



azienda casa emilia - romagna
provincia di bologna

Piazza della Resistenza 4 - 40122
Bologna - BO
tel. 051.292111 fax 051.554335
Codice Fiscale - Partita IVA e Registro
Imprese di Bologna n. 00322270372
sito web: www.acerbologna.it
posta elettronica: info@acerbologna.it

INTERVENTO

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

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

LOTTO **3053/PN_2**

PROGETTO ESECUTIVO

TAV.		OGGETTO TABULATI DI CALCOLO CIVICO SALA COMUNE STATO DI PROGETTO			DATA		
TAB_12					Settembre 2022		
SCALA					N. DISEGNO		
VERSIONE	DESCRIZIONE		DATA	REDATTO	VERIFICATO		APPROVATO
00	PRIMA EMISSIONE		Settembre 2022	F. DALMONTE	N. LEONE		N. LEONE
01							
02							
03							

Il Progettista Architettonico Arch. Francesca Tovoli Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)	Il Progettista Strutturale Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)	Il Progettista Impianti Elettrici Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)	Il Progettista Impianti Meccanici Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)
Il Coordinatore della Sicurezza in Fase Progettuale Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)	Il Coordinatore per la progettazione Ing. Nicola Leone SIDEL Ingegneria Srl Via Isonzo, 13 40055 Villanova di Castenaso (BO)	Collaboratori Progettisti: Ing. Marco Venturini Ing. Federica DalmonTE Geom. Alessio Breviglieri Arch. Domenico Conaci Geom. Arianna Danieli P. I. Andrea Gamberini Ing. Cesare Orsini	
Responsabile del Procedimento Ing. Antonio Frighi ACER Bologna Piazza della Resistenza, 4 40122 Bologna	Il Dirigente Responsabile del Servizio Tecnico Ing. Antonio Frighi ACER Bologna Piazza della Resistenza, 4 40122 Bologna	Il Direttore Generale Avv. Francesco Nitti ACER Bologna Piazza della Resistenza, 4 40122 Bologna	Il Presidente Marco Bertuzzi ACER Bologna Piazza della Resistenza, 4 40122 Bologna



SIDEL
INGEGNERIA

TABULATI DI CALCOLO
SALA COMUNE
STATO DI PROGETTO



Sommario

1 Risultati numerici.....	3
1.1 Sollecitazioni.....	3
1.1.1 Sollecitazioni aste.....	3
1.1.1.1 Convenzioni di segno aste.....	3
1.1.1.2 Sollecitazioni estreme aste.....	5
1.1.2 Sollecitazioni gusci.....	6
1.1.2.1 Convenzioni di segno gusci.....	6
1.1.2.2 Sollecitazioni estreme gusci.....	8
1.1.2.3 Sollecitazioni estreme gusci non verticali.....	9
1.1.2.4 Sollecitazioni estreme gusci verticali.....	10
1.1.3 Sollecitazioni gusci armati.....	11
1.1.3.1 Convenzioni di segno gusci.....	11
1.1.4 Sollecitazioni gusci muratura.....	13
1.1.4.1 Convenzioni di segno gusci muratura.....	13
1.1.5 Sollecitazioni aste in muratura.....	15
1.1.5.1 Convenzioni di segno aste.....	15
1.1.6 Sollecitazioni aste in muratura FRCM.....	18
1.1.6.1 Convenzioni di segno aste.....	18
1.1.7 Sollecitazioni aste in muratura armata.....	20
1.1.7.1 Convenzioni di segno aste.....	20
1.2 Reazioni nodali.....	23
1.2.1 Reazioni nodali estreme.....	23
1.2.2 Reazioni nodali in combinazioni di carico.....	24
1.3 Pressioni massime sul terreno.....	212
1.4 Cedimenti fondazioni superficiali.....	213
1.5 Baricentri delle rigidezze.....	215
1.6 Rigidezze di interpiano.....	216
1.7 Risposta modale.....	216
1.8 Equilibrio globale forze.....	217
1.9 Risposta di spettro.....	218
1.10 Annotazioni solutore.....	218
1.11 Statistiche soluzione.....	218



1 Risultati numerici

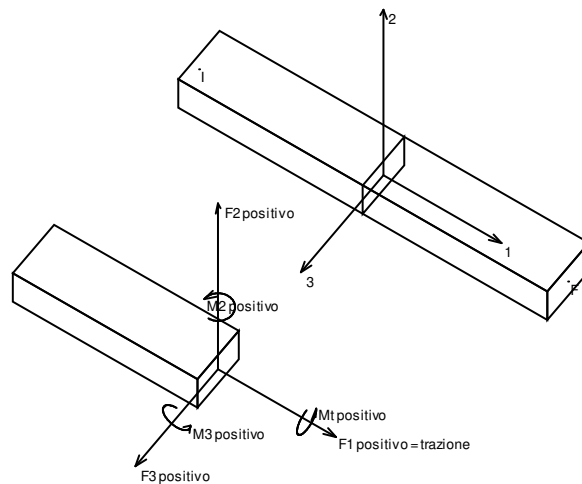
1.1 Sollecitazioni

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).

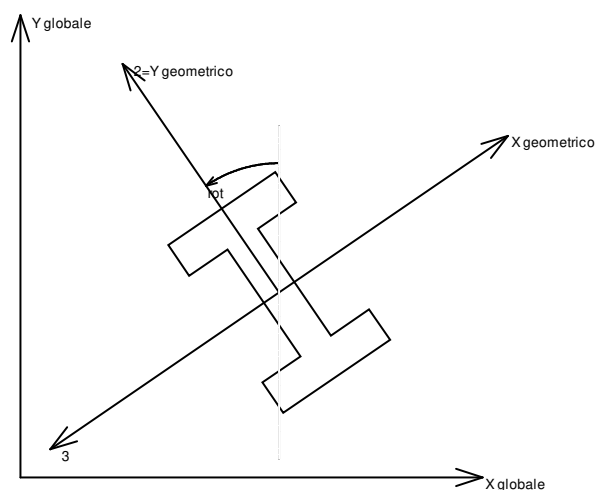
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- 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.

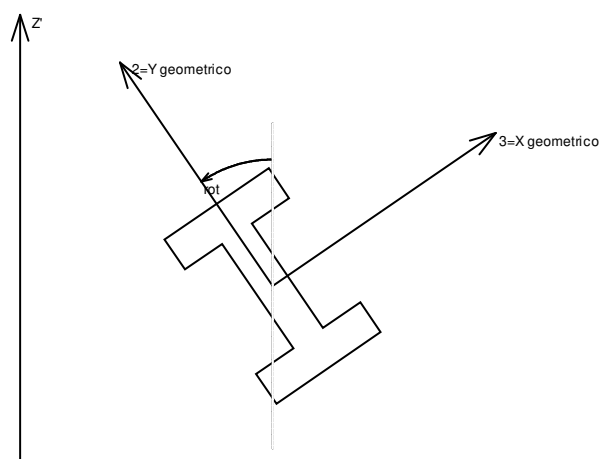


Sistema locale aste verticali



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

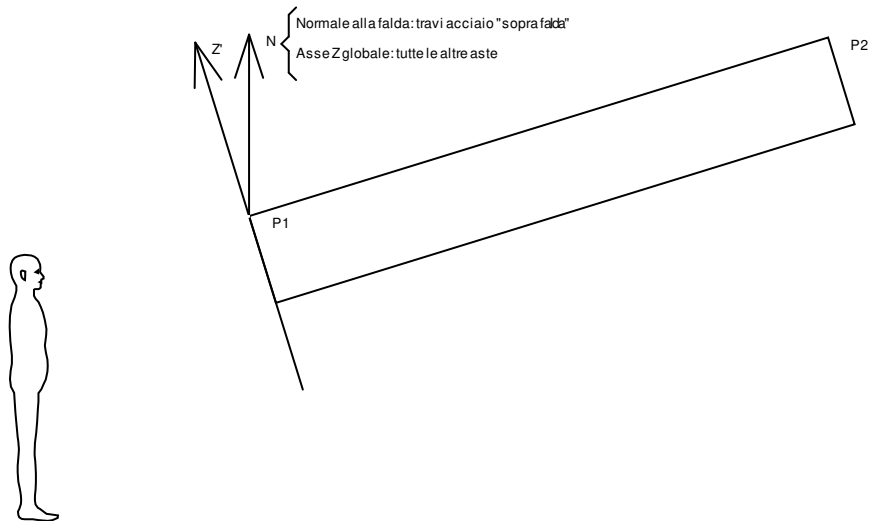
Sistema locale aste non verticali



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

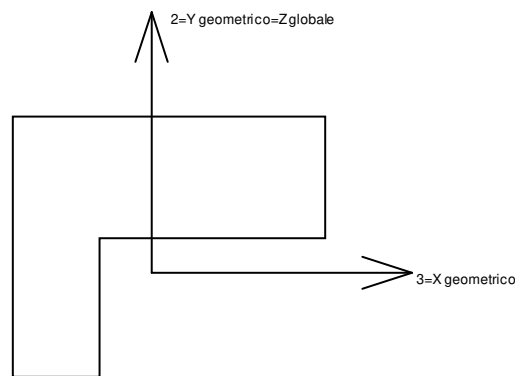
L'asse Z' è illustrato nella figura seguente dove:

- 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 mezzera, 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
76	SLV 11	1	12.34	0.99	-1.59	-16841	5729	-4498	5.49	-634.69	-2304.84
13	SLV 11	31	12.39	0.82	-1.59	-15524	7196	4728	-192.27	-2485.5	4407.44
12	SLV 10	1	12.39	1.63	-1.59	-13274	-8373	-4432	254.78	-1917.2	4744.72
66	SLV 6	31	8.66	0.99	-1.59	-13092	-2367	432	3.14	-784.99	128.55
75	SLV 11	1	11.93	0.99	-1.59	-12989	4303	-3698	7.38	-171.7	-1302.02

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
45	SLU 81	31	7.56	-3.51	-1.59	15079	-1953	-323	-194.93	-728.72	712.13
44	SLU 81	31	7.96	-3.51	-1.59	15063	-2919	-214	-411.69	-641.37	284.74
46	SLU 81	31	7.16	-3.51	-1.59	14952	-1610	-494	-154.1	-849.27	911.61
47	SLU 81	31	6.76	-3.51	-1.59	14571	-1416	-650	-142.22	-967.74	981.89
98	SLV 7	1	12.34	1.49	-1.59	14565	3664	-3837	6.02	-540.44	-2296.22

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
1	SLV 12	1	12.39	5.91	-1.59	-4874	8330	5434	-398.02	-6003.27	-2496.9
2	SLV 11	1	12.39	5.53	-1.59	-5214	5990	3860	-43.31	-4828.51	-3912.1
122	SLV 10	31	3.11	5.57	-1.59	4347	-2302	-4442	-170.66	-4495.29	-340.71
13	SLV 11	1	12.39	1.24	-1.59	-14793	9833	4902	-102.35	-4462.3	8726.59
99	SLV 6	1	12.74	5.57	-1.59	4507	3095	5036	279.05	-4437.38	-1322.39

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
99	SLV 11	1	12.74	5.57	-1.59	-3390	8361	-7187	485.18	6869.98	-2586.59
12	SLV 7	31	12.39	1.24	-1.59	-4161	-10447	3575	225.04	5288.38	6147.55
100	SLV 12	1	12.34	5.57	-1.59	-3172	5453	-4741	88.78	4687.26	-3467.06
133	SLV 10	31	3.36	5.91	-1.59	5252	-1447	3510	93.34	4633.78	-861.33
34	SLV 9	31	3.36	1.24	-1.59	10074	-3914	2746	60.36	4579.5	2854.42

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
3	SLU 81	31	12.39	4.75	-1.59	-2094	607	129	-458.38	-540.84	-6606.4
2	SLU 81	31	12.39	5.14	-1.59	-1020	2818	286	-498.97	-948.38	-6481.68
4	SLU 81	22	12.39	4.47	-1.59	-2907	4	13	-216.08	-270.69	-6454.86
5	SLU 81	10	12.39	4.24	-1.59	-4114	-14	-95	103.06	119.57	-6184.3
98	SLU 81	31	12.74	1.49	-1.59	2854	4165	-774	-5.8	-556.58	-6054.55

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
12	SLU 81	31	12.39	1.24	-1.59	-12389	-16964	-793	294.21	1218.46	11916.26
13	SLU 81	1	12.39	1.24	-1.59	-14079	16023	2155	-225.27	-1495.56	11780.49
11	SLU 81	31	12.39	1.63	-1.59	-9330	-14137	-710	84.76	494.04	6780.1
14	SLU 81	1	12.39	0.82	-1.59	-10998	12914	2071	-39.1	-1731.95	6525.14
34	SLU 81	31	3.36	1.24	-1.59	3354	-8451	793	82.61	1847.72	6518.72

1.1.2 Sollecitazioni gusci

1.1.2.1 Convenzioni di segno gusci

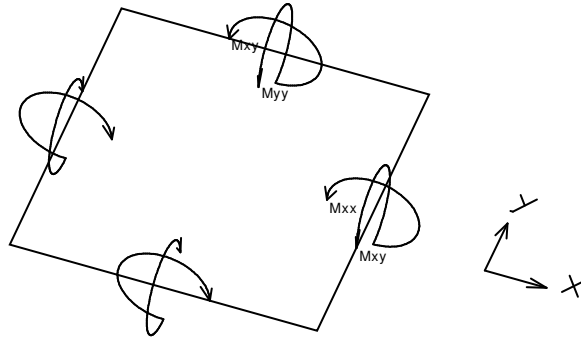
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

- 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 destrorsa. In particolare l'asse x ha proiezione in pianta parallela ed equiversa all'asse globale X. Nel caso di piastre orizzontali (caso più comune) gli assi x, y e z locali all'elemento sono paralleli ed equiversi agli assi X, Y e Z globali. Si sottolinea che non ha alcun interesse collocare esattamente nel piano dell'elemento la posizione dell'origine in quanto i parametri di sollecitazione sono invarianti rispetto a tale posizione.

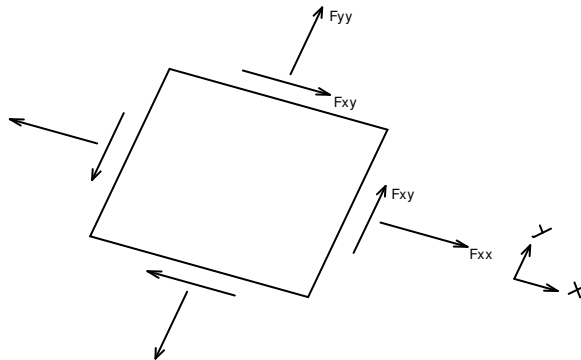
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

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



Si definiscono:

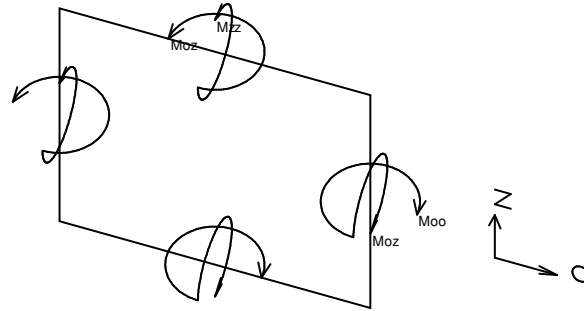
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

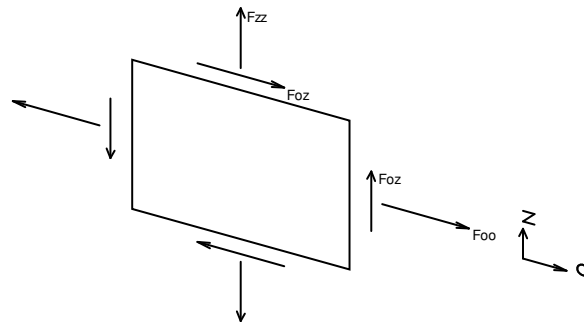
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.2.2 Sollecitazioni estreme gusci

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
801	SLV 2	51	-431	75	-434	-140393	53370	-255849	2007	-2138
802	SLV 5	51	-390	-66	-372	-134762	-63058	-190371	-1478	-1180
799	SLV 15	4	-358	-7	-43	11461	8225	-361	-1331	-325
1701	SLV 1	1700	-260	16	-37	7089	908	-1971	238	44
803	SLV 12	56	-241	-12	19	28253	12634	5708	707	48

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
801	SLV 15	51	402	-77	321	-33114	18347	-96635	-1951	1641
799	SLV 2	4	363	30	62	-34569	12811	-2666	1454	49
803	SLV 5	56	340	6	-10	-32016	3822	9222	-966	-161
159	SLU 81	917	283	-17	183	-6138	2076	-19933	1055	-288
281	SLU 81	917	279	13	167	-5838	2954	-19606	-1021	-214

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
610	SLV 5	993	-187	-52	-747	-2056	1540	-28603	-160	2359
158	SLU 81	1099	-128	-97	-512	2557	-5743	7160	313	1359
151	SLU 81	1099	-128	-39	-511	2384	3592	-3200	-184	1223
306	SLU 81	1124	-124	37	-495	1217	751	-5171	167	1179
305	SLU 81	1124	-123	90	-493	2982	11001	4703	-286	1286

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
614	SLV 5	378	266	37	578	-7469	-14760	-48441	707	2636
384	SLV 12	831	70	-29	449	1941	-1110	705	128	-516
383	SLV 12	832	75	33	441	-1892	-1403	-7847	-125	-475
1146	SLV 12	1705	126	89	434	473	409	-1758	382	480
1242	SLV 12	1704	70	-46	414	-406	125	-2635	-203	343

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
801	SLV 2	48	-57	44	36	-164601	108869	-61122	2036	-249
802	SLV 5	53	18	-21	111	-153550	-64722	-6451	-1437	363
800	SLV 2	48	-93	-61	58	-59476	20782	2389	725	221
803	SLV 5	53	15	49	93	-57135	-6284	14654	-962	386
795	SLV 2	259	26	-30	38	-35258	48134	-36831	424	24

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
802	SLV Y	53	-15	11	-75	65474	17570	-1104	971	-260
801	SLV X	48	39	-29	-23	51807	-27322	14436	-1693	264
792	SLV 5	377	0	42	32	49733	-19517	17460	-11	-44
797	SLV 5	377	15	26	93	46632	-19235	10596	-124	-207
796	SLU 81	261	-43	1	29	41586	13509	-67848	100	25

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
801	SLU 81	51	-14	-3	-85	-134733	55773	-272499	2	-365
802	SLU 81	51	-112	-20	-96	-88586	-64530	-205423	-441	-336
804	SLV 8	607	-29	0	-132	3363	10	-112171	367	-580
795	SLU 81	260	-20	-2	3	-30275	34799	-104644	39	-46
796	SLU 81	260	-18	-8	5	30206	20699	-90975	88	-56

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
788	SLV 9	492	100	0	-46	-6563	-11	69841	535	-203
801	SLV X	51	356	-64	304	45814	-15265	63303	-1697	1546
793	SLV 9	492	100	0	-4	-626	-13	55305	535	0
802	SLV X	51	110	24	206	23829	13571	48560	448	571
776	SLV 9	843	77	0	0	4936	-17	38112	-299	-97

1.1.2.3 Sollecitazioni estreme gusci non verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.



Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

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

1.1.2.4 Sollecitazioni estreme gusci verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

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

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

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
801	SLV 15	51	-402	-77	-321	-33114	-18347	-96635	-1951	-1641
799	SLV 2	4	-363	30	-62	-34569	-12811	-2666	1454	-49
803	SLV 5	56	-340	6	10	-32016	-3822	9222	-966	161
159	SLU 81	917	-283	-17	-183	-6138	-2076	-19933	1055	288
802	SLV Y	51	-265	43	-241	64779	-16577	42747	991	-762



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
801	SLV 2	51	431	75	434	-140393	-53370	-255849	2007	2138
802	SLV 5	51	390	-66	372	-134762	63058	-190371	-1478	1180
799	SLV 15	4	358	-7	43	11461	-8225	-361	-1331	325
281	SLU 81	917	279	13	167	-5838	2954	-19606	-1021	-214
614	SLV 5	378	266	37	578	-7469	-14760	-48441	707	2636

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
610	SLV 5	993	-187	-52	-747	-2056	1540	-28603	-160	2359
306	SLU 81	1124	-124	37	-495	1217	751	-5171	167	1179
305	SLU 81	1124	-123	90	-493	2982	11001	4703	-286	1286
603	SLV 5	998	-115	-44	-461	-2188	-2561	-5913	-149	743
384	SLV 12	831	-70	-29	-449	1941	1110	705	128	516

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
614	SLV 5	378	266	37	578	-7469	-14760	-48441	707	2636
158	SLU 81	1099	128	-97	512	2557	5743	7160	313	-1359
151	SLU 81	1099	128	-39	511	2384	-3592	-3200	-184	-1223
776	SLV 5	993	0	0	491	-17974	15	-19837	0	-1503
384	SLV 5	831	65	21	440	-1740	-1235	-7328	-121	-557

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
801	SLV 2	48	57	44	-36	-164601	-108869	-61122	2036	249
802	SLV 5	53	-18	-21	-111	-153550	64722	-6451	-1437	-363
800	SLV 2	48	93	-61	-58	-59476	-20782	2389	725	-221
803	SLV 5	53	-15	49	-93	-57135	6284	14654	-962	-386
795	SLV 2	259	-26	-30	-38	-35258	-48134	-36831	424	-24

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
802	SLV Y	53	15	11	75	65474	-17570	-1104	971	260
801	SLV X	48	-39	-29	23	51807	27322	14436	-1693	-264
792	SLV 5	377	0	42	-32	49733	19517	17460	-11	44
797	SLV 5	377	-15	26	-93	46632	19235	10596	-124	207
796	SLU 81	261	43	1	-29	41586	-13509	-67848	100	-25

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
801	SLU 81	51	14	-3	85	-134733	-55773	-272499	2	365
802	SLU 81	51	112	-20	96	-88586	64530	-205423	-441	336
804	SLV 8	607	29	0	132	3363	-10	-112171	367	580
795	SLU 81	260	20	-2	-3	-30275	-34799	-104644	39	46
796	SLU 81	260	18	-8	-5	30206	-20699	-90975	88	56

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
788	SLV 9	492	-100	0	46	-6563	11	69841	535	203
801	SLV X	51	-356	-64	-304	45814	15265	63303	-1697	-1546
793	SLV 9	492	-100	0	4	-626	13	55305	535	0
802	SLV X	51	-110	24	-206	23829	-13571	48560	448	-571
776	SLV 9	843	-77	0	0	4936	17	38112	-299	97

1.1.3 Sollecitazioni gusci armati

1.1.3.1 Convenzioni di segno gusci

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

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

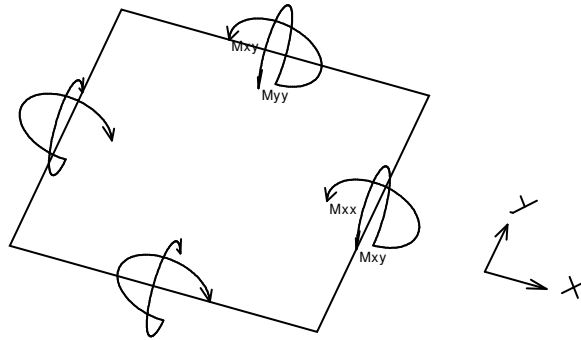
Convenzione di segno per gusci non verticali

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



posizione.

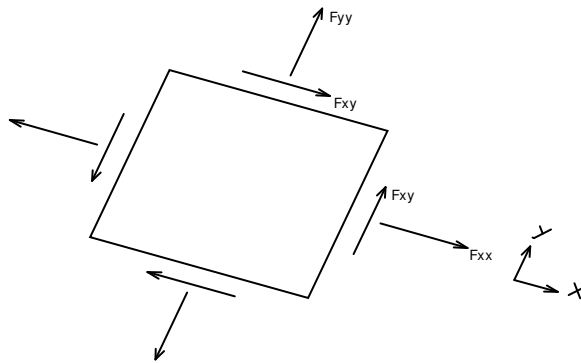
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

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



Si definiscono:

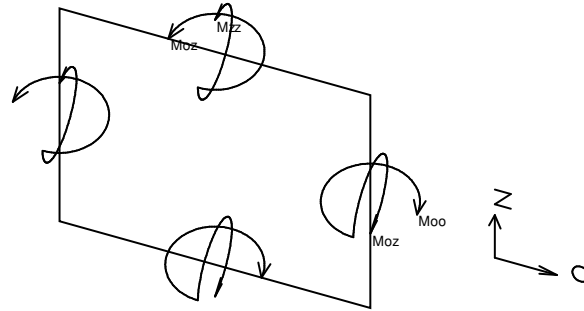
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

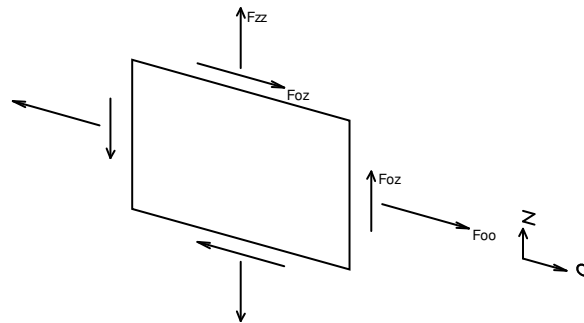
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.4 Sollecitazioni gusci muratura

1.1.4.1 Convenzioni di segno gusci muratura

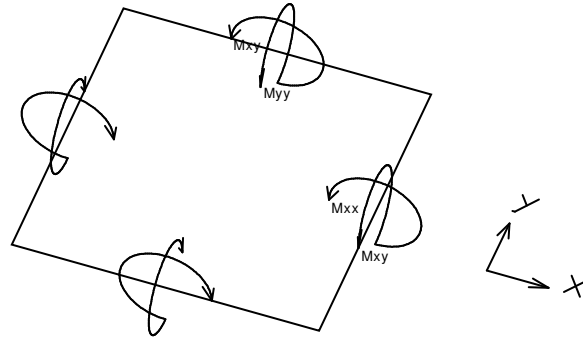
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

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

Convenzione di segno per gusci non verticali

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

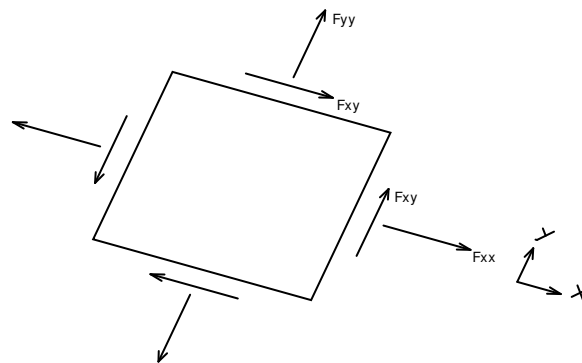
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione Mxx, Myy, Mxy.



