	ini.	-2562.71	8579	1.39	0	1659	7930	14048	3545	9589		1.12	Si
SLV 8	fin.	2609.72	9139	1.39	0	2270	7930	14048	3545	10200		1.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.293	SLV 3	Si
V_SLV	0.919	SLV 3	No
PF_SLU	1.868	SLU 81	Si
V_SLU	1.022	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
6.77	9.805	-0.1	0.51	0.61	7.77	9.805	-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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-767.6	-3380	-0.0012226	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 84	fin.	714.19	1111	-0.0011113	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.41	Si
SLU 77	ini.	-756.58	-3329	-0.0011983	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 77	fin.	719.51	1132	-0.0011226	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	Si
SLU 78	ini.	-755.45	-3324	-0.0011958	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 78	fin.	719.54	1133	-0.0011227	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	Si
SLU 80	ini.	-755.45	-3324	-0.0011958	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 80	fin.	719.54	1133	-0.0011227	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	Si
SLU 81	ini.	-768.73	-3385	-0.0012251	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 81	fin.	714.15	1109	-0.0011113	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.41	Si
SLU 79	ini.	-756.58	-3329	-0.0011983	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 79	fin.	719.51	1132	-0.0011226	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	Si
SLU 82	ini.	-767.6	-3380	-0.0012226	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 82	fin.	714.19	1111	-0.0011113	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.41	Si
SLU 83	ini.	-768.73	-3385	-0.0012251	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.32	Si
SLU 83	fin.	714.15	1109	-0.0011113	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.41	Si
SLU 75	ini.	-755.45	-3324	-0.0011958	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 75	fin.	719.54	1133	-0.0011227	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	Si
SLU 74	ini.	-756.58	-3329	-0.0011983	0.0001872	0.0035	0.61		1013.84	1013.84	No	1.34	Si
SLU 74	fin.	719.51	1132	-0.0011226	0.0001872	0.0035	0.61		1009.47	1009.47	No	1.4	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 84	ini.	-767.6	4864	0.61	0	549	4837	4110	1556	5386	No	1.11	Si
SLU 84	fin.	714.19	1651	0.61	0	0	4837	4110	1556	4837	No	2.93	Si
SLU 81	ini.	-768.73	4872	0.61	0	549	4837	4110	1556	5386	No	1.11	Si
SLU 81	fin.	714.15	1650	0.61	0	0	4837	4110	1556	4837	No	2.93	Si
SLU 79	ini.	-756.58	4755	0.61	0	546	4837	4110	1556	5383	No	1.13	Si
SLU 79	fin.	719.51	1687	0.61	0	0	4837	4110	1556	4837	No	2.87	Si
SLU 77	ini.	-756.58	4755	0.61	0	546	4837	4110	1556	5383	No	1.13	Si
SLU 77	fin.	719.51	1687	0.61	0	0	4837	4110	1556	4837	No	2.87	Si
SLU 83	ini.	-768.73	4872	0.61	0	549	4837	4110	1556	5386	No	1.11	Si
SLU 83	fin.	714.15	1650	0.61	0	0	4837	4110	1556	4837	No	2.93	Si
SLU 78	ini.	-755.45	4747	0.61	0	545	4837	4110	1556	5382	No	1.13	Si
SLU 78	fin.	719.54	1688	0.61	0	0	4837	4110	1556	4837	No	2.86	Si
SLU 74	ini.	-756.58	4755	0.61	0	546	4837	4110	1556	5383	No	1.13	Si
SLU 74	fin.	719.51	1687	0.61	0	0	4837	4110	1556	4837	No	2.87	Si
SLU 75	ini.	-755.45	4747	0.61	0	545	4837	4110	1556	5382	No	1.13	Si
SLU 75	fin.	719.54	1688	0.61	0	0	4837	4110	1556	4837	No	2.86	Si
SLU 80	ini.	-755.45	4747	0.61	0	545	4837	4110	1556	5382	No	1.13	Si
SLU 80	fin.	719.54	1688	0.61	0	0	4837	4110	1556	4837	No	2.86	Si
SLU 82	ini.	-767.6	4864	0.61	0	549	4837	4110	1556	5386	No	1.11	Si
SLU 82	fin.	714.19	1651	0.61	0	0	4837	4110	1556	4837	No	2.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 7	ini.	-809.83	-3560	-0.0012318	0.0002807	0.0035	0.61		1463.7	1463.7		1.81	Si
SLV 7	fin.	836.23	1349	-0.0012942	0.0002807	0.0035	0.61		1459.78	1459.78		1.75	Si
SLV 5	ini.	-538.99	-2364	-0.0007193	0.0002807	0.0035	0.61		1463.7	1463.7		2.72	Si
SLV 5	fin.	631.77	1097	-0.0008844	0.0002807	0.0035	0.61		1459.78	1459.78		2.31	Si
SLV 3	ini.	-925.54	-4063	-0.001497	0.0002807	0.0035	0.61		1463.7	1463.7		1.58	Si
SLV 3	fin.	1095.05	1882	-0.0019876	0.0002807	0.0035	0.61		1459.78	1459.78		1.33	Si
SLV 2	ini.	-798.94	-3503	-0.0012086	0.0002807	0.0035	0.61		1463.7	1463.7		1.83	Si
SLV 2	fin.	964.75	1691	-0.0016031	0.0002807	0.0035	0.61		1459.78	1459.78		1.51	Si
SLV 4	ini.	-880.19	-3861	-0.0013887	0.0002807	0.0035	0.61		1463.7	1463.7		1.66	Si
SLV 4	fin.	1026.08	1766	-0.0017726	0.0002807	0.0035	0.61		1459.78	1459.78		1.42	Si
SLV 12	ini.	-583.76	-2568	-0.0007959	0.0002807	0.0035	0.61		1463.7	1463.7		2.51	Si
SLV 12	fin.	483.66	699	-0.0006305	0.0002807	0.0035	0.61		1459.78	1459.78		3.02	Si
SLV 6	ini.	-493.45	-2162	-0.0006442	0.0002807	0.0035	0.61		1463.7	1463.7		2.97	Si
SLV 6	fin.	562.51	981	-0.0007618	0.0002807	0.0035	0.61		1459.78	1459.78		2.6	Si
SLV 1	ini.	-844.29	-3704	-0.0013071	0.0002807	0.0035	0.61		1463.7	1463.7		1.73	Si
SLV 1	fin.	1033.71	1807	-0.001795	0.0002807	0.0035	0.61		1459.78	1459.78		1.41	Si
SLV 8	ini.	-764.28	-3358	-0.0011364	0.0002807	0.0035	0.61		1463.7	1463.7		1.92	Si
SLV 8	fin.	766.97	1232	-0.0011462	0.0002807	0.0035	0.61		1459.78	1459.78		1.9	Si
SLV 11	ini.	-629.31	-2770	-0.0008768	0.0002807	0.0035	0.61		1463.7	1463.7		2.33	Si
SLV 11	fin.	552.92	816	-0.0007454	0.0002807	0.0035	0.61		1459.78	1459.78		2.64	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 4	ini.	-880.19	5078	0.61	0	744	4837	6165	1556	5581		1.1	Si
SLV 4	fin.	1026.08	2762	0.61	0	0	4837	6165	1556	4837		1.75	Si
SLV 3	ini.	-925.54	5286	0.61	0	758	4837	6165	1556	5595		1.06	Si
SLV 3	fin.	1095.05	2976	0.61	0	0	4837	6165	1556	4837		1.63	Si
SLV 12	ini.	-583.76	3693	0.61	0	649	4837	6165	1556	5486		1.49	Si
SLV 12	fin.	483.66	1009	0.61	0	294	4837	6165	1556	5131		5.08	Si
SLV 6	ini.	-493.45	3043	0.61	0	616	4837	6165	1556	5453		1.79	Si
SLV 6	fin.	562.51	1458	0.61	0	240	4837	6165	1556	5077		3.48	Si
SLV 5	ini.	-538.99	3252	0.61	0	633	4837	6165	1556	5470		1.68	Si
SLV 5	fin.	631.77	1673	0.61	0	214	4837	6165	1556	5051		3.02	Si
SLV 8	ini.	-764.28	4580	0.61	0	709	4837	6165	1556	5546		1.21	Si
SLV 8	fin.	766.97	1887	0.61	0	179	4837	6165	1556	5016		2.66	Si
SLV 1	ini.	-844.29	4825	0.61	0	733	4837	6165	1556	5570		1.15	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	fin.	1033.71	2848	0.61	0	0	4837	6165	1556	4837		1.7	Si
SLV 11	ini.	-629.31	3901	0.61	0	665	4837	6165	1556	5502		1.41	Si
SLV 11	fin.	552.92	1225	0.61	0	273	4837	6165	1556	5110		4.17	Si
SLV 2	ini.	-798.94	4617	0.61	0	719	4837	6165	1556	5556		1.2	Si
SLV 2	fin.	964.75	2633	0.61	0	0	4837	6165	1556	4837		1.84	Si
SLV 7	ini.	-809.83	4789	0.61	0	723	4837	6165	1556	5560		1.16	Si
SLV 7	fin.	836.23	2103	0.61	0	142	4837	6165	1556	4979		2.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.333	SLV 3	Si
V_SLV	1.058	SLV 3	Si
PF_SLU	1.319	SLU 81	Si
V_SLU	1.106	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
0.215	2.365	0.51	1.51	1	0.215	3.365	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	868.48	-1827	-0.0004101	0.0001872	0.0035	1		3643.26	3643.26	No	4.19	Si
SLU 71	fin.	-347.96	-488	-0.0001457	0.0001872	0.0035	1		3649.64	3649.64	No	10.49	Si
SLU 50	ini.	855.74	-1776	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 50	fin.	-380.97	-342	-0.0001606	0.0001872	0.0035	1		3649.64	3649.64	No	9.58	Si
SLU 43	ini.	855.74	-1776	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 43	fin.	-380.97	-342	-0.0001606	0.0001872	0.0035	1		3649.64	3649.64	No	9.58	Si
SLU 64	ini.	868.48	-1827	-0.0004101	0.0001872	0.0035	1		3643.26	3643.26	No	4.19	Si
SLU 64	fin.	-347.96	-488	-0.0001457	0.0001872	0.0035	1		3649.64	3649.64	No	10.49	Si
SLU 66	ini.	868.48	-1827	-0.0004101	0.0001872	0.0035	1		3643.26	3643.26	No	4.19	Si
SLU 66	fin.	-347.96	-488	-0.0001457	0.0001872	0.0035	1		3649.64	3649.64	No	10.49	Si
SLU 48	ini.	855.74	-1776	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 48	fin.	-380.97	-342	-0.0001606	0.0001872	0.0035	1		3649.64	3649.64	No	9.58	Si
SLU 67	ini.	856.63	-1806	-0.0004034	0.0001872	0.0035	1		3643.26	3643.26	No	4.25	Si
SLU 67	fin.	-338.26	-497	-0.0001414	0.0001872	0.0035	1		3649.64	3649.64	No	10.79	Si
SLU 70	ini.	856.63	-1806	-0.0004034	0.0001872	0.0035	1		3643.26	3643.26	No	4.25	Si
SLU 70	fin.	-338.26	-497	-0.0001414	0.0001872	0.0035	1		3649.64	3649.64	No	10.79	Si
SLU 72	ini.	856.63	-1806	-0.0004034	0.0001872	0.0035	1		3643.26	3643.26	No	4.25	Si
SLU 72	fin.	-338.26	-497	-0.0001414	0.0001872	0.0035	1		3649.64	3649.64	No	10.79	Si
SLU 69	ini.	868.48	-1827	-0.0004101	0.0001872	0.0035	1		3643.26	3643.26	No	4.19	Si
SLU 69	fin.	-347.96	-488	-0.0001457	0.0001872	0.0035	1		3649.64	3649.64	No	10.49	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 74	ini.	837.88	-2992	1	0	693	7930	4492	2550	7042	No	2.35	Si
SLU 74	fin.	-244.72	281	1	0	563	7930	4492	2550	7042	No	25.05	Si
SLU 78	ini.	826.02	-2955	1	0	690	7930	4492	2550	7042	No	2.38	Si
SLU 78	fin.	-235.02	317	1	0	564	7930	4492	2550	7042	No	22.25	Si
SLU 83	ini.	824.76	-3026	1	0	692	7930	4492	2550	7042	No	2.33	Si
SLU 83	fin.	-200.47	602	1	0	582	7930	4492	2550	7042	No	11.69	Si
SLU 80	ini.	826.02	-2955	1	0	690	7930	4492	2550	7042	No	2.38	Si
SLU 80	fin.	-235.02	317	1	0	564	7930	4492	2550	7042	No	22.25	Si
SLU 75	ini.	826.02	-2955	1	0	690	7930	4492	2550	7042	No	2.38	Si
SLU 75	fin.	-235.02	317	1	0	564	7930	4492	2550	7042	No	22.25	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	837.88	-2992	1	0	693	7930	4492	2550	7042	No	2.35	Si
SLU 79	fin.	-244.72	281	1	0	563	7930	4492	2550	7042	No	25.05	Si
SLU 81	ini.	824.76	-3026	1	0	692	7930	4492	2550	7042	No	2.33	Si
SLU 81	fin.	-200.47	602	1	0	582	7930	4492	2550	7042	No	11.69	Si
SLU 82	ini.	812.91	-2989	1	0	690	7930	4492	2550	7042	No	2.36	Si
SLU 82	fin.	-190.77	638	1	0	583	7930	4492	2550	7042	No	11.04	Si
SLU 84	ini.	812.91	-2989	1	0	690	7930	4492	2550	7042	No	2.36	Si
SLU 84	fin.	-190.77	638	1	0	583	7930	4492	2550	7042	No	11.04	Si
SLU 77	ini.	837.88	-2992	1	0	693	7930	4492	2550	7042	No	2.35	Si