Si definiscono:

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

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

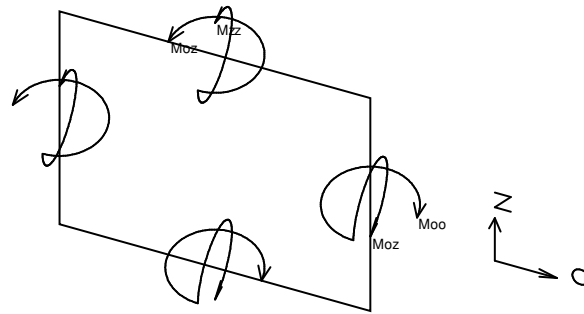


Si definiscono:

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

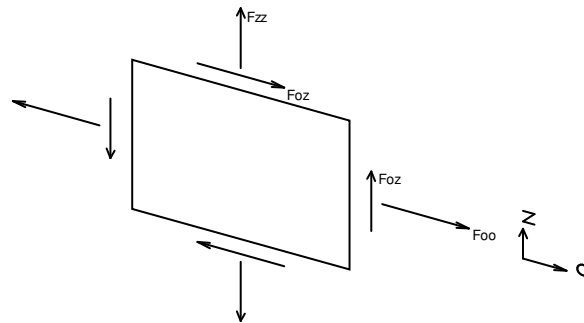
Convenzione di segno per gusci verticali

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



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

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



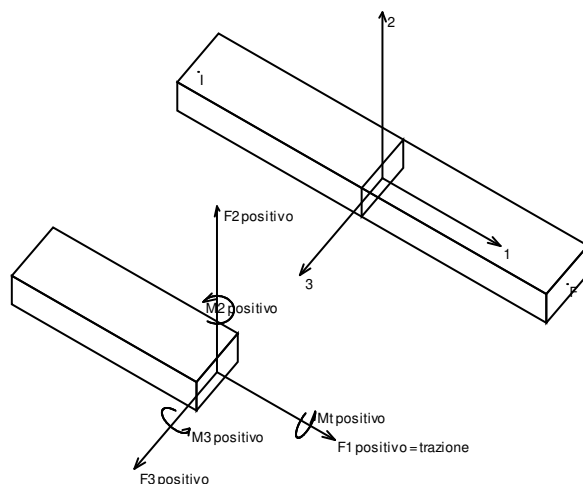
- Fzz: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foo: sforzo tensionale distribuito $[Forza / Lunghezza]$ applicato al bordo di normale parallela all'asse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

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:

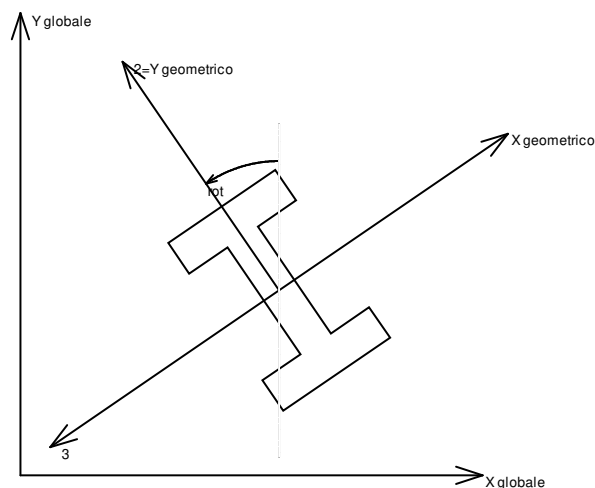
presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il vettore 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.

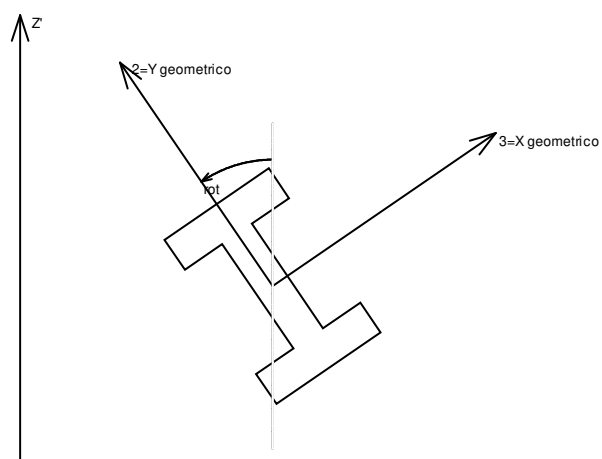
Sistema locale aste verticali



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



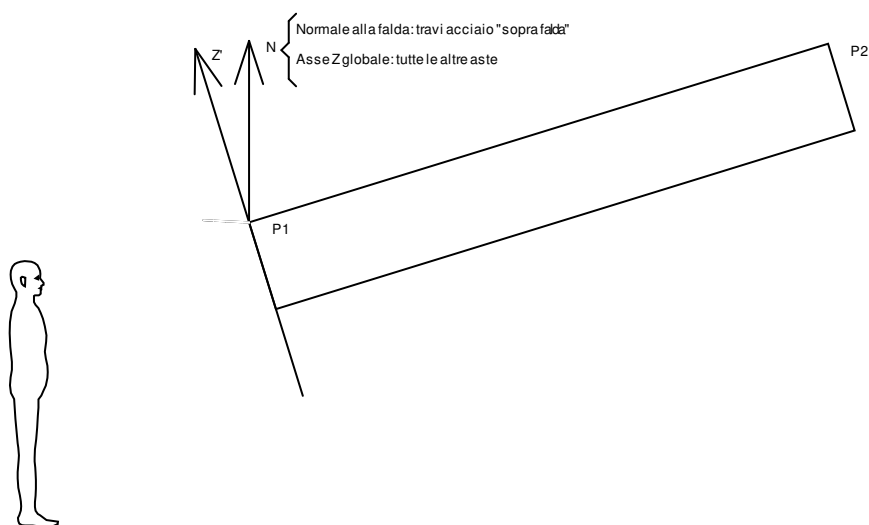
Sistema locale aste non verticali



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:

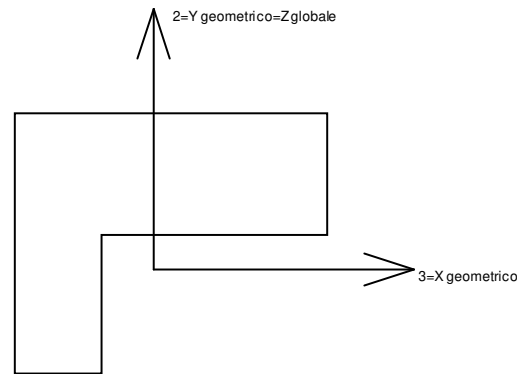
- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



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.



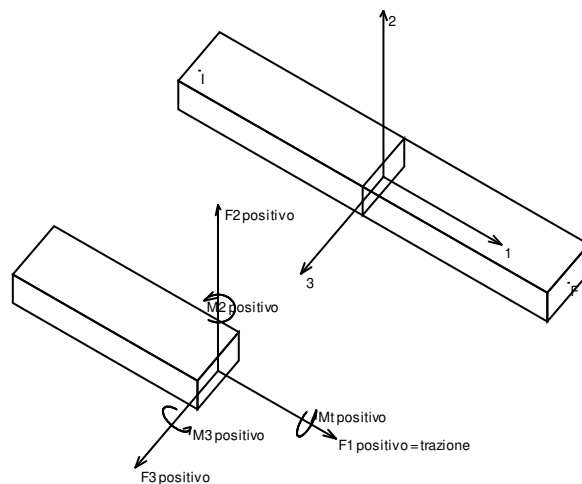
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

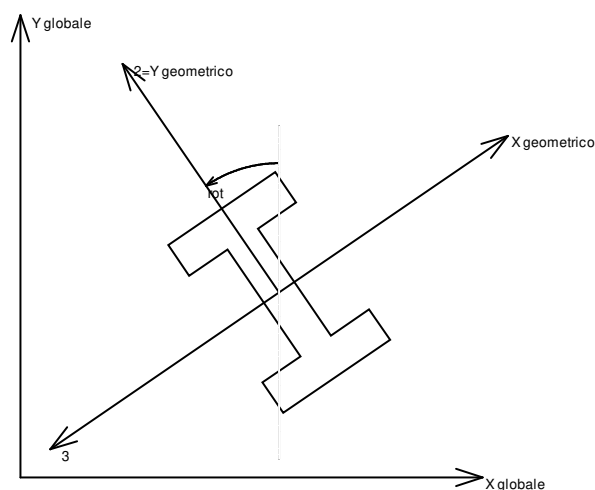
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

- 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.

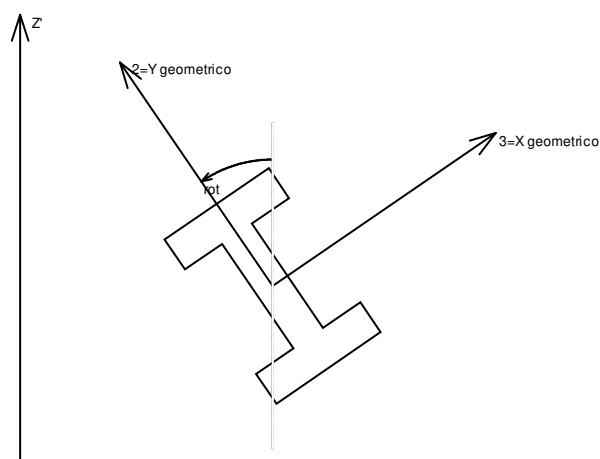


Sistema locale aste verticali



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

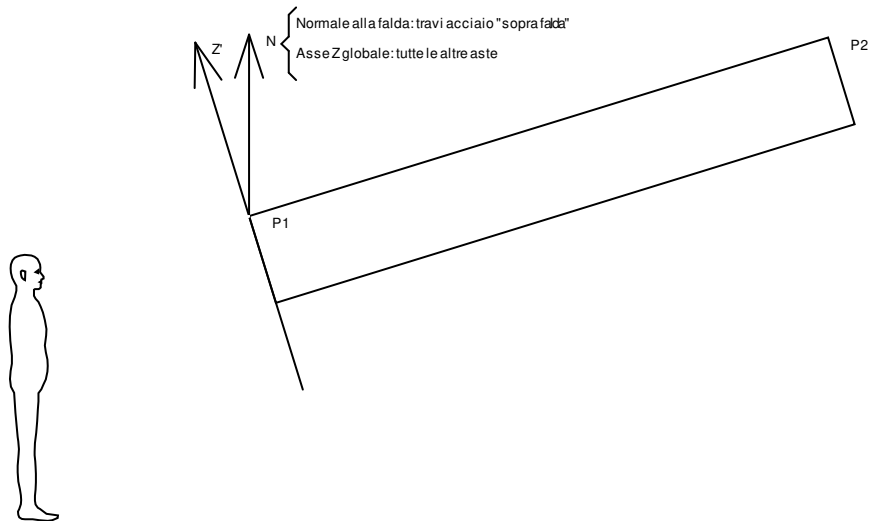
Sistema locale aste non verticali



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

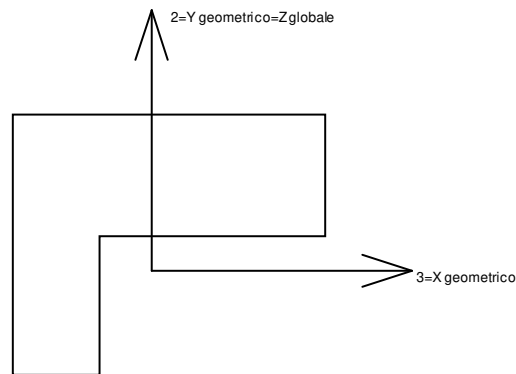
L'asse Z' è illustrato nella figura seguente dove:

- 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.



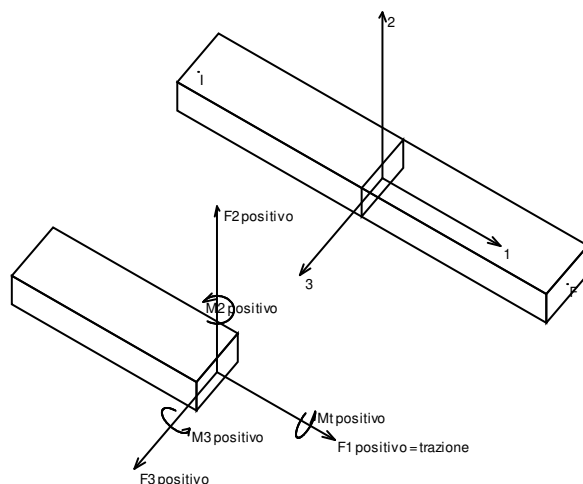
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli 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;
- $M1$ (M_t): momento attorno all'asse locale 1; equivale al momento torcente;
- $M2$: momento attorno all'asse locale 2;
- $M3$: momento attorno all'asse locale 3.



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

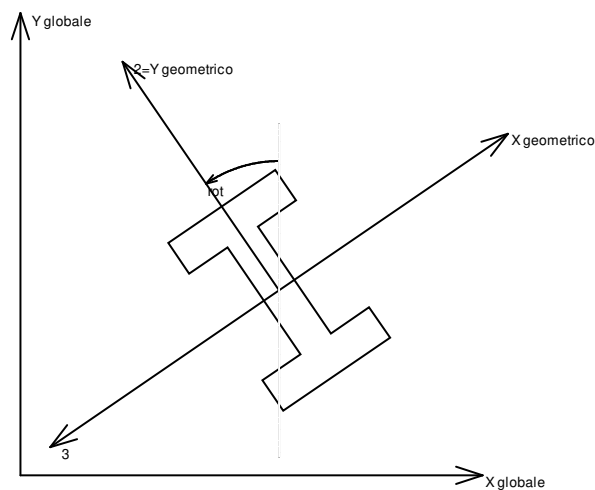
presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da cui esce il vettore 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.

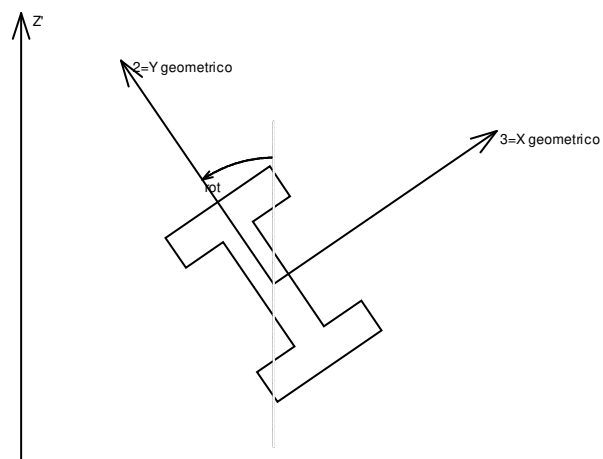
Sistema locale aste verticali



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



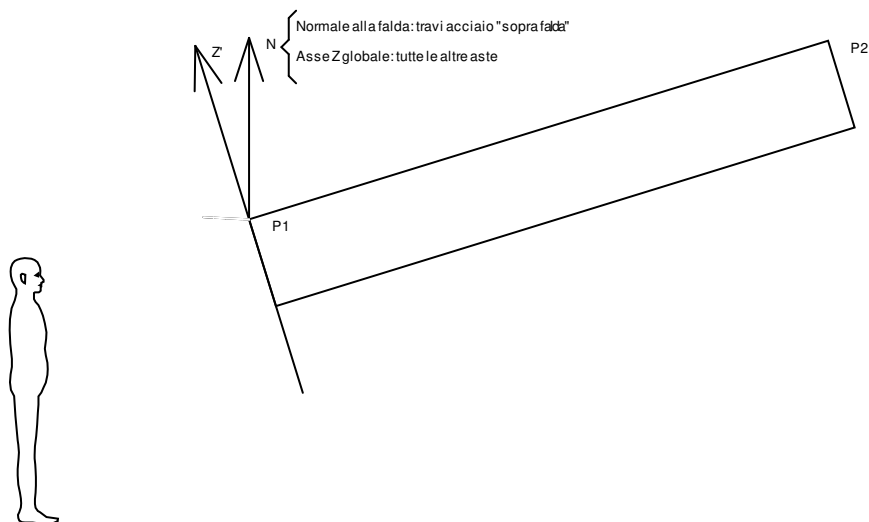
Sistema locale aste non verticali



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:

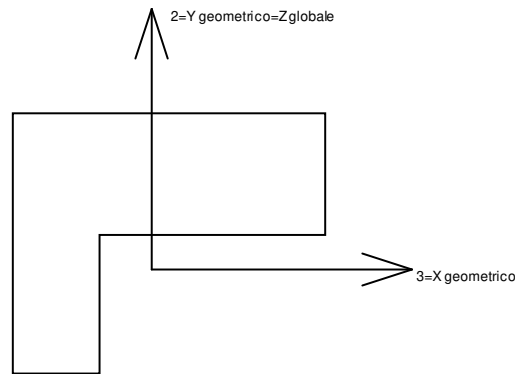
- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



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
51	SLV 9	-3988	4865	49198	-50.34	-5.14	-46.04
128	SLV 16	-1489	-372	6931	44.81	-1014.59	-60.61
129	SLV 16	-1475	-433	7086	37.65	1024.17	52.34
140	SLV 16	-1102	-101	8370	-10.62	1883.67	26.57
116	SLV 16	-1074	-499	3067	34.24	-592.31	-87.61

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
51	SLV 8	8874	-10021	33731	182.4	151.24	32.85
128	SLV 1	1331	435	6412	40.19	-932.25	51.65
129	SLV 1	1329	376	6461	32.32	941.31	-60.67
15	SLV 2	1082	114	2071	147.98	294.02	-290.5
14	SLV 2	1080	131	1987	186.18	-298.01	-249.51

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
51	SLV 8	8874	-10021	33731	182.4	151.24	32.85
140	SLV 7	30	-1708	5557	19.62	1296.18	407.07
137	SLV 7	21	-1176	4066	54.19	-1.54	-15.65
136	SLV 11	-429	-1086	4630	49.22	-3.67	-14.96
116	SLV Y	-220	-1080	695	26.17	-117.96	-196.46

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
51	SLV 9	-3988	4865	49198	-50.34	-5.14	-46.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
116	SLV 5	441	1636	4102	12.21	-763.35	296.49
140	SLV 10	-108	1326	7721	-36.73	1748.09	-314.49
119	SLV 5	360	1183	3379	3.25	-1.57	-18.69
118	SLV 5	310	1102	2892	3.33	-81.18	16.79

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
51	SLV X	-3297	3189	-15087	-53.39	-103.27	-26.43
25	SLV Y	-217	-693	-1503	-251.84	-333.46	202.85
116	SLV X	-938	-422	-1483	-9.39	248.03	-73.85
231	SLV X	-684	-237	-1049	233.4	173.56	-201.4
50	SLV Y	-148	-504	-976	-23.47	-262.67	178.94

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
51	SLU 81	4029	-4268	64078	104.99	115.33	-11.6
129	SLU 81	-116	-41	10747	53.82	1560.48	-7.02
128	SLU 81	-122	53	10603	65.47	-1546.26	-6.57
140	SLU 81	-75	-297	10209	-13.22	2348.06	71.99
137	SLU 81	-59	-212	7314	29.44	-6.47	-2.07

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	65	-44	465	29.58	16.94	-13.76
4	SLU 2	65	-44	465	29.58	16.94	-13.76
4	SLU 3	65	-44	465	29.58	16.94	-13.76
4	SLU 4	65	-44	465	29.58	16.94	-13.76
4	SLU 5	65	-44	465	29.58	16.94	-13.76
4	SLU 6	65	-44	465	29.58	16.94	-13.76
4	SLU 7	65	-44	465	29.58	16.94	-13.76
4	SLU 8	65	-44	465	29.58	16.94	-13.76
4	SLU 9	65	-44	465	29.58	16.94	-13.76
4	SLU 10	72	-61	559	27.01	20.35	-14.48
4	SLU 11	72	-61	559	27.01	20.35	-14.48
4	SLU 12	72	-61	559	27.01	20.35	-14.48
4	SLU 13	72	-61	559	27.01	20.35	-14.48
4	SLU 14	72	-61	559	27.01	20.35	-14.48
4	SLU 15	72	-61	559	27.01	20.35	-14.48
4	SLU 16	72	-61	559	27.01	20.35	-14.48
4	SLU 17	72	-61	559	27.01	20.35	-14.48
4	SLU 18	75	-68	599	25.9	21.81	-14.79
4	SLU 19	75	-68	599	25.9	21.81	-14.79
4	SLU 20	75	-68	599	25.9	21.81	-14.79
4	SLU 21	75	-68	599	25.9	21.81	-14.79
4	SLU 22	72	-56	535	27.71	19.5	-14.75
4	SLU 23	72	-56	535	27.71	19.5	-14.75
4	SLU 24	72	-56	535	27.71	19.5	-14.75
4	SLU 25	72	-56	535	27.71	19.5	-14.75
4	SLU 26	72	-56	535	27.71	19.5	-14.75
4	SLU 27	72	-56	535	27.71	19.5	-14.75
4	SLU 28	72	-56	535	27.71	19.5	-14.75
4	SLU 29	72	-56	535	27.71	19.5	-14.75
4	SLU 30	72	-56	535	27.71	19.5	-14.75
4	SLU 31	78	-73	629	25.14	22.9	-15.47
4	SLU 32	78	-73	629	25.14	22.9	-15.47
4	SLU 33	78	-73	629	25.14	22.9	-15.47
4	SLU 34	78	-73	629	25.14	22.9	-15.47
4	SLU 35	78	-73	629	25.14	22.9	-15.47
4	SLU 36	78	-73	629	25.14	22.9	-15.47
4	SLU 37	78	-73	629	25.14	22.9	-15.47
4	SLU 38	78	-73	629	25.14	22.9	-15.47
4	SLU 39	81	-80	669	24.03	24.36	-15.78
4	SLU 40	81	-80	669	24.03	24.36	-15.78
4	SLU 41	81	-80	669	24.03	24.36	-15.78
4	SLU 42	81	-80	669	24.03	24.36	-15.78



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
4	SLU 43	83	-54	580	39.1	21.15	-17.55
4	SLU 44	83	-54	580	39.1	21.15	-17.55
4	SLU 45	83	-54	580	39.1	21.15	-17.55
4	SLU 46	83	-54	580	39.1	21.15	-17.55
4	SLU 47	83	-54	580	39.1	21.15	-17.55
4	SLU 48	83	-54	580	39.1	21.15	-17.55
4	SLU 49	83	-54	580	39.1	21.15	-17.55
4	SLU 50	83	-54	580	39.1	21.15	-17.55
4	SLU 51	83	-54	580	39.1	21.15	-17.55
4	SLU 52	89	-71	674	36.52	24.56	-18.27
4	SLU 53	89	-71	674	36.52	24.56	-18.27
4	SLU 54	89	-71	674	36.52	24.56	-18.27
4	SLU 55	89	-71	674	36.52	24.56	-18.27
4	SLU 56	89	-71	674	36.52	24.56	-18.27
4	SLU 57	89	-71	674	36.52	24.56	-18.27
4	SLU 58	89	-71	674	36.52	24.56	-18.27
4	SLU 59	89	-71	674	36.52	24.56	-18.27
4	SLU 60	92	-78	715	35.42	26.02	-18.57
4	SLU 61	92	-78	715	35.42	26.02	-18.57
4	SLU 62	92	-78	715	35.42	26.02	-18.57
4	SLU 63	92	-78	715	35.42	26.02	-18.57
4	SLU 64	89	-65	651	37.23	23.7	-18.54
4	SLU 65	89	-65	651	37.23	23.7	-18.54
4	SLU 66	89	-65	651	37.23	23.7	-18.54
4	SLU 67	89	-65	651	37.23	23.7	-18.54
4	SLU 68	89	-65	651	37.23	23.7	-18.54
4	SLU 69	89	-65	651	37.23	23.7	-18.54
4	SLU 70	89	-65	651	37.23	23.7	-18.54
4	SLU 71	89	-65	651	37.23	23.7	-18.54
4	SLU 72	89	-65	651	37.23	23.7	-18.54
4	SLU 73	96	-82	745	34.65	27.11	-19.26
4	SLU 74	96	-82	745	34.65	27.11	-19.26
4	SLU 75	96	-82	745	34.65	27.11	-19.26
4	SLU 76	96	-82	745	34.65	27.11	-19.26
4	SLU 77	96	-82	745	34.65	27.11	-19.26
4	SLU 78	96	-82	745	34.65	27.11	-19.26
4	SLU 79	96	-82	745	34.65	27.11	-19.26
4	SLU 80	96	-82	745	34.65	27.11	-19.26
4	SLU 81	98	-89	785	33.55	28.57	-19.57
4	SLU 82	98	-89	785	33.55	28.57	-19.57
4	SLU 83	98	-89	785	33.55	28.57	-19.57
4	SLU 84	98	-89	785	33.55	28.57	-19.57
4	SLE RA 1	67	-48	485	29.05	17.67	-14.05
4	SLE RA 2	67	-48	485	29.05	17.67	-14.05
4	SLE RA 3	67	-48	485	29.05	17.67	-14.05
4	SLE RA 4	67	-48	485	29.05	17.67	-14.05
4	SLE RA 5	67	-48	485	29.05	17.67	-14.05
4	SLE RA 6	67	-48	485	29.05	17.67	-14.05
4	SLE RA 7	67	-48	485	29.05	17.67	-14.05
4	SLE RA 8	67	-48	485	29.05	17.67	-14.05
4	SLE RA 9	67	-48	485	29.05	17.67	-14.05
4	SLE RA 10	71	-59	548	27.33	19.94	-14.52
4	SLE RA 11	71	-59	548	27.33	19.94	-14.52
4	SLE RA 12	71	-59	548	27.33	19.94	-14.52
4	SLE RA 13	71	-59	548	27.33	19.94	-14.52
4	SLE RA 14	71	-59	548	27.33	19.94	-14.52
4	SLE RA 15	71	-59	548	27.33	19.94	-14.52
4	SLE RA 16	71	-59	548	27.33	19.94	-14.52
4	SLE RA 17	71	-59	548	27.33	19.94	-14.52
4	SLE RA 18	73	-64	575	26.6	20.92	-14.73
4	SLE RA 19	73	-64	575	26.6	20.92	-14.73
4	SLE RA 20	73	-64	575	26.6	20.92	-14.73
4	SLE RA 21	73	-64	575	26.6	20.92	-14.73
4	SLE FR 1	67	-48	485	29.05	17.67	-14.05
4	SLE FR 2	67	-48	485	29.05	17.67	-14.05
4	SLE FR 3	67	-48	485	29.05	17.67	-14.05
4	SLE FR 4	69	-52	512	28.31	18.65	-14.25
4	SLE FR 5	69	-52	512	28.31	18.65	-14.25
4	SLE FR 6	70	-56	530	27.82	19.29	-14.39
4	SLE QP 1	67	-48	485	29.05	17.67	-14.05
4	SLE QP 2	69	-52	512	28.31	18.65	-14.25
4	SLD 1	271	77	585	30.37	21.94	-70.57
4	SLD 2	304	99	581	30.12	21.78	-79.89
4	SLD 3	236	55	541	34.74	20.25	-60.96
4	SLD 4	269	77	537	34.5	20.09	-70.28
4	SLD 5	170	12	602	22.38	22.25	-42.38
4	SLD 6	203	34	598	22.13	22.09	-51.84
4	SLD 7	55	-61	455	36.97	16.63	-10.36
4	SLD 8	89	-39	451	36.72	16.46	-19.82
4	SLD 9	49	-66	573	19.9	20.83	-8.68
4	SLD 10	83	-44	569	19.66	20.66	-18.14
4	SLD 11	-65	-139	426	34.5	15.21	23.34
4	SLD 12	-32	-117	422	34.25	15.04	13.88
4	SLD 13	-131	-182	487	22.13	17.2	41.78
4	SLD 14	-98	-160	483	21.88	17.04	32.46
4	SLD 15	-166	-204	443	26.5	15.51	51.39
4	SLD 16	-133	-182	439	26.26	15.35	42.07
4	SLV 1	527	242	678	32.9	26.15	-142.17
4	SLV 2	602	292	669	32.36	25.78	-163.32