SLU 77	fin.	-244.72	281	1	0	563	7930	4492	2550	7042	No	25.05	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	1394.08	-2624	-0.0006877	0.0002807	0.0035	1		3664.83	3664.83		2.63	Si
SLV 11	fin.	-881.5	237	-0.000395	0.0002807	0.0035	1		3671.29	3671.29		4.16	Si
SLV 1	ini.	623.63	-1365	-0.0002677	0.0002807	0.0035	1		3664.83	3664.83		5.88	Si
SLV 1	fin.	-154.31	-579	-0.000062	0.0002807	0.0035	1		3671.29	3671.29		23.79	Si
SLV 9	ini.	-450.91	468	-0.0001882	0.0002807	0.0035	1		3671.29	3671.29		8.14	Si
SLV 9	fin.	662.52	-1350	-0.0002862	0.0002807	0.0035	1		3664.83	3664.83		5.53	Si
SLV 4	ini.	1348.52	-2577	-0.0006598	0.0002807	0.0035	1		3664.83	3664.83		2.72	Si
SLV 4	fin.	-761.32	44	-0.0003338	0.0002807	0.0035	1		3671.29	3671.29		4.82	Si
SLV 12	ini.	1566.21	-2909	-0.0007968	0.0002807	0.0035	1		3664.83	3664.83		2.34	Si
SLV 12	fin.	-1025.92	384	-0.0004722	0.0002807	0.0035	1		3671.29	3671.29		3.58	Si
SLV 7	ini.	1591.81	-2970	-0.0008135	0.0002807	0.0035	1		3664.83	3664.83		2.3	Si
SLV 7	fin.	-1008.93	336	-0.0004629	0.0002807	0.0035	1		3671.29	3671.29		3.64	Si
SLV 16	ini.	689.4	-1422	-0.0002991	0.0002807	0.0035	1		3664.83	3664.83		5.32	Si
SLV 16	fin.	-336.53	-288	-0.0001383	0.0002807	0.0035	1		3671.29	3671.29		10.91	Si
SLV 8	ini.	1763.94	-3255	-0.0009295	0.0002807	0.0035	1		3664.83	3664.83		2.08	Si
SLV 8	fin.	-1153.36	484	-0.0005435	0.0002807	0.0035	1		3671.29	3671.29		3.18	Si
SLV 2	ini.	795.03	-1649	-0.0003514	0.0002807	0.0035	1		3664.83	3664.83		4.61	Si
SLV 2	fin.	-298.11	-432	-0.0001219	0.0002807	0.0035	1		3671.29	3671.29		12.32	Si
SLV 3	ini.	1177.13	-2293	-0.0005582	0.0002807	0.0035	1		3664.83	3664.83		3.11	Si
SLV 3	fin.	-617.51	-103	-0.0002643	0.0002807	0.0035	1		3671.29	3671.29		5.95	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 2	ini.	795.03	-2871	1	0	905	7930	6737	2550	8835		3.08	Si
SLV 2	fin.	-298.11	-113	1	0	727	7930	6737	2550	8657		76.51	Si
SLV 8	ini.	1763.94	-5847	1	0	1097	7930	6737	2550	9026		1.54	Si
SLV 8	fin.	-1153.36	-3432	1	0	557	7930	6737	2550	8486		2.47	Si
SLV 4	ini.	1348.52	-4646	1	0	1020	7930	6737	2550	8950		1.93	Si
SLV 4	fin.	-761.32	-1805	1	0	644	7930	6737	2550	8574		4.75	Si
SLV 9	ini.	-450.91	1385	1	0	560	7930	6737	2550	8490		6.13	Si
SLV 9	fin.	662.52	2994	1	0	865	7930	6737	2550	8794		2.94	Si
SLV 7	ini.	1591.81	-5278	1	0	1065	7930	6737	2550	8995		1.7	Si
SLV 7	fin.	-1008.93	-2945	1	0	587	7930	6737	2550	8517		2.89	Si
SLV 11	ini.	1394.08	-4531	1	0	1026	7930	6737	2550	8955		1.98	Si
SLV 11	fin.	-881.5	-2646	1	0	607	7930	6737	2550	8537		3.23	Si
SLV 10	ini.	-278.78	816	1	0	618	7930	6737	2550	8547		10.47	Si
SLV 10	fin.	518.09	2507	1	0	844	7930	6737	2550	8774		3.5	Si
SLV 12	ini.	1566.21	-5100	1	0	1058	7930	6737	2550	8988		1.76	Si
SLV 12	fin.	-1025.92	-3133	1	0	578	7930	6737	2550	8507		2.71	Si
SLV 3	ini.	1177.13	-4079	1	0	986	7930	6737	2550	8916		2.19	Si
SLV 3	fin.	-617.51	-1320	1	0	671	7930	6737	2550	8600		6.51	Si
SLV 5	ini.	-253.17	639	1	0	630	7930	6737	2550	8559		13.4	Si
SLV 5	fin.	535.08	2696	1	0	851	7930	6737	2550	8780		3.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.078	SLV 8	Si
V_SLV	1.544	SLV 8	Si
PF_SLU	4.195	SLU 64	Si
V_SLU	2.327	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
0.215	2.365	3.41	4.56	1.15	0.215	3.365	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	566.45	604	-0.0001826	0.0001872	0.0035	1.15		4811.48	4811.48	No	8.49	Si
SLU 77	fin.	-747.04	-1136	-0.000248	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.45	Si
SLU 72	ini.	671.62	998	-0.0002203	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.16	Si
SLU 72	fin.	-745	-788	-0.0002472	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.47	Si
SLU 69	ini.	685.8	1030	-0.0002256	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.02	Si
SLU 69	fin.	-752.18	-776	-0.0002499	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.41	Si
SLU 71	ini.	685.8	1030	-0.0002256	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.02	Si
SLU 71	fin.	-752.18	-776	-0.0002499	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.41	Si
SLU 67	ini.	671.62	998	-0.0002203	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.16	Si
SLU 67	fin.	-745	-788	-0.0002472	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.47	Si
SLU 66	ini.	685.8	1030	-0.0002256	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.02	Si
SLU 66	fin.	-752.18	-776	-0.0002499	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.41	Si
SLU 70	ini.	671.62	998	-0.0002203	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.16	Si
SLU 70	fin.	-745	-788	-0.0002472	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.47	Si
SLU 79	ini.	566.45	604	-0.0001826	0.0001872	0.0035	1.15		4811.48	4811.48	No	8.49	Si
SLU 79	fin.	-747.04	-1136	-0.000248	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.45	Si
SLU 64	ini.	685.8	1030	-0.0002256	0.0001872	0.0035	1.15		4811.48	4811.48	No	7.02	Si
SLU 64	fin.	-752.18	-776	-0.0002499	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.41	Si
SLU 74	ini.	566.45	604	-0.0001826	0.0001872	0.0035	1.15		4811.48	4811.48	No	8.49	Si
SLU 74	fin.	-747.04	-1136	-0.000248	0.0001872	0.0035	1.15		4818.72	4818.72	No	6.45	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 82	ini.	501.12	-174	1.15	0	423	7930	5165	2933	8098	No	46.58	Si
SLU 82	fin.	-737.65	-4013	1.15	0	699	7930	5165	2933	8098	No	2.02	Si
SLU 84	ini.	501.12	-174	1.15	0	423	7930	5165	2933	8098	No	46.58	Si
SLU 84	fin.	-737.65	-4013	1.15	0	699	7930	5165	2933	8098	No	2.02	Si
SLU 78	ini.	552.27	-505	1.15	0	381	7930	5165	2933	8098	No	16.05	Si
SLU 78	fin.	-739.86	-3866	1.15	0	678	7930	5165	2933	8098	No	2.09	Si
SLU 75	ini.	552.27	-505	1.15	0	381	7930	5165	2933	8098	No	16.05	Si
SLU 75	fin.	-739.86	-3866	1.15	0	678	7930	5165	2933	8098	No	2.09	Si
SLU 83	ini.	515.3	-207	1.15	0	416	7930	5165	2933	8098	No	39.07	Si
SLU 83	fin.	-744.84	-4046	1.15	0	697	7930	5165	2933	8098	No	2	Si
SLU 81	ini.	515.3	-207	1.15	0	416	7930	5165	2933	8098	No	39.07	Si
SLU 81	fin.	-744.84	-4046	1.15	0	697	7930	5165	2933	8098	No	2	Si
SLU 80	ini.	552.27	-505	1.15	0	381	7930	5165	2933	8098	No	16.05	Si
SLU 80	fin.	-739.86	-3866	1.15	0	678	7930	5165	2933	8098	No	2.09	Si
SLU 77	ini.	566.45	-538	1.15	0	374	7930	5165	2933	8098	No	15.05	Si
SLU 77	fin.	-747.04	-3899	1.15	0	677	7930	5165	2933	8098	No	2.08	Si
SLU 79	ini.	566.45	-538	1.15	0	374	7930	5165	2933	8098	No	15.05	Si
SLU 79	fin.	-747.04	-3899	1.15	0	677	7930	5165	2933	8098	No	2.08	Si
SLU 74	ini.	566.45	-538	1.15	0	374	7930	5165	2933	8098	No	15.05	Si
SLU 74	fin.	-747.04	-3899	1.15	0	677	7930	5165	2933	8098	No	2.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 7	ini.	1490.48	2955	-0.0005294	0.0002807	0.0035	1.15		4849.69	4849.69		3.25	Si
SLV 7	fin.	-1059.06	105	-0.0003536	0.0002807	0.0035	1.15		4857.47	4857.47		4.59	Si
SLV 11	ini.	1300.03	2609	-0.0004496	0.0002807	0.0035	1.15		4849.69	4849.69		3.73	Si
SLV 11	fin.	-887.42	217	-0.0002897	0.0002807	0.0035	1.15		4857.47	4857.47		5.47	Si
SLV 3	ini.	1010.06	1731	-0.0003356	0.0002807	0.0035	1.15		4849.69	4849.69		4.8	Si
SLV 3	fin.	-941.49	-660	-0.0003095	0.0002807	0.0035	1.15		4857.47	4857.47		5.16	Si
SLV 4	ini.	1227.05	2227	-0.00042	0.0002807	0.0035	1.15		4849.69	4849.69		3.95	Si
SLV 4	fin.	-1047.45	-485	-0.0003492	0.0002807	0.0035	1.15		4857.47	4857.47		4.64	Si
SLV 1	ini.	407.41	335	-0.0001263	0.0002807	0.0035	1.15		4849.69	4849.69		11.9	Si
SLV 1	fin.	-668.88	-1205	-0.0002128	0.0002807	0.0035	1.15		4857.47	4857.47		7.26	Si
SLV 16	ini.	592.2	1073	-0.0001871	0.0002807	0.0035	1.15		4849.69	4849.69		8.19	Si
SLV 16	fin.	-475.31	-113	-0.0001481	0.0002807	0.0035	1.15		4857.47	4857.47		10.22	Si
SLV 9	ini.	-708.79	-2045	-0.0002265	0.0002807	0.0035	1.15		4857.47	4857.47		6.85	Si
SLV 9	fin.	21.28	-1599	-0.0000064	0.0002807	0.0035	1.15		4849.69	4849.69		227.87	Si
SLV 2	ini.	624.4	831	-0.000198	0.0002807	0.0035	1.15		4849.69	4849.69		7.77	Si
SLV 2	fin.	-774.84	-1030	-0.0002495	0.0002807	0.0035	1.15		4857.47	4857.47		6.27	Si
SLV 12	ini.	1517.95	3106	-0.0005412	0.0002807	0.0035	1.15		4849.69	4849.69		3.19	Si
SLV 12	fin.	-993.83	393	-0.0003289	0.0002807	0.0035	1.15		4857.47	4857.47		4.89	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1708.41	3453	-0.0006254	0.0002807	0.0035	1.15		4849.69	4849.69		2.84	Si
SLV 8	fin.	-1165.48	281	-0.0003949	0.0002807	0.0035	1.15		4857.47	4857.47		4.17	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 7	ini.	1490.48	-3077	1.15	0	0	7930	7748	2933	7930		2.58	Si
SLV 7	fin.	-1059.06	-4996	1.15	0	730	7930	7748	2933	8660		1.73	Si
SLV 4	ini.	1227.05	-2794	1.15	0	0	7930	7748	2933	7930		2.84	Si
SLV 4	fin.	-1047.45	-4712	1.15	0	834	7930	7748	2933	8764		1.86	Si
SLV 11	ini.	1300.03	-2454	1.15	0	0	7930	7748	2933	7930		3.23	Si
SLV 11	fin.	-887.42	-4376	1.15	0	709	7930	7748	2933	8639		1.97	Si
SLV 12	ini.	1517.95	-2963	1.15	0	0	7930	7748	2933	7930		2.68	Si
SLV 12	fin.	-993.83	-4885	1.15	0	674	7930	7748	2933	8604		1.76	Si
SLV 2	ini.	624.4	-1492	1.15	0	578	7930	7748	2933	8508		5.7	Si
SLV 2	fin.	-774.84	-3412	1.15	0	919	7930	7748	2933	8849		2.59	Si
SLV 3	ini.	1010.06	-2286	1.15	0	295	7930	7748	2933	8225		3.6	Si
SLV 3	fin.	-941.49	-4204	1.15	0	862	7930	7748	2933	8792		2.09	Si
SLV 8	ini.	1708.41	-3586	1.15	0	0	7930	7748	2933	7930		2.21	Si
SLV 8	fin.	-1165.48	-5505	1.15	0	697	7930	7748	2933	8626		1.57	Si
SLV 15	ini.	375.21	-210	1.15	0	636	7930	7748	2933	8565		40.75	Si
SLV 15	fin.	-369.35	-2137	1.15	0	801	7930	7748	2933	8731		4.09	Si
SLV 16	ini.	592.2	-717	1.15	0	518	7930	7748	2933	8447		11.77	Si
SLV 16	fin.	-475.31	-2644	1.15	0	770	7930	7748	2933	8700		3.29	Si
SLV 1	ini.	407.41	-985	1.15	0	686	7930	7748	2933	8615		8.75	Si
SLV 1	fin.	-668.88	-2904	1.15	0	945	7930	7748	2933	8875		3.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.839	SLV 8	Si
V_SLV	1.567	SLV 8	Si
PF_SLU	6.406	SLU 64	Si
V_SLU	2.001	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