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
4	SLV 3	448	192	577	43.1	22.28	-120.23
4	SLV 4	524	242	567	42.55	21.91	-141.37
4	SLV 5	298	94	719	14.43	26.9	-78.35
4	SLV 6	375	145	709	13.87	26.52	-99.82
4	SLV 7	37	-73	381	48.41	14	-5.2
4	SLV 8	113	-22	371	47.85	13.62	-26.66
4	SLV 9	25	-82	652	8.78	23.67	-1.84
4	SLV 10	101	-32	643	8.22	23.29	-23.3
4	SLV 11	-237	-250	315	42.76	10.77	71.32
4	SLV 12	-160	-199	305	42.2	10.39	49.85
4	SLV 13	-386	-347	456	14.08	15.39	112.87
4	SLV 14	-310	-297	447	13.53	15.01	91.73
4	SLV 15	-464	-397	355	24.27	11.51	134.82
4	SLV 16	-389	-347	345	23.72	11.14	113.67
4	CRTFP Ux+	0	0	0	0	0	0
4	CRTFP Ux-	0	0	0	0	0	0
4	CRTFP Uy+	0	0	0	0	0	0
4	CRTFP Uy-	0	0	0	0	0	0
5	SLU 1	80	-23	687	47.36	14.79	-18.15
5	SLU 2	80	-23	687	47.36	14.79	-18.15
5	SLU 3	80	-23	687	47.36	14.79	-18.15
5	SLU 4	80	-23	687	47.36	14.79	-18.15
5	SLU 5	80	-23	687	47.36	14.79	-18.15
5	SLU 6	80	-23	687	47.36	14.79	-18.15
5	SLU 7	80	-23	687	47.36	14.79	-18.15
5	SLU 8	80	-23	687	47.36	14.79	-18.15
5	SLU 9	80	-23	687	47.36	14.79	-18.15
5	SLU 10	88	-35	826	46.36	17.77	-19.43
5	SLU 11	88	-35	826	46.36	17.77	-19.43
5	SLU 12	88	-35	826	46.36	17.77	-19.43
5	SLU 13	88	-35	826	46.36	17.77	-19.43
5	SLU 14	88	-35	826	46.36	17.77	-19.43
5	SLU 15	88	-35	826	46.36	17.77	-19.43
5	SLU 16	88	-35	826	46.36	17.77	-19.43
5	SLU 17	88	-35	826	46.36	17.77	-19.43
5	SLU 18	92	-40	886	45.93	19.05	-19.98
5	SLU 19	92	-40	886	45.93	19.05	-19.98
5	SLU 20	92	-40	886	45.93	19.05	-19.98
5	SLU 21	92	-40	886	45.93	19.05	-19.98
5	SLU 22	88	-31	791	46.63	17.03	-19.65
5	SLU 23	88	-31	791	46.63	17.03	-19.65
5	SLU 24	88	-31	791	46.63	17.03	-19.65
5	SLU 25	88	-31	791	46.63	17.03	-19.65
5	SLU 26	88	-31	791	46.63	17.03	-19.65
5	SLU 27	88	-31	791	46.63	17.03	-19.65
5	SLU 28	88	-31	791	46.63	17.03	-19.65
5	SLU 29	88	-31	791	46.63	17.03	-19.65
5	SLU 30	88	-31	791	46.63	17.03	-19.65
5	SLU 31	96	-42	930	45.63	20.01	-20.93
5	SLU 32	96	-42	930	45.63	20.01	-20.93
5	SLU 33	96	-42	930	45.63	20.01	-20.93
5	SLU 34	96	-42	930	45.63	20.01	-20.93
5	SLU 35	96	-42	930	45.63	20.01	-20.93
5	SLU 36	96	-42	930	45.63	20.01	-20.93
5	SLU 37	96	-42	930	45.63	20.01	-20.93
5	SLU 38	96	-42	930	45.63	20.01	-20.93
5	SLU 39	100	-47	990	45.2	21.28	-21.48
5	SLU 40	100	-47	990	45.2	21.28	-21.48
5	SLU 41	100	-47	990	45.2	21.28	-21.48
5	SLU 42	100	-47	990	45.2	21.28	-21.48
5	SLU 43	102	-28	857	61.81	18.47	-23.09
5	SLU 44	102	-28	857	61.81	18.47	-23.09
5	SLU 45	102	-28	857	61.81	18.47	-23.09
5	SLU 46	102	-28	857	61.81	18.47	-23.09
5	SLU 47	102	-28	857	61.81	18.47	-23.09
5	SLU 48	102	-28	857	61.81	18.47	-23.09
5	SLU 49	102	-28	857	61.81	18.47	-23.09
5	SLU 50	102	-28	857	61.81	18.47	-23.09
5	SLU 51	102	-28	857	61.81	18.47	-23.09
5	SLU 52	110	-39	997	60.82	21.45	-24.37
5	SLU 53	110	-39	997	60.82	21.45	-24.37
5	SLU 54	110	-39	997	60.82	21.45	-24.37
5	SLU 55	110	-39	997	60.82	21.45	-24.37
5	SLU 56	110	-39	997	60.82	21.45	-24.37
5	SLU 57	110	-39	997	60.82	21.45	-24.37
5	SLU 58	110	-39	997	60.82	21.45	-24.37
5	SLU 59	110	-39	997	60.82	21.45	-24.37
5	SLU 60	113	-44	1056	60.39	22.72	-24.92
5	SLU 61	113	-44	1056	60.39	22.72	-24.92
5	SLU 62	113	-44	1056	60.39	22.72	-24.92
5	SLU 63	113	-44	1056	60.39	22.72	-24.92
5	SLU 64	110	-35	961	61.08	20.7	-24.58
5	SLU 65	110	-35	961	61.08	20.7	-24.58
5	SLU 66	110	-35	961	61.08	20.7	-24.58
5	SLU 67	110	-35	961	61.08	20.7	-24.58
5	SLU 68	110	-35	961	61.08	20.7	-24.58
5	SLU 69	110	-35	961	61.08	20.7	-24.58
5	SLU 70	110	-35	961	61.08	20.7	-24.58
5	SLU 71	110	-35	961	61.08	20.7	-24.58



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
5	SLU 72	110	-35	961	61.08	20.7	-24.58
5	SLU 73	118	-47	1101	60.09	23.68	-25.86
5	SLU 74	118	-47	1101	60.09	23.68	-25.86
5	SLU 75	118	-47	1101	60.09	23.68	-25.86
5	SLU 76	118	-47	1101	60.09	23.68	-25.86
5	SLU 77	118	-47	1101	60.09	23.68	-25.86
5	SLU 78	118	-47	1101	60.09	23.68	-25.86
5	SLU 79	118	-47	1101	60.09	23.68	-25.86
5	SLU 80	118	-47	1101	60.09	23.68	-25.86
5	SLU 81	121	-52	1160	59.66	24.96	-26.41
5	SLU 82	121	-52	1160	59.66	24.96	-26.41
5	SLU 83	121	-52	1160	59.66	24.96	-26.41
5	SLU 84	121	-52	1160	59.66	24.96	-26.41
5	SLE RA 1	83	-25	716	47.15	15.43	-18.58
5	SLE RA 2	83	-25	716	47.15	15.43	-18.58
5	SLE RA 3	83	-25	716	47.15	15.43	-18.58
5	SLE RA 4	83	-25	716	47.15	15.43	-18.58
5	SLE RA 5	83	-25	716	47.15	15.43	-18.58
5	SLE RA 6	83	-25	716	47.15	15.43	-18.58
5	SLE RA 7	83	-25	716	47.15	15.43	-18.58
5	SLE RA 8	83	-25	716	47.15	15.43	-18.58
5	SLE RA 9	83	-25	716	47.15	15.43	-18.58
5	SLE RA 10	88	-33	809	46.48	17.42	-19.43
5	SLE RA 11	88	-33	809	46.48	17.42	-19.43
5	SLE RA 12	88	-33	809	46.48	17.42	-19.43
5	SLE RA 13	88	-33	809	46.48	17.42	-19.43
5	SLE RA 14	88	-33	809	46.48	17.42	-19.43
5	SLE RA 15	88	-33	809	46.48	17.42	-19.43
5	SLE RA 16	88	-33	809	46.48	17.42	-19.43
5	SLE RA 17	88	-33	809	46.48	17.42	-19.43
5	SLE RA 18	90	-36	849	46.2	18.27	-19.8
5	SLE RA 19	90	-36	849	46.2	18.27	-19.8
5	SLE RA 20	90	-36	849	46.2	18.27	-19.8
5	SLE RA 21	90	-36	849	46.2	18.27	-19.8
5	SLE FR 1	83	-25	716	47.15	15.43	-18.58
5	SLE FR 2	83	-25	716	47.15	15.43	-18.58
5	SLE FR 3	83	-25	716	47.15	15.43	-18.58
5	SLE FR 4	85	-29	756	46.86	16.28	-18.95
5	SLE FR 5	85	-29	756	46.86	16.28	-18.95
5	SLE FR 6	86	-31	783	46.67	16.85	-19.19
5	SLE QP 1	83	-25	716	47.15	15.43	-18.58
5	SLE QP 2	85	-29	756	46.86	16.28	-18.95
5	SLD 1	335	109	837	53.16	18.98	-86.14
5	SLD 2	376	132	831	53	18.83	-97.24
5	SLD 3	292	86	775	47.77	17.52	-74.68
5	SLD 4	333	109	769	47.6	17.38	-85.79
5	SLD 5	210	39	876	56.99	19.34	-52.51
5	SLD 6	251	62	870	56.82	19.2	-63.78
5	SLD 7	68	-37	670	39.02	14.51	-14.33
5	SLD 8	110	-14	665	38.85	14.36	-25.59
5	SLD 9	60	-44	848	54.88	18.2	-12.3
5	SLD 10	102	-21	842	54.71	18.06	-23.57
5	SLD 11	-82	-119	642	36.9	13.37	25.88
5	SLD 12	-40	-96	637	36.74	13.22	14.62
5	SLD 13	-163	-166	743	46.12	15.18	47.89
5	SLD 14	-122	-144	738	45.95	15.04	36.79
5	SLD 15	-206	-189	682	40.73	13.73	59.35
5	SLD 16	-165	-166	676	40.56	13.59	48.24
5	SLV 1	652	284	940	61.55	22.42	-171.57
5	SLV 2	745	335	927	61.18	22.09	-196.76
5	SLV 3	555	232	798	48.71	19.09	-145.4
5	SLV 4	648	284	785	48.34	18.77	-170.59
5	SLV 5	369	125	1031	70.88	23.29	-95.41
5	SLV 6	464	177	1018	70.5	22.96	-120.99
5	SLV 7	45	-47	558	28.08	12.19	-8.19
5	SLV 8	140	5	545	27.69	11.86	-33.76
5	SLV 9	30	-62	968	66.03	20.7	-4.13
5	SLV 10	125	-10	954	65.65	20.37	-29.71
5	SLV 11	-294	-235	495	23.23	9.61	83.09
5	SLV 12	-199	-182	481	22.84	9.28	57.52
5	SLV 13	-478	-341	728	45.39	13.8	132.7
5	SLV 14	-385	-290	715	45.01	13.48	107.51
5	SLV 15	-575	-393	586	32.55	10.47	158.86
5	SLV 16	-482	-341	573	32.17	10.15	133.67
5	CRTFP Ux+	0	0	0	0	0	0
5	CRTFP Ux-	0	0	0	0	0	0
5	CRTFP Uy+	0	0	0	0	0	0
5	CRTFP Uy-	0	0	0	0	0	0
6	SLU 1	69	7	698	43.85	-2.83	-16.55
6	SLU 2	69	7	698	43.85	-2.83	-16.55
6	SLU 3	69	7	698	43.85	-2.83	-16.55
6	SLU 4	69	7	698	43.85	-2.83	-16.55
6	SLU 5	69	7	698	43.85	-2.83	-16.55
6	SLU 6	69	7	698	43.85	-2.83	-16.55
6	SLU 7	69	7	698	43.85	-2.83	-16.55
6	SLU 8	69	7	698	43.85	-2.83	-16.55
6	SLU 9	69	7	698	43.85	-2.83	-16.55
6	SLU 10	76	5	840	42.96	-3.42	-17.98
6	SLU 11	76	5	840	42.96	-3.42	-17.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
6	SLU 12	76	5	840	42.96	-3.42	-17.98
6	SLU 13	76	5	840	42.96	-3.42	-17.98
6	SLU 14	76	5	840	42.96	-3.42	-17.98
6	SLU 15	76	5	840	42.96	-3.42	-17.98
6	SLU 16	76	5	840	42.96	-3.42	-17.98
6	SLU 17	76	5	840	42.96	-3.42	-17.98
6	SLU 18	79	4	901	42.57	-3.68	-18.59
6	SLU 19	79	4	901	42.57	-3.68	-18.59
6	SLU 20	79	4	901	42.57	-3.68	-18.59
6	SLU 21	79	4	901	42.57	-3.68	-18.59
6	SLU 22	76	6	804	43.18	-3.26	-18.06
6	SLU 23	76	6	804	43.18	-3.26	-18.06
6	SLU 24	76	6	804	43.18	-3.26	-18.06
6	SLU 25	76	6	804	43.18	-3.26	-18.06
6	SLU 26	76	6	804	43.18	-3.26	-18.06
6	SLU 27	76	6	804	43.18	-3.26	-18.06
6	SLU 28	76	6	804	43.18	-3.26	-18.06
6	SLU 29	76	6	804	43.18	-3.26	-18.06
6	SLU 30	76	6	804	43.18	-3.26	-18.06
6	SLU 31	83	4	946	42.29	-3.85	-19.49
6	SLU 32	83	4	946	42.29	-3.85	-19.49
6	SLU 33	83	4	946	42.29	-3.85	-19.49
6	SLU 34	83	4	946	42.29	-3.85	-19.49
6	SLU 35	83	4	946	42.29	-3.85	-19.49
6	SLU 36	83	4	946	42.29	-3.85	-19.49
6	SLU 37	83	4	946	42.29	-3.85	-19.49
6	SLU 38	83	4	946	42.29	-3.85	-19.49
6	SLU 39	85	3	1007	41.9	-4.11	-20.11
6	SLU 40	85	3	1007	41.9	-4.11	-20.11
6	SLU 41	85	3	1007	41.9	-4.11	-20.11
6	SLU 42	85	3	1007	41.9	-4.11	-20.11
6	SLU 43	88	9	871	57.24	-3.53	-20.99
6	SLU 44	88	9	871	57.24	-3.53	-20.99
6	SLU 45	88	9	871	57.24	-3.53	-20.99
6	SLU 46	88	9	871	57.24	-3.53	-20.99
6	SLU 47	88	9	871	57.24	-3.53	-20.99
6	SLU 48	88	9	871	57.24	-3.53	-20.99
6	SLU 49	88	9	871	57.24	-3.53	-20.99
6	SLU 50	88	9	871	57.24	-3.53	-20.99
6	SLU 51	88	9	871	57.24	-3.53	-20.99
6	SLU 52	94	7	1014	56.34	-4.12	-22.43
6	SLU 53	94	7	1014	56.34	-4.12	-22.43
6	SLU 54	94	7	1014	56.34	-4.12	-22.43
6	SLU 55	94	7	1014	56.34	-4.12	-22.43
6	SLU 56	94	7	1014	56.34	-4.12	-22.43
6	SLU 57	94	7	1014	56.34	-4.12	-22.43
6	SLU 58	94	7	1014	56.34	-4.12	-22.43
6	SLU 59	94	7	1014	56.34	-4.12	-22.43
6	SLU 60	97	6	1075	55.96	-4.38	-23.04
6	SLU 61	97	6	1075	55.96	-4.38	-23.04
6	SLU 62	97	6	1075	55.96	-4.38	-23.04
6	SLU 63	97	6	1075	55.96	-4.38	-23.04
6	SLU 64	94	8	977	56.57	-3.96	-22.5
6	SLU 65	94	8	977	56.57	-3.96	-22.5
6	SLU 66	94	8	977	56.57	-3.96	-22.5
6	SLU 67	94	8	977	56.57	-3.96	-22.5
6	SLU 68	94	8	977	56.57	-3.96	-22.5
6	SLU 69	94	8	977	56.57	-3.96	-22.5
6	SLU 70	94	8	977	56.57	-3.96	-22.5
6	SLU 71	94	8	977	56.57	-3.96	-22.5
6	SLU 72	94	8	977	56.57	-3.96	-22.5
6	SLU 73	101	6	1119	55.67	-4.55	-23.94
6	SLU 74	101	6	1119	55.67	-4.55	-23.94
6	SLU 75	101	6	1119	55.67	-4.55	-23.94
6	SLU 76	101	6	1119	55.67	-4.55	-23.94
6	SLU 77	101	6	1119	55.67	-4.55	-23.94
6	SLU 78	101	6	1119	55.67	-4.55	-23.94
6	SLU 79	101	6	1119	55.67	-4.55	-23.94
6	SLU 80	101	6	1119	55.67	-4.55	-23.94
6	SLU 81	104	5	1180	55.29	-4.81	-24.55
6	SLU 82	104	5	1180	55.29	-4.81	-24.55
6	SLU 83	104	5	1180	55.29	-4.81	-24.55
6	SLU 84	104	5	1180	55.29	-4.81	-24.55
6	SLE RA 1	71	7	728	43.66	-2.95	-16.98
6	SLE RA 2	71	7	728	43.66	-2.95	-16.98
6	SLE RA 3	71	7	728	43.66	-2.95	-16.98
6	SLE RA 4	71	7	728	43.66	-2.95	-16.98
6	SLE RA 5	71	7	728	43.66	-2.95	-16.98
6	SLE RA 6	71	7	728	43.66	-2.95	-16.98
6	SLE RA 7	71	7	728	43.66	-2.95	-16.98
6	SLE RA 8	71	7	728	43.66	-2.95	-16.98
6	SLE RA 9	71	7	728	43.66	-2.95	-16.98
6	SLE RA 10	76	5	823	43.06	-3.35	-17.93
6	SLE RA 11	76	5	823	43.06	-3.35	-17.93
6	SLE RA 12	76	5	823	43.06	-3.35	-17.93
6	SLE RA 13	76	5	823	43.06	-3.35	-17.93
6	SLE RA 14	76	5	823	43.06	-3.35	-17.93
6	SLE RA 15	76	5	823	43.06	-3.35	-17.93
6	SLE RA 16	76	5	823	43.06	-3.35	-17.93



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
6	SLE RA 17	76	5	823	43.06	-3.35	-17.93
6	SLE RA 18	78	4	864	42.81	-3.52	-18.34
6	SLE RA 19	78	4	864	42.81	-3.52	-18.34
6	SLE RA 20	78	4	864	42.81	-3.52	-18.34
6	SLE RA 21	78	4	864	42.81	-3.52	-18.34
6	SLE FR 1	71	7	728	43.66	-2.95	-16.98
6	SLE FR 2	71	7	728	43.66	-2.95	-16.98
6	SLE FR 3	71	7	728	43.66	-2.95	-16.98
6	SLE FR 4	73	6	769	43.4	-3.12	-17.39
6	SLE FR 5	73	6	769	43.4	-3.12	-17.39
6	SLE FR 6	74	5	796	43.23	-3.24	-17.66
6	SLE QP 1	71	7	728	43.66	-2.95	-16.98
6	SLE QP 2	73	6	769	43.4	-3.12	-17.39
6	SLD 1	292	107	833	48.75	-2.74	-72.64
6	SLD 2	328	123	828	48.54	-2.74	-81.77
6	SLD 3	255	91	773	43.08	-2.54	-63.2
6	SLD 4	291	107	768	42.87	-2.53	-72.33
6	SLD 5	182	55	882	53.68	-3.32	-45.02
6	SLD 6	219	72	876	53.47	-3.31	-54.28
6	SLD 7	58	1	681	34.78	-2.64	-13.55
6	SLD 8	95	17	675	34.57	-2.64	-22.82
6	SLD 9	52	-5	863	52.24	-3.61	-11.96
6	SLD 10	88	11	857	52.03	-3.6	-21.22
6	SLD 11	-73	-60	662	33.34	-2.93	19.5
6	SLD 12	-36	-44	656	33.13	-2.93	10.24
6	SLD 13	-144	-95	770	43.94	-3.71	37.55
6	SLD 14	-108	-79	765	43.73	-3.7	28.42
6	SLD 15	-182	-111	710	38.27	-3.51	46.99
6	SLD 16	-146	-95	705	38.06	-3.5	37.86
6	SLV 1	570	236	916	56.06	-2.27	-142.89
6	SLV 2	652	272	904	55.59	-2.25	-163.6
6	SLV 3	485	199	777	42.33	-1.8	-121.33
6	SLV 4	567	235	765	41.86	-1.78	-142.04
6	SLV 5	322	118	1028	68.21	-3.59	-80.34
6	SLV 6	405	155	1016	67.73	-3.57	-101.37
6	SLV 7	38	-6	565	22.41	-2.02	-8.46
6	SLV 8	121	31	553	21.94	-2	-29.48
6	SLV 9	25	-20	985	64.87	-4.24	-5.3
6	SLV 10	108	18	973	64.4	-4.23	-26.32
6	SLV 11	-259	-144	522	19.08	-2.68	66.59
6	SLV 12	-176	-106	510	18.6	-2.66	45.57
6	SLV 13	-420	-223	772	44.95	-4.47	107.26
6	SLV 14	-339	-187	760	44.48	-4.45	86.55
6	SLV 15	-506	-261	634	31.22	-4	128.83
6	SLV 16	-424	-224	622	30.75	-3.98	108.12
6	CRTFP Ux+	0	0	0	0	0	0
6	CRTFP Ux-	0	0	0	0	0	0
6	CRTFP Uy+	0	0	0	0	0	0
6	CRTFP Uy-	0	0	0	0	0	0
7	SLU 1	68	29	781	48.31	-2.58	-16.24
7	SLU 2	68	29	781	48.31	-2.58	-16.24
7	SLU 3	68	29	781	48.31	-2.58	-16.24
7	SLU 4	68	29	781	48.31	-2.58	-16.24
7	SLU 5	68	29	781	48.31	-2.58	-16.24
7	SLU 6	68	29	781	48.31	-2.58	-16.24
7	SLU 7	68	29	781	48.31	-2.58	-16.24
7	SLU 8	68	29	781	48.31	-2.58	-16.24
7	SLU 9	68	29	781	48.31	-2.58	-16.24
7	SLU 10	74	33	941	47.96	-3.12	-17.6
7	SLU 11	74	33	941	47.96	-3.12	-17.6
7	SLU 12	74	33	941	47.96	-3.12	-17.6
7	SLU 13	74	33	941	47.96	-3.12	-17.6
7	SLU 14	74	33	941	47.96	-3.12	-17.6
7	SLU 15	74	33	941	47.96	-3.12	-17.6
7	SLU 16	74	33	941	47.96	-3.12	-17.6
7	SLU 17	74	33	941	47.96	-3.12	-17.6
7	SLU 18	76	35	1009	47.81	-3.35	-18.18
7	SLU 19	76	35	1009	47.81	-3.35	-18.18
7	SLU 20	76	35	1009	47.81	-3.35	-18.18
7	SLU 21	76	35	1009	47.81	-3.35	-18.18
7	SLU 22	74	32	899	48.05	-2.97	-17.7
7	SLU 23	74	32	899	48.05	-2.97	-17.7
7	SLU 24	74	32	899	48.05	-2.97	-17.7
7	SLU 25	74	32	899	48.05	-2.97	-17.7
7	SLU 26	74	32	899	48.05	-2.97	-17.7
7	SLU 27	74	32	899	48.05	-2.97	-17.7
7	SLU 28	74	32	899	48.05	-2.97	-17.7
7	SLU 29	74	32	899	48.05	-2.97	-17.7
7	SLU 30	74	32	899	48.05	-2.97	-17.7
7	SLU 31	80	37	1059	47.7	-3.51	-19.05
7	SLU 32	80	37	1059	47.7	-3.51	-19.05
7	SLU 33	80	37	1059	47.7	-3.51	-19.05
7	SLU 34	80	37	1059	47.7	-3.51	-19.05
7	SLU 35	80	37	1059	47.7	-3.51	-19.05
7	SLU 36	80	37	1059	47.7	-3.51	-19.05
7	SLU 37	80	37	1059	47.7	-3.51	-19.05
7	SLU 38	80	37	1059	47.7	-3.51	-19.05
7	SLU 39	83	38	1128	47.55	-3.74	-19.63
7	SLU 40	83	38	1128	47.55	-3.74	-19.63