0.215	4.515	3.73	4.56	0.83	0.215	5.915	3.73	4.56	0.83	1.4	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 40	ini.	-283.66	-1418	-0.0001745	0.0001872	0.0035	0.83		2532.06	2532.06	No	8.93	Si
SLU 40	fin.	-194.51	-1022	-0.0001166	0.0001872	0.0035	0.83		2532.06	2532.06	No	13.02	Si
SLU 73	ini.	-245.24	-1307	-0.0001491	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.32	Si
SLU 73	fin.	-232.53	-1167	-0.0001409	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.89	Si
SLU 82	ini.	-285.58	-1485	-0.0001757	0.0001872	0.0035	0.83		2532.06	2532.06	No	8.87	Si
SLU 82	fin.	-241.92	-1231	-0.000147	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.47	Si
SLU 76	ini.	-245.24	-1307	-0.0001491	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.32	Si
SLU 76	fin.	-232.53	-1167	-0.0001409	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.89	Si
SLU 39	ini.	-275.79	-1392	-0.0001692	0.0001872	0.0035	0.83		2532.06	2532.06	No	9.18	Si
SLU 39	fin.	-201.22	-1045	-0.0001209	0.0001872	0.0035	0.83		2532.06	2532.06	No	12.58	Si
SLU 81	ini.	-277.7	-1459	-0.0001705	0.0001872	0.0035	0.83		2532.06	2532.06	No	9.12	Si
SLU 81	fin.	-248.63	-1253	-0.0001513	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.18	Si
SLU 42	ini.	-283.66	-1418	-0.0001745	0.0001872	0.0035	0.83		2532.06	2532.06	No	8.93	Si
SLU 42	fin.	-194.51	-1022	-0.0001166	0.0001872	0.0035	0.83		2532.06	2532.06	No	13.02	Si
SLU 83	ini.	-277.7	-1459	-0.0001705	0.0001872	0.0035	0.83		2532.06	2532.06	No	9.12	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-248.63	-1253	-0.0001513	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.18	Si
SLU 41	ini.	-275.79	-1392	-0.0001692	0.0001872	0.0035	0.83		2532.06	2532.06	No	9.18	Si
SLU 41	fin.	-201.22	-1045	-0.0001209	0.0001872	0.0035	0.83		2532.06	2532.06	No	12.58	Si
SLU 84	ini.	-285.58	-1485	-0.0001757	0.0001872	0.0035	0.83		2532.06	2532.06	No	8.87	Si
SLU 84	fin.	-241.92	-1231	-0.000147	0.0001872	0.0035	0.83		2532.06	2532.06	No	10.47	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 84	ini.	-285.58	3502	0.83	0	381	6582	3728	2117	5845	No	1.67	Si
SLU 84	fin.	-241.92	-3270	0.83	0	361	6582	3728	2117	5845	No	1.79	Si
SLU 42	ini.	-283.66	3435	0.83	0	376	6582	3728	2117	5845	No	1.7	Si
SLU 42	fin.	-194.51	-3058	0.83	0	343	6582	3728	2117	5845	No	1.91	Si
SLU 41	ini.	-275.79	3410	0.83	0	374	6582	3728	2117	5845	No	1.71	Si
SLU 41	fin.	-201.22	-3083	0.83	0	345	6582	3728	2117	5845	No	1.9	Si
SLU 76	ini.	-245.24	2967	0.83	0	367	6582	3728	2117	5845	No	1.97	Si
SLU 76	fin.	-232.53	-2848	0.83	0	356	6582	3728	2117	5845	No	2.05	Si
SLU 82	ini.	-285.58	3502	0.83	0	381	6582	3728	2117	5845	No	1.67	Si
SLU 82	fin.	-241.92	-3270	0.83	0	361	6582	3728	2117	5845	No	1.79	Si
SLU 83	ini.	-277.7	3477	0.83	0	379	6582	3728	2117	5845	No	1.68	Si
SLU 83	fin.	-248.63	-3294	0.83	0	363	6582	3728	2117	5845	No	1.77	Si
SLU 81	ini.	-277.7	3477	0.83	0	379	6582	3728	2117	5845	No	1.68	Si
SLU 81	fin.	-248.63	-3294	0.83	0	363	6582	3728	2117	5845	No	1.77	Si
SLU 73	ini.	-245.24	2967	0.83	0	367	6582	3728	2117	5845	No	1.97	Si
SLU 73	fin.	-232.53	-2848	0.83	0	356	6582	3728	2117	5845	No	2.05	Si
SLU 40	ini.	-283.66	3435	0.83	0	376	6582	3728	2117	5845	No	1.7	Si
SLU 40	fin.	-194.51	-3058	0.83	0	343	6582	3728	2117	5845	No	1.91	Si
SLU 39	ini.	-275.79	3410	0.83	0	374	6582	3728	2117	5845	No	1.71	Si
SLU 39	fin.	-201.22	-3083	0.83	0	345	6582	3728	2117	5845	No	1.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 12	ini.	530.26	1409	-0.0003384	0.0002807	0.0035	0.83		2517.95	2517.95		4.75	Si
SLV 12	fin.	-718.51	-2808	-0.000481	0.0002807	0.0035	0.83		2523.37	2523.37		3.51	Si
SLV 8	ini.	486.22	1182	-0.0003069	0.0002807	0.0035	0.83		2517.95	2517.95		5.18	Si
SLV 8	fin.	-765.01	-3005	-0.0005186	0.0002807	0.0035	0.83		2523.37	2523.37		3.3	Si
SLV 4	ini.	37.96	-349	-0.0000219	0.0002807	0.0035	0.83		2517.95	2517.95		66.33	Si
SLV 4	fin.	-460.81	-1928	-0.0002884	0.0002807	0.0035	0.83		2523.37	2523.37		5.48	Si
SLV 11	ini.	416.91	1038	-0.0002588	0.0002807	0.0035	0.83		2517.95	2517.95		6.04	Si
SLV 11	fin.	-616.89	-2431	-0.0004019	0.0002807	0.0035	0.83		2523.37	2523.37		4.09	Si
SLV 6	ini.	-647.03	-2433	-0.0004249	0.0002807	0.0035	0.83		2523.37	2523.37		3.9	Si
SLV 6	fin.	258.51	728	-0.0001552	0.0002807	0.0035	0.83		2517.95	2517.95		9.74	Si
SLV 7	ini.	372.87	811	-0.0002292	0.0002807	0.0035	0.83		2517.95	2517.95		6.75	Si
SLV 7	fin.	-663.39	-2628	-0.0004376	0.0002807	0.0035	0.83		2523.37	2523.37		3.8	Si
SLV 1	ini.	-414.88	-1803	-0.0002569	0.0002807	0.0035	0.83		2523.37	2523.37		6.08	Si
SLV 1	fin.	-52.57	-432	-0.0000303	0.0002807	0.0035	0.83		2523.37	2523.37		48	Si
SLV 9	ini.	-716.34	-2578	-0.0004793	0.0002807	0.0035	0.83		2523.37	2523.37		3.52	Si
SLV 9	fin.	406.63	1303	-0.0002518	0.0002807	0.0035	0.83		2517.95	2517.95		6.19	Si
SLV 5	ini.	-760.38	-2805	-0.0005148	0.0002807	0.0035	0.83		2523.37	2523.37		3.32	Si
SLV 5	fin.	360.13	1106	-0.0002208	0.0002807	0.0035	0.83		2517.95	2517.95		6.99	Si
SLV 10	ini.	-602.99	-2206	-0.0003914	0.0002807	0.0035	0.83		2523.37	2523.37		4.18	Si
SLV 10	fin.	305.01	925	-0.0001848	0.0002807	0.0035	0.83		2517.95	2517.95		8.26	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 7	ini.	372.87	-82	0.83	0	243	6582	5592	2117	6824		83.12	Si
SLV 7	fin.	-663.39	-3214	0.83	0	601	6582	5592	2117	7183		2.24	Si
SLV 1	ini.	-414.88	2314	0.83	0	538	6582	5592	2117	7119		3.08	Si
SLV 1	fin.	-52.57	-775	0.83	0	410	6582	5592	2117	6992		9.02	Si
SLV 16	ini.	184.76	667	0.83	0	307	6582	5592	2117	6889		10.32	Si
SLV 16	fin.	-305.81	-2544	0.83	0	492	6582	5592	2117	7074		2.78	Si
SLV 12	ini.	530.26	-517	0.83	0	78	6582	5592	2117	6660		12.88	Si
SLV 12	fin.	-718.51	-3686	0.83	0	614	6582	5592	2117	7196		1.95	Si
SLV 8	ini.	486.22	-458	0.83	0	161	6582	5592	2117	6743		14.73	Si
SLV 8	fin.	-765.01	-3589	0.83	0	628	6582	5592	2117	7210		2.01	Si
SLV 10	ini.	-602.99	3063	0.83	0	570	6582	5592	2117	7151		2.33	Si
SLV 10	fin.	305.01	-106	0.83	0	221	6582	5592	2117	6802		64.21	Si
SLV 11	ini.	416.91	-142	0.83	0	197	6582	5592	2117	6779		47.85	Si
SLV 11	fin.	-616.89	-3310	0.83	0	587	6582	5592	2117	7168		2.17	Si
SLV 5	ini.	-760.38	3498	0.83	0	614	6582	5592	2117	7196		2.06	Si
SLV 5	fin.	360.13	366	0.83	0	181	6582	5592	2117	6763		18.48	Si
SLV 9	ini.	-716.34	3439	0.83	0	598	6582	5592	2117	7179		2.09	Si
SLV 9	fin.	406.63	270	0.83	0	124	6582	5592	2117	6706		24.87	Si
SLV 6	ini.	-647.03	3123	0.83	0	587	6582	5592	2117	7169		2.3	Si
SLV 6	fin.	258.51	-10	0.83	0	257	6582	5592	2117	6839		706	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.298	SLV 8	Si
V_SLV	1.953	SLV 12	Si
PF_SLU	8.866	SLU 82	Si
V_SLU	1.669	SLU 82	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
0.215	7.065	0.51	1.51	1	0.215	8.065	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-155.29	-1017	-0.0000628	0.0001872	0.0035	1		3649.64	3649.64	No	23.5	Si
SLU 82	fin.	292.21	-1268	-0.0001213	0.0001872	0.0035	1		3643.26	3643.26	No	12.47	Si
SLU 84	ini.	-155.29	-1017	-0.0000628	0.0001872	0.0035	1		3649.64	3649.64	No	23.5	Si
SLU 84	fin.	292.21	-1268	-0.0001213	0.0001872	0.0035	1		3643.26	3643.26	No	12.47	Si
SLU 75	ini.	-140.23	-920	-0.0000566	0.0001872	0.0035	1		3649.64	3649.64	No	26.03	Si
SLU 75	fin.	288.05	-1222	-0.0001194	0.0001872	0.0035	1		3643.26	3643.26	No	12.65	Si
SLU 65	ini.	-107.71	-687	-0.0000432	0.0001872	0.0035	1		3649.64	3649.64	No	33.89	Si
SLU 65	fin.	290.05	-1147	-0.0001203	0.0001872	0.0035	1		3643.26	3643.26	No	12.56	Si
SLU 52	ini.	-119.5	-805	-0.000048	0.0001872	0.0035	1		3649.64	3649.64	No	30.54	Si
SLU 52	fin.	285.31	-1172	-0.0001182	0.0001872	0.0035	1		3643.26	3643.26	No	12.77	Si
SLU 80	ini.	-140.23	-920	-0.0000566	0.0001872	0.0035	1		3649.64	3649.64	No	26.03	Si
SLU 80	fin.	288.05	-1222	-0.0001194	0.0001872	0.0035	1		3643.26	3643.26	No	12.65	Si
SLU 76	ini.	-142.85	-914	-0.0000576	0.0001872	0.0035	1		3649.64	3649.64	No	25.55	Si
SLU 76	fin.	299.77	-1254	-0.0001246	0.0001872	0.0035	1		3643.26	3643.26	No	12.15	Si
SLU 78	ini.	-140.23	-920	-0.0000566	0.0001872	0.0035	1		3649.64	3649.64	No	26.03	Si
SLU 78	fin.	288.05	-1222	-0.0001194	0.0001872	0.0035	1		3643.26	3643.26	No	12.65	Si
SLU 73	ini.	-142.85	-914	-0.0000576	0.0001872	0.0035	1		3649.64	3649.64	No	25.55	Si
SLU 73	fin.	299.77	-1254	-0.0001246	0.0001872	0.0035	1		3643.26	3643.26	No	12.15	Si
SLU 68	ini.	-107.71	-687	-0.0000432	0.0001872	0.0035	1		3649.64	3649.64	No	33.89	Si
SLU 68	fin.	290.05	-1147	-0.0001203	0.0001872	0.0035	1		3643.26	3643.26	No	12.56	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 84	ini.	-155.29	-2610	1	0	592	7930	4492	2550	7042	No	2.7	Si
SLU 84	fin.	292.21	2493	1	0	625	7930	4492	2550	7042	No	2.83	Si
SLU 83	ini.	-151.36	-2653	1	0	594	7930	4492	2550	7042	No	2.65	Si
SLU 83	fin.	274.64	2431	1	0	619	7930	4492	2550	7042	No	2.9	Si
SLU 39	ini.	-139.56	-2478	1	0	579	7930	4492	2550	7042	No	2.84	Si
SLU 39	fin.	221.61	2145	1	0	592	7930	4492	2550	7042	No	3.28	Si
SLU 76	ini.	-142.85	-2258	1	0	578	7930	4492	2550	7042	No	3.12	Si
SLU 76	fin.	299.77	2352	1	0	623	7930	4492	2550	7042	No	2.99	Si
SLU 42	ini.	-143.49	-2435	1	0	578	7930	4492	2550	7042	No	2.89	Si
SLU 42	fin.	239.18	2207	1	0	599	7930	4492	2550	7042	No	3.19	Si
SLU 40	ini.	-143.49	-2435	1	0	578	7930	4492	2550	7042	No	2.89	Si
SLU 40	fin.	239.18	2207	1	0	599	7930	4492	2550	7042	No	3.19	Si
SLU 82	ini.	-155.29	-2610	1	0	592	7930	4492	2550	7042	No	2.7	Si
SLU 82	fin.	292.21	2493	1	0	625	7930	4492	2550	7042	No	2.83	Si
SLU 41	ini.	-139.56	-2478	1	0	579	7930	4492	2550	7042	No	2.84	Si
SLU 41	fin.	221.61	2145	1	0	592	7930	4492	2550	7042	No	3.28	Si
SLU 81	ini.	-151.36	-2653	1	0	594	7930	4492	2550	7042	No	2.65	Si
SLU 81	fin.	274.64	2431	1	0	619	7930	4492	2550	7042	No	2.9	Si
SLU 73	ini.	-142.85	-2258	1	0	578	7930	4492	2550	7042	No	3.12	Si
SLU 73	fin.	299.77	2352	1	0	623	7930	4492	2550	7042	No	2.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 9	ini.	-549.2	715	-0.0002326	0.0002807	0.0035	1		3671.29	3671.29		6.68	Si
SLV 9	fin.	973.78	-2551	-0.0004447	0.0002807	0.0035	1		3664.83	3664.83		3.76	Si
SLV 2	ini.	-289.93	-119	-0.0001184	0.0002807	0.0035	1		3671.29	3671.29		12.66	Si
SLV 2	fin.	535.31	-1707	-0.0002266	0.0002807	0.0035	1		3664.83	3664.83		6.85	Si
SLV 12	ini.	453.73	-2000	-0.0001898	0.0002807	0.0035	1		3664.83	3664.83		8.08	Si
SLV 12	fin.	-681.52	1204	-0.0002948	0.0002807	0.0035	1		3671.29	3671.29		5.39	Si
SLV 11	ini.	361.35	-1772	-0.0001493	0.0002807	0.0035	1		3664.83	3664.83		10.14	Si
SLV 11	fin.	-537.43	872	-0.0002272	0.0002807	0.0035	1		3671.29	3671.29		6.83	Si
SLV 6	ini.	-526.79	609	-0.0002224	0.0002807	0.0035	1		3671.29	3671.29		6.97	Si
SLV 6	fin.	937.8	-2535	-0.0004255	0.0002807	0.0035	1		3664.83	3664.83		3.91	Si
SLV 10	ini.	-456.82	487	-0.0001909	0.0002807	0.0035	1		3671.29	3671.29		8.04	Si
SLV 10	fin.	829.69	-2218	-0.000369	0.0002807	0.0035	1		3664.83	3664.83		4.42	Si
SLV 7	ini.	291.38	-1650	-0.0001192	0.0002807	0.0035	1		3664.83	3664.83		12.58	Si
SLV 7	fin.	-429.32	555	-0.0001787	0.0002807	0.0035	1		3671.29	3671.29		8.55	Si
SLV 1	ini.	-381.92	107	-0.0001579	0.0002807	0.0035	1		3671.29	3671.29		9.61	Si
SLV 1	fin.	678.79	-2038	-0.000294	0.0002807	0.0035	1		3664.83	3664.83		5.4	Si
SLV 5	ini.	-619.17	836	-0.0002651	0.0002807	0.0035	1		3671.29	3671.29		5.93	Si
SLV 5	fin.	1081.89	-2868	-0.0005041	0.0002807	0.0035	1		3664.83	3664.83		3.39	Si
SLV 8	ini.	383.76	-1878	-0.000159	0.0002807	0.0035	1		3664.83	3664.83		9.55	Si
SLV 8	fin.	-573.41	888	-0.0002437	0.0002807	0.0035	1		3671.29	3671.29		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 6	ini.	-526.79	1046	1	0	529	7930	6737	2550	8459		8.08	Si
SLV 6	fin.	937.8	4586	1	0	1015	7930	6737	2550	8945		1.95	Si
SLV 2	ini.	-289.93	-641	1	0	674	7930	6737	2550	8603		13.41	Si
SLV 2	fin.	535.31	3263	1	0	913	7930	6737	2550	8842		2.71	Si
SLV 12	ini.	453.73	-4171	1	0	950	7930	6737	2550	8880		2.13	Si
SLV 12	fin.	-681.52	-2283	1	0	371	7930	6737	2550	8301		3.64	Si
SLV 11	ini.	361.35	-3734	1	0	921	7930	6737	2550	8851		2.37	Si
SLV 11	fin.	-537.43	-1657	1	0	466	7930	6737	2550	8396		5.07	Si
SLV 1	ini.	-381.92	-206	1	0	632	7930	6737	2550	8562		41.47	Si
SLV 1	fin.	678.79	3887	1	0	955	7930	6737	2550	8885		2.29	Si
SLV 7	ini.	291.38	-3644	1	0	905	7930	6737	2550	8835		2.42	Si
SLV 7	fin.	-429.32	-945	1	0	541	7930	6737	2550	8471		8.97	Si
SLV 9	ini.	-549.2	1392	1	0	505	7930	6737	2550	8434		6.06	Si
SLV 9	fin.	973.78	4500	1	0	1017	7930	6737	2550	8947		1.99	Si
SLV 10	ini.	-456.82	956	1	0	556	7930	6737	2550	8486		8.88	Si
SLV 10	fin.	829.69	3874	1	0	977	7930	6737	2550	8907		2.3	Si
SLV 5	ini.	-619.17	1483	1	0	475	7930	6737	2550	8405		5.67	Si
SLV 5	fin.	1081.89	5212	1	0	1054	7930	6737	2550	8983		1.72	Si
SLV 8	ini.	383.76	-4080	1	0	935	7930	6737	2550	8864		2.17	Si
SLV 8	fin.	-573.41	-1571	1	0	462	7930	6737	2550	8391		5.34	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.387	SLV 5	Si
V_SLV	1.723	SLV 5	Si
PF_SLU	12.154	SLU 73	Si
V_SLU	2.654	SLU 81	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
0.215	7.065	3.41	4.56	1.15	0.215	8.065	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-443.02	-872	-0.0001399	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.88	Si
SLU 76	fin.	271.51	103	-0.0000838	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.72	Si
SLU 82	ini.	-452.47	-924	-0.0001431	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.65	Si
SLU 82	fin.	283.12	87	-0.0000876	0.0001872	0.0035	1.15		4811.48	4811.48	No	16.99	Si
SLU 73	ini.	-443.02	-872	-0.0001399	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.88	Si
SLU 73	fin.	271.51	103	-0.0000838	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.72	Si
SLU 79	ini.	-429.06	-862	-0.0001352	0.0001872	0.0035	1.15		4818.72	4818.72	No	11.23	Si
SLU 79	fin.	263.06	101	-0.0000811	0.0001872	0.0035	1.15		4811.48	4811.48	No	18.29	Si
SLU 78	ini.	-437.43	-868	-0.000138	0.0001872	0.0035	1.15		4818.72	4818.72	No	11.02	Si
SLU 78	fin.	268.13	102	-0.0000828	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.94	Si
SLU 84	ini.	-452.47	-924	-0.0001431	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.65	Si
SLU 84	fin.	283.12	87	-0.0000876	0.0001872	0.0035	1.15		4811.48	4811.48	No	16.99	Si
SLU 80	ini.	-437.43	-868	-0.000138	0.0001872	0.0035	1.15		4818.72	4818.72	No	11.02	Si
SLU 80	fin.	268.13	102	-0.0000828	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.94	Si
SLU 83	ini.	-444.09	-918	-0.0001402	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.85	Si
SLU 83	fin.	278.05	86	-0.0000859	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.3	Si
SLU 75	ini.	-437.43	-868	-0.000138	0.0001872	0.0035	1.15		4818.72	4818.72	No	11.02	Si
SLU 75	fin.	268.13	102	-0.0000828	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.94	Si
SLU 81	ini.	-444.09	-918	-0.0001402	0.0001872	0.0035	1.15		4818.72	4818.72	No	10.85	Si
SLU 81	fin.	278.05	86	-0.0000859	0.0001872	0.0035	1.15		4811.48	4811.48	No	17.3	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 83	ini.	-444.09	3197	1.15	0	647	7930	5165	2933	8098	No	2.53	Si
SLU 83	fin.	278.05	-792	1.15	0	484	7930	5165	2933	8098	No	10.23	Si
SLU 73	ini.	-443.02	2955	1.15	0	640	7930	5165	2933	8098	No	2.74	Si
SLU 73	fin.	271.51	-555	1.15	0	481	7930	5165	2933	8098	No	14.59	Si
SLU 80	ini.	-437.43	2943	1.15	0	639	7930	5165	2933	8098	No	2.75	Si
SLU 80	fin.	268.13	-567	1.15	0	481	7930	5165	2933	8098	No	14.29	Si
SLU 76	ini.	-443.02	2955	1.15	0	640	7930	5165	2933	8098	No	2.74	Si
SLU 76	fin.	271.51	-555	1.15	0	481	7930	5165	2933	8098	No	14.59	Si
SLU 82	ini.	-452.47	3214	1.15	0	647	7930	5165	2933	8098	No	2.52	Si
SLU 82	fin.	283.12	-774	1.15	0	484	7930	5165	2933	8098	No	10.46	Si
SLU 84	ini.	-452.47	3214	1.15	0	647	7930	5165	2933	8098	No	2.52	Si
SLU 84	fin.	283.12	-774	1.15	0	484	7930	5165	2933	8098	No	10.46	Si
SLU 81	ini.	-444.09	3197	1.15	0	647	7930	5165	2933	8098	No	2.53	Si
SLU 81	fin.	278.05	-792	1.15	0	484	7930	5165	2933	8098	No	10.23	Si
SLU 79	ini.	-429.06	2926	1.15	0	639	7930	5165	2933	8098	No	2.77	Si
SLU 79	fin.	263.06	-585	1.15	0	481	7930	5165	2933	8098	No	13.85	Si
SLU 75	ini.	-437.43	2943	1.15	0	639	7930	5165	2933	8098	No	2.75	Si
SLU 75	fin.	268.13	-567	1.15	0	481	7930	5165	2933	8098	No	14.29	Si
SLU 78	ini.	-437.43	2943	1.15	0	639	7930	5165	2933	8098	No	2.75	Si
SLU 78	fin.	268.13	-567	1.15	0	481	7930	5165	2933	8098	No	14.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 10	ini.	-592.47	318	-0.0001869	0.0002807	0.0035	1.15		4857.47	4857.47		8.2	Si
SLV 10	fin.	946.77	1938	-0.0003119	0.0002807	0.0035	1.15		4849.69	4849.69		5.12	Si
SLV 12	ini.	242.44	-1617	-0.000074	0.0002807	0.0035	1.15		4849.69	4849.69		20	Si
SLV 12	fin.	-1006.56	-2679	-0.0003337	0.0002807	0.0035	1.15		4857.47	4857.47		4.83	Si
SLV 11	ini.	137.38	-1423	-0.0000415	0.0002807	0.0035	1.15		4849.69	4849.69		35.3	Si
SLV 11	fin.	-783.98	-2154	-0.0002527	0.0002807	0.0035	1.15		4857.47	4857.47		6.2	Si
SLV 6	ini.	-749.24	257	-0.0002406	0.0002807	0.0035	1.15		4857.47	4857.47		6.48	Si
SLV 6	fin.	1141.4	2342	-0.0003861	0.0002807	0.0035	1.15		4849.69	4849.69		4.25	Si
SLV 5	ini.	-854.3	451	-0.0002778	0.0002807	0.0035	1.15		4857.47	4857.47		5.69	Si
SLV 5	fin.	1363.97	2866	-0.000476	0.0002807	0.0035	1.15		4849.69	4849.69		3.56	Si
SLV 1	ini.	-744.76	-298	-0.000239	0.0002807	0.0035	1.15		4857.47	4857.47		6.52	Si
SLV 1	fin.	906.88	1720	-0.0002973	0.0002807	0.0035	1.15		4849.69	4849.69		5.35	Si
SLV 8	ini.	85.67	-1678	-0.0000258	0.0002807	0.0035	1.15		4849.69	4849.69		56.61	Si
SLV 8	fin.	-811.94	-2275	-0.0002626	0.0002807	0.0035	1.15		4857.47	4857.47		5.98	Si
SLV 2	ini.	-640.15	-491	-0.000203	0.0002807	0.0035	1.15		4857.47	4857.47		7.59	Si
SLV 2	fin.	685.26	1198	-0.0002188	0.0002807	0.0035	1.15		4849.69	4849.69		7.08	Si
SLV 9	ini.	-697.53	512	-0.0002226	0.0002807	0.0035	1.15		4857.47	4857.47		6.96	Si
SLV 9	fin.	1169.35	2463	-0.0003971	0.0002807	0.0035	1.15		4849.69	4849.69		4.15	Si
SLV 7	ini.	-19.39	-1484	-0.0000058	0.0002807	0.0035	1.15		4857.47	4857.47		250.46	Si
SLV 7	fin.	-589.36	-1751	-0.0001859	0.0002807	0.0035	1.15		4857.47	4857.47		8.24	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 3	ini.	-494.29	2522	1.15	0	897	7930	7748	2933	8826		3.5	Si
SLV 3	fin.	320.88	483	1.15	0	686	7930	7748	2933	8616		17.85	Si
SLV 10	ini.	-592.47	3360	1.15	0	689	7930	7748	2933	8619		2.56	Si
SLV 10	fin.	946.77	1323	1.15	0	174	7930	7748	2933	8104		6.12	Si
SLV 2	ini.	-640.15	3243	1.15	0	835	7930	7748	2933	8765		2.7	Si
SLV 2	fin.	685.26	1204	1.15	0	483	7930	7748	2933	8413		6.99	Si
SLV 5	ini.	-854.3	4489	1.15	0	662	7930	7748	2933	8592		1.91	Si
SLV 5	fin.	1363.97	2452	1.15	0	0	7930	7748	2933	7930		3.23	Si
SLV 1	ini.	-744.76	3759	1.15	0	803	7930	7748	2933	8732		2.32	Si
SLV 1	fin.	906.88	1720	1.15	0	300	7930	7748	2933	8230		4.79	Si
SLV 9	ini.	-697.53	3878	1.15	0	650	7930	7748	2933	8579		2.21	Si
SLV 9	fin.	1169.35	1841	1.15	0	0	7930	7748	2933	7930		4.31	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	137.38	-243	1.15	0	976	7930	7748	2933	8906		36.6	Si
SLV 11	fin.	-783.98	-2282	1.15	0	1074	7930	7748	2933	9004		3.95	Si
SLV 12	ini.	242.44	-761	1.15	0	1003	7930	7748	2933	8933		11.74	Si
SLV 12	fin.	-1006.56	-2799	1.15	0	1139	7930	7748	2933	9069		3.24	Si
SLV 6	ini.	-749.24	3971	1.15	0	701	7930	7748	2933	8631		2.17	Si
SLV 6	fin.	1141.4	1934	1.15	0	0	7930	7748	2933	7930		4.1	Si
SLV 8	ini.	85.67	-150	1.15	0	1012	7930	7748	2933	8941		59.61	Si
SLV 8	fin.	-811.94	-2189	1.15	0	1090	7930	7748	2933	9019		4.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.556	SLV 5	Si
V_SLV	1.914	SLV 5	Si
PF_SLU	10.65	SLU 82	Si
V_SLU	2.519	SLU 82	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
3.01	9.805	0.51	1.51	1	2.01	9.805	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-80.58	-589	-0.0000322	0.0001872	0.0035	1		3649.64	3649.64	No	45.29	Si
SLU 81	fin.	293.99	-1093	-0.000122	0.0001872	0.0035	1		3643.26	3643.26	No	12.39	Si
SLU 79	ini.	-82.19	-537	-0.0000328	0.0001872	0.0035	1		3649.64	3649.64	No	44.4	Si
SLU 79	fin.	274.65	-1017	-0.0001136	0.0001872	0.0035	1		3643.26	3643.26	No	13.27	Si