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
7	SLU 41	83	38	1128	47.55	-3.74	-19.63
7	SLU 42	83	38	1128	47.55	-3.74	-19.63
7	SLU 43	86	36	975	62.89	-3.22	-20.62
7	SLU 44	86	36	975	62.89	-3.22	-20.62
7	SLU 45	86	36	975	62.89	-3.22	-20.62
7	SLU 46	86	36	975	62.89	-3.22	-20.62
7	SLU 47	86	36	975	62.89	-3.22	-20.62
7	SLU 48	86	36	975	62.89	-3.22	-20.62
7	SLU 49	86	36	975	62.89	-3.22	-20.62
7	SLU 50	86	36	975	62.89	-3.22	-20.62
7	SLU 51	86	36	975	62.89	-3.22	-20.62
7	SLU 52	92	40	1134	62.54	-3.76	-21.97
7	SLU 53	92	40	1134	62.54	-3.76	-21.97
7	SLU 54	92	40	1134	62.54	-3.76	-21.97
7	SLU 55	92	40	1134	62.54	-3.76	-21.97
7	SLU 56	92	40	1134	62.54	-3.76	-21.97
7	SLU 57	92	40	1134	62.54	-3.76	-21.97
7	SLU 58	92	40	1134	62.54	-3.76	-21.97
7	SLU 59	92	40	1134	62.54	-3.76	-21.97
7	SLU 60	95	42	1203	62.39	-3.99	-22.55
7	SLU 61	95	42	1203	62.39	-3.99	-22.55
7	SLU 62	95	42	1203	62.39	-3.99	-22.55
7	SLU 63	95	42	1203	62.39	-3.99	-22.55
7	SLU 64	92	40	1093	62.63	-3.61	-22.07
7	SLU 65	92	40	1093	62.63	-3.61	-22.07
7	SLU 66	92	40	1093	62.63	-3.61	-22.07
7	SLU 67	92	40	1093	62.63	-3.61	-22.07
7	SLU 68	92	40	1093	62.63	-3.61	-22.07
7	SLU 69	92	40	1093	62.63	-3.61	-22.07
7	SLU 70	92	40	1093	62.63	-3.61	-22.07
7	SLU 71	92	40	1093	62.63	-3.61	-22.07
7	SLU 72	92	40	1093	62.63	-3.61	-22.07
7	SLU 73	98	44	1253	62.28	-4.15	-23.43
7	SLU 74	98	44	1253	62.28	-4.15	-23.43
7	SLU 75	98	44	1253	62.28	-4.15	-23.43
7	SLU 76	98	44	1253	62.28	-4.15	-23.43
7	SLU 77	98	44	1253	62.28	-4.15	-23.43
7	SLU 78	98	44	1253	62.28	-4.15	-23.43
7	SLU 79	98	44	1253	62.28	-4.15	-23.43
7	SLU 80	98	44	1253	62.28	-4.15	-23.43
7	SLU 81	101	46	1321	62.13	-4.38	-24.01
7	SLU 82	101	46	1321	62.13	-4.38	-24.01
7	SLU 83	101	46	1321	62.13	-4.38	-24.01
7	SLU 84	101	46	1321	62.13	-4.38	-24.01
7	SLE RA 1	69	30	815	48.23	-2.69	-16.66
7	SLE RA 2	69	30	815	48.23	-2.69	-16.66
7	SLE RA 3	69	30	815	48.23	-2.69	-16.66
7	SLE RA 4	69	30	815	48.23	-2.69	-16.66
7	SLE RA 5	69	30	815	48.23	-2.69	-16.66
7	SLE RA 6	69	30	815	48.23	-2.69	-16.66
7	SLE RA 7	69	30	815	48.23	-2.69	-16.66
7	SLE RA 8	69	30	815	48.23	-2.69	-16.66
7	SLE RA 9	69	30	815	48.23	-2.69	-16.66
7	SLE RA 10	74	33	921	48	-3.05	-17.56
7	SLE RA 11	74	33	921	48	-3.05	-17.56
7	SLE RA 12	74	33	921	48	-3.05	-17.56
7	SLE RA 13	74	33	921	48	-3.05	-17.56
7	SLE RA 14	74	33	921	48	-3.05	-17.56
7	SLE RA 15	74	33	921	48	-3.05	-17.56
7	SLE RA 16	74	33	921	48	-3.05	-17.56
7	SLE RA 17	74	33	921	48	-3.05	-17.56
7	SLE RA 18	75	34	967	47.9	-3.2	-17.95
7	SLE RA 19	75	34	967	47.9	-3.2	-17.95
7	SLE RA 20	75	34	967	47.9	-3.2	-17.95
7	SLE RA 21	75	34	967	47.9	-3.2	-17.95
7	SLE FR 1	69	30	815	48.23	-2.69	-16.66
7	SLE FR 2	69	30	815	48.23	-2.69	-16.66
7	SLE FR 3	69	30	815	48.23	-2.69	-16.66
7	SLE FR 4	71	31	860	48.13	-2.84	-17.05
7	SLE FR 5	71	31	860	48.13	-2.84	-17.05
7	SLE FR 6	72	32	891	48.07	-2.95	-17.3
7	SLE QP 1	69	30	815	48.23	-2.69	-16.66
7	SLE QP 2	71	31	860	48.13	-2.84	-17.05
7	SLD 1	290	116	925	54.44	-2.46	-72.21
7	SLD 2	326	129	919	54.1	-2.46	-81.32
7	SLD 3	252	102	859	47.9	-2.28	-62.78
7	SLD 4	288	115	853	47.56	-2.27	-71.9
7	SLD 5	180	73	981	60.06	-3.02	-44.64
7	SLD 6	217	86	976	59.72	-3.01	-53.88
7	SLD 7	56	27	762	38.27	-2.39	-13.21
7	SLD 8	93	40	757	37.92	-2.39	-22.46
7	SLD 9	50	22	964	58.34	-3.3	-11.63
7	SLD 10	86	35	959	58	-3.3	-20.88
7	SLD 11	-75	-24	745	36.55	-2.68	19.79
7	SLD 12	-38	-11	739	36.21	-2.67	10.54
7	SLD 13	-146	-53	868	48.71	-3.42	37.8
7	SLD 14	-110	-40	862	48.37	-3.41	28.69
7	SLD 15	-183	-67	802	42.17	-3.23	47.23
7	SLD 16	-147	-54	796	41.83	-3.23	38.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
7	SLV 1	568	224	1008	63.15	-1.99	-142.35
7	SLV 2	649	253	995	62.39	-1.98	-163.02
7	SLV 3	482	192	856	47.05	-1.55	-120.81
7	SLV 4	564	222	844	46.28	-1.54	-141.48
7	SLV 5	320	126	1139	77.34	-3.26	-79.91
7	SLV 6	403	156	1126	76.56	-3.25	-100.9
7	SLV 7	36	21	634	23.66	-1.79	-8.11
7	SLV 8	119	51	621	22.88	-1.78	-29.1
7	SLV 9	23	11	1100	73.39	-3.91	-4.99
7	SLV 10	106	41	1087	72.61	-3.9	-25.98
7	SLV 11	-261	-94	595	19.71	-2.44	66.81
7	SLV 12	-178	-64	582	18.93	-2.43	45.82
7	SLV 13	-422	-160	877	49.98	-4.15	107.39
7	SLV 14	-340	-130	865	49.22	-4.14	86.72
7	SLV 15	-507	-191	726	33.88	-3.71	128.93
7	SLV 16	-425	-162	713	33.12	-3.7	108.26
7	CRTFP Ux+	0	0	0	0	0	0
7	CRTFP Ux-	0	0	0	0	0	0
7	CRTFP Uy+	0	0	0	0	0	0
7	CRTFP Uy-	0	0	0	0	0	0
8	SLU 1	65	46	856	52.94	-2.3	-15.84
8	SLU 2	65	46	856	52.94	-2.3	-15.84
8	SLU 3	65	46	856	52.94	-2.3	-15.84
8	SLU 4	65	46	856	52.94	-2.3	-15.84
8	SLU 5	65	46	856	52.94	-2.3	-15.84
8	SLU 6	65	46	856	52.94	-2.3	-15.84
8	SLU 7	65	46	856	52.94	-2.3	-15.84
8	SLU 8	65	46	856	52.94	-2.3	-15.84
8	SLU 9	65	46	856	52.94	-2.3	-15.84
8	SLU 10	71	56	1031	53.21	-2.77	-17.09
8	SLU 11	71	56	1031	53.21	-2.77	-17.09
8	SLU 12	71	56	1031	53.21	-2.77	-17.09
8	SLU 13	71	56	1031	53.21	-2.77	-17.09
8	SLU 14	71	56	1031	53.21	-2.77	-17.09
8	SLU 15	71	56	1031	53.21	-2.77	-17.09
8	SLU 16	71	56	1031	53.21	-2.77	-17.09
8	SLU 17	71	56	1031	53.21	-2.77	-17.09
8	SLU 18	73	60	1106	53.33	-2.97	-17.63
8	SLU 19	73	60	1106	53.33	-2.97	-17.63
8	SLU 20	73	60	1106	53.33	-2.97	-17.63
8	SLU 21	73	60	1106	53.33	-2.97	-17.63
8	SLU 22	71	54	985	53.16	-2.64	-17.22
8	SLU 23	71	54	985	53.16	-2.64	-17.22
8	SLU 24	71	54	985	53.16	-2.64	-17.22
8	SLU 25	71	54	985	53.16	-2.64	-17.22
8	SLU 26	71	54	985	53.16	-2.64	-17.22
8	SLU 27	71	54	985	53.16	-2.64	-17.22
8	SLU 28	71	54	985	53.16	-2.64	-17.22
8	SLU 29	71	54	985	53.16	-2.64	-17.22
8	SLU 30	71	54	985	53.16	-2.64	-17.22
8	SLU 31	77	64	1161	53.43	-3.12	-18.47
8	SLU 32	77	64	1161	53.43	-3.12	-18.47
8	SLU 33	77	64	1161	53.43	-3.12	-18.47
8	SLU 34	77	64	1161	53.43	-3.12	-18.47
8	SLU 35	77	64	1161	53.43	-3.12	-18.47
8	SLU 36	77	64	1161	53.43	-3.12	-18.47
8	SLU 37	77	64	1161	53.43	-3.12	-18.47
8	SLU 38	77	64	1161	53.43	-3.12	-18.47
8	SLU 39	79	68	1236	53.55	-3.32	-19.01
8	SLU 40	79	68	1236	53.55	-3.32	-19.01
8	SLU 41	79	68	1236	53.55	-3.32	-19.01
8	SLU 42	79	68	1236	53.55	-3.32	-19.01
8	SLU 43	83	58	1068	68.75	-2.87	-20.12
8	SLU 44	83	58	1068	68.75	-2.87	-20.12
8	SLU 45	83	58	1068	68.75	-2.87	-20.12
8	SLU 46	83	58	1068	68.75	-2.87	-20.12
8	SLU 47	83	58	1068	68.75	-2.87	-20.12
8	SLU 48	83	58	1068	68.75	-2.87	-20.12
8	SLU 49	83	58	1068	68.75	-2.87	-20.12
8	SLU 50	83	58	1068	68.75	-2.87	-20.12
8	SLU 51	83	58	1068	68.75	-2.87	-20.12
8	SLU 52	89	67	1243	69.02	-3.34	-21.37
8	SLU 53	89	67	1243	69.02	-3.34	-21.37
8	SLU 54	89	67	1243	69.02	-3.34	-21.37
8	SLU 55	89	67	1243	69.02	-3.34	-21.37
8	SLU 56	89	67	1243	69.02	-3.34	-21.37
8	SLU 57	89	67	1243	69.02	-3.34	-21.37
8	SLU 58	89	67	1243	69.02	-3.34	-21.37
8	SLU 59	89	67	1243	69.02	-3.34	-21.37
8	SLU 60	91	72	1318	69.14	-3.54	-21.91
8	SLU 61	91	72	1318	69.14	-3.54	-21.91
8	SLU 62	91	72	1318	69.14	-3.54	-21.91
8	SLU 63	91	72	1318	69.14	-3.54	-21.91
8	SLU 64	89	65	1198	68.96	-3.21	-21.5
8	SLU 65	89	65	1198	68.96	-3.21	-21.5
8	SLU 66	89	65	1198	68.96	-3.21	-21.5
8	SLU 67	89	65	1198	68.96	-3.21	-21.5
8	SLU 68	89	65	1198	68.96	-3.21	-21.5
8	SLU 69	89	65	1198	68.96	-3.21	-21.5



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
8	SLU 70	89	65	1198	68.96	-3.21	-21.5
8	SLU 71	89	65	1198	68.96	-3.21	-21.5
8	SLU 72	89	65	1198	68.96	-3.21	-21.5
8	SLU 73	95	75	1373	69.24	-3.69	-22.75
8	SLU 74	95	75	1373	69.24	-3.69	-22.75
8	SLU 75	95	75	1373	69.24	-3.69	-22.75
8	SLU 76	95	75	1373	69.24	-3.69	-22.75
8	SLU 77	95	75	1373	69.24	-3.69	-22.75
8	SLU 78	95	75	1373	69.24	-3.69	-22.75
8	SLU 79	95	75	1373	69.24	-3.69	-22.75
8	SLU 80	95	75	1373	69.24	-3.69	-22.75
8	SLU 81	97	79	1448	69.36	-3.89	-23.29
8	SLU 82	97	79	1448	69.36	-3.89	-23.29
8	SLU 83	97	79	1448	69.36	-3.89	-23.29
8	SLU 84	97	79	1448	69.36	-3.89	-23.29
8	SLE RA 1	67	48	893	53	-2.4	-16.23
8	SLE RA 2	67	48	893	53	-2.4	-16.23
8	SLE RA 3	67	48	893	53	-2.4	-16.23
8	SLE RA 4	67	48	893	53	-2.4	-16.23
8	SLE RA 5	67	48	893	53	-2.4	-16.23
8	SLE RA 6	67	48	893	53	-2.4	-16.23
8	SLE RA 7	67	48	893	53	-2.4	-16.23
8	SLE RA 8	67	48	893	53	-2.4	-16.23
8	SLE RA 9	67	48	893	53	-2.4	-16.23
8	SLE RA 10	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 11	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 12	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 13	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 14	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 15	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 16	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 17	71	55	1010	53.18	-2.71	-17.07
8	SLE RA 18	72	58	1060	53.26	-2.85	-17.43
8	SLE RA 19	72	58	1060	53.26	-2.85	-17.43
8	SLE RA 20	72	58	1060	53.26	-2.85	-17.43
8	SLE RA 21	72	58	1060	53.26	-2.85	-17.43
8	SLE FR 1	67	48	893	53	-2.4	-16.23
8	SLE FR 2	67	48	893	53	-2.4	-16.23
8	SLE FR 3	67	48	893	53	-2.4	-16.23
8	SLE FR 4	69	51	943	53.08	-2.53	-16.59
8	SLE FR 5	69	51	943	53.08	-2.53	-16.59
8	SLE FR 6	70	53	976	53.13	-2.62	-16.83
8	SLE QP 1	67	48	893	53	-2.4	-16.23
8	SLE QP 2	69	51	943	53.08	-2.53	-16.59
8	SLD 1	287	109	949	53.66	-2.15	-71.63
8	SLD 2	323	120	943	53.24	-2.15	-80.73
8	SLD 3	250	122	878	46.12	-1.97	-62.22
8	SLD 4	286	132	872	45.7	-1.97	-71.32
8	SLD 5	178	47	1054	64.84	-2.68	-44.13
8	SLD 6	214	57	1048	64.41	-2.68	-53.36
8	SLD 7	54	87	818	39.71	-2.1	-12.76
8	SLD 8	90	98	812	39.28	-2.09	-21.99
8	SLD 9	47	5	1074	66.88	-2.97	-11.2
8	SLD 10	84	15	1068	66.45	-2.97	-20.43
8	SLD 11	-77	46	837	41.75	-2.38	20.17
8	SLD 12	-40	56	832	41.32	-2.38	10.94
8	SLD 13	-148	-29	1014	60.46	-3.09	38.13
8	SLD 14	-112	-19	1008	60.04	-3.09	29.04
8	SLD 15	-186	-17	943	52.92	-2.91	47.54
8	SLD 16	-150	-7	937	52.5	-2.91	38.45
8	SLV 1	565	183	957	55.16	-1.67	-141.62
8	SLV 2	646	206	944	54.21	-1.67	-162.25
8	SLV 3	479	211	793	36.39	-1.26	-120.12
8	SLV 4	561	234	781	35.43	-1.26	-140.75
8	SLV 5	317	39	1200	82.52	-2.9	-79.33
8	SLV 6	400	63	1187	81.55	-2.9	-100.28
8	SLV 7	33	134	655	19.94	-1.52	-7.66
8	SLV 8	116	158	642	18.97	-1.52	-28.61
8	SLV 9	21	-55	1244	87.19	-3.54	-4.58
8	SLV 10	104	-32	1231	86.22	-3.54	-25.52
8	SLV 11	-263	40	699	24.61	-2.17	67.09
8	SLV 12	-180	63	686	23.64	-2.16	46.15
8	SLV 13	-424	-132	1105	70.73	-3.81	107.56
8	SLV 14	-342	-109	1092	69.77	-3.8	86.93
8	SLV 15	-509	-103	942	51.95	-3.39	129.07
8	SLV 16	-427	-80	929	51	-3.39	108.43
8	CRTFP Ux+	0	0	0	0	0	0
8	CRTFP Ux-	0	0	0	0	0	0
8	CRTFP Uy+	0	0	0	0	0	0
8	CRTFP Uy-	0	0	0	0	0	0
9	SLU 1	63	59	922	56.39	-2	-15.36
9	SLU 2	63	59	922	56.39	-2	-15.36
9	SLU 3	63	59	922	56.39	-2	-15.36
9	SLU 4	63	59	922	56.39	-2	-15.36
9	SLU 5	63	59	922	56.39	-2	-15.36
9	SLU 6	63	59	922	56.39	-2	-15.36
9	SLU 7	63	59	922	56.39	-2	-15.36
9	SLU 8	63	59	922	56.39	-2	-15.36
9	SLU 9	63	59	922	56.39	-2	-15.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
9	SLU 10	68	74	1110	57.07	-2.41	-16.49
9	SLU 11	68	74	1110	57.07	-2.41	-16.49
9	SLU 12	68	74	1110	57.07	-2.41	-16.49
9	SLU 13	68	74	1110	57.07	-2.41	-16.49
9	SLU 14	68	74	1110	57.07	-2.41	-16.49
9	SLU 15	68	74	1110	57.07	-2.41	-16.49
9	SLU 16	68	74	1110	57.07	-2.41	-16.49
9	SLU 17	68	74	1110	57.07	-2.41	-16.49
9	SLU 18	70	80	1191	57.36	-2.58	-16.97
9	SLU 19	70	80	1191	57.36	-2.58	-16.97
9	SLU 20	70	80	1191	57.36	-2.58	-16.97
9	SLU 21	70	80	1191	57.36	-2.58	-16.97
9	SLU 22	68	70	1061	56.92	-2.3	-16.65
9	SLU 23	68	70	1061	56.92	-2.3	-16.65
9	SLU 24	68	70	1061	56.92	-2.3	-16.65
9	SLU 25	68	70	1061	56.92	-2.3	-16.65
9	SLU 26	68	70	1061	56.92	-2.3	-16.65
9	SLU 27	68	70	1061	56.92	-2.3	-16.65
9	SLU 28	68	70	1061	56.92	-2.3	-16.65
9	SLU 29	68	70	1061	56.92	-2.3	-16.65
9	SLU 30	68	70	1061	56.92	-2.3	-16.65
9	SLU 31	73	84	1250	57.59	-2.7	-17.78
9	SLU 32	73	84	1250	57.59	-2.7	-17.78
9	SLU 33	73	84	1250	57.59	-2.7	-17.78
9	SLU 34	73	84	1250	57.59	-2.7	-17.78
9	SLU 35	73	84	1250	57.59	-2.7	-17.78
9	SLU 36	73	84	1250	57.59	-2.7	-17.78
9	SLU 37	73	84	1250	57.59	-2.7	-17.78
9	SLU 38	73	84	1250	57.59	-2.7	-17.78
9	SLU 39	76	90	1331	57.89	-2.88	-18.26
9	SLU 40	76	90	1331	57.89	-2.88	-18.26
9	SLU 41	76	90	1331	57.89	-2.88	-18.26
9	SLU 42	76	90	1331	57.89	-2.88	-18.26
9	SLU 43	80	74	1150	73.12	-2.5	-19.52
9	SLU 44	80	74	1150	73.12	-2.5	-19.52
9	SLU 45	80	74	1150	73.12	-2.5	-19.52
9	SLU 46	80	74	1150	73.12	-2.5	-19.52
9	SLU 47	80	74	1150	73.12	-2.5	-19.52
9	SLU 48	80	74	1150	73.12	-2.5	-19.52
9	SLU 49	80	74	1150	73.12	-2.5	-19.52
9	SLU 50	80	74	1150	73.12	-2.5	-19.52
9	SLU 51	80	74	1150	73.12	-2.5	-19.52
9	SLU 52	85	88	1339	73.8	-2.91	-20.65
9	SLU 53	85	88	1339	73.8	-2.91	-20.65
9	SLU 54	85	88	1339	73.8	-2.91	-20.65
9	SLU 55	85	88	1339	73.8	-2.91	-20.65
9	SLU 56	85	88	1339	73.8	-2.91	-20.65
9	SLU 57	85	88	1339	73.8	-2.91	-20.65
9	SLU 58	85	88	1339	73.8	-2.91	-20.65
9	SLU 59	85	88	1339	73.8	-2.91	-20.65
9	SLU 60	87	94	1420	74.09	-3.08	-21.14
9	SLU 61	87	94	1420	74.09	-3.08	-21.14
9	SLU 62	87	94	1420	74.09	-3.08	-21.14
9	SLU 63	87	94	1420	74.09	-3.08	-21.14
9	SLU 64	85	84	1290	73.65	-2.8	-20.81
9	SLU 65	85	84	1290	73.65	-2.8	-20.81
9	SLU 66	85	84	1290	73.65	-2.8	-20.81
9	SLU 67	85	84	1290	73.65	-2.8	-20.81
9	SLU 68	85	84	1290	73.65	-2.8	-20.81
9	SLU 69	85	84	1290	73.65	-2.8	-20.81
9	SLU 70	85	84	1290	73.65	-2.8	-20.81
9	SLU 71	85	84	1290	73.65	-2.8	-20.81
9	SLU 72	85	84	1290	73.65	-2.8	-20.81
9	SLU 73	90	98	1478	74.33	-3.2	-21.94
9	SLU 74	90	98	1478	74.33	-3.2	-21.94
9	SLU 75	90	98	1478	74.33	-3.2	-21.94
9	SLU 76	90	98	1478	74.33	-3.2	-21.94
9	SLU 77	90	98	1478	74.33	-3.2	-21.94
9	SLU 78	90	98	1478	74.33	-3.2	-21.94
9	SLU 79	90	98	1478	74.33	-3.2	-21.94
9	SLU 80	90	98	1478	74.33	-3.2	-21.94
9	SLU 81	92	104	1559	74.62	-3.38	-22.43
9	SLU 82	92	104	1559	74.62	-3.38	-22.43
9	SLU 83	92	104	1559	74.62	-3.38	-22.43
9	SLU 84	92	104	1559	74.62	-3.38	-22.43
9	SLE RA 1	64	62	961	56.54	-2.09	-15.73
9	SLE RA 2	64	62	961	56.54	-2.09	-15.73
9	SLE RA 3	64	62	961	56.54	-2.09	-15.73
9	SLE RA 4	64	62	961	56.54	-2.09	-15.73
9	SLE RA 5	64	62	961	56.54	-2.09	-15.73
9	SLE RA 6	64	62	961	56.54	-2.09	-15.73
9	SLE RA 7	64	62	961	56.54	-2.09	-15.73
9	SLE RA 8	64	62	961	56.54	-2.09	-15.73
9	SLE RA 9	64	62	961	56.54	-2.09	-15.73
9	SLE RA 10	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 11	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 12	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 13	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 14	68	72	1087	56.99	-2.36	-16.48