SLU 74	ini.	-82.19	-537	-0.0000328	0.0001872	0.0035	1		3649.64	3649.64	No	44.4	Si
SLU 74	fin.	274.65	-1017	-0.0001136	0.0001872	0.0035	1		3643.26	3643.26	No	13.27	Si
SLU 82	ini.	-74.63	-601	-0.0000298	0.0001872	0.0035	1		3649.64	3649.64	No	48.91	Si
SLU 82	fin.	290.78	-1094	-0.0001206	0.0001872	0.0035	1		3643.26	3643.26	No	12.53	Si
SLU 78	ini.	-76.24	-550	-0.0000304	0.0001872	0.0035	1		3649.64	3649.64	No	47.87	Si
SLU 78	fin.	271.43	-1018	-0.0001122	0.0001872	0.0035	1		3643.26	3643.26	No	13.42	Si
SLU 80	ini.	-76.24	-550	-0.0000304	0.0001872	0.0035	1		3649.64	3649.64	No	47.87	Si
SLU 80	fin.	271.43	-1018	-0.0001122	0.0001872	0.0035	1		3643.26	3643.26	No	13.42	Si
SLU 77	ini.	-82.19	-537	-0.0000328	0.0001872	0.0035	1		3649.64	3649.64	No	44.4	Si
SLU 77	fin.	274.65	-1017	-0.0001136	0.0001872	0.0035	1		3643.26	3643.26	No	13.27	Si
SLU 83	ini.	-80.58	-589	-0.0000322	0.0001872	0.0035	1		3649.64	3649.64	No	45.29	Si
SLU 83	fin.	293.99	-1093	-0.000122	0.0001872	0.0035	1		3643.26	3643.26	No	12.39	Si
SLU 75	ini.	-76.24	-550	-0.0000304	0.0001872	0.0035	1		3649.64	3649.64	No	47.87	Si
SLU 75	fin.	271.43	-1018	-0.0001122	0.0001872	0.0035	1		3643.26	3643.26	No	13.42	Si
SLU 84	ini.	-74.63	-601	-0.0000298	0.0001872	0.0035	1		3649.64	3649.64	No	48.91	Si
SLU 84	fin.	290.78	-1094	-0.0001206	0.0001872	0.0035	1		3643.26	3643.26	No	12.53	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 81	ini.	-80.58	1028	1	0	532	7930	4492	2550	7042	No	6.85	Si
SLU 81	fin.	293.99	328	1	0	603	7930	4492	2550	7042	No	21.49	Si
SLU 84	ini.	-74.63	1017	1	0	534	7930	4492	2550	7042	No	6.92	Si
SLU 84	fin.	290.78	309	1	0	603	7930	4492	2550	7042	No	22.78	Si
SLU 74	ini.	-82.19	997	1	0	524	7930	4492	2550	7042	No	7.06	Si
SLU 74	fin.	274.65	299	1	0	592	7930	4492	2550	7042	No	23.52	Si
SLU 77	ini.	-82.19	997	1	0	524	7930	4492	2550	7042	No	7.06	Si
SLU 77	fin.	274.65	299	1	0	592	7930	4492	2550	7042	No	23.52	Si
SLU 75	ini.	-76.24	985	1	0	526	7930	4492	2550	7042	No	7.15	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	271.43	281	1	0	593	7930	4492	2550	7042	No	25.08	Si
SLU 79	ini.	-82.19	997	1	0	524	7930	4492	2550	7042	No	7.06	Si
SLU 79	fin.	274.65	299	1	0	592	7930	4492	2550	7042	No	23.52	Si
SLU 78	ini.	-76.24	985	1	0	526	7930	4492	2550	7042	No	7.15	Si
SLU 78	fin.	271.43	281	1	0	593	7930	4492	2550	7042	No	25.08	Si
SLU 80	ini.	-76.24	985	1	0	526	7930	4492	2550	7042	No	7.15	Si
SLU 80	fin.	271.43	281	1	0	593	7930	4492	2550	7042	No	25.08	Si
SLU 83	ini.	-80.58	1028	1	0	532	7930	4492	2550	7042	No	6.85	Si
SLU 83	fin.	293.99	328	1	0	603	7930	4492	2550	7042	No	21.49	Si
SLU 82	ini.	-74.63	1017	1	0	534	7930	4492	2550	7042	No	6.92	Si
SLU 82	fin.	290.78	309	1	0	603	7930	4492	2550	7042	No	22.78	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	-903.89	680	-0.0004067	0.0002807	0.0035	1		3671.29	3671.29		4.06	Si
SLV 15	fin.	1150.96	-1846	-0.0005432	0.0002807	0.0035	1		3664.83	3664.83		3.18	Si
SLV 12	ini.	-674.11	353	-0.0002912	0.0002807	0.0035	1		3671.29	3671.29		5.45	Si
SLV 12	fin.	903.48	-1655	-0.0004073	0.0002807	0.0035	1		3664.83	3664.83		4.06	Si
SLV 1	ini.	920.96	-1532	-0.0004165	0.0002807	0.0035	1		3664.83	3664.83		3.98	Si
SLV 1	fin.	-956.14	723	-0.0004344	0.0002807	0.0035	1		3671.29	3671.29		3.84	Si
SLV 11	ini.	-526.31	177	-0.0002221	0.0002807	0.0035	1		3671.29	3671.29		6.98	Si
SLV 11	fin.	730.13	-1431	-0.000319	0.0002807	0.0035	1		3664.83	3664.83		5.02	Si
SLV 16	ini.	-1051.05	855	-0.000486	0.0002807	0.0035	1		3671.29	3671.29		3.49	Si
SLV 16	fin.	1323.56	-2070	-0.0006447	0.0002807	0.0035	1		3664.83	3664.83		2.77	Si
SLV 4	ini.	601.42	-1177	-0.0002572	0.0002807	0.0035	1		3664.83	3664.83		6.09	Si
SLV 4	fin.	-574.5	180	-0.0002443	0.0002807	0.0035	1		3671.29	3671.29		6.39	Si
SLV 3	ini.	748.59	-1353	-0.0003281	0.0002807	0.0035	1		3664.83	3664.83		4.9	Si
SLV 3	fin.	-747.11	404	-0.0003268	0.0002807	0.0035	1		3671.29	3671.29		4.91	Si
SLV 13	ini.	-731.51	500	-0.0003191	0.0002807	0.0035	1		3671.29	3671.29		5.02	Si
SLV 13	fin.	941.93	-1527	-0.0004277	0.0002807	0.0035	1		3664.83	3664.83		3.89	Si
SLV 14	ini.	-878.67	676	-0.0003936	0.0002807	0.0035	1		3671.29	3671.29		4.18	Si
SLV 14	fin.	1114.53	-1751	-0.0005225	0.0002807	0.0035	1		3664.83	3664.83		3.29	Si
SLV 2	ini.	773.8	-1357	-0.0003407	0.0002807	0.0035	1		3664.83	3664.83		4.74	Si
SLV 2	fin.	-783.54	499	-0.0003449	0.0002807	0.0035	1		3671.29	3671.29		4.69	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.	920.96	-2669	1	0	889	7930	6738	2550	8819		3.3	Si
SLV 1	fin.	-956.14	-3281	1	0	503	7930	6738	2550	8432		2.57	Si
SLV 5	ini.	544.02	-1249	1	0	819	7930	6738	2550	8749		7	Si
SLV 5	fin.	-536.06	-2185	1	0	593	7930	6738	2550	8523		3.9	Si
SLV 2	ini.	773.8	-2174	1	0	866	7930	6738	2550	8795		4.05	Si
SLV 2	fin.	-783.54	-2748	1	0	553	7930	6738	2550	8483		3.09	Si
SLV 12	ini.	-674.11	2678	1	0	584	7930	6738	2550	8514		3.18	Si
SLV 12	fin.	903.48	2578	1	0	906	7930	6738	2550	8835		3.43	Si
SLV 16	ini.	-1051.05	4098	1	0	470	7930	6738	2550	8400		2.05	Si
SLV 16	fin.	1323.56	3674	1	0	959	7930	6738	2550	8889		2.42	Si
SLV 11	ini.	-526.31	2180	1	0	619	7930	6738	2550	8549		3.92	Si
SLV 11	fin.	730.13	2042	1	0	876	7930	6738	2550	8805		4.31	Si
SLV 13	ini.	-731.51	3092	1	0	553	7930	6738	2550	8483		2.74	Si
SLV 13	fin.	941.93	2383	1	0	889	7930	6738	2550	8818		3.7	Si
SLV 15	ini.	-903.89	3602	1	0	513	7930	6738	2550	8442		2.34	Si
SLV 15	fin.	1150.96	3141	1	0	931	7930	6738	2550	8860		2.82	Si
SLV 3	ini.	748.59	-2159	1	0	865	7930	6738	2550	8795		4.07	Si
SLV 3	fin.	-747.11	-2523	1	0	573	7930	6738	2550	8503		3.37	Si
SLV 14	ini.	-878.67	3587	1	0	514	7930	6738	2550	8443		2.35	Si
SLV 14	fin.	1114.53	2916	1	0	918	7930	6738	2550	8848		3.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.769	SLV 16	Si
V_SLV	2.05	SLV 16	Si
PF_SLU	12.393	SLU 81	Si
V_SLU	6.847	SLU 81	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
3.01	9.805	3.41	4.56	1.15	2.01	9.805	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	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 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

									εlim,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	εlim,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

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.	-318.3	-1353	-0.0000988	0.0001872	0.0035	1.15		4818.72	4818.72	No	15.14	Si
SLU 83	fin.	161.32	26	-0.0000491	0.0001872	0.0035	1.15		4811.48	4811.48	No	29.83	Si
SLU 74	ini.	-294.84	-1267	-0.0000912	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.34	Si
SLU 74	fin.	162.32	58	-0.0000494	0.0001872	0.0035	1.15		4811.48	4811.48	No	29.64	Si
SLU 82	ini.	-316.88	-1346	-0.0000983	0.0001872	0.0035	1.15		4818.72	4818.72	No	15.21	Si
SLU 82	fin.	151.67	0	-0.0000461	0.0001872	0.0035	1.15		4811.48	4811.48	No	31.72	Si
SLU 79	ini.	-294.84	-1267	-0.0000912	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.34	Si
SLU 79	fin.	162.32	58	-0.0000494	0.0001872	0.0035	1.15		4811.48	4811.48	No	29.64	Si
SLU 77	ini.	-294.84	-1267	-0.0000912	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.34	Si
SLU 77	fin.	162.32	58	-0.0000494	0.0001872	0.0035	1.15		4811.48	4811.48	No	29.64	Si
SLU 84	ini.	-316.88	-1346	-0.0000983	0.0001872	0.0035	1.15		4818.72	4818.72	No	15.21	Si
SLU 84	fin.	151.67	0	-0.0000461	0.0001872	0.0035	1.15		4811.48	4811.48	No	31.72	Si
SLU 81	ini.	-318.3	-1353	-0.0000988	0.0001872	0.0035	1.15		4818.72	4818.72	No	15.14	Si
SLU 81	fin.	161.32	26	-0.0000491	0.0001872	0.0035	1.15		4811.48	4811.48	No	29.83	Si
SLU 78	ini.	-293.42	-1261	-0.0000907	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.42	Si
SLU 78	fin.	152.67	32	-0.0000464	0.0001872	0.0035	1.15		4811.48	4811.48	No	31.52	Si
SLU 75	ini.	-293.42	-1261	-0.0000907	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.42	Si
SLU 75	fin.	152.67	32	-0.0000464	0.0001872	0.0035	1.15		4811.48	4811.48	No	31.52	Si
SLU 80	ini.	-293.42	-1261	-0.0000907	0.0001872	0.0035	1.15		4818.72	4818.72	No	16.42	Si
SLU 80	fin.	152.67	32	-0.0000464	0.0001872	0.0035	1.15		4811.48	4811.48	No	31.52	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 80	ini.	-293.42	1700	1.15	0	693	7930	5165	2933	8098	No	4.76	Si
SLU 80	fin.	152.67	692	1.15	0	494	7930	5165	2933	8098	No	11.71	Si
SLU 81	ini.	-318.3	1784	1.15	0	705	7930	5165	2933	8098	No	4.54	Si
SLU 81	fin.	161.32	775	1.15	0	495	7930	5165	2933	8098	No	10.45	Si
SLU 74	ini.	-294.84	1730	1.15	0	694	7930	5165	2933	8098	No	4.68	Si
SLU 74	fin.	162.32	722	1.15	0	489	7930	5165	2933	8098	No	11.22	Si
SLU 77	ini.	-294.84	1730	1.15	0	694	7930	5165	2933	8098	No	4.68	Si
SLU 77	fin.	162.32	722	1.15	0	489	7930	5165	2933	8098	No	11.22	Si
SLU 79	ini.	-294.84	1730	1.15	0	694	7930	5165	2933	8098	No	4.68	Si
SLU 79	fin.	162.32	722	1.15	0	489	7930	5165	2933	8098	No	11.22	Si
SLU 83	ini.	-318.3	1784	1.15	0	705	7930	5165	2933	8098	No	4.54	Si
SLU 83	fin.	161.32	775	1.15	0	495	7930	5165	2933	8098	No	10.45	Si
SLU 84	ini.	-316.88	1754	1.15	0	705	7930	5165	2933	8098	No	4.62	Si
SLU 84	fin.	151.67	745	1.15	0	500	7930	5165	2933	8098	No	10.87	Si
SLU 82	ini.	-316.88	1754	1.15	0	705	7930	5165	2933	8098	No	4.62	Si
SLU 82	fin.	151.67	745	1.15	0	500	7930	5165	2933	8098	No	10.87	Si
SLU 60	ini.	-285.74	1703	1.15	0	689	7930	5165	2933	8098	No	4.76	Si
SLU 60	fin.	163.5	707	1.15	0	487	7930	5165	2933	8098	No	11.46	Si
SLU 62	ini.	-285.74	1703	1.15	0	689	7930	5165	2933	8098	No	4.76	Si
SLU 62	fin.	163.5	707	1.15	0	487	7930	5165	2933	8098	No	11.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	-512.79	-2020	-0.0001604	0.0002807	0.0035	1.15		4857.47	4857.47		9.47	Si
SLV 11	fin.	624.95	1110	-0.0001982	0.0002807	0.0035	1.15		4849.69	4849.69		7.76	Si
SLV 1	ini.	462.53	1403	-0.0001442	0.0002807	0.0035	1.15		4849.69	4849.69		10.49	Si
SLV 1	fin.	-752.15	-1531	-0.0002416	0.0002807	0.0035	1.15		4857.47	4857.47		6.46	Si
SLV 2	ini.	359.18	1027	-0.0001108	0.0002807	0.0035	1.15		4849.69	4849.69		13.5	Si
SLV 2	fin.	-598.61	-1226	-0.000189	0.0002807	0.0035	1.15		4857.47	4857.47		8.11	Si