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
9	SLE RA 15	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 16	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 17	68	72	1087	56.99	-2.36	-16.48
9	SLE RA 18	69	76	1141	57.19	-2.47	-16.8
9	SLE RA 19	69	76	1141	57.19	-2.47	-16.8
9	SLE RA 20	69	76	1141	57.19	-2.47	-16.8
9	SLE RA 21	69	76	1141	57.19	-2.47	-16.8
9	SLE FR 1	64	62	961	56.54	-2.09	-15.73
9	SLE FR 2	64	62	961	56.54	-2.09	-15.73
9	SLE FR 3	64	62	961	56.54	-2.09	-15.73
9	SLE FR 4	66	66	1015	56.73	-2.2	-16.05
9	SLE FR 5	66	66	1015	56.73	-2.2	-16.05
9	SLE FR 6	67	69	1051	56.86	-2.28	-16.26
9	SLE QP 1	64	62	961	56.54	-2.09	-15.73
9	SLE QP 2	66	66	1015	56.73	-2.2	-16.05
9	SLD 1	284	113	1015	57.68	-1.82	-70.95
9	SLD 2	320	120	1009	57.26	-1.83	-80.02
9	SLD 3	247	124	939	49.07	-1.66	-61.56
9	SLD 4	282	132	934	48.65	-1.66	-70.63
9	SLD 5	175	60	1132	70.23	-2.34	-43.52
9	SLD 6	211	68	1126	69.8	-2.34	-52.72
9	SLD 7	51	98	880	41.53	-1.79	-12.22
9	SLD 8	87	106	874	41.1	-1.79	-21.42
9	SLD 9	45	27	1157	72.37	-2.62	-10.68
9	SLD 10	81	34	1151	71.94	-2.62	-19.88
9	SLD 11	-80	65	904	43.67	-2.06	20.63
9	SLD 12	-43	73	899	43.24	-2.06	11.42
9	SLD 13	-151	1	1097	64.82	-2.75	38.53
9	SLD 14	-115	9	1092	64.39	-2.75	29.46
9	SLD 15	-188	13	1021	56.21	-2.58	47.92
9	SLD 16	-152	20	1016	55.78	-2.58	38.85
9	SLV 1	561	170	1015	59.82	-1.35	-140.75
9	SLV 2	642	188	1003	58.87	-1.35	-161.33
9	SLV 3	476	198	840	38.26	-0.96	-119.29
9	SLV 4	557	216	828	37.3	-0.96	-139.87
9	SLV 5	314	49	1285	90.71	-2.54	-78.65
9	SLV 6	397	67	1272	89.74	-2.54	-99.53
9	SLV 7	30	142	702	18.83	-1.24	-7.12
9	SLV 8	113	160	689	17.85	-1.24	-28.01
9	SLV 9	18	-27	1341	95.61	-3.16	-4.09
9	SLV 10	101	-9	1328	94.64	-3.17	-24.98
9	SLV 11	-265	66	759	23.73	-1.87	67.44
9	SLV 12	-183	84	746	22.76	-1.87	46.55
9	SLV 13	-426	-83	1203	76.17	-3.44	107.77
9	SLV 14	-344	-65	1190	75.21	-3.45	87.2
9	SLV 15	-511	-55	1028	54.6	-3.05	129.23
9	SLV 16	-429	-37	1015	53.64	-3.06	108.65
9	CRTFP Ux+	0	0	0	0	0	0
9	CRTFP Ux-	0	0	0	0	0	0
9	CRTFP Uy+	0	0	0	0	0	0
9	CRTFP Uy-	0	0	0	0	0	0
10	SLU 1	60	68	978	57.82	-1.71	-14.81
10	SLU 2	60	68	978	57.82	-1.71	-14.81
10	SLU 3	60	68	978	57.82	-1.71	-14.81
10	SLU 4	60	68	978	57.82	-1.71	-14.81
10	SLU 5	60	68	978	57.82	-1.71	-14.81
10	SLU 6	60	68	978	57.82	-1.71	-14.81
10	SLU 7	60	68	978	57.82	-1.71	-14.81
10	SLU 8	60	68	978	57.82	-1.71	-14.81
10	SLU 9	60	68	978	57.82	-1.71	-14.81
10	SLU 10	64	86	1179	58.48	-2.05	-15.8
10	SLU 11	64	86	1179	58.48	-2.05	-15.8
10	SLU 12	64	86	1179	58.48	-2.05	-15.8
10	SLU 13	64	86	1179	58.48	-2.05	-15.8
10	SLU 14	64	86	1179	58.48	-2.05	-15.8
10	SLU 15	64	86	1179	58.48	-2.05	-15.8
10	SLU 16	64	86	1179	58.48	-2.05	-15.8
10	SLU 17	64	86	1179	58.48	-2.05	-15.8
10	SLU 18	66	93	1264	58.76	-2.19	-16.22
10	SLU 19	66	93	1264	58.76	-2.19	-16.22
10	SLU 20	66	93	1264	58.76	-2.19	-16.22
10	SLU 21	66	93	1264	58.76	-2.19	-16.22
10	SLU 22	65	81	1126	58.36	-1.95	-16
10	SLU 23	65	81	1126	58.36	-1.95	-16
10	SLU 24	65	81	1126	58.36	-1.95	-16
10	SLU 25	65	81	1126	58.36	-1.95	-16
10	SLU 26	65	81	1126	58.36	-1.95	-16
10	SLU 27	65	81	1126	58.36	-1.95	-16
10	SLU 28	65	81	1126	58.36	-1.95	-16
10	SLU 29	65	81	1126	58.36	-1.95	-16
10	SLU 30	65	81	1126	58.36	-1.95	-16
10	SLU 31	69	98	1326	59.01	-2.29	-16.98
10	SLU 32	69	98	1326	59.01	-2.29	-16.98
10	SLU 33	69	98	1326	59.01	-2.29	-16.98
10	SLU 34	69	98	1326	59.01	-2.29	-16.98
10	SLU 35	69	98	1326	59.01	-2.29	-16.98
10	SLU 36	69	98	1326	59.01	-2.29	-16.98
10	SLU 37	69	98	1326	59.01	-2.29	-16.98
10	SLU 38	69	98	1326	59.01	-2.29	-16.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
10	SLU 39	71	106	1412	59.29	-2.44	-17.4
10	SLU 40	71	106	1412	59.29	-2.44	-17.4
10	SLU 41	71	106	1412	59.29	-2.44	-17.4
10	SLU 42	71	106	1412	59.29	-2.44	-17.4
10	SLU 43	76	84	1221	74.99	-2.14	-18.85
10	SLU 44	76	84	1221	74.99	-2.14	-18.85
10	SLU 45	76	84	1221	74.99	-2.14	-18.85
10	SLU 46	76	84	1221	74.99	-2.14	-18.85
10	SLU 47	76	84	1221	74.99	-2.14	-18.85
10	SLU 48	76	84	1221	74.99	-2.14	-18.85
10	SLU 49	76	84	1221	74.99	-2.14	-18.85
10	SLU 50	76	84	1221	74.99	-2.14	-18.85
10	SLU 51	76	84	1221	74.99	-2.14	-18.85
10	SLU 52	81	102	1422	75.65	-2.48	-19.83
10	SLU 53	81	102	1422	75.65	-2.48	-19.83
10	SLU 54	81	102	1422	75.65	-2.48	-19.83
10	SLU 55	81	102	1422	75.65	-2.48	-19.83
10	SLU 56	81	102	1422	75.65	-2.48	-19.83
10	SLU 57	81	102	1422	75.65	-2.48	-19.83
10	SLU 58	81	102	1422	75.65	-2.48	-19.83
10	SLU 59	81	102	1422	75.65	-2.48	-19.83
10	SLU 60	83	109	1507	75.93	-2.62	-20.26
10	SLU 61	83	109	1507	75.93	-2.62	-20.26
10	SLU 62	83	109	1507	75.93	-2.62	-20.26
10	SLU 63	83	109	1507	75.93	-2.62	-20.26
10	SLU 64	81	97	1369	75.52	-2.38	-20.03
10	SLU 65	81	97	1369	75.52	-2.38	-20.03
10	SLU 66	81	97	1369	75.52	-2.38	-20.03
10	SLU 67	81	97	1369	75.52	-2.38	-20.03
10	SLU 68	81	97	1369	75.52	-2.38	-20.03
10	SLU 69	81	97	1369	75.52	-2.38	-20.03
10	SLU 70	81	97	1369	75.52	-2.38	-20.03
10	SLU 71	81	97	1369	75.52	-2.38	-20.03
10	SLU 72	81	97	1369	75.52	-2.38	-20.03
10	SLU 73	86	114	1569	76.18	-2.72	-21.02
10	SLU 74	86	114	1569	76.18	-2.72	-21.02
10	SLU 75	86	114	1569	76.18	-2.72	-21.02
10	SLU 76	86	114	1569	76.18	-2.72	-21.02
10	SLU 77	86	114	1569	76.18	-2.72	-21.02
10	SLU 78	86	114	1569	76.18	-2.72	-21.02
10	SLU 79	86	114	1569	76.18	-2.72	-21.02
10	SLU 80	86	114	1569	76.18	-2.72	-21.02
10	SLU 81	88	122	1655	76.46	-2.87	-21.44
10	SLU 82	88	122	1655	76.46	-2.87	-21.44
10	SLU 83	88	122	1655	76.46	-2.87	-21.44
10	SLU 84	88	122	1655	76.46	-2.87	-21.44
10	SLE RA 1	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 2	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 3	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 4	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 5	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 6	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 7	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 8	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 9	62	72	1021	57.98	-1.78	-15.15
10	SLE RA 10	64	83	1154	58.41	-2	-15.81
10	SLE RA 11	64	83	1154	58.41	-2	-15.81
10	SLE RA 12	64	83	1154	58.41	-2	-15.81
10	SLE RA 13	64	83	1154	58.41	-2	-15.81
10	SLE RA 14	64	83	1154	58.41	-2	-15.81
10	SLE RA 15	64	83	1154	58.41	-2	-15.81
10	SLE RA 16	64	83	1154	58.41	-2	-15.81
10	SLE RA 17	64	83	1154	58.41	-2	-15.81
10	SLE RA 18	66	88	1211	58.6	-2.1	-16.09
10	SLE RA 19	66	88	1211	58.6	-2.1	-16.09
10	SLE RA 20	66	88	1211	58.6	-2.1	-16.09
10	SLE RA 21	66	88	1211	58.6	-2.1	-16.09
10	SLE FR 1	62	72	1021	57.98	-1.78	-15.15
10	SLE FR 2	62	72	1021	57.98	-1.78	-15.15
10	SLE FR 3	62	72	1021	57.98	-1.78	-15.15
10	SLE FR 4	63	77	1078	58.16	-1.88	-15.43
10	SLE FR 5	63	77	1078	58.16	-1.88	-15.43
10	SLE FR 6	64	80	1116	58.29	-1.94	-15.62
10	SLE QP 1	62	72	1021	57.98	-1.78	-15.15
10	SLE QP 2	63	77	1078	58.16	-1.88	-15.43
10	SLD 1	280	112	1069	59.89	-1.51	-70.17
10	SLD 2	316	117	1063	59.57	-1.51	-79.21
10	SLD 3	243	123	988	50.23	-1.35	-60.8
10	SLD 4	279	129	983	49.91	-1.35	-69.84
10	SLD 5	172	68	1199	73.45	-2.01	-42.84
10	SLD 6	208	74	1194	73.12	-2.01	-52.01
10	SLD 7	47	106	931	41.25	-1.47	-11.6
10	SLD 8	84	112	926	40.92	-1.48	-20.77
10	SLD 9	42	42	1230	75.4	-2.28	-10.09
10	SLD 10	78	47	1225	75.08	-2.28	-19.26
10	SLD 11	-83	80	962	43.21	-1.74	21.15
10	SLD 12	-46	86	957	42.88	-1.75	11.97
10	SLD 13	-153	25	1173	66.42	-2.4	38.98
10	SLD 14	-117	30	1167	66.1	-2.41	29.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
10	SLD 15	-191	36	1092	56.76	-2.24	48.35
10	SLD 16	-155	42	1087	56.44	-2.25	39.31
10	SLV 1	557	155	1058	63.16	-1.04	-139.78
10	SLV 2	638	168	1046	62.42	-1.05	-160.29
10	SLV 3	472	184	873	38.9	-0.67	-118.36
10	SLV 4	553	196	860	38.17	-0.68	-138.88
10	SLV 5	311	52	1358	96.71	-2.19	-77.87
10	SLV 6	394	66	1346	95.96	-2.2	-98.7
10	SLV 7	27	147	739	15.86	-0.94	-6.5
10	SLV 8	110	161	727	15.12	-0.95	-27.33
10	SLV 9	16	-7	1429	101.21	-2.8	-3.54
10	SLV 10	98	6	1417	100.47	-2.81	-24.36
10	SLV 11	-268	88	810	20.36	-1.55	67.84
10	SLV 12	-185	101	798	19.62	-1.56	47.01
10	SLV 13	-428	-43	1295	78.16	-3.07	108.01
10	SLV 14	-346	-30	1283	77.43	-3.08	87.5
10	SLV 15	-513	-14	1110	53.91	-2.7	129.43
10	SLV 16	-431	-1	1097	53.17	-2.71	108.91
10	CRTFP Ux+	0	0	0	0	0	0
10	CRTFP Ux-	0	0	0	0	0	0
10	CRTFP Uy+	0	0	0	0	0	0
10	CRTFP Uy-	0	0	0	0	0	0
11	SLU 1	57	73	1027	56.93	-1.43	-14.21
11	SLU 2	57	73	1027	56.93	-1.43	-14.21
11	SLU 3	57	73	1027	56.93	-1.43	-14.21
11	SLU 4	57	73	1027	56.93	-1.43	-14.21
11	SLU 5	57	73	1027	56.93	-1.43	-14.21
11	SLU 6	57	73	1027	56.93	-1.43	-14.21
11	SLU 7	57	73	1027	56.93	-1.43	-14.21
11	SLU 8	57	73	1027	56.93	-1.43	-14.21
11	SLU 9	57	73	1027	56.93	-1.43	-14.21
11	SLU 10	61	92	1236	57.03	-1.7	-15.04
11	SLU 11	61	92	1236	57.03	-1.7	-15.04
11	SLU 12	61	92	1236	57.03	-1.7	-15.04
11	SLU 13	61	92	1236	57.03	-1.7	-15.04
11	SLU 14	61	92	1236	57.03	-1.7	-15.04
11	SLU 15	61	92	1236	57.03	-1.7	-15.04
11	SLU 16	61	92	1236	57.03	-1.7	-15.04
11	SLU 17	61	92	1236	57.03	-1.7	-15.04
11	SLU 18	62	101	1326	57.07	-1.81	-15.39
11	SLU 19	62	101	1326	57.07	-1.81	-15.39
11	SLU 20	62	101	1326	57.07	-1.81	-15.39
11	SLU 21	62	101	1326	57.07	-1.81	-15.39
11	SLU 22	62	87	1181	57.08	-1.62	-15.28
11	SLU 23	62	87	1181	57.08	-1.62	-15.28
11	SLU 24	62	87	1181	57.08	-1.62	-15.28
11	SLU 25	62	87	1181	57.08	-1.62	-15.28
11	SLU 26	62	87	1181	57.08	-1.62	-15.28
11	SLU 27	62	87	1181	57.08	-1.62	-15.28
11	SLU 28	62	87	1181	57.08	-1.62	-15.28
11	SLU 29	62	87	1181	57.08	-1.62	-15.28
11	SLU 30	62	87	1181	57.08	-1.62	-15.28
11	SLU 31	65	107	1390	57.18	-1.89	-16.11
11	SLU 32	65	107	1390	57.18	-1.89	-16.11
11	SLU 33	65	107	1390	57.18	-1.89	-16.11
11	SLU 34	65	107	1390	57.18	-1.89	-16.11
11	SLU 35	65	107	1390	57.18	-1.89	-16.11
11	SLU 36	65	107	1390	57.18	-1.89	-16.11
11	SLU 37	65	107	1390	57.18	-1.89	-16.11
11	SLU 38	65	107	1390	57.18	-1.89	-16.11
11	SLU 39	67	115	1480	57.23	-2.01	-16.46
11	SLU 40	67	115	1480	57.23	-2.01	-16.46
11	SLU 41	67	115	1480	57.23	-2.01	-16.46
11	SLU 42	67	115	1480	57.23	-2.01	-16.46
11	SLU 43	73	90	1282	73.95	-1.79	-18.11
11	SLU 44	73	90	1282	73.95	-1.79	-18.11
11	SLU 45	73	90	1282	73.95	-1.79	-18.11
11	SLU 46	73	90	1282	73.95	-1.79	-18.11
11	SLU 47	73	90	1282	73.95	-1.79	-18.11
11	SLU 48	73	90	1282	73.95	-1.79	-18.11
11	SLU 49	73	90	1282	73.95	-1.79	-18.11
11	SLU 50	73	90	1282	73.95	-1.79	-18.11
11	SLU 51	73	90	1282	73.95	-1.79	-18.11
11	SLU 52	76	110	1491	74.06	-2.06	-18.93
11	SLU 53	76	110	1491	74.06	-2.06	-18.93
11	SLU 54	76	110	1491	74.06	-2.06	-18.93
11	SLU 55	76	110	1491	74.06	-2.06	-18.93
11	SLU 56	76	110	1491	74.06	-2.06	-18.93
11	SLU 57	76	110	1491	74.06	-2.06	-18.93
11	SLU 58	76	110	1491	74.06	-2.06	-18.93
11	SLU 59	76	110	1491	74.06	-2.06	-18.93
11	SLU 60	78	118	1581	74.1	-2.18	-19.29
11	SLU 61	78	118	1581	74.1	-2.18	-19.29
11	SLU 62	78	118	1581	74.1	-2.18	-19.29
11	SLU 63	78	118	1581	74.1	-2.18	-19.29
11	SLU 64	77	104	1436	74.1	-1.99	-19.18
11	SLU 65	77	104	1436	74.1	-1.99	-19.18
11	SLU 66	77	104	1436	74.1	-1.99	-19.18
11	SLU 67	77	104	1436	74.1	-1.99	-19.18



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
11	SLU 68	77	104	1436	74.1	-1.99	-19.18
11	SLU 69	77	104	1436	74.1	-1.99	-19.18
11	SLU 70	77	104	1436	74.1	-1.99	-19.18
11	SLU 71	77	104	1436	74.1	-1.99	-19.18
11	SLU 72	77	104	1436	74.1	-1.99	-19.18
11	SLU 73	81	124	1645	74.21	-2.26	-20
11	SLU 74	81	124	1645	74.21	-2.26	-20
11	SLU 75	81	124	1645	74.21	-2.26	-20
11	SLU 76	81	124	1645	74.21	-2.26	-20
11	SLU 77	81	124	1645	74.21	-2.26	-20
11	SLU 78	81	124	1645	74.21	-2.26	-20
11	SLU 79	81	124	1645	74.21	-2.26	-20
11	SLU 80	81	124	1645	74.21	-2.26	-20
11	SLU 81	82	132	1735	74.25	-2.37	-20.36
11	SLU 82	82	132	1735	74.25	-2.37	-20.36
11	SLU 83	82	132	1735	74.25	-2.37	-20.36
11	SLU 84	82	132	1735	74.25	-2.37	-20.36
11	SLE RA 1	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 2	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 3	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 4	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 5	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 6	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 7	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 8	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 9	58	77	1071	56.97	-1.49	-14.52
11	SLE RA 10	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 11	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 12	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 13	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 14	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 15	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 16	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 17	61	90	1210	57.04	-1.66	-15.07
11	SLE RA 18	62	96	1270	57.07	-1.74	-15.31
11	SLE RA 19	62	96	1270	57.07	-1.74	-15.31
11	SLE RA 20	62	96	1270	57.07	-1.74	-15.31
11	SLE RA 21	62	96	1270	57.07	-1.74	-15.31
11	SLE FR 1	58	77	1071	56.97	-1.49	-14.52
11	SLE FR 2	58	77	1071	56.97	-1.49	-14.52
11	SLE FR 3	58	77	1071	56.97	-1.49	-14.52
11	SLE FR 4	60	83	1131	57	-1.56	-14.75
11	SLE FR 5	60	83	1131	57	-1.56	-14.75
11	SLE FR 6	60	86	1170	57.02	-1.61	-14.91
11	SLE QP 1	58	77	1071	56.97	-1.49	-14.52
11	SLE QP 2	60	83	1131	57	-1.56	-14.75
11	SLD 1	277	107	1112	65.06	-1.21	-69.33
11	SLD 2	312	112	1107	64.96	-1.22	-78.34
11	SLD 3	239	119	1027	54.46	-1.06	-59.98
11	SLD 4	275	124	1022	54.36	-1.06	-68.99
11	SLD 5	168	70	1256	75.53	-1.69	-42.09
11	SLD 6	205	75	1250	75.42	-1.7	-51.23
11	SLD 7	44	110	973	40.2	-1.17	-10.92
11	SLD 8	80	115	967	40.1	-1.18	-20.06
11	SLD 9	39	51	1294	73.9	-1.94	-9.44
11	SLD 10	75	55	1288	73.8	-1.95	-18.59
11	SLD 11	-86	91	1011	38.58	-1.43	21.72
11	SLD 12	-49	95	1005	38.47	-1.43	12.58
11	SLD 13	-156	42	1239	59.64	-2.06	39.48
11	SLD 14	-120	46	1234	59.54	-2.07	30.47
11	SLD 15	-193	54	1154	49.04	-1.9	48.83
11	SLD 16	-158	58	1149	48.94	-1.91	39.82
11	SLV 1	552	138	1090	76.71	-0.77	-138.72
11	SLV 2	634	147	1078	76.48	-0.79	-159.16
11	SLV 3	467	168	894	50.07	-0.41	-117.36
11	SLV 4	549	177	882	49.84	-0.42	-137.8
11	SLV 5	307	50	1420	103.4	-1.87	-77.03
11	SLV 6	390	60	1408	103.16	-1.88	-97.79
11	SLV 7	24	150	766	14.6	-0.66	-5.82
11	SLV 8	106	160	754	14.36	-0.68	-26.58
11	SLV 9	13	6	1507	99.64	-2.45	-2.93
11	SLV 10	95	15	1495	99.4	-2.46	-23.68
11	SLV 11	-271	106	853	10.84	-1.24	68.28
11	SLV 12	-188	115	841	10.6	-1.26	47.53
11	SLV 13	-430	-11	1379	64.16	-2.7	108.3
11	SLV 14	-348	-2	1367	63.93	-2.72	87.85
11	SLV 15	-515	19	1183	37.52	-2.34	129.66
11	SLV 16	-433	28	1171	37.29	-2.36	109.22
11	CRTFP Ux+	0	0	0	0	0	0
11	CRTFP Ux-	0	0	0	0	0	0
11	CRTFP Uy+	0	0	0	0	0	0
11	CRTFP Uy-	0	0	0	0	0	0
12	SLU 1	54	74	1066	53.93	-1.17	-13.57
12	SLU 2	54	74	1066	53.93	-1.17	-13.57
12	SLU 3	54	74	1066	53.93	-1.17	-13.57
12	SLU 4	54	74	1066	53.93	-1.17	-13.57
12	SLU 5	54	74	1066	53.93	-1.17	-13.57
12	SLU 6	54	74	1066	53.93	-1.17	-13.57
12	SLU 7	54	74	1066	53.93	-1.17	-13.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLU 8	54	74	1066	53.93	-1.17	-13.57
12	SLU 9	54	74	1066	53.93	-1.17	-13.57
12	SLU 10	57	95	1283	52.96	-1.37	-14.23
12	SLU 11	57	95	1283	52.96	-1.37	-14.23
12	SLU 12	57	95	1283	52.96	-1.37	-14.23
12	SLU 13	57	95	1283	52.96	-1.37	-14.23
12	SLU 14	57	95	1283	52.96	-1.37	-14.23
12	SLU 15	57	95	1283	52.96	-1.37	-14.23
12	SLU 16	57	95	1283	52.96	-1.37	-14.23
12	SLU 17	57	95	1283	52.96	-1.37	-14.23
12	SLU 18	58	104	1376	52.55	-1.46	-14.51
12	SLU 19	58	104	1376	52.55	-1.46	-14.51
12	SLU 20	58	104	1376	52.55	-1.46	-14.51
12	SLU 21	58	104	1376	52.55	-1.46	-14.51
12	SLU 22	58	89	1226	53.34	-1.32	-14.51
12	SLU 23	58	89	1226	53.34	-1.32	-14.51
12	SLU 24	58	89	1226	53.34	-1.32	-14.51
12	SLU 25	58	89	1226	53.34	-1.32	-14.51
12	SLU 26	58	89	1226	53.34	-1.32	-14.51
12	SLU 27	58	89	1226	53.34	-1.32	-14.51
12	SLU 28	58	89	1226	53.34	-1.32	-14.51
12	SLU 29	58	89	1226	53.34	-1.32	-14.51
12	SLU 30	58	89	1226	53.34	-1.32	-14.51
12	SLU 31	61	110	1443	52.37	-1.52	-15.17
12	SLU 32	61	110	1443	52.37	-1.52	-15.17
12	SLU 33	61	110	1443	52.37	-1.52	-15.17
12	SLU 34	61	110	1443	52.37	-1.52	-15.17
12	SLU 35	61	110	1443	52.37	-1.52	-15.17
12	SLU 36	61	110	1443	52.37	-1.52	-15.17
12	SLU 37	61	110	1443	52.37	-1.52	-15.17
12	SLU 38	61	110	1443	52.37	-1.52	-15.17
12	SLU 39	62	119	1535	51.96	-1.61	-15.46
12	SLU 40	62	119	1535	51.96	-1.61	-15.46
12	SLU 41	62	119	1535	51.96	-1.61	-15.46
12	SLU 42	62	119	1535	51.96	-1.61	-15.46
12	SLU 43	69	92	1331	70.31	-1.47	-17.31
12	SLU 44	69	92	1331	70.31	-1.47	-17.31
12	SLU 45	69	92	1331	70.31	-1.47	-17.31
12	SLU 46	69	92	1331	70.31	-1.47	-17.31
12	SLU 47	69	92	1331	70.31	-1.47	-17.31
12	SLU 48	69	92	1331	70.31	-1.47	-17.31
12	SLU 49	69	92	1331	70.31	-1.47	-17.31
12	SLU 50	69	92	1331	70.31	-1.47	-17.31
12	SLU 51	69	92	1331	70.31	-1.47	-17.31
12	SLU 52	72	112	1548	69.34	-1.67	-17.97
12	SLU 53	72	112	1548	69.34	-1.67	-17.97
12	SLU 54	72	112	1548	69.34	-1.67	-17.97
12	SLU 55	72	112	1548	69.34	-1.67	-17.97
12	SLU 56	72	112	1548	69.34	-1.67	-17.97
12	SLU 57	72	112	1548	69.34	-1.67	-17.97
12	SLU 58	72	112	1548	69.34	-1.67	-17.97
12	SLU 59	72	112	1548	69.34	-1.67	-17.97
12	SLU 60	73	121	1641	68.93	-1.76	-18.25
12	SLU 61	73	121	1641	68.93	-1.76	-18.25
12	SLU 62	73	121	1641	68.93	-1.76	-18.25
12	SLU 63	73	121	1641	68.93	-1.76	-18.25
12	SLU 64	73	107	1491	69.72	-1.62	-18.26
12	SLU 65	73	107	1491	69.72	-1.62	-18.26
12	SLU 66	73	107	1491	69.72	-1.62	-18.26
12	SLU 67	73	107	1491	69.72	-1.62	-18.26
12	SLU 68	73	107	1491	69.72	-1.62	-18.26
12	SLU 69	73	107	1491	69.72	-1.62	-18.26
12	SLU 70	73	107	1491	69.72	-1.62	-18.26
12	SLU 71	73	107	1491	69.72	-1.62	-18.26
12	SLU 72	73	107	1491	69.72	-1.62	-18.26
12	SLU 73	76	127	1708	68.75	-1.82	-18.92
12	SLU 74	76	127	1708	68.75	-1.82	-18.92
12	SLU 75	76	127	1708	68.75	-1.82	-18.92
12	SLU 76	76	127	1708	68.75	-1.82	-18.92
12	SLU 77	76	127	1708	68.75	-1.82	-18.92
12	SLU 78	76	127	1708	68.75	-1.82	-18.92
12	SLU 79	76	127	1708	68.75	-1.82	-18.92
12	SLU 80	76	127	1708	68.75	-1.82	-18.92
12	SLU 81	77	136	1801	68.34	-1.91	-19.2
12	SLU 82	77	136	1801	68.34	-1.91	-19.2
12	SLU 83	77	136	1801	68.34	-1.91	-19.2
12	SLU 84	77	136	1801	68.34	-1.91	-19.2
12	SLE RA 1	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 2	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 3	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 4	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 5	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 6	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 7	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 8	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 9	55	79	1112	53.76	-1.21	-13.84
12	SLE RA 10	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 11	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 12	57	92	1256	53.11	-1.35	-14.28



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
12	SLE RA 13	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 14	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 15	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 16	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 17	57	92	1256	53.11	-1.35	-14.28
12	SLE RA 18	58	98	1318	52.84	-1.41	-14.47
12	SLE RA 19	58	98	1318	52.84	-1.41	-14.47
12	SLE RA 20	58	98	1318	52.84	-1.41	-14.47
12	SLE RA 21	58	98	1318	52.84	-1.41	-14.47
12	SLE FR 1	55	79	1112	53.76	-1.21	-13.84
12	SLE FR 2	55	79	1112	53.76	-1.21	-13.84
12	SLE FR 3	55	79	1112	53.76	-1.21	-13.84
12	SLE FR 4	56	85	1174	53.48	-1.27	-14.03
12	SLE FR 5	56	85	1174	53.48	-1.27	-14.03
12	SLE FR 6	57	88	1215	53.3	-1.31	-14.15
12	SLE QP 1	55	79	1112	53.76	-1.21	-13.84
12	SLE QP 2	56	85	1174	53.48	-1.27	-14.03
12	SLD 1	273	100	1146	62.3	-0.95	-68.43
12	SLD 2	308	103	1141	62.56	-0.96	-77.41
12	SLD 3	235	113	1057	50.94	-0.8	-59.1
12	SLD 4	271	116	1052	51.2	-0.81	-68.08
12	SLD 5	165	69	1303	73.27	-1.4	-41.29
12	SLD 6	201	72	1298	73.53	-1.42	-50.4
12	SLD 7	41	111	1005	35.4	-0.89	-10.19
12	SLD 8	77	114	1000	35.66	-0.9	-19.3
12	SLD 9	35	55	1348	71.31	-1.64	-8.75
12	SLD 10	72	58	1343	71.57	-1.65	-17.86
12	SLD 11	-89	97	1050	33.44	-1.13	22.35
12	SLD 12	-53	100	1045	33.7	-1.14	13.24
12	SLD 13	-159	53	1296	55.76	-1.73	40.03
12	SLD 14	-123	56	1291	56.02	-1.75	31.05
12	SLD 15	-196	66	1206	44.4	-1.58	49.36
12	SLD 16	-160	69	1201	44.66	-1.59	40.38
12	SLV 1	548	119	1112	75.01	-0.55	-137.61
12	SLV 2	629	125	1101	75.59	-0.57	-157.98
12	SLV 3	463	150	906	46.46	-0.19	-116.3
12	SLV 4	544	157	894	47.04	-0.22	-136.67
12	SLV 5	304	44	1473	103.03	-1.58	-76.14
12	SLV 6	386	51	1462	103.62	-1.61	-96.82
12	SLV 7	20	150	784	7.87	-0.4	-5.1
12	SLV 8	102	157	772	8.46	-0.42	-25.78
12	SLV 9	10	13	1575	98.51	-2.12	-2.28
12	SLV 10	92	19	1564	99.1	-2.15	-22.96
12	SLV 11	-274	118	886	3.34	-0.93	68.77
12	SLV 12	-192	125	875	3.93	-0.96	48.09
12	SLV 13	-432	12	1453	59.92	-2.32	108.62
12	SLV 14	-351	19	1442	60.5	-2.35	88.24
12	SLV 15	-517	44	1247	31.37	-1.97	129.93
12	SLV 16	-436	50	1235	31.95	-2	109.56
12	CRTFP Ux+	0	0	0	0	0	0
12	CRTFP Ux-	0	0	0	0	0	0
12	CRTFP Uy+	0	0	0	0	0	0
12	CRTFP Uy-	0	0	0	0	0	0
13	SLU 1	51	73	1099	50.45	-0.95	-12.89
13	SLU 2	51	73	1099	50.45	-0.95	-12.89
13	SLU 3	51	73	1099	50.45	-0.95	-12.89
13	SLU 4	51	73	1099	50.45	-0.95	-12.89
13	SLU 5	51	73	1099	50.45	-0.95	-12.89
13	SLU 6	51	73	1099	50.45	-0.95	-12.89
13	SLU 7	51	73	1099	50.45	-0.95	-12.89
13	SLU 8	51	73	1099	50.45	-0.95	-12.89
13	SLU 9	51	73	1099	50.45	-0.95	-12.89
13	SLU 10	53	93	1321	48.28	-1.1	-13.38
13	SLU 11	53	93	1321	48.28	-1.1	-13.38
13	SLU 12	53	93	1321	48.28	-1.1	-13.38
13	SLU 13	53	93	1321	48.28	-1.1	-13.38
13	SLU 14	53	93	1321	48.28	-1.1	-13.38
13	SLU 15	53	93	1321	48.28	-1.1	-13.38
13	SLU 16	53	93	1321	48.28	-1.1	-13.38
13	SLU 17	53	93	1321	48.28	-1.1	-13.38
13	SLU 18	54	102	1416	47.35	-1.16	-13.58
13	SLU 19	54	102	1416	47.35	-1.16	-13.58
13	SLU 20	54	102	1416	47.35	-1.16	-13.58
13	SLU 21	54	102	1416	47.35	-1.16	-13.58
13	SLU 22	54	88	1262	49.04	-1.06	-13.71
13	SLU 23	54	88	1262	49.04	-1.06	-13.71
13	SLU 24	54	88	1262	49.04	-1.06	-13.71
13	SLU 25	54	88	1262	49.04	-1.06	-13.71
13	SLU 26	54	88	1262	49.04	-1.06	-13.71
13	SLU 27	54	88	1262	49.04	-1.06	-13.71
13	SLU 28	54	88	1262	49.04	-1.06	-13.71
13	SLU 29	54	88	1262	49.04	-1.06	-13.71
13	SLU 30	54	88	1262	49.04	-1.06	-13.71
13	SLU 31	56	108	1484	46.87	-1.2	-14.19
13	SLU 32	56	108	1484	46.87	-1.2	-14.19
13	SLU 33	56	108	1484	46.87	-1.2	-14.19
13	SLU 34	56	108	1484	46.87	-1.2	-14.19
13	SLU 35	56	108	1484	46.87	-1.2	-14.19
13	SLU 36	56	108	1484	46.87	-1.2	-14.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 37	56	108	1484	46.87	-1.2	-14.19
13	SLU 38	56	108	1484	46.87	-1.2	-14.19
13	SLU 39	57	117	1579	45.94	-1.27	-14.4
13	SLU 40	57	117	1579	45.94	-1.27	-14.4
13	SLU 41	57	117	1579	45.94	-1.27	-14.4
13	SLU 42	57	117	1579	45.94	-1.27	-14.4
13	SLU 43	65	89	1372	66.07	-1.2	-16.48
13	SLU 44	65	89	1372	66.07	-1.2	-16.48
13	SLU 45	65	89	1372	66.07	-1.2	-16.48
13	SLU 46	65	89	1372	66.07	-1.2	-16.48
13	SLU 47	65	89	1372	66.07	-1.2	-16.48
13	SLU 48	65	89	1372	66.07	-1.2	-16.48
13	SLU 49	65	89	1372	66.07	-1.2	-16.48
13	SLU 50	65	89	1372	66.07	-1.2	-16.48
13	SLU 51	65	89	1372	66.07	-1.2	-16.48
13	SLU 52	67	110	1594	63.9	-1.34	-16.96
13	SLU 53	67	110	1594	63.9	-1.34	-16.96
13	SLU 54	67	110	1594	63.9	-1.34	-16.96
13	SLU 55	67	110	1594	63.9	-1.34	-16.96
13	SLU 56	67	110	1594	63.9	-1.34	-16.96
13	SLU 57	67	110	1594	63.9	-1.34	-16.96
13	SLU 58	67	110	1594	63.9	-1.34	-16.96
13	SLU 59	67	110	1594	63.9	-1.34	-16.96
13	SLU 60	68	119	1689	62.97	-1.41	-17.17
13	SLU 61	68	119	1689	62.97	-1.41	-17.17
13	SLU 62	68	119	1689	62.97	-1.41	-17.17
13	SLU 63	68	119	1689	62.97	-1.41	-17.17
13	SLU 64	69	104	1536	64.66	-1.31	-17.3
13	SLU 65	69	104	1536	64.66	-1.31	-17.3
13	SLU 66	69	104	1536	64.66	-1.31	-17.3
13	SLU 67	69	104	1536	64.66	-1.31	-17.3
13	SLU 68	69	104	1536	64.66	-1.31	-17.3
13	SLU 69	69	104	1536	64.66	-1.31	-17.3
13	SLU 70	69	104	1536	64.66	-1.31	-17.3
13	SLU 71	69	104	1536	64.66	-1.31	-17.3
13	SLU 72	69	104	1536	64.66	-1.31	-17.3
13	SLU 73	71	125	1758	62.49	-1.45	-17.78
13	SLU 74	71	125	1758	62.49	-1.45	-17.78
13	SLU 75	71	125	1758	62.49	-1.45	-17.78
13	SLU 76	71	125	1758	62.49	-1.45	-17.78
13	SLU 77	71	125	1758	62.49	-1.45	-17.78
13	SLU 78	71	125	1758	62.49	-1.45	-17.78
13	SLU 79	71	125	1758	62.49	-1.45	-17.78
13	SLU 80	71	125	1758	62.49	-1.45	-17.78
13	SLU 81	71	134	1853	61.56	-1.51	-17.99
13	SLU 82	71	134	1853	61.56	-1.51	-17.99
13	SLU 83	71	134	1853	61.56	-1.51	-17.99
13	SLU 84	71	134	1853	61.56	-1.51	-17.99
13	SLE RA 1	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 2	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 3	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 4	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 5	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 6	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 7	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 8	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 9	52	77	1145	50.05	-0.98	-13.13
13	SLE RA 10	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 11	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 12	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 13	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 14	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 15	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 16	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 17	53	91	1293	48.6	-1.08	-13.45
13	SLE RA 18	54	97	1357	47.98	-1.12	-13.59
13	SLE RA 19	54	97	1357	47.98	-1.12	-13.59
13	SLE RA 20	54	97	1357	47.98	-1.12	-13.59
13	SLE RA 21	54	97	1357	47.98	-1.12	-13.59
13	SLE FR 1	52	77	1145	50.05	-0.98	-13.13
13	SLE FR 2	52	77	1145	50.05	-0.98	-13.13
13	SLE FR 3	52	77	1145	50.05	-0.98	-13.13
13	SLE FR 4	53	83	1209	49.43	-1.02	-13.27
13	SLE FR 5	53	83	1209	49.43	-1.02	-13.27
13	SLE FR 6	53	87	1251	49.01	-1.05	-13.36
13	SLE QP 1	52	77	1145	50.05	-0.98	-13.13
13	SLE QP 2	53	83	1209	49.43	-1.02	-13.27
13	SLD 1	269	90	1173	60.96	-0.74	-67.5
13	SLD 2	304	92	1168	61.71	-0.76	-76.45
13	SLD 3	231	104	1079	49.11	-0.59	-58.2
13	SLD 4	267	106	1074	49.86	-0.61	-67.14
13	SLD 5	161	64	1342	70.59	-1.17	-40.46
13	SLD 6	197	66	1338	71.36	-1.19	-49.54
13	SLD 7	37	109	1029	31.09	-0.65	-9.43
13	SLD 8	73	111	1024	31.85	-0.67	-18.51
13	SLD 9	32	55	1393	67.01	-1.37	-8.02
13	SLD 10	68	57	1389	67.77	-1.39	-17.1
13	SLD 11	-92	100	1080	27.5	-0.86	23
13	SLD 12	-56	102	1076	28.26	-0.88	13.93



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
13	SLD 13	-162	60	1344	49	-1.44	40.61
13	SLD 14	-126	62	1339	49.75	-1.46	31.67
13	SLD 15	-199	73	1250	37.14	-1.28	49.92
13	SLD 16	-163	75	1245	37.9	-1.3	40.97
13	SLV 1	543	98	1128	77.1	-0.39	-136.47
13	SLV 2	624	103	1118	78.81	-0.43	-156.77
13	SLV 3	458	132	911	47.35	-0.03	-115.2
13	SLV 4	539	136	901	49.06	-0.08	-135.5
13	SLV 5	300	35	1518	102.24	-1.36	-75.22
13	SLV 6	382	39	1507	103.97	-1.4	-95.83
13	SLV 7	16	147	793	3.08	-0.17	-4.33
13	SLV 8	98	152	783	4.8	-0.21	-24.94
13	SLV 9	7	14	1635	94.05	-1.83	-1.59
13	SLV 10	89	18	1624	95.78	-1.88	-22.2
13	SLV 11	-277	126	910	-5.12	-0.64	69.3
13	SLV 12	-195	131	900	-3.39	-0.68	48.69
13	SLV 13	-434	29	1517	49.8	-1.97	108.97
13	SLV 14	-353	33	1507	51.5	-2.01	88.67
13	SLV 15	-519	63	1300	20.05	-1.61	130.24
13	SLV 16	-438	67	1290	21.75	-1.65	109.94
13	CRTFP Ux+	0	0	0	0	0	0
13	CRTFP Ux-	0	0	0	0	0	0
13	CRTFP Uy+	0	0	0	0	0	0
13	CRTFP Uy-	0	0	0	0	0	0
14	SLU 1	82	114	1984	146.93	-299.58	-4.69
14	SLU 2	82	114	1984	146.93	-299.58	-4.69
14	SLU 3	82	114	1984	146.93	-299.58	-4.69
14	SLU 4	82	114	1984	146.93	-299.58	-4.69
14	SLU 5	82	114	1984	146.93	-299.58	-4.69
14	SLU 6	82	114	1984	146.93	-299.58	-4.69
14	SLU 7	82	114	1984	146.93	-299.58	-4.69
14	SLU 8	82	114	1984	146.93	-299.58	-4.69
14	SLU 9	82	114	1984	146.93	-299.58	-4.69
14	SLU 10	83	149	2381	157.81	-359.22	0
14	SLU 11	83	149	2381	157.81	-359.22	0
14	SLU 12	83	149	2381	157.81	-359.22	0
14	SLU 13	83	149	2381	157.81	-359.22	0
14	SLU 14	83	149	2381	157.81	-359.22	0
14	SLU 15	83	149	2381	157.81	-359.22	0
14	SLU 16	83	149	2381	157.81	-359.22	0
14	SLU 17	83	149	2381	157.81	-359.22	0
14	SLU 18	84	164	2552	162.47	-384.78	2.01
14	SLU 19	84	164	2552	162.47	-384.78	2.01
14	SLU 20	84	164	2552	162.47	-384.78	2.01
14	SLU 21	84	164	2552	162.47	-384.78	2.01
14	SLU 22	86	139	2277	155.23	-343.58	-2.18
14	SLU 23	86	139	2277	155.23	-343.58	-2.18
14	SLU 24	86	139	2277	155.23	-343.58	-2.18
14	SLU 25	86	139	2277	155.23	-343.58	-2.18
14	SLU 26	86	139	2277	155.23	-343.58	-2.18
14	SLU 27	86	139	2277	155.23	-343.58	-2.18
14	SLU 28	86	139	2277	155.23	-343.58	-2.18
14	SLU 29	86	139	2277	155.23	-343.58	-2.18
14	SLU 30	86	139	2277	155.23	-343.58	-2.18
14	SLU 31	88	174	2674	166.11	-403.22	2.51
14	SLU 32	88	174	2674	166.11	-403.22	2.51
14	SLU 33	88	174	2674	166.11	-403.22	2.51
14	SLU 34	88	174	2674	166.11	-403.22	2.51
14	SLU 35	88	174	2674	166.11	-403.22	2.51
14	SLU 36	88	174	2674	166.11	-403.22	2.51
14	SLU 37	88	174	2674	166.11	-403.22	2.51
14	SLU 38	88	174	2674	166.11	-403.22	2.51
14	SLU 39	88	189	2844	170.77	-428.78	4.52
14	SLU 40	88	189	2844	170.77	-428.78	4.52
14	SLU 41	88	189	2844	170.77	-428.78	4.52
14	SLU 42	88	189	2844	170.77	-428.78	4.52
14	SLU 43	105	140	2479	188.17	-374.36	-6.96
14	SLU 44	105	140	2479	188.17	-374.36	-6.96
14	SLU 45	105	140	2479	188.17	-374.36	-6.96
14	SLU 46	105	140	2479	188.17	-374.36	-6.96
14	SLU 47	105	140	2479	188.17	-374.36	-6.96
14	SLU 48	105	140	2479	188.17	-374.36	-6.96
14	SLU 49	105	140	2479	188.17	-374.36	-6.96
14	SLU 50	105	140	2479	188.17	-374.36	-6.96
14	SLU 51	105	140	2479	188.17	-374.36	-6.96
14	SLU 52	106	175	2876	199.04	-434	-2.27
14	SLU 53	106	175	2876	199.04	-434	-2.27
14	SLU 54	106	175	2876	199.04	-434	-2.27
14	SLU 55	106	175	2876	199.04	-434	-2.27
14	SLU 56	106	175	2876	199.04	-434	-2.27
14	SLU 57	106	175	2876	199.04	-434	-2.27
14	SLU 58	106	175	2876	199.04	-434	-2.27
14	SLU 59	106	175	2876	199.04	-434	-2.27
14	SLU 60	107	190	3046	203.7	-459.56	-0.26
14	SLU 61	107	190	3046	203.7	-459.56	-0.26
14	SLU 62	107	190	3046	203.7	-459.56	-0.26
14	SLU 63	107	190	3046	203.7	-459.56	-0.26
14	SLU 64	109	165	2772	196.47	-418.36	-4.45
14	SLU 65	109	165	2772	196.47	-418.36	-4.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLU 66	109	165	2772	196.47	-418.36	-4.45
14	SLU 67	109	165	2772	196.47	-418.36	-4.45
14	SLU 68	109	165	2772	196.47	-418.36	-4.45
14	SLU 69	109	165	2772	196.47	-418.36	-4.45
14	SLU 70	109	165	2772	196.47	-418.36	-4.45
14	SLU 71	109	165	2772	196.47	-418.36	-4.45
14	SLU 72	109	165	2772	196.47	-418.36	-4.45
14	SLU 73	111	200	3169	207.34	-478	0.24
14	SLU 74	111	200	3169	207.34	-478	0.24
14	SLU 75	111	200	3169	207.34	-478	0.24
14	SLU 76	111	200	3169	207.34	-478	0.24
14	SLU 77	111	200	3169	207.34	-478	0.24
14	SLU 78	111	200	3169	207.34	-478	0.24
14	SLU 79	111	200	3169	207.34	-478	0.24
14	SLU 80	111	200	3169	207.34	-478	0.24
14	SLU 81	111	215	3339	212	-503.56	2.25
14	SLU 82	111	215	3339	212	-503.56	2.25
14	SLU 83	111	215	3339	212	-503.56	2.25
14	SLU 84	111	215	3339	212	-503.56	2.25
14	SLE RA 1	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 2	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 3	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 4	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 5	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 6	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 7	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 8	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 9	83	121	2068	149.31	-312.15	-3.97
14	SLE RA 10	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 11	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 12	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 13	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 14	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 15	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 16	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 17	84	145	2333	156.55	-351.91	-0.85
14	SLE RA 18	84	155	2446	159.66	-368.95	0.49
14	SLE RA 19	84	155	2446	159.66	-368.95	0.49
14	SLE RA 20	84	155	2446	159.66	-368.95	0.49
14	SLE RA 21	84	155	2446	159.66	-368.95	0.49
14	SLE FR 1	83	121	2068	149.31	-312.15	-3.97
14	SLE FR 2	83	121	2068	149.31	-312.15	-3.97
14	SLE FR 3	83	121	2068	149.31	-312.15	-3.97
14	SLE FR 4	84	131	2181	152.41	-329.19	-2.63
14	SLE FR 5	84	131	2181	152.41	-329.19	-2.63
14	SLE FR 6	84	138	2257	154.48	-340.55	-1.74
14	SLE QP 1	83	121	2068	149.31	-312.15	-3.97
14	SLE QP 2	84	131	2181	152.41	-329.19	-2.63
14	SLD 1	460	129	2101	165.08	-316.06	-96.05
14	SLD 2	523	132	2095	166.1	-315.29	-111.23
14	SLD 3	395	157	1925	147.58	-289.06	-80.85
14	SLD 4	457	160	1919	148.6	-288.28	-96.03
14	SLD 5	274	88	2426	182.4	-366.49	-48.29
14	SLD 6	337	91	2420	183.44	-365.7	-63.69
14	SLD 7	55	180	1840	124.04	-276.46	2.38
14	SLD 8	119	183	1834	125.08	-275.68	-13.02
14	SLD 9	49	80	2529	179.74	-382.69	7.76
14	SLD 10	112	83	2523	180.78	-381.91	-7.64
14	SLD 11	-170	172	1943	121.39	-292.67	58.42
14	SLD 12	-106	175	1937	122.42	-291.89	43.02
14	SLD 13	-290	103	2444	156.23	-370.09	90.76
14	SLD 14	-228	106	2438	157.25	-369.32	75.58
14	SLD 15	-355	131	2268	138.72	-343.08	105.96
14	SLD 16	-293	133	2262	139.74	-342.31	90.78
14	SLV 1	939	125	2001	183.87	-299.76	-215.08
14	SLV 2	1080	131	1987	186.18	-298.01	-249.51
14	SLV 3	790	192	1595	139.11	-237.33	-179.88
14	SLV 4	931	198	1581	141.43	-235.58	-214.31
14	SLV 5	517	25	2749	228.9	-415.68	-107.44
14	SLV 6	660	31	2734	231.25	-413.9	-142.39
14	SLV 7	18	249	1394	79.71	-207.57	9.89
14	SLV 8	162	255	1380	82.07	-205.79	-25.06
14	SLV 9	6	7	2983	222.76	-452.58	19.8
14	SLV 10	149	13	2969	225.11	-450.81	-15.15
14	SLV 11	-493	231	1629	73.57	-244.48	137.12
14	SLV 12	-349	237	1614	75.92	-242.7	102.17
14	SLV 13	-764	65	2782	163.4	-422.79	209.04
14	SLV 14	-623	71	2768	165.71	-421.04	174.61
14	SLV 15	-913	132	2376	118.64	-360.36	244.24
14	SLV 16	-772	138	2362	120.96	-358.61	209.81
14	CRTFP Ux+	0	0	0	0	0	0
14	CRTFP Ux-	0	0	0	0	0	0
14	CRTFP Uy+	0	0	0	0	0	0
14	CRTFP Uy-	0	0	0	0	0	0
15	SLU 1	73	88	2105	157.29	296.47	-33.01
15	SLU 2	73	88	2105	157.29	296.47	-33.01
15	SLU 3	73	88	2105	157.29	296.47	-33.01
15	SLU 4	73	88	2105	157.29	296.47	-33.01
15	SLU 5	73	88	2105	157.29	296.47	-33.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLU 6	73	88	2105	157.29	296.47	-33.01
15	SLU 7	73	88	2105	157.29	296.47	-33.01
15	SLU 8	73	88	2105	157.29	296.47	-33.01
15	SLU 9	73	88	2105	157.29	296.47	-33.01
15	SLU 10	72	118	2521	172.67	355.33	-37.47
15	SLU 11	72	118	2521	172.67	355.33	-37.47
15	SLU 12	72	118	2521	172.67	355.33	-37.47
15	SLU 13	72	118	2521	172.67	355.33	-37.47
15	SLU 14	72	118	2521	172.67	355.33	-37.47
15	SLU 15	72	118	2521	172.67	355.33	-37.47
15	SLU 16	72	118	2521	172.67	355.33	-37.47
15	SLU 17	72	118	2521	172.67	355.33	-37.47
15	SLU 18	72	131	2699	179.26	380.55	-39.38
15	SLU 19	72	131	2699	179.26	380.55	-39.38
15	SLU 20	72	131	2699	179.26	380.55	-39.38
15	SLU 21	72	131	2699	179.26	380.55	-39.38
15	SLU 22	76	109	2412	168.39	339.9	-36.98
15	SLU 23	76	109	2412	168.39	339.9	-36.98
15	SLU 24	76	109	2412	168.39	339.9	-36.98
15	SLU 25	76	109	2412	168.39	339.9	-36.98
15	SLU 26	76	109	2412	168.39	339.9	-36.98
15	SLU 27	76	109	2412	168.39	339.9	-36.98
15	SLU 28	76	109	2412	168.39	339.9	-36.98
15	SLU 29	76	109	2412	168.39	339.9	-36.98
15	SLU 30	76	109	2412	168.39	339.9	-36.98
15	SLU 31	75	140	2828	183.76	398.76	-41.44
15	SLU 32	75	140	2828	183.76	398.76	-41.44
15	SLU 33	75	140	2828	183.76	398.76	-41.44
15	SLU 34	75	140	2828	183.76	398.76	-41.44
15	SLU 35	75	140	2828	183.76	398.76	-41.44
15	SLU 36	75	140	2828	183.76	398.76	-41.44
15	SLU 37	75	140	2828	183.76	398.76	-41.44
15	SLU 38	75	140	2828	183.76	398.76	-41.44
15	SLU 39	74	153	3006	190.35	423.98	-43.35
15	SLU 40	74	153	3006	190.35	423.98	-43.35
15	SLU 41	74	153	3006	190.35	423.98	-43.35
15	SLU 42	74	153	3006	190.35	423.98	-43.35
15	SLU 43	95	107	2631	200.68	370.53	-41.55
15	SLU 44	95	107	2631	200.68	370.53	-41.55
15	SLU 45	95	107	2631	200.68	370.53	-41.55
15	SLU 46	95	107	2631	200.68	370.53	-41.55
15	SLU 47	95	107	2631	200.68	370.53	-41.55
15	SLU 48	95	107	2631	200.68	370.53	-41.55
15	SLU 49	95	107	2631	200.68	370.53	-41.55
15	SLU 50	95	107	2631	200.68	370.53	-41.55
15	SLU 51	95	107	2631	200.68	370.53	-41.55
15	SLU 52	93	138	3047	216.05	429.38	-46.01
15	SLU 53	93	138	3047	216.05	429.38	-46.01
15	SLU 54	93	138	3047	216.05	429.38	-46.01
15	SLU 55	93	138	3047	216.05	429.38	-46.01
15	SLU 56	93	138	3047	216.05	429.38	-46.01
15	SLU 57	93	138	3047	216.05	429.38	-46.01
15	SLU 58	93	138	3047	216.05	429.38	-46.01
15	SLU 59	93	138	3047	216.05	429.38	-46.01
15	SLU 60	93	151	3225	222.64	454.6	-47.92
15	SLU 61	93	151	3225	222.64	454.6	-47.92
15	SLU 62	93	151	3225	222.64	454.6	-47.92
15	SLU 63	93	151	3225	222.64	454.6	-47.92
15	SLU 64	97	129	2938	211.77	413.95	-45.52
15	SLU 65	97	129	2938	211.77	413.95	-45.52
15	SLU 66	97	129	2938	211.77	413.95	-45.52
15	SLU 67	97	129	2938	211.77	413.95	-45.52
15	SLU 68	97	129	2938	211.77	413.95	-45.52
15	SLU 69	97	129	2938	211.77	413.95	-45.52
15	SLU 70	97	129	2938	211.77	413.95	-45.52
15	SLU 71	97	129	2938	211.77	413.95	-45.52
15	SLU 72	97	129	2938	211.77	413.95	-45.52
15	SLU 73	96	159	3354	227.15	472.81	-49.98
15	SLU 74	96	159	3354	227.15	472.81	-49.98
15	SLU 75	96	159	3354	227.15	472.81	-49.98
15	SLU 76	96	159	3354	227.15	472.81	-49.98
15	SLU 77	96	159	3354	227.15	472.81	-49.98
15	SLU 78	96	159	3354	227.15	472.81	-49.98
15	SLU 79	96	159	3354	227.15	472.81	-49.98
15	SLU 80	96	159	3354	227.15	472.81	-49.98
15	SLU 81	95	172	3532	233.74	498.03	-51.89
15	SLU 82	95	172	3532	233.74	498.03	-51.89
15	SLU 83	95	172	3532	233.74	498.03	-51.89
15	SLU 84	95	172	3532	233.74	498.03	-51.89
15	SLE RA 1	74	94	2192	160.46	308.88	-34.14
15	SLE RA 2	74	94	2192	160.46	308.88	-34.14
15	SLE RA 3	74	94	2192	160.46	308.88	-34.14
15	SLE RA 4	74	94	2192	160.46	308.88	-34.14
15	SLE RA 5	74	94	2192	160.46	308.88	-34.14
15	SLE RA 6	74	94	2192	160.46	308.88	-34.14
15	SLE RA 7	74	94	2192	160.46	308.88	-34.14
15	SLE RA 8	74	94	2192	160.46	308.88	-34.14
15	SLE RA 9	74	94	2192	160.46	308.88	-34.14
15	SLE RA 10	73	114	2470	170.71	348.12	-37.12