SLV 3	ini.	337.04	917	-0.0001038	0.0002807	0.0035	1.15		4849.69	4849.69		14.39	Si
SLV 3	fin.	-531.26	-1048	-0.0001665	0.0002807	0.0035	1.15		4857.47	4857.47		9.14	Si
SLV 13	ini.	-620.02	-2244	-0.0001962	0.0002807	0.0035	1.15		4857.47	4857.47		7.83	Si
SLV 13	fin.	630.66	924	-0.0002001	0.0002807	0.0035	1.15		4849.69	4849.69		7.69	Si
SLV 16	ini.	-848.86	-3106	-0.0002758	0.0002807	0.0035	1.15		4857.47	4857.47		5.72	Si
SLV 16	fin.	1005.1	1712	-0.0003337	0.0002807	0.0035	1.15		4849.69	4849.69		4.83	Si
SLV 15	ini.	-745.51	-2730	-0.0002393	0.0002807	0.0035	1.15		4857.47	4857.47		6.52	Si
SLV 15	fin.	851.56	1407	-0.0002772	0.0002807	0.0035	1.15		4849.69	4849.69		5.7	Si
SLV 12	ini.	-616.59	-2398	-0.000195	0.0002807	0.0035	1.15		4857.47	4857.47		7.88	Si
SLV 12	fin.	779.15	1416	-0.0002514	0.0002807	0.0035	1.15		4849.69	4849.69		6.22	Si
SLV 14	ini.	-723.37	-2620	-0.0002316	0.0002807	0.0035	1.15		4857.47	4857.47		6.72	Si
SLV 14	fin.	784.2	1229	-0.0002532	0.0002807	0.0035	1.15		4849.69	4849.69		6.18	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	230.26	695	-0.0000702	0.0002807	0.0035	1.15		4849.69	4849.69		21.06	Si
SLV 5	fin.	-526.21	-1235	-0.0001649	0.0002807	0.0035	1.15		4857.47	4857.47		9.23	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 3	ini.	337.04	-1512	1.15	0	557	7930	7748	2933	8487		5.61	Si
SLV 3	fin.	-531.26	-2282	1.15	0	922	7930	7748	2933	8852		3.88	Si
SLV 5	ini.	230.26	-1462	1.15	0	610	7930	7748	2933	8539		5.84	Si
SLV 5	fin.	-526.21	-2238	1.15	0	950	7930	7748	2933	8879		3.97	Si
SLV 13	ini.	-620.02	3369	1.15	0	1086	7930	7748	2933	9015		2.68	Si
SLV 13	fin.	630.66	2593	1.15	0	556	7930	7748	2933	8485		3.27	Si
SLV 15	ini.	-745.51	4281	1.15	0	1145	7930	7748	2933	9075		2.12	Si
SLV 15	fin.	851.56	3508	1.15	0	420	7930	7748	2933	8349		2.38	Si
SLV 1	ini.	462.53	-2424	1.15	0	421	7930	7748	2933	8351		3.44	Si
SLV 1	fin.	-752.15	-3196	1.15	0	991	7930	7748	2933	8921		2.79	Si
SLV 2	ini.	359.18	-1775	1.15	0	530	7930	7748	2933	8459		4.76	Si
SLV 2	fin.	-598.61	-2548	1.15	0	948	7930	7748	2933	8878		3.48	Si
SLV 11	ini.	-512.79	3317	1.15	0	1057	7930	7748	2933	8987		2.71	Si
SLV 11	fin.	624.95	2546	1.15	0	508	7930	7748	2933	8437		3.31	Si
SLV 14	ini.	-723.37	4017	1.15	0	1132	7930	7748	2933	9062		2.26	Si
SLV 14	fin.	784.2	3242	1.15	0	474	7930	7748	2933	8404		2.59	Si
SLV 16	ini.	-848.86	4930	1.15	0	1190	7930	7748	2933	9119		1.85	Si
SLV 16	fin.	1005.1	4156	1.15	0	304	7930	7748	2933	8234		1.98	Si
SLV 12	ini.	-616.59	3968	1.15	0	1105	7930	7748	2933	9035		2.28	Si
SLV 12	fin.	779.15	3198	1.15	0	417	7930	7748	2933	8346		2.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.825	SLV 16	Si
V_SLV	1.85	SLV 16	Si
PF_SLU	15.139	SLU 81	Si
V_SLU	4.54	SLU 81	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
5.505	9.805	0.51	2.51	2	5.005	9.805	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	58.48	184	-0.0000058	0.0001872	0.0035	2		14206.68	14206.68	No	242.94	Si
SLU 76	fin.	354.12	-1397	-0.0000355	0.0001872	0.0035	2		14206.68	14206.68	No	40.12	Si
SLU 72	ini.	54.05	458	-0.0000054	0.0001872	0.0035	2		14206.68	14206.68	No	262.85	Si
SLU 72	fin.	353.6	-1215	-0.0000355	0.0001872	0.0035	2		14206.68	14206.68	No	40.18	Si
SLU 67	ini.	54.05	458	-0.0000054	0.0001872	0.0035	2		14206.68	14206.68	No	262.85	Si
SLU 67	fin.	353.6	-1215	-0.0000355	0.0001872	0.0035	2		14206.68	14206.68	No	40.18	Si
SLU 65	ini.	55.82	457	-0.0000055	0.0001872	0.0035	2		14206.68	14206.68	No	254.51	Si
SLU 65	fin.	354.82	-1214	-0.0000356	0.0001872	0.0035	2		14206.68	14206.68	No	40.04	Si
SLU 70	ini.	54.05	458	-0.0000054	0.0001872	0.0035	2		14206.68	14206.68	No	262.85	Si
SLU 70	fin.	353.6	-1215	-0.0000355	0.0001872	0.0035	2		14206.68	14206.68	No	40.18	Si
SLU 78	ini.	56.71	184	-0.0000056	0.0001872	0.0035	2		14206.68	14206.68	No	250.52	Si
SLU 78	fin.	352.89	-1398	-0.0000354	0.0001872	0.0035	2		14206.68	14206.68	No	40.26	Si
SLU 73	ini.	58.48	184	-0.0000058	0.0001872	0.0035	2		14206.68	14206.68	No	242.94	Si
SLU 73	fin.	354.12	-1397	-0.0000355	0.0001872	0.0035	2		14206.68	14206.68	No	40.12	Si
SLU 75	ini.	56.71	184	-0.0000056	0.0001872	0.0035	2		14206.68	14206.68	No	250.52	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	352.89	-1398	-0.0000354	0.0001872	0.0035	2		14206.68	14206.68	No	40.26	Si
SLU 80	ini.	56.71	184	-0.0000056	0.0001872	0.0035	2		14206.68	14206.68	No	250.52	Si
SLU 80	fin.	352.89	-1398	-0.0000354	0.0001872	0.0035	2		14206.68	14206.68	No	40.26	Si
SLU 68	ini.	55.82	457	-0.0000055	0.0001872	0.0035	2		14206.68	14206.68	No	254.51	Si
SLU 68	fin.	354.82	-1214	-0.0000356	0.0001872	0.0035	2		14206.68	14206.68	No	40.04	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 66	ini.	51.39	3594	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 66	fin.	351.76	4296	2	0	1069	3965	8983	5100	5034	No	1.17	Si
SLU 69	ini.	51.39	3594	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 69	fin.	351.76	4296	2	0	1069	3965	8983	5100	5034	No	1.17	Si
SLU 68	ini.	55.82	3597	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 68	fin.	354.82	4272	2	0	1069	3965	8983	5100	5034	No	1.18	Si
SLU 71	ini.	51.39	3594	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 71	fin.	351.76	4296	2	0	1069	3965	8983	5100	5034	No	1.17	Si
SLU 77	ini.	54.05	3267	2	0	835	3965	8983	5100	4800	No	1.47	Si
SLU 77	fin.	351.05	4287	2	0	1096	3965	8983	5100	5061	No	1.18	Si
SLU 70	ini.	54.05	3596	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 70	fin.	353.6	4281	2	0	1069	3965	8983	5100	5034	No	1.18	Si
SLU 67	ini.	54.05	3596	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 67	fin.	353.6	4281	2	0	1069	3965	8983	5100	5034	No	1.18	Si
SLU 65	ini.	55.82	3597	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 65	fin.	354.82	4272	2	0	1069	3965	8983	5100	5034	No	1.18	Si
SLU 72	ini.	54.05	3596	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 72	fin.	353.6	4281	2	0	1069	3965	8983	5100	5034	No	1.18	Si
SLU 64	ini.	51.39	3594	2	0	781	3965	8983	5100	4746	No	1.32	Si
SLU 64	fin.	351.76	4296	2	0	1069	3965	8983	5100	5034	No	1.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	-634.39	388	-0.0000639	0.0002807	0.0035	2		13933.43	13933.43		21.96	Si
SLV 15	fin.	733.82	-1881	-0.0000742	0.0002807	0.0035	2		13920.08	13920.08		18.97	Si
SLV 12	ini.	-312.21	94	-0.0000311	0.0002807	0.0035	2		13933.43	13933.43		44.63	Si
SLV 12	fin.	482.08	-1541	-0.0000484	0.0002807	0.0035	2		13920.08	13920.08		28.87	Si
SLV 2	ini.	716.16	210	-0.0000723	0.0002807	0.0035	2		13920.08	13920.08		19.44	Si
SLV 2	fin.	-199.31	-45	-0.0000198	0.0002807	0.0035	2		13933.43	13933.43		69.91	Si
SLV 1	ini.	851.57	224	-0.0000864	0.0002807	0.0035	2		13920.08	13920.08		16.35	Si
SLV 1	fin.	-298.35	150	-0.0000297	0.0002807	0.0035	2		13933.43	13933.43		46.7	Si
SLV 10	ini.	-175.5	583	-0.0000174	0.0002807	0.0035	2		13933.43	13933.43		79.39	Si
SLV 10	fin.	459.52	-1156	-0.0000461	0.0002807	0.0035	2		13920.08	13920.08		30.29	Si
SLV 3	ini.	810.56	77	-0.0000821	0.0002807	0.0035	2		13920.08	13920.08		17.17	Si
SLV 3	fin.	-291.58	35	-0.0000291	0.0002807	0.0035	2		13933.43	13933.43		47.79	Si
SLV 13	ini.	-593.38	535	-0.0000597	0.0002807	0.0035	2		13933.43	13933.43		23.48	Si
SLV 13	fin.	727.06	-1766	-0.0000735	0.0002807	0.0035	2		13920.08	13920.08		19.15	Si
SLV 14	ini.	-728.79	520	-0.0000736	0.0002807	0.0035	2		13933.43	13933.43		19.12	Si
SLV 14	fin.	826.1	-1961	-0.0000837	0.0002807	0.0035	2		13920.08	13920.08		16.85	Si
SLV 16	ini.	-769.8	374	-0.0000778	0.0002807	0.0035	2		13933.43	13933.43		18.1	Si
SLV 16	fin.	832.87	-2076	-0.0000844	0.0002807	0.0035	2		13920.08	13920.08		16.71	Si
SLV 4	ini.	675.15	63	-0.0000681	0.0002807	0.0035	2		13920.08	13920.08		20.62	Si
SLV 4	fin.	-192.54	-160	-0.0000191	0.0002807	0.0035	2		13933.43	13933.43		72.37	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.	-593.38	7295	2	0	1202	3965	13475	5100	5167		0.71	No
SLV 13	fin.	727.06	7733	2	0	1595	3965	13475	5100	5560		0.72	No
SLV 14	ini.	-728.79	8096	2	0	1205	3965	13475	5100	5170		0.64	No
SLV 14	fin.	826.1	8587	2	0	1624	3965	13475	5100	5589		0.65	No
SLV 11	ini.	-176.22	3542	2	0	1284	3965	13475	5100	5249		1.48	Si
SLV 11	fin.	382.62	5033	2	0	1531	3965	13475	5100	5496		1.09	Si
SLV 3	ini.	810.56	-2741	2	0	1290	3965	13475	5100	5255		1.92	Si
SLV 3	fin.	-291.58	-2033	2	0	1298	3965	13475	5100	5263		2.59	Si
SLV 16	ini.	-769.8	7965	2	0	1234	3965	13475	5100	5199		0.65	No
SLV 16	fin.	832.87	8984	2	0	1641	3965	13475	5100	5606		0.62	No
SLV 8	ini.	121.28	1375	2	0	1304	3965	13475	5100	5269		3.83	Si
SLV 8	fin.	174.46	2843	2	0	1471	3965	13475	5100	5435		1.91	Si
SLV 15	ini.	-634.39	7164	2	0	1231	3965	13475	5100	5196		0.73	No
SLV 15	fin.	733.82	8129	2	0	1612	3965	13475	5100	5577		0.69	No
SLV 12	ini.	-312.21	4347	2	0	1287	3965	13475	5100	5252		1.21	Si
SLV 12	fin.	482.08	5891	2	0	1561	3965	13475	5100	5526		0.94	No
SLV 9	ini.	-39.51	3980	2	0	1190	3965	13475	5100	5155		1.3	Si
SLV 9	fin.	360.05	3712	2	0	1470	3965	13475	5100	5434		1.46	Si
SLV 10	ini.	-175.5	4784	2	0	1193	3965	13475	5100	5158		1.08	Si
SLV 10	fin.	459.52	4570	2	0	1501	3965	13475	5100	5466		1.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	16.346	SLV 1	Si
V_SLV	0.624	SLV 16	No
PF_SLU	40.039	SLU 65	Si
V_SLU	1.172	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
5.505	9.805	3.31	4.56	1.25	5.005	9.805	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_	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-498.43	-1794	-0.0001329	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.35	Si
SLU 65	fin.	314.89	-956	-0.0000823	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.95	Si
SLU 72	ini.	-498.71	-1795	-0.000133	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.35	Si
SLU 72	fin.	314.79	-957	-0.0000823	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.95	Si
SLU 71	ini.	-499.12	-1798	-0.0001331	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.34	Si
SLU 71	fin.	314.64	-959	-0.0000822	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.96	Si