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
15	SLE RA 11	73	114	2470	170.71	348.12	-37.12
15	SLE RA 12	73	114	2470	170.71	348.12	-37.12
15	SLE RA 13	73	114	2470	170.71	348.12	-37.12
15	SLE RA 14	73	114	2470	170.71	348.12	-37.12
15	SLE RA 15	73	114	2470	170.71	348.12	-37.12
15	SLE RA 16	73	114	2470	170.71	348.12	-37.12
15	SLE RA 17	73	114	2470	170.71	348.12	-37.12
15	SLE RA 18	73	123	2589	175.11	364.93	-38.39
15	SLE RA 19	73	123	2589	175.11	364.93	-38.39
15	SLE RA 20	73	123	2589	175.11	364.93	-38.39
15	SLE RA 21	73	123	2589	175.11	364.93	-38.39
15	SLE FR 1	74	94	2192	160.46	308.88	-34.14
15	SLE FR 2	74	94	2192	160.46	308.88	-34.14
15	SLE FR 3	74	94	2192	160.46	308.88	-34.14
15	SLE FR 4	74	103	2311	164.86	325.7	-35.42
15	SLE FR 5	74	103	2311	164.86	325.7	-35.42
15	SLE FR 6	74	109	2391	167.79	336.91	-36.27
15	SLE QP 1	74	94	2192	160.46	308.88	-34.14
15	SLE QP 2	74	103	2311	164.86	325.7	-35.42
15	SLD 1	455	103	2208	158.45	312.24	-131.57
15	SLD 2	518	107	2204	156.39	311.58	-147.76
15	SLD 3	388	62	2011	141.16	285.21	-112.31
15	SLD 4	451	66	2008	139.11	284.55	-128.5
15	SLD 5	267	164	2580	189.89	362.9	-87.68
15	SLD 6	331	168	2576	187.8	362.23	-104.11
15	SLD 7	44	27	1925	132.26	272.79	-23.5
15	SLD 8	108	31	1921	130.18	272.11	-39.92
15	SLD 9	39	175	2702	199.54	379.28	-30.91
15	SLD 10	103	179	2698	197.45	378.61	-47.34
15	SLD 11	-183	38	2047	141.91	289.17	33.27
15	SLD 12	-119	42	2043	139.83	288.49	16.85
15	SLD 13	-303	140	2615	190.61	366.84	57.67
15	SLD 14	-240	144	2611	188.55	366.18	41.48
15	SLD 15	-370	99	2419	173.32	339.81	76.92
15	SLD 16	-307	103	2415	171.27	339.15	60.73
15	SLV 1	939	103	2079	152.64	295.53	-253.77
15	SLV 2	1082	114	2071	147.98	294.02	-290.5
15	SLV 3	786	7	1625	108.69	233.03	-209.88
15	SLV 4	929	18	1616	104.03	231.53	-246.61
15	SLV 5	513	245	2933	229.53	411.96	-154.37
15	SLV 6	659	255	2925	224.8	410.44	-191.65
15	SLV 7	5	-75	1420	83	203.65	-8.05
15	SLV 8	150	-65	1411	78.27	202.13	-45.33
15	SLV 9	-3	270	3212	251.44	449.27	-25.5
15	SLV 10	142	281	3203	246.71	447.74	-62.79
15	SLV 11	-511	-49	1698	104.92	240.95	120.82
15	SLV 12	-366	-39	1689	100.19	239.43	83.53
15	SLV 13	-782	188	3006	225.69	419.86	175.77
15	SLV 14	-639	198	2998	221.03	418.36	139.05
15	SLV 15	-934	92	2552	181.73	357.37	219.67
15	SLV 16	-791	102	2544	177.07	355.87	182.94
15	CRTFP Ux+	0	0	0	0	0	0
15	CRTFP Ux-	0	0	0	0	0	0
15	CRTFP Uy+	0	0	0	0	0	0
15	CRTFP Uy-	0	0	0	0	0	0
16	SLU 1	39	34	1303	61.25	-1.65	-10.26
16	SLU 2	39	34	1303	61.25	-1.65	-10.26
16	SLU 3	39	34	1303	61.25	-1.65	-10.26
16	SLU 4	39	34	1303	61.25	-1.65	-10.26
16	SLU 5	39	34	1303	61.25	-1.65	-10.26
16	SLU 6	39	34	1303	61.25	-1.65	-10.26
16	SLU 7	39	34	1303	61.25	-1.65	-10.26
16	SLU 8	39	34	1303	61.25	-1.65	-10.26
16	SLU 9	39	34	1303	61.25	-1.65	-10.26
16	SLU 10	37	48	1559	62.32	-1.94	-9.9
16	SLU 11	37	48	1559	62.32	-1.94	-9.9
16	SLU 12	37	48	1559	62.32	-1.94	-9.9
16	SLU 13	37	48	1559	62.32	-1.94	-9.9
16	SLU 14	37	48	1559	62.32	-1.94	-9.9
16	SLU 15	37	48	1559	62.32	-1.94	-9.9
16	SLU 16	37	48	1559	62.32	-1.94	-9.9
16	SLU 17	37	48	1559	62.32	-1.94	-9.9
16	SLU 18	36	54	1669	62.78	-2.06	-9.74
16	SLU 19	36	54	1669	62.78	-2.06	-9.74
16	SLU 20	36	54	1669	62.78	-2.06	-9.74
16	SLU 21	36	54	1669	62.78	-2.06	-9.74
16	SLU 22	40	44	1492	61.89	-1.87	-10.49
16	SLU 23	40	44	1492	61.89	-1.87	-10.49
16	SLU 24	40	44	1492	61.89	-1.87	-10.49
16	SLU 25	40	44	1492	61.89	-1.87	-10.49
16	SLU 26	40	44	1492	61.89	-1.87	-10.49
16	SLU 27	40	44	1492	61.89	-1.87	-10.49
16	SLU 28	40	44	1492	61.89	-1.87	-10.49
16	SLU 29	40	44	1492	61.89	-1.87	-10.49
16	SLU 30	40	44	1492	61.89	-1.87	-10.49
16	SLU 31	38	58	1748	62.96	-2.15	-10.12
16	SLU 32	38	58	1748	62.96	-2.15	-10.12
16	SLU 33	38	58	1748	62.96	-2.15	-10.12
16	SLU 34	38	58	1748	62.96	-2.15	-10.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLU 35	38	58	1748	62.96	-2.15	-10.12
16	SLU 36	38	58	1748	62.96	-2.15	-10.12
16	SLU 37	38	58	1748	62.96	-2.15	-10.12
16	SLU 38	38	58	1748	62.96	-2.15	-10.12
16	SLU 39	37	64	1857	63.41	-2.27	-9.96
16	SLU 40	37	64	1857	63.41	-2.27	-9.96
16	SLU 41	37	64	1857	63.41	-2.27	-9.96
16	SLU 42	37	64	1857	63.41	-2.27	-9.96
16	SLU 43	51	41	1629	79.41	-2.08	-13.27
16	SLU 44	51	41	1629	79.41	-2.08	-13.27
16	SLU 45	51	41	1629	79.41	-2.08	-13.27
16	SLU 46	51	41	1629	79.41	-2.08	-13.27
16	SLU 47	51	41	1629	79.41	-2.08	-13.27
16	SLU 48	51	41	1629	79.41	-2.08	-13.27
16	SLU 49	51	41	1629	79.41	-2.08	-13.27
16	SLU 50	51	41	1629	79.41	-2.08	-13.27
16	SLU 51	51	41	1629	79.41	-2.08	-13.27
16	SLU 52	49	55	1885	80.48	-2.36	-12.9
16	SLU 53	49	55	1885	80.48	-2.36	-12.9
16	SLU 54	49	55	1885	80.48	-2.36	-12.9
16	SLU 55	49	55	1885	80.48	-2.36	-12.9
16	SLU 56	49	55	1885	80.48	-2.36	-12.9
16	SLU 57	49	55	1885	80.48	-2.36	-12.9
16	SLU 58	49	55	1885	80.48	-2.36	-12.9
16	SLU 59	49	55	1885	80.48	-2.36	-12.9
16	SLU 60	48	61	1995	80.93	-2.48	-12.75
16	SLU 61	48	61	1995	80.93	-2.48	-12.75
16	SLU 62	48	61	1995	80.93	-2.48	-12.75
16	SLU 63	48	61	1995	80.93	-2.48	-12.75
16	SLU 64	51	51	1818	80.04	-2.29	-13.49
16	SLU 65	51	51	1818	80.04	-2.29	-13.49
16	SLU 66	51	51	1818	80.04	-2.29	-13.49
16	SLU 67	51	51	1818	80.04	-2.29	-13.49
16	SLU 68	51	51	1818	80.04	-2.29	-13.49
16	SLU 69	51	51	1818	80.04	-2.29	-13.49
16	SLU 70	51	51	1818	80.04	-2.29	-13.49
16	SLU 71	51	51	1818	80.04	-2.29	-13.49
16	SLU 72	51	51	1818	80.04	-2.29	-13.49
16	SLU 73	49	65	2074	81.11	-2.57	-13.12
16	SLU 74	49	65	2074	81.11	-2.57	-13.12
16	SLU 75	49	65	2074	81.11	-2.57	-13.12
16	SLU 76	49	65	2074	81.11	-2.57	-13.12
16	SLU 77	49	65	2074	81.11	-2.57	-13.12
16	SLU 78	49	65	2074	81.11	-2.57	-13.12
16	SLU 79	49	65	2074	81.11	-2.57	-13.12
16	SLU 80	49	65	2074	81.11	-2.57	-13.12
16	SLU 81	48	71	2184	81.57	-2.69	-12.97
16	SLU 82	48	71	2184	81.57	-2.69	-12.97
16	SLU 83	48	71	2184	81.57	-2.69	-12.97
16	SLU 84	48	71	2184	81.57	-2.69	-12.97
16	SLE RA 1	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 2	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 3	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 4	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 5	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 6	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 7	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 8	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 9	39	37	1357	61.43	-1.71	-10.33
16	SLE RA 10	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 11	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 12	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 13	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 14	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 15	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 16	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 17	38	47	1528	62.14	-1.9	-10.08
16	SLE RA 18	37	51	1601	62.45	-1.98	-9.98
16	SLE RA 19	37	51	1601	62.45	-1.98	-9.98
16	SLE RA 20	37	51	1601	62.45	-1.98	-9.98
16	SLE RA 21	37	51	1601	62.45	-1.98	-9.98
16	SLE FR 1	39	37	1357	61.43	-1.71	-10.33
16	SLE FR 2	39	37	1357	61.43	-1.71	-10.33
16	SLE FR 3	39	37	1357	61.43	-1.71	-10.33
16	SLE FR 4	39	41	1430	61.74	-1.8	-10.22
16	SLE FR 5	39	41	1430	61.74	-1.8	-10.22
16	SLE FR 6	38	44	1479	61.94	-1.85	-10.15
16	SLE QP 1	39	37	1357	61.43	-1.71	-10.33
16	SLE QP 2	39	41	1430	61.74	-1.8	-10.22
16	SLD 1	263	39	1355	60.59	-1.37	-66.4
16	SLD 2	301	44	1354	59.53	-1.39	-75.63
16	SLD 3	224	4	1228	48.71	-1.04	-56.73
16	SLD 4	261	8	1226	47.65	-1.06	-65.97
16	SLD 5	153	92	1601	79.79	-2.16	-38.44
16	SLD 6	191	97	1600	78.72	-2.18	-47.81
16	SLD 7	21	-25	1176	40.19	-1.06	-6.22
16	SLD 8	59	-20	1175	39.11	-1.08	-15.58
16	SLD 9	19	103	1685	84.36	-2.51	-4.86
16	SLD 10	56	108	1684	83.29	-2.53	-14.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLD 11	-113	-15	1260	44.76	-1.41	27.36
16	SLD 12	-76	-10	1259	43.68	-1.43	17.99
16	SLD 13	-184	74	1634	75.82	-2.53	45.52
16	SLD 14	-147	79	1633	74.76	-2.55	36.29
16	SLD 15	-223	39	1507	63.94	-2.2	55.19
16	SLD 16	-186	44	1505	62.88	-2.22	45.95
16	SLV 1	549	36	1261	60.46	-0.84	-137.83
16	SLV 2	634	47	1258	58.06	-0.88	-158.78
16	SLV 3	459	-45	967	30.77	-0.07	-115.74
16	SLV 4	543	-34	964	28.37	-0.12	-136.69
16	SLV 5	299	159	1827	107.25	-2.65	-74.52
16	SLV 6	385	170	1824	104.81	-2.69	-95.78
16	SLV 7	-3	-112	845	8.27	-0.11	-0.89
16	SLV 8	83	-101	843	5.83	-0.15	-22.15
16	SLV 9	-6	183	2018	117.64	-3.44	1.7
16	SLV 10	80	194	2015	115.2	-3.48	-19.56
16	SLV 11	-308	-88	1036	18.67	-0.9	75.33
16	SLV 12	-222	-77	1033	16.23	-0.94	54.07
16	SLV 13	-466	117	1897	95.11	-3.48	116.24
16	SLV 14	-382	128	1894	92.7	-3.52	95.3
16	SLV 15	-557	35	1602	65.42	-2.71	138.33
16	SLV 16	-472	46	1599	63.01	-2.75	117.39
16	CRTFP Ux+	0	0	0	0	0	0
16	CRTFP Ux-	0	0	0	0	0	0
16	CRTFP Uy+	0	0	0	0	0	0
16	CRTFP Uy-	0	0	0	0	0	0
17	SLU 1	36	19	1355	68.5	-1.91	-9.54
17	SLU 2	36	19	1355	68.5	-1.91	-9.54
17	SLU 3	36	19	1355	68.5	-1.91	-9.54
17	SLU 4	36	19	1355	68.5	-1.91	-9.54
17	SLU 5	36	19	1355	68.5	-1.91	-9.54
17	SLU 6	36	19	1355	68.5	-1.91	-9.54
17	SLU 7	36	19	1355	68.5	-1.91	-9.54
17	SLU 8	36	19	1355	68.5	-1.91	-9.54
17	SLU 9	36	19	1355	68.5	-1.91	-9.54
17	SLU 10	33	29	1620	70.73	-2.24	-8.98
17	SLU 11	33	29	1620	70.73	-2.24	-8.98
17	SLU 12	33	29	1620	70.73	-2.24	-8.98
17	SLU 13	33	29	1620	70.73	-2.24	-8.98
17	SLU 14	33	29	1620	70.73	-2.24	-8.98
17	SLU 15	33	29	1620	70.73	-2.24	-8.98
17	SLU 16	33	29	1620	70.73	-2.24	-8.98
17	SLU 17	33	29	1620	70.73	-2.24	-8.98
17	SLU 18	32	33	1733	71.69	-2.39	-8.74
17	SLU 19	32	33	1733	71.69	-2.39	-8.74
17	SLU 20	32	33	1733	71.69	-2.39	-8.74
17	SLU 21	32	33	1733	71.69	-2.39	-8.74
17	SLU 22	36	26	1551	70.07	-2.15	-9.62
17	SLU 23	36	26	1551	70.07	-2.15	-9.62
17	SLU 24	36	26	1551	70.07	-2.15	-9.62
17	SLU 25	36	26	1551	70.07	-2.15	-9.62
17	SLU 26	36	26	1551	70.07	-2.15	-9.62
17	SLU 27	36	26	1551	70.07	-2.15	-9.62
17	SLU 28	36	26	1551	70.07	-2.15	-9.62
17	SLU 29	36	26	1551	70.07	-2.15	-9.62
17	SLU 30	36	26	1551	70.07	-2.15	-9.62
17	SLU 31	33	36	1815	72.3	-2.49	-9.06
17	SLU 32	33	36	1815	72.3	-2.49	-9.06
17	SLU 33	33	36	1815	72.3	-2.49	-9.06
17	SLU 34	33	36	1815	72.3	-2.49	-9.06
17	SLU 35	33	36	1815	72.3	-2.49	-9.06
17	SLU 36	33	36	1815	72.3	-2.49	-9.06
17	SLU 37	33	36	1815	72.3	-2.49	-9.06
17	SLU 38	33	36	1815	72.3	-2.49	-9.06
17	SLU 39	32	40	1929	73.26	-2.63	-8.82
17	SLU 40	32	40	1929	73.26	-2.63	-8.82
17	SLU 41	32	40	1929	73.26	-2.63	-8.82
17	SLU 42	32	40	1929	73.26	-2.63	-8.82
17	SLU 43	47	22	1695	88.51	-2.39	-12.37
17	SLU 44	47	22	1695	88.51	-2.39	-12.37
17	SLU 45	47	22	1695	88.51	-2.39	-12.37
17	SLU 46	47	22	1695	88.51	-2.39	-12.37
17	SLU 47	47	22	1695	88.51	-2.39	-12.37
17	SLU 48	47	22	1695	88.51	-2.39	-12.37
17	SLU 49	47	22	1695	88.51	-2.39	-12.37
17	SLU 50	47	22	1695	88.51	-2.39	-12.37
17	SLU 51	47	22	1695	88.51	-2.39	-12.37
17	SLU 52	44	32	1959	90.74	-2.73	-11.81
17	SLU 53	44	32	1959	90.74	-2.73	-11.81
17	SLU 54	44	32	1959	90.74	-2.73	-11.81
17	SLU 55	44	32	1959	90.74	-2.73	-11.81
17	SLU 56	44	32	1959	90.74	-2.73	-11.81
17	SLU 57	44	32	1959	90.74	-2.73	-11.81
17	SLU 58	44	32	1959	90.74	-2.73	-11.81
17	SLU 59	44	32	1959	90.74	-2.73	-11.81
17	SLU 60	43	37	2073	91.7	-2.87	-11.57
17	SLU 61	43	37	2073	91.7	-2.87	-11.57
17	SLU 62	43	37	2073	91.7	-2.87	-11.57
17	SLU 63	43	37	2073	91.7	-2.87	-11.57



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
17	SLU 64	47	29	1890	90.08	-2.64	-12.45
17	SLU 65	47	29	1890	90.08	-2.64	-12.45
17	SLU 66	47	29	1890	90.08	-2.64	-12.45
17	SLU 67	47	29	1890	90.08	-2.64	-12.45
17	SLU 68	47	29	1890	90.08	-2.64	-12.45
17	SLU 69	47	29	1890	90.08	-2.64	-12.45
17	SLU 70	47	29	1890	90.08	-2.64	-12.45
17	SLU 71	47	29	1890	90.08	-2.64	-12.45
17	SLU 72	47	29	1890	90.08	-2.64	-12.45
17	SLU 73	44	39	2155	92.31	-2.98	-11.9
17	SLU 74	44	39	2155	92.31	-2.98	-11.9
17	SLU 75	44	39	2155	92.31	-2.98	-11.9
17	SLU 76	44	39	2155	92.31	-2.98	-11.9
17	SLU 77	44	39	2155	92.31	-2.98	-11.9
17	SLU 78	44	39	2155	92.31	-2.98	-11.9
17	SLU 79	44	39	2155	92.31	-2.98	-11.9
17	SLU 80	44	39	2155	92.31	-2.98	-11.9
17	SLU 81	43	44	2268	93.27	-3.12	-11.66
17	SLU 82	43	44	2268	93.27	-3.12	-11.66
17	SLU 83	43	44	2268	93.27	-3.12	-11.66
17	SLU 84	43	44	2268	93.27	-3.12	-11.66
17	SLE RA 1	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 2	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 3	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 4	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 5	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 6	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 7	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 8	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 9	36	21	1411	68.94	-1.98	-9.56
17	SLE RA 10	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 11	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 12	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 13	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 14	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 15	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 16	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 17	34	28	1587	70.44	-2.2	-9.19
17	SLE RA 18	33	31	1663	71.08	-2.3	-9.03
17	SLE RA 19	33	31	1663	71.08	-2.3	-9.03
17	SLE RA 20	33	31	1663	71.08	-2.3	-9.03
17	SLE RA 21	33	31	1663	71.08	-2.3	-9.03
17	SLE FR 1	36	21	1411	68.94	-1.98	-9.56
17	SLE FR 2	36	21	1411	68.94	-1.98	-9.56
17	SLE FR 3	36	21	1411	68.94	-1.98	-9.56
17	SLE FR 4	35	24	1487	69.58	-2.07	-9.4
17	SLE FR 5	35	24	1487	69.58	-2.07	-9.4
17	SLE FR 6	35	26	1537	70.01	-2.14	-9.3
17	SLE QP 1	36	21	1411	68.94	-1.98	-9.56
17	SLE QP 2	35	24	1487	69.58	-2.07	-9.4
17	SLD 1	260	21	1398	68.93	-1.57	-65.43
17	SLD 2	297	28	1397	68.38	-1.58	-74.62
17	SLD 3	220	-25	1260	58.15	-1.17	-55.78
17	SLD 4	257	-18	1259	57.6	-1.19	-64.98
17	SLD 5	149	90	1669	85.93	-2.52	-37.56
17	SLD 6	187	98	1669	85.38	-2.53	-46.89
17	SLD 7	17	-64	1210	50	-1.2	-5.4
17	SLD 8	55	-56	1209	49.44	-1.21	-14.73
17	SLD 9	15	103	1764	89.72	-2.93	-4.08
17	SLD 10	53	111	1763	89.17	-2.95	-13.41
17	SLD 11	-117	-50	1305	53.79	-1.61	28.08
17	SLD 12	-79	-42	1304	53.23	-1.63	18.75
17	SLD 13	-187	66	1714	81.57	-2.96	46.17
17	SLD 14	-150	73	1713	81.02	-2.97	36.98
17	SLD 15	-227	19	1576	70.79	-2.56	55.82
17	SLD 16	-189	27	1575	70.24	-2.58	46.62
17	SLV 1	545	17	1287	69.43	-0.93	-136.67
17	SLV 2	630	34	1285	68.18	-0.96	-157.53
17	SLV 3	454	-89	969	42.19	-0.02	-114.62
17	SLV 4	539	-72	967	40.95	-0.05	-135.48
17	SLV 5	296	176	1910	111.29	-3.1	-73.56
17	SLV 6	381	193	1908	110.02	-3.13	-94.74
17	SLV 7	-7	-177	849	20.51	-0.06	-0.07
17	SLV 8	79	-159	847	19.24	-0.09	-21.25
17	SLV 9	-8	207	2126	119.92	-4.05	2.45
17	SLV 10	77	224	2124	118.66	-4.08	-18.73
17	SLV 11	-311	-146	1065	29.14	-1.01	75.93
17	SLV 12	-225	-128	1063	27.88	-1.04	54.76
17	SLV 13	-469	120	2006	98.22	-4.1	116.68
17	SLV 14	-384	137	2004	96.97	-4.13	95.82
17	SLV 15	-559	14	1688	70.99	-3.18	138.73
17	SLV 16	-475	31	1686	69.74	-3.22	117.87
17	CRTFP Ux+	0	0	0	0	0	0
17	CRTFP Ux-	0	0	0	0	0	0
17	CRTFP Uy+	0	0	0	0	0	0
17	CRTFP Uy-	0	0	0	0	0	0
18	SLU 1	33	2	1416	84.72	-2.25	-8.84
18	SLU 2	33	2	1416	84.72	-2.25	-8.84
18	SLU 3	33	2	1416	84.72	-2.25	-8.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLU 4	33	2	1416	84.72	-2.25	-8.84
18	SLU 5	33	2	1416	84.72	-2.25	-8.84
18	SLU 6	33	2	1416	84.72	-2.25	-8.84
18	SLU 7	33	2	1416	84.72	-2.25	-8.84
18	SLU 8	33	2	1416	84.72	-2.25	-8.84
18	SLU 9	33	2	1416	84.72	-2.25	-8.84
18	SLU 10	29	8	1691	90.27	-2.66	-8.1
18	SLU 11	29	8	1691	90.27	-2.66	-8.1
18	SLU 12	29	8	1691	90.27	-2.66	-8.1
18	SLU 13	29	8	1691	90.27	-2.66	-8.1
18	SLU 14	29	8	1691	90.27	-2.66	-8.1
18	SLU 15	29	8	1691	90.27	-2.66	-8.1
18	SLU 16	29	8	1691	90.27	-2.66	-8.1
18	SLU 17	29	8	1691	90.27	-2.66	-8.1
18	SLU 18	28	10	1809	92.65	-2.83	-7.79
18	SLU 19	28	10	1809	92.65	-2.83	-7.79
18	SLU 20	28	10	1809	92.65	-2.83	-7.79
18	SLU 21	28	10	1809	92.65	-2.83	-7.79
18	SLU 22	32	6	1619	88.77	-2.55	-8.79
18	SLU 23	32	6	1619	88.77	-2.55	-8.79
18	SLU 24	32	6	1619	88.77	-2.55	-8.79
18	SLU 25	32	6	1619	88.77	-2.55	-8.79
18	SLU 26	32	6	1619	88.77	-2.55	-8.79
18	SLU 27	32	6	1619	88.77	-2.55	-8.79
18	SLU 28	32	6	1619	88.77	-2.55	-8.79
18	SLU 29	32	6	1619	88.77	-2.55	-8.79
18	SLU 30	32	6	1619	88.77	-2.55	-8.79
18	SLU 31	29	12	1895	94.33	-2.96	-8.05
18	SLU 32	29	12	1895	94.33	-2.96	-8.05
18	SLU 33	29	12	1895	94.33	-2.96	-8.05
18	SLU 34	29	12	1895	94.33	-2.96	-8.05
18	SLU 35	29	12	1895	94.33	-2.96	-8.05
18	SLU 36	29	12	1895	94.33	-2.96	-8.05
18	SLU 37	29	12	1895	94.33	-2.96	-8.05
18	SLU 38	29	12	1895	94.33	-2.96	-8.05
18	SLU 39	27	14	2013	96.71	-3.14	-7.74
18	SLU 40	27	14	2013	96.71	-3.14	-7.74
18	SLU 41	27	14	2013	96.71	-3.14	-7.74
18	SLU 42	27	14	2013	96.71	-3.14	-7.74
18	SLU 43	43	1	1770	108.74	-2.82	-11.51
18	SLU 44	43	1	1770	108.74	-2.82	-11.51
18	SLU 45	43	1	1770	108.74	-2.82	-11.51
18	SLU 46	43	1	1770	108.74	-2.82	-11.51
18	SLU 47	43	1	1770	108.74	-2.82	-11.51
18	SLU 48	43	1	1770	108.74	-2.82	-11.51
18	SLU 49	43	1	1770	108.74	-2.82	-11.51
18	SLU 50	43	1	1770	108.74	-2.82	-11.51
18	SLU 51	43	1	1770	108.74	-2.82	-11.51
18	SLU 52	40	7	2046	114.3	-3.23	-10.77
18	SLU 53	40	7	2046	114.3	-3.23	-10.77
18	SLU 54	40	7	2046	114.3	-3.23	-10.77
18	SLU 55	40	7	2046	114.3	-3.23	-10.77
18	SLU 56	40	7	2046	114.3	-3.23	-10.77
18	SLU 57	40	7	2046	114.3	-3.23	-10.77
18	SLU 58	40	7	2046	114.3	-3.23	-10.77
18	SLU 59	40	7	2046	114.3	-3.23	-10.77
18	SLU 60	38	10	2164	116.68	-3.41	-10.45
18	SLU 61	38	10	2164	116.68	-3.41	-10.45
18	SLU 62	38	10	2164	116.68	-3.41	-10.45
18	SLU 63	38	10	2164	116.68	-3.41	-10.45
18	SLU 64	42	5	1974	112.79	-3.12	-11.46
18	SLU 65	42	5	1974	112.79	-3.12	-11.46
18	SLU 66	42	5	1974	112.79	-3.12	-11.46
18	SLU 67	42	5	1974	112.79	-3.12	-11.46
18	SLU 68	42	5	1974	112.79	-3.12	-11.46
18	SLU 69	42	5	1974	112.79	-3.12	-11.46
18	SLU 70	42	5	1974	112.79	-3.12	-11.46
18	SLU 71	42	5	1974	112.79	-3.12	-11.46
18	SLU 72	42	5	1974	112.79	-3.12	-11.46
18	SLU 73	39	11	2250	118.35	-3.53	-10.72
18	SLU 74	39	11	2250	118.35	-3.53	-10.72
18	SLU 75	39	11	2250	118.35	-3.53	-10.72
18	SLU 76	39	11	2250	118.35	-3.53	-10.72
18	SLU 77	39	11	2250	118.35	-3.53	-10.72
18	SLU 78	39	11	2250	118.35	-3.53	-10.72
18	SLU 79	39	11	2250	118.35	-3.53	-10.72
18	SLU 80	39	11	2250	118.35	-3.53	-10.72
18	SLU 81	37	14	2368	120.73	-3.71	-10.4
18	SLU 82	37	14	2368	120.73	-3.71	-10.4
18	SLU 83	37	14	2368	120.73	-3.71	-10.4
18	SLU 84	37	14	2368	120.73	-3.71	-10.4
18	SLE RA 1	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 2	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 3	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 4	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 5	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 6	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 7	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 8	33	3	1474	85.87	-2.34	-8.82