SLU 70	ini.	-498.71	-1795	-0.000133	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.35	Si
SLU 70	fin.	314.79	-957	-0.0000823	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.95	Si
SLU 67	ini.	-498.71	-1795	-0.000133	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.35	Si
SLU 67	fin.	314.79	-957	-0.0000823	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.95	Si
SLU 68	ini.	-498.43	-1794	-0.0001329	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.35	Si
SLU 68	fin.	314.89	-956	-0.0000823	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.95	Si
SLU 79	ini.	-490.27	-1736	-0.0001306	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.54	Si
SLU 79	fin.	267.08	-987	-0.0000694	0.0001872	0.0035	1.25		5651.07	5651.07	No	21.16	Si
SLU 64	ini.	-499.12	-1798	-0.0001331	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.34	Si
SLU 64	fin.	314.64	-959	-0.0000822	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.96	Si
SLU 66	ini.	-499.12	-1798	-0.0001331	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.34	Si
SLU 66	fin.	314.64	-959	-0.0000822	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.96	Si
SLU 69	ini.	-499.12	-1798	-0.0001331	0.0001872	0.0035	1.25		5659.02	5659.02	No	11.34	Si
SLU 69	fin.	314.64	-959	-0.0000822	0.0001872	0.0035	1.25		5651.07	5651.07	No	17.96	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 44	ini.	-488.24	2849	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 44	fin.	322.29	2469	1.25	0	693	3965	5615	3188	4657	No	1.89	Si
SLU 47	ini.	-488.24	2849	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 47	fin.	322.29	2469	1.25	0	693	3965	5615	3188	4657	No	1.89	Si
SLU 48	ini.	-488.93	2851	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 48	fin.	322.04	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 64	ini.	-499.12	2843	1.25	0	808	3965	5615	3188	4773	No	1.68	Si
SLU 64	fin.	314.64	2455	1.25	0	697	3965	5615	3188	4662	No	1.9	Si
SLU 45	ini.	-488.93	2851	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 45	fin.	322.04	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 46	ini.	-488.52	2850	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 46	fin.	322.19	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 49	ini.	-488.52	2850	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 49	fin.	322.19	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 51	ini.	-488.52	2850	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 51	fin.	322.19	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 50	ini.	-488.93	2851	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 50	fin.	322.04	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si
SLU 43	ini.	-488.93	2851	1.25	0	806	3965	5615	3188	4771	No	1.67	Si
SLU 43	fin.	322.04	2470	1.25	0	693	3965	5615	3188	4658	No	1.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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.	-527.45	-1661	-0.0001389	0.0002807	0.0035	1.25		5724.08	5724.08		10.85	Si
SLV 11	fin.	307.93	-948	-0.0000797	0.0002807	0.0035	1.25		5715.6	5715.6		18.56	Si
SLV 13	ini.	-588.57	-1300	-0.0001558	0.0002807	0.0035	1.25		5724.08	5724.08		9.73	Si
SLV 13	fin.	792.6	-170	-0.000214	0.0002807	0.0035	1.25		5715.6	5715.6		7.21	Si
SLV 1	ini.	-69.16	-1259	-0.0000176	0.0002807	0.0035	1.25		5724.08	5724.08		82.77	Si
SLV 1	fin.	-415.79	-1212	-0.0001085	0.0002807	0.0035	1.25		5724.08	5724.08		13.77	Si
SLV 15	ini.	-644.31	-1473	-0.0001714	0.0002807	0.0035	1.25		5724.08	5724.08		8.88	Si
SLV 15	fin.	764.22	-361	-0.0002058	0.0002807	0.0035	1.25		5715.6	5715.6		7.48	Si
SLV 10	ini.	-386.72	-1075	-0.0001006	0.0002807	0.0035	1.25		5724.08	5724.08		14.8	Si
SLV 10	fin.	514.72	-218	-0.0001356	0.0002807	0.0035	1.25		5715.6	5715.6		11.1	Si
SLV 12	ini.	-572.51	-1652	-0.0001513	0.0002807	0.0035	1.25		5724.08	5724.08		10	Si
SLV 12	fin.	420.11	-853	-0.0001098	0.0002807	0.0035	1.25		5715.6	5715.6		13.6	Si
SLV 14	ini.	-633.44	-1291	-0.0001683	0.0002807	0.0035	1.25		5724.08	5724.08		9.04	Si
SLV 14	fin.	904.3	-76	-0.0002468	0.0002807	0.0035	1.25		5715.6	5715.6		6.32	Si
SLV 8	ini.	-416.69	-1640	-0.0001087	0.0002807	0.0035	1.25		5724.08	5724.08		13.74	Si
SLV 8	fin.	57.6	-1166	-0.0000146	0.0002807	0.0035	1.25		5715.6	5715.6		99.23	Si
SLV 16	ini.	-689.18	-1465	-0.000184	0.0002807	0.0035	1.25		5724.08	5724.08		8.31	Si
SLV 16	fin.	875.92	-266	-0.0002384	0.0002807	0.0035	1.25		5715.6	5715.6		6.53	Si
SLV 3	ini.	-124.9	-1432	-0.0000319	0.0002807	0.0035	1.25		5724.08	5724.08		45.83	Si
SLV 3	fin.	-444.17	-1403	-0.0001161	0.0002807	0.0035	1.25		5724.08	5724.08		12.89	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 8	ini.	-416.69	1732	1.25	0	1074	3965	8422	3188	5039		2.91	Si
SLV 8	fin.	57.6	1488	1.25	0	1006	3965	8422	3188	4971		3.34	Si
SLV 14	ini.	-633.44	4569	1.25	0	1025	3965	8422	3188	4990		1.09	Si
SLV 14	fin.	904.3	4257	1.25	0	829	3965	8422	3188	4794		1.13	Si
SLV 12	ini.	-572.51	3086	1.25	0	1076	3965	8422	3188	5041		1.63	Si
SLV 12	fin.	420.11	2842	1.25	0	959	3965	8422	3188	4924		1.73	Si
SLV 16	ini.	-689.18	4614	1.25	0	1050	3965	8422	3188	5014		1.09	Si
SLV 16	fin.	875.92	4332	1.25	0	863	3965	8422	3188	4827		1.11	Si
SLV 11	ini.	-527.45	2664	1.25	0	1077	3965	8422	3188	5042		1.89	Si
SLV 11	fin.	307.93	2419	1.25	0	973	3965	8422	3188	4938		2.04	Si
SLV 15	ini.	-644.31	4193	1.25	0	1051	3965	8422	3188	5016		1.2	Si
SLV 15	fin.	764.22	3911	1.25	0	879	3965	8422	3188	4844		1.24	Si
SLV 6	ini.	-230.89	1585	1.25	0	991	3965	8422	3188	4956		3.13	Si
SLV 6	fin.	152.2	1236	1.25	0	907	3965	8422	3188	4872		3.94	Si
SLV 13	ini.	-588.57	4149	1.25	0	1026	3965	8422	3188	4991		1.2	Si
SLV 13	fin.	792.6	3836	1.25	0	846	3965	8422	3188	4811		1.25	Si
SLV 9	ini.	-341.65	2516	1.25	0	994	3965	8422	3188	4959		1.97	Si
SLV 9	fin.	402.54	2167	1.25	0	871	3965	8422	3188	4835		2.23	Si
SLV 10	ini.	-386.72	2939	1.25	0	993	3965	8422	3188	4958		1.69	Si
SLV 10	fin.	514.72	2590	1.25	0	854	3965	8422	3188	4819		1.86	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.32	SLV 14	Si
V_SLV	1.087	SLV 16	Si
PF_SLU	11.338	SLU 64	Si
V_SLU	1.674	SLU 43	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
7.77	9.805	0.51	1.51	1	6.77	9.805	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	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 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

									εlim,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	εlim,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

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 47	ini.	949.26	-1266	-0.0004563	0.0001872	0.0035	1		3643.26	3643.26	No	3.84	Si
SLU 47	fin.	-588.57	1343	-0.0002599	0.0001872	0.0035	1		3649.64	3649.64	No	6.2	Si
SLU 64	ini.	951.6	-1292	-0.0004576	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 64	fin.	-587.27	1323	-0.0002592	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 72	ini.	952.1	-1291	-0.0004579	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 72	fin.	-587.78	1328	-0.0002595	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 67	ini.	952.1	-1291	-0.0004579	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 67	fin.	-587.78	1328	-0.0002595	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 70	ini.	952.1	-1291	-0.0004579	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 70	fin.	-587.78	1328	-0.0002595	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 69	ini.	951.6	-1292	-0.0004576	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 69	fin.	-587.27	1323	-0.0002592	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 66	ini.	951.6	-1292	-0.0004576	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 66	fin.	-587.27	1323	-0.0002592	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 65	ini.	952.42	-1290	-0.0004581	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 65	fin.	-588.12	1330	-0.0002596	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 71	ini.	951.6	-1292	-0.0004576	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 71	fin.	-587.27	1323	-0.0002592	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	Si
SLU 68	ini.	952.42	-1290	-0.0004581	0.0001872	0.0035	1		3643.26	3643.26	No	3.83	Si
SLU 68	fin.	-588.12	1330	-0.0002596	0.0001872	0.0035	1		3649.64	3649.64	No	6.21	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 77	ini.	919.07	-3214	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 77	fin.	-557.75	-1523	1	0	0	7930	4492	2550	7042	No	4.62	Si
SLU 80	ini.	919.56	-3213	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 80	fin.	-558.25	-1531	1	0	0	7930	4492	2550	7042	No	4.6	Si
SLU 83	ini.	905.13	-3222	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 83	fin.	-545.09	-1376	1	0	23	7930	4492	2550	7042	No	5.12	Si
SLU 82	ini.	905.62	-3221	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 82	fin.	-545.6	-1384	1	0	0	7930	4492	2550	7042	No	5.09	Si
SLU 79	ini.	919.07	-3214	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 79	fin.	-557.75	-1523	1	0	0	7930	4492	2550	7042	No	4.62	Si
SLU 78	ini.	919.56	-3213	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 78	fin.	-558.25	-1531	1	0	0	7930	4492	2550	7042	No	4.6	Si
SLU 81	ini.	905.13	-3222	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 81	fin.	-545.09	-1376	1	0	23	7930	4492	2550	7042	No	5.12	Si
SLU 84	ini.	905.62	-3221	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 84	fin.	-545.6	-1384	1	0	0	7930	4492	2550	7042	No	5.09	Si
SLU 74	ini.	919.07	-3214	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 74	fin.	-557.75	-1523	1	0	0	7930	4492	2550	7042	No	4.62	Si
SLU 75	ini.	919.56	-3213	1	0	629	7930	4492	2550	7042	No	2.19	Si
SLU 75	fin.	-558.25	-1531	1	0	0	7930	4492	2550	7042	No	4.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 6	ini.	783.93	-929	-0.0003458	0.0002807	0.0035	1		3664.83	3664.83		4.67	Si
SLV 6	fin.	-531.36	1323	-0.0002244	0.0002807	0.0035	1		3671.29	3671.29		6.91	Si
SLV 1	ini.	1663.41	-2023	-0.000861	0.0002807	0.0035	1		3664.83	3664.83		2.2	Si
SLV 1	fin.	-982.54	2311	-0.0004486	0.0002807	0.0035	1		3671.29	3671.29		3.74	Si
SLV 2	ini.	1507.58	-1848	-0.000759	0.0002807	0.0035	1		3664.83	3664.83		2.43	Si
SLV 2	fin.	-889.63	2085	-0.0003993	0.0002807	0.0035	1		3671.29	3671.29		4.13	Si
SLV 7	ini.	1201.7	-1669	-0.0005725	0.0002807	0.0035	1		3664.83	3664.83		3.05	Si
SLV 7	fin.	-653.68	1370	-0.0002814	0.0002807	0.0035	1		3671.29	3671.29		5.62	Si
SLV 11	ini.	660.09	-1050	-0.000285	0.0002807	0.0035	1		3664.83	3664.83		5.55	Si
SLV 11	fin.	-355.47	663	-0.0001465	0.0002807	0.0035	1		3671.29	3671.29		10.33	Si
SLV 3	ini.	1741.79	-2192	-0.0009143	0.0002807	0.0035	1		3664.83	3664.83		2.1	Si
SLV 3	fin.	-991.25	2257	-0.0004533	0.0002807	0.0035	1		3671.29	3671.29		3.7	Si
SLV 8	ini.	1045.2	-1493	-0.0004837	0.0002807	0.0035	1		3664.83	3664.83		3.51	Si
SLV 8	fin.	-560.37	1142	-0.0002377	0.0002807	0.0035	1		3671.29	3671.29		6.55	Si
SLV 12	ini.	503.59	-875	-0.0002122	0.0002807	0.0035	1		3664.83	3664.83		7.28	Si
SLV 12	fin.	-262.15	436	-0.0001067	0.0002807	0.0035	1		3671.29	3671.29		14	Si
SLV 5	ini.	940.43	-1104	-0.0004269	0.0002807	0.0035	1		3664.83	3664.83		3.9	Si
SLV 5	fin.	-624.67	1550	-0.0002677	0.0002807	0.0035	1		3671.29	3671.29		5.88	Si
SLV 4	ini.	1585.96	-2017	-0.0008097	0.0002807	0.0035	1		3664.83	3664.83		2.31	Si
SLV 4	fin.	-898.33	2031	-0.0004038	0.0002807	0.0035	1		3671.29	3671.29		4.09	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 11	ini.	660.09	-2383	1	0	822	7930	6738	2550	8752		3.67	Si
SLV 11	fin.	-355.47	-717	1	0	517	7930	6738	2550	8446		11.79	Si
SLV 8	ini.	1045.2	-3458	1	0	884	7930	6738	2550	8814		2.55	Si
SLV 8	fin.	-560.37	-1792	1	0	391	7930	6738	2550	8320		4.64	Si
SLV 5	ini.	940.43	-2954	1	0	830	7930	6738	2550	8760		2.97	Si
SLV 5	fin.	-624.67	-2475	1	0	235	7930	6738	2550	8164		3.3	Si
SLV 12	ini.	503.59	-1935	1	0	796	7930	6738	2550	8726		4.51	Si
SLV 12	fin.	-262.15	-262	1	0	567	7930	6738	2550	8496		32.46	Si
SLV 4	ini.	1585.96	-4903	1	0	952	7930	6738	2550	8882		1.81	Si
SLV 4	fin.	-898.33	-3658	1	0	0	7930	6738	2550	7930		2.17	Si
SLV 7	ini.	1201.7	-3906	1	0	908	7930	6738	2550	8837		2.26	Si
SLV 7	fin.	-653.68	-2247	1	0	313	7930	6738	2550	8243		3.67	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1663.41	-5063	1	0	953	7930	6738	2550	8883		1.75	Si
SLV 1	fin.	-982.54	-4179	1	0	0	7930	6738	2550	7930		1.9	Si
SLV 2	ini.	1507.58	-4617	1	0	931	7930	6738	2550	8860		1.92	Si
SLV 2	fin.	-889.63	-3726	1	0	0	7930	6738	2550	7930		2.13	Si
SLV 6	ini.	783.93	-2506	1	0	804	7930	6738	2550	8734		3.49	Si
SLV 6	fin.	-531.36	-2020	1	0	331	7930	6738	2550	8260		4.09	Si
SLV 3	ini.	1741.79	-5349	1	0	974	7930	6738	2550	8904		1.66	Si
SLV 3	fin.	-991.25	-4111	1	0	0	7930	6738	2550	7930		1.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.104	SLV 3	Si
V_SLV	1.665	SLV 3	Si
PF_SLU	3.825	SLU 65	Si
V_SLU	2.186	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
7.77	9.805	3.41	4.56	1.15	6.77	9.805	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	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 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

									εlim,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	εlim,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

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.	940.64	882	-0.0003239	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.12	Si
SLU 50	fin.	-664.34	-1344	-0.0002173	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.25	Si
SLU 47	ini.	932.45	873	-0.0003206	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.16	Si
SLU 47	fin.	-659.69	-1331	-0.0002156	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.3	Si
SLU 64	ini.	919.48	874	-0.0003154	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.23	Si
SLU 64	fin.	-640.2	-1267	-0.0002086	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.53	Si
SLU 48	ini.	940.64	882	-0.0003239	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.12	Si
SLU 48	fin.	-664.34	-1344	-0.0002173	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.25	Si
SLU 45	ini.	940.64	882	-0.0003239	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.12	Si
SLU 45	fin.	-664.34	-1344	-0.0002173	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.25	Si
SLU 44	ini.	932.45	873	-0.0003206	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.16	Si
SLU 44	fin.	-659.69	-1331	-0.0002156	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.3	Si
SLU 46	ini.	935.72	876	-0.0003219	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.14	Si
SLU 46	fin.	-661.55	-1336	-0.0002163	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.28	Si
SLU 51	ini.	935.72	876	-0.0003219	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.14	Si
SLU 51	fin.	-661.55	-1336	-0.0002163	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.28	Si
SLU 49	ini.	935.72	876	-0.0003219	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.14	Si
SLU 49	fin.	-661.55	-1336	-0.0002163	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.28	Si
SLU 43	ini.	940.64	882	-0.0003239	0.0001872	0.0035	1.15		4811.48	4811.48	No	5.12	Si
SLU 43	fin.	-664.34	-1344	-0.0002173	0.0001872	0.0035	1.15		4818.72	4818.72	No	7.25	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 45	ini.	940.64	-2486	1.15	0	297	7930	5165	2933	8098	No	3.26	Si
SLU 45	fin.	-664.34	-3194	1.15	0	704	7930	5165	2933	8098	No	2.54	Si
SLU 49	ini.	935.72	-2471	1.15	0	299	7930	5165	2933	8098	No	3.28	Si
SLU 49	fin.	-661.55	-3179	1.15	0	703	7930	5165	2933	8098	No	2.55	Si
SLU 64	ini.	919.48	-2385	1.15	0	300	7930	5165	2933	8098	No	3.39	Si
SLU 64	fin.	-640.2	-3108	1.15	0	694	7930	5165	2933	8098	No	2.61	Si
SLU 46	ini.	935.72	-2471	1.15	0	299	7930	5165	2933	8098	No	3.28	Si
SLU 46	fin.	-661.55	-3179	1.15	0	703	7930	5165	2933	8098	No	2.55	Si
SLU 48	ini.	940.64	-2486	1.15	0	297	7930	5165	2933	8098	No	3.26	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	fin.	-664.34	-3194	1.15	0	704	7930	5165	2933	8098	No	2.54	Si
SLU 43	ini.	940.64	-2486	1.15	0	297	7930	5165	2933	8098	No	3.26	Si
SLU 43	fin.	-664.34	-3194	1.15	0	704	7930	5165	2933	8098	No	2.54	Si
SLU 47	ini.	932.45	-2460	1.15	0	300	7930	5165	2933	8098	No	3.29	Si
SLU 47	fin.	-659.69	-3169	1.15	0	703	7930	5165	2933	8098	No	2.56	Si
SLU 44	ini.	932.45	-2460	1.15	0	300	7930	5165	2933	8098	No	3.29	Si
SLU 44	fin.	-659.69	-3169	1.15	0	703	7930	5165	2933	8098	No	2.56	Si
SLU 50	ini.	940.64	-2486	1.15	0	297	7930	5165	2933	8098	No	3.26	Si
SLU 50	fin.	-664.34	-3194	1.15	0	704	7930	5165	2933	8098	No	2.54	Si
SLU 51	ini.	935.72	-2471	1.15	0	299	7930	5165	2933	8098	No	3.28	Si
SLU 51	fin.	-661.55	-3179	1.15	0	703	7930	5165	2933	8098	No	2.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM 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 1	ini.	1584.96	1537	-0.0005704	0.0002807	0.0035	1.15		4849.69	4849.69		3.06	Si
SLV 1	fin.	-1143.98	-2046	-0.0003864	0.0002807	0.0035	1.15		4857.47	4857.47		4.25	Si
SLV 12	ini.	496.11	439	-0.0001552	0.0002807	0.0035	1.15		4849.69	4849.69		9.78	Si
SLV 12	fin.	-342.8	-764	-0.0001055	0.0002807	0.0035	1.15		4857.47	4857.47		14.17	Si
SLV 11	ini.	692.41	635	-0.0002212	0.0002807	0.0035	1.15		4849.69	4849.69		7	Si
SLV 11	fin.	-477.26	-990	-0.0001488	0.0002807	0.0035	1.15		4857.47	4857.47		10.18	Si
SLV 8	ini.	1006.22	933	-0.0003341	0.0002807	0.0035	1.15		4849.69	4849.69		4.82	Si
SLV 8	fin.	-726.61	-1414	-0.0002327	0.0002807	0.0035	1.15		4857.47	4857.47		6.69	Si
SLV 2	ini.	1389.5	1342	-0.0004866	0.0002807	0.0035	1.15		4849.69	4849.69		3.49	Si
SLV 2	fin.	-1010.09	-1821	-0.0003351	0.0002807	0.0035	1.15		4857.47	4857.47		4.81	Si
SLV 3	ini.	1682.93	1615	-0.0006139	0.0002807	0.0035	1.15		4849.69	4849.69		2.88	Si
SLV 3	fin.	-1219.95	-2209	-0.0004165	0.0002807	0.0035	1.15		4857.47	4857.47		3.98	Si
SLV 5	ini.	875.96	871	-0.000286	0.0002807	0.0035	1.15		4849.69	4849.69		5.54	Si
SLV 5	fin.	-607.85	-1099	-0.0001921	0.0002807	0.0035	1.15		4857.47	4857.47		7.99	Si
SLV 4	ini.	1487.47	1420	-0.0005281	0.0002807	0.0035	1.15		4849.69	4849.69		3.26	Si
SLV 4	fin.	-1086.06	-1984	-0.000364	0.0002807	0.0035	1.15		4857.47	4857.47		4.47	Si
SLV 6	ini.	679.66	675	-0.0002168	0.0002807	0.0035	1.15		4849.69	4849.69		7.14	Si
SLV 6	fin.	-473.39	-873	-0.0001475	0.0002807	0.0035	1.15		4857.47	4857.47		10.26	Si
SLV 7	ini.	1202.52	1129	-0.0004102	0.0002807	0.0035	1.15		4849.69	4849.69		4.03	Si
SLV 7	fin.	-861.08	-1640	-0.0002802	0.0002807	0.0035	1.15		4857.47	4857.47		5.64	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 2	ini.	1389.5	-3780	1.15	0	440	7930	7748	2933	8370		2.21	Si
SLV 2	fin.	-1010.09	-4341	1.15	0	1031	7930	7748	2933	8960		2.06	Si
SLV 12	ini.	496.11	-1262	1.15	0	665	7930	7748	2933	8594		6.81	Si
SLV 12	fin.	-342.8	-1807	1.15	0	879	7930	7748	2933	8808		4.87	Si
SLV 5	ini.	875.96	-2263	1.15	0	569	7930	7748	2933	8498		3.75	Si
SLV 5	fin.	-607.85	-2823	1.15	0	930	7930	7748	2933	8859		3.14	Si
SLV 6	ini.	679.66	-1690	1.15	0	614	7930	7748	2933	8544		5.05	Si
SLV 6	fin.	-473.39	-2250	1.15	0	896	7930	7748	2933	8825		3.92	Si
SLV 11	ini.	692.41	-1835	1.15	0	623	7930	7748	2933	8553		4.66	Si
SLV 11	fin.	-477.26	-2380	1.15	0	913	7930	7748	2933	8843		3.72	Si
SLV 3	ini.	1682.93	-4665	1.15	0	345	7930	7748	2933	8275		1.77	Si
SLV 3	fin.	-1219.95	-5223	1.15	0	1081	7930	7748	2933	9011		1.73	Si
SLV 8	ini.	1006.22	-2738	1.15	0	553	7930	7748	2933	8483		3.1	Si
SLV 8	fin.	-726.61	-3287	1.15	0	975	7930	7748	2933	8905		2.71	Si
SLV 1	ini.	1584.96	-4351	1.15	0	375	7930	7748	2933	8304		1.91	Si
SLV 1	fin.	-1143.98	-4912	1.15	0	1060	7930	7748	2933	8990		1.83	Si
SLV 4	ini.	1487.47	-4094	1.15	0	415	7930	7748	2933	8345		2.04	Si
SLV 4	fin.	-1086.06	-4653	1.15	0	1052	7930	7748	2933	8982		1.93	Si
SLV 7	ini.	1202.52	-3311	1.15	0	502	7930	7748	2933	8432		2.55	Si
SLV 7	fin.	-861.08	-3861	1.15	0	1006	7930	7748	2933	8936		2.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.882	SLV 3	Si
V_SLV	1.725	SLV 3	Si
PF_SLU	5.115	SLU 43	Si
V_SLU	2.535	SLU 43	Si