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
18	SLE RA 9	33	3	1474	85.87	-2.34	-8.82
18	SLE RA 10	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 11	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 12	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 13	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 14	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 15	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 16	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 17	30	7	1657	89.58	-2.61	-8.33
18	SLE RA 18	29	9	1736	91.17	-2.73	-8.12
18	SLE RA 19	29	9	1736	91.17	-2.73	-8.12
18	SLE RA 20	29	9	1736	91.17	-2.73	-8.12
18	SLE RA 21	29	9	1736	91.17	-2.73	-8.12
18	SLE FR 1	33	3	1474	85.87	-2.34	-8.82
18	SLE FR 2	33	3	1474	85.87	-2.34	-8.82
18	SLE FR 3	33	3	1474	85.87	-2.34	-8.82
18	SLE FR 4	32	5	1552	87.46	-2.45	-8.61
18	SLE FR 5	32	5	1552	87.46	-2.45	-8.61
18	SLE FR 6	31	6	1605	88.52	-2.53	-8.47
18	SLE QP 1	33	3	1474	85.87	-2.34	-8.82
18	SLE QP 2	32	5	1552	87.46	-2.45	-8.61
18	SLD 1	256	1	1448	84.8	-1.87	-64.49
18	SLD 2	293	12	1448	84.57	-1.88	-73.66
18	SLD 3	216	-57	1298	75.3	-1.39	-54.86
18	SLD 4	253	-47	1297	75.07	-1.4	-64.02
18	SLD 5	146	89	1749	101.16	-3	-36.72
18	SLD 6	184	99	1749	100.92	-3.01	-46.01
18	SLD 7	13	-107	1248	69.48	-1.41	-4.6
18	SLD 8	51	-96	1248	69.25	-1.42	-13.9
18	SLD 9	12	105	1857	105.67	-3.49	-3.33
18	SLD 10	50	116	1857	105.44	-3.5	-12.63
18	SLD 11	-120	-90	1356	74	-1.9	28.78
18	SLD 12	-83	-79	1356	73.77	-1.91	19.49
18	SLD 13	-190	56	1808	99.86	-3.5	46.79
18	SLD 14	-153	67	1807	99.63	-3.52	37.63
18	SLD 15	-230	-2	1657	90.35	-3.03	56.43
18	SLD 16	-192	8	1657	90.12	-3.04	47.27
18	SLV 1	541	-3	1317	82.74	-1.13	-135.55
18	SLV 2	625	21	1316	82.22	-1.16	-156.33
18	SLV 3	450	-138	970	58.45	-0.03	-113.53
18	SLV 4	534	-113	969	57.93	-0.06	-134.32
18	SLV 5	292	197	2008	123.07	-3.71	-72.65
18	SLV 6	378	222	2007	122.54	-3.74	-93.75
18	SLV 7	-11	-250	852	42.11	-0.05	0.73
18	SLV 8	75	-226	851	41.57	-0.08	-20.37
18	SLV 9	-11	235	2254	133.35	-4.83	3.14
18	SLV 10	74	260	2253	132.82	-4.86	-17.96
18	SLV 11	-315	-213	1098	52.38	-1.17	76.52
18	SLV 12	-229	-188	1097	51.85	-1.2	55.42
18	SLV 13	-471	123	2136	117	-4.85	117.09
18	SLV 14	-387	147	2135	116.47	-4.88	96.3
18	SLV 15	-562	-12	1789	92.71	-3.75	139.1
18	SLV 16	-478	13	1788	92.19	-3.78	118.32
18	CRTFP Ux+	0	0	0	0	0	0
18	CRTFP Ux-	0	0	0	0	0	0
18	CRTFP Uy+	0	0	0	0	0	0
18	CRTFP Uy-	0	0	0	0	0	0
19	SLU 1	30	-16	1488	111.17	-2.76	-8.18
19	SLU 2	30	-16	1488	111.17	-2.76	-8.18
19	SLU 3	30	-16	1488	111.17	-2.76	-8.18
19	SLU 4	30	-16	1488	111.17	-2.76	-8.18
19	SLU 5	30	-16	1488	111.17	-2.76	-8.18
19	SLU 6	30	-16	1488	111.17	-2.76	-8.18
19	SLU 7	30	-16	1488	111.17	-2.76	-8.18
19	SLU 8	30	-16	1488	111.17	-2.76	-8.18
19	SLU 9	30	-16	1488	111.17	-2.76	-8.18
19	SLU 10	26	-14	1777	122.39	-3.28	-7.27
19	SLU 11	26	-14	1777	122.39	-3.28	-7.27
19	SLU 12	26	-14	1777	122.39	-3.28	-7.27
19	SLU 13	26	-14	1777	122.39	-3.28	-7.27
19	SLU 14	26	-14	1777	122.39	-3.28	-7.27
19	SLU 15	26	-14	1777	122.39	-3.28	-7.27
19	SLU 16	26	-14	1777	122.39	-3.28	-7.27
19	SLU 17	26	-14	1777	122.39	-3.28	-7.27
19	SLU 18	24	-14	1901	127.19	-3.5	-6.88
19	SLU 19	24	-14	1901	127.19	-3.5	-6.88
19	SLU 20	24	-14	1901	127.19	-3.5	-6.88
19	SLU 21	24	-14	1901	127.19	-3.5	-6.88
19	SLU 22	29	-15	1702	119.41	-3.14	-8
19	SLU 23	29	-15	1702	119.41	-3.14	-8
19	SLU 24	29	-15	1702	119.41	-3.14	-8
19	SLU 25	29	-15	1702	119.41	-3.14	-8
19	SLU 26	29	-15	1702	119.41	-3.14	-8
19	SLU 27	29	-15	1702	119.41	-3.14	-8
19	SLU 28	29	-15	1702	119.41	-3.14	-8
19	SLU 29	29	-15	1702	119.41	-3.14	-8
19	SLU 30	29	-15	1702	119.41	-3.14	-8
19	SLU 31	25	-14	1991	130.62	-3.65	-7.1
19	SLU 32	25	-14	1991	130.62	-3.65	-7.1



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
19	SLU 33	25	-14	1991	130.62	-3.65	-7.1
19	SLU 34	25	-14	1991	130.62	-3.65	-7.1
19	SLU 35	25	-14	1991	130.62	-3.65	-7.1
19	SLU 36	25	-14	1991	130.62	-3.65	-7.1
19	SLU 37	25	-14	1991	130.62	-3.65	-7.1
19	SLU 38	25	-14	1991	130.62	-3.65	-7.1
19	SLU 39	23	-13	2115	135.43	-3.88	-6.71
19	SLU 40	23	-13	2115	135.43	-3.88	-6.71
19	SLU 41	23	-13	2115	135.43	-3.88	-6.71
19	SLU 42	23	-13	2115	135.43	-3.88	-6.71
19	SLU 43	40	-21	1862	141.7	-3.46	-10.69
19	SLU 44	40	-21	1862	141.7	-3.46	-10.69
19	SLU 45	40	-21	1862	141.7	-3.46	-10.69
19	SLU 46	40	-21	1862	141.7	-3.46	-10.69
19	SLU 47	40	-21	1862	141.7	-3.46	-10.69
19	SLU 48	40	-21	1862	141.7	-3.46	-10.69
19	SLU 49	40	-21	1862	141.7	-3.46	-10.69
19	SLU 50	40	-21	1862	141.7	-3.46	-10.69
19	SLU 51	40	-21	1862	141.7	-3.46	-10.69
19	SLU 52	35	-19	2151	152.91	-3.97	-9.78
19	SLU 53	35	-19	2151	152.91	-3.97	-9.78
19	SLU 54	35	-19	2151	152.91	-3.97	-9.78
19	SLU 55	35	-19	2151	152.91	-3.97	-9.78
19	SLU 56	35	-19	2151	152.91	-3.97	-9.78
19	SLU 57	35	-19	2151	152.91	-3.97	-9.78
19	SLU 58	35	-19	2151	152.91	-3.97	-9.78
19	SLU 59	35	-19	2151	152.91	-3.97	-9.78
19	SLU 60	34	-19	2275	157.72	-4.19	-9.4
19	SLU 61	34	-19	2275	157.72	-4.19	-9.4
19	SLU 62	34	-19	2275	157.72	-4.19	-9.4
19	SLU 63	34	-19	2275	157.72	-4.19	-9.4
19	SLU 64	39	-20	2075	149.94	-3.84	-10.51
19	SLU 65	39	-20	2075	149.94	-3.84	-10.51
19	SLU 66	39	-20	2075	149.94	-3.84	-10.51
19	SLU 67	39	-20	2075	149.94	-3.84	-10.51
19	SLU 68	39	-20	2075	149.94	-3.84	-10.51
19	SLU 69	39	-20	2075	149.94	-3.84	-10.51
19	SLU 70	39	-20	2075	149.94	-3.84	-10.51
19	SLU 71	39	-20	2075	149.94	-3.84	-10.51
19	SLU 72	39	-20	2075	149.94	-3.84	-10.51
19	SLU 73	34	-19	2364	161.15	-4.35	-9.61
19	SLU 74	34	-19	2364	161.15	-4.35	-9.61
19	SLU 75	34	-19	2364	161.15	-4.35	-9.61
19	SLU 76	34	-19	2364	161.15	-4.35	-9.61
19	SLU 77	34	-19	2364	161.15	-4.35	-9.61
19	SLU 78	34	-19	2364	161.15	-4.35	-9.61
19	SLU 79	34	-19	2364	161.15	-4.35	-9.61
19	SLU 80	34	-19	2364	161.15	-4.35	-9.61
19	SLU 81	32	-18	2488	165.96	-4.57	-9.22
19	SLU 82	32	-18	2488	165.96	-4.57	-9.22
19	SLU 83	32	-18	2488	165.96	-4.57	-9.22
19	SLU 84	32	-18	2488	165.96	-4.57	-9.22
19	SLE RA 1	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 2	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 3	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 4	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 5	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 6	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 7	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 8	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 9	30	-16	1549	113.53	-2.87	-8.13
19	SLE RA 10	27	-15	1742	121	-3.21	-7.52
19	SLE RA 11	27	-15	1742	121	-3.21	-7.52
19	SLE RA 12	27	-15	1742	121	-3.21	-7.52
19	SLE RA 13	27	-15	1742	121	-3.21	-7.52
19	SLE RA 14	27	-15	1742	121	-3.21	-7.52
19	SLE RA 15	27	-15	1742	121	-3.21	-7.52
19	SLE RA 16	27	-15	1742	121	-3.21	-7.52
19	SLE RA 17	27	-15	1742	121	-3.21	-7.52
19	SLE RA 18	26	-14	1825	124.21	-3.36	-7.26
19	SLE RA 19	26	-14	1825	124.21	-3.36	-7.26
19	SLE RA 20	26	-14	1825	124.21	-3.36	-7.26
19	SLE RA 21	26	-14	1825	124.21	-3.36	-7.26
19	SLE FR 1	30	-16	1549	113.53	-2.87	-8.13
19	SLE FR 2	30	-16	1549	113.53	-2.87	-8.13
19	SLE FR 3	30	-16	1549	113.53	-2.87	-8.13
19	SLE FR 4	29	-15	1632	116.73	-3.01	-7.87
19	SLE FR 5	29	-15	1632	116.73	-3.01	-7.87
19	SLE FR 6	28	-15	1687	118.87	-3.11	-7.7
19	SLE QP 1	30	-16	1549	113.53	-2.87	-8.13
19	SLE QP 2	29	-15	1632	116.73	-3.01	-7.87
19	SLD 1	253	-19	1509	109.71	-2.34	-63.6
19	SLD 2	290	-5	1509	109.69	-2.35	-72.73
19	SLD 3	213	-92	1344	100.28	-1.76	-53.97
19	SLD 4	250	-77	1344	100.25	-1.78	-63.1
19	SLD 5	143	88	1846	128.94	-3.68	-35.93
19	SLD 6	181	103	1846	128.92	-3.7	-45.2
19	SLD 7	10	-153	1295	97.5	-1.76	-3.83
19	SLD 8	48	-138	1295	97.47	-1.77	-13.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLD 9	10	108	1969	135.99	-4.26	-2.64
19	SLD 10	47	123	1969	135.96	-4.27	-11.9
19	SLD 11	-123	-133	1418	104.54	-2.33	29.46
19	SLD 12	-86	-118	1418	104.52	-2.35	20.2
19	SLD 13	-192	46	1920	133.21	-4.25	47.37
19	SLD 14	-155	61	1920	133.18	-4.27	38.24
19	SLD 15	-232	-26	1755	123.77	-3.68	57
19	SLD 16	-195	-11	1755	123.75	-3.69	47.87
19	SLV 1	537	-24	1355	101.96	-1.48	-134.47
19	SLV 2	622	9	1355	101.89	-1.51	-155.19
19	SLV 3	446	-190	973	78.16	-0.16	-112.47
19	SLV 4	530	-157	973	78.1	-0.19	-133.18
19	SLV 5	290	222	2127	148.41	-4.56	-71.82
19	SLV 6	375	256	2127	148.35	-4.59	-92.85
19	SLV 7	-15	-332	856	69.09	-0.13	1.54
19	SLV 8	71	-298	856	69.03	-0.17	-19.49
19	SLV 9	-13	267	2408	164.43	-5.86	3.76
19	SLV 10	72	301	2408	164.37	-5.9	-17.27
19	SLV 11	-318	-286	1137	85.11	-1.44	77.11
19	SLV 12	-232	-252	1137	85.05	-1.47	56.08
19	SLV 13	-473	126	2291	155.36	-5.84	117.44
19	SLV 14	-389	160	2291	155.3	-5.87	96.73
19	SLV 15	-564	-40	1909	131.57	-4.52	139.45
19	SLV 16	-480	-6	1909	131.5	-4.55	118.74
19	CRTFP Ux+	0	0	0	0	0	0
19	CRTFP Ux-	0	0	0	0	0	0
19	CRTFP Uy+	0	0	0	0	0	0
19	CRTFP Uy-	0	0	0	0	0	0
20	SLU 1	28	-33	1579	150.75	-3.47	-7.55
20	SLU 2	28	-33	1579	150.75	-3.47	-7.55
20	SLU 3	28	-33	1579	150.75	-3.47	-7.55
20	SLU 4	28	-33	1579	150.75	-3.47	-7.55
20	SLU 5	28	-33	1579	150.75	-3.47	-7.55
20	SLU 6	28	-33	1579	150.75	-3.47	-7.55
20	SLU 7	28	-33	1579	150.75	-3.47	-7.55
20	SLU 8	28	-33	1579	150.75	-3.47	-7.55
20	SLU 9	28	-33	1579	150.75	-3.47	-7.55
20	SLU 10	23	-37	1885	170.55	-4.14	-6.49
20	SLU 11	23	-37	1885	170.55	-4.14	-6.49
20	SLU 12	23	-37	1885	170.55	-4.14	-6.49
20	SLU 13	23	-37	1885	170.55	-4.14	-6.49
20	SLU 14	23	-37	1885	170.55	-4.14	-6.49
20	SLU 15	23	-37	1885	170.55	-4.14	-6.49
20	SLU 16	23	-37	1885	170.55	-4.14	-6.49
20	SLU 17	23	-37	1885	170.55	-4.14	-6.49
20	SLU 18	21	-38	2017	179.04	-4.43	-6.04
20	SLU 19	21	-38	2017	179.04	-4.43	-6.04
20	SLU 20	21	-38	2017	179.04	-4.43	-6.04
20	SLU 21	21	-38	2017	179.04	-4.43	-6.04
20	SLU 22	26	-36	1805	165.31	-3.97	-7.26
20	SLU 23	26	-36	1805	165.31	-3.97	-7.26
20	SLU 24	26	-36	1805	165.31	-3.97	-7.26
20	SLU 25	26	-36	1805	165.31	-3.97	-7.26
20	SLU 26	26	-36	1805	165.31	-3.97	-7.26
20	SLU 27	26	-36	1805	165.31	-3.97	-7.26
20	SLU 28	26	-36	1805	165.31	-3.97	-7.26
20	SLU 29	26	-36	1805	165.31	-3.97	-7.26
20	SLU 30	26	-36	1805	165.31	-3.97	-7.26
20	SLU 31	21	-40	2112	185.12	-4.64	-6.21
20	SLU 32	21	-40	2112	185.12	-4.64	-6.21
20	SLU 33	21	-40	2112	185.12	-4.64	-6.21
20	SLU 34	21	-40	2112	185.12	-4.64	-6.21
20	SLU 35	21	-40	2112	185.12	-4.64	-6.21
20	SLU 36	21	-40	2112	185.12	-4.64	-6.21
20	SLU 37	21	-40	2112	185.12	-4.64	-6.21
20	SLU 38	21	-40	2112	185.12	-4.64	-6.21
20	SLU 39	19	-41	2243	193.61	-4.92	-5.75
20	SLU 40	19	-41	2243	193.61	-4.92	-5.75
20	SLU 41	19	-41	2243	193.61	-4.92	-5.75
20	SLU 42	19	-41	2243	193.61	-4.92	-5.75
20	SLU 43	37	-43	1975	190.98	-4.35	-9.91
20	SLU 44	37	-43	1975	190.98	-4.35	-9.91
20	SLU 45	37	-43	1975	190.98	-4.35	-9.91
20	SLU 46	37	-43	1975	190.98	-4.35	-9.91
20	SLU 47	37	-43	1975	190.98	-4.35	-9.91
20	SLU 48	37	-43	1975	190.98	-4.35	-9.91
20	SLU 49	37	-43	1975	190.98	-4.35	-9.91
20	SLU 50	37	-43	1975	190.98	-4.35	-9.91
20	SLU 51	37	-43	1975	190.98	-4.35	-9.91
20	SLU 52	32	-46	2282	210.79	-5.02	-8.86
20	SLU 53	32	-46	2282	210.79	-5.02	-8.86
20	SLU 54	32	-46	2282	210.79	-5.02	-8.86
20	SLU 55	32	-46	2282	210.79	-5.02	-8.86
20	SLU 56	32	-46	2282	210.79	-5.02	-8.86
20	SLU 57	32	-46	2282	210.79	-5.02	-8.86
20	SLU 58	32	-46	2282	210.79	-5.02	-8.86
20	SLU 59	32	-46	2282	210.79	-5.02	-8.86
20	SLU 60	30	-47	2413	219.27	-5.31	-8.4
20	SLU 61	30	-47	2413	219.27	-5.31	-8.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLU 62	30	-47	2413	219.27	-5.31	-8.4
20	SLU 63	30	-47	2413	219.27	-5.31	-8.4
20	SLU 64	35	-45	2201	205.54	-4.84	-9.63
20	SLU 65	35	-45	2201	205.54	-4.84	-9.63
20	SLU 66	35	-45	2201	205.54	-4.84	-9.63
20	SLU 67	35	-45	2201	205.54	-4.84	-9.63
20	SLU 68	35	-45	2201	205.54	-4.84	-9.63
20	SLU 69	35	-45	2201	205.54	-4.84	-9.63
20	SLU 70	35	-45	2201	205.54	-4.84	-9.63
20	SLU 71	35	-45	2201	205.54	-4.84	-9.63
20	SLU 72	35	-45	2201	205.54	-4.84	-9.63
20	SLU 73	30	-49	2508	225.35	-5.51	-8.57
20	SLU 74	30	-49	2508	225.35	-5.51	-8.57
20	SLU 75	30	-49	2508	225.35	-5.51	-8.57
20	SLU 76	30	-49	2508	225.35	-5.51	-8.57
20	SLU 77	30	-49	2508	225.35	-5.51	-8.57
20	SLU 78	30	-49	2508	225.35	-5.51	-8.57
20	SLU 79	30	-49	2508	225.35	-5.51	-8.57
20	SLU 80	30	-49	2508	225.35	-5.51	-8.57
20	SLU 81	28	-50	2639	233.84	-5.8	-8.12
20	SLU 82	28	-50	2639	233.84	-5.8	-8.12
20	SLU 83	28	-50	2639	233.84	-5.8	-8.12
20	SLU 84	28	-50	2639	233.84	-5.8	-8.12
20	SLE RA 1	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 2	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 3	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 4	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 5	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 6	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 7	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 8	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 9	27	-34	1644	154.91	-3.61	-7.47
20	SLE RA 10	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 11	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 12	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 13	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 14	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 15	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 16	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 17	24	-37	1848	168.11	-4.06	-6.76
20	SLE RA 18	23	-38	1935	173.77	-4.25	-6.46
20	SLE RA 19	23	-38	1935	173.77	-4.25	-6.46
20	SLE RA 20	23	-38	1935	173.77	-4.25	-6.46
20	SLE RA 21	23	-38	1935	173.77	-4.25	-6.46
20	SLE FR 1	27	-34	1644	154.91	-3.61	-7.47
20	SLE FR 2	27	-34	1644	154.91	-3.61	-7.47
20	SLE FR 3	27	-34	1644	154.91	-3.61	-7.47
20	SLE FR 4	26	-35	1731	160.57	-3.81	-7.17
20	SLE FR 5	26	-35	1731	160.57	-3.81	-7.17
20	SLE FR 6	25	-36	1790	164.34	-3.93	-6.96
20	SLE QP 1	27	-34	1644	154.91	-3.61	-7.47
20	SLE QP 2	26	-35	1731	160.57	-3.81	-7.17
20	SLD 1	250	-40	1587	147.56	-3.02	-62.76
20	SLD 2	287	-21	1587	147.67	-3.03	-71.86
20	SLD 3	210	-127	1403	134.82	-2.32	-53.12
20	SLD 4	247	-108	1404	134.94	-2.34	-62.22
20	SLD 5	140	88	1966	175.95	-4.62	-35.21
20	SLD 6	178	108	1967	176.06	-4.64	-44.45
20	SLD 7	7	-201	1354	133.48	-2.3	-3.08
20	SLD 8	45	-182	1355	133.6	-2.31	-12.31
20	SLD 9	7	111	2108	187.54	-5.3	-2.02
20	SLD 10	45	131	2108	187.65	-5.32	-11.26
20	SLD 11	-126	-178	1496	145.08	-2.97	30.12
20	SLD 12	-89	-159	1496	145.19	-2.99	20.88
20	SLD 13	-195	38	2059	186.2	-5.28	47.89
20	SLD 14	-158	57	2059	186.31	-5.29	38.79
20	SLD 15	-235	-49	1875	173.46	-4.58	57.53
20	SLD 16	-198	-30	1875	173.58	-4.59	48.43
20	SLV 1	534	-46	1406	131.83	-2.03	-133.45
20	SLV 2	618	-3	1407	132.08	-2.06	-154.1
20	SLV 3	442	-246	982	101.21	-0.42	-111.42
20	SLV 4	526	-203	983	101.47	-0.45	-132.07
20	SLV 5	287	249	2275	198.29	-5.7	-71.09
20	SLV 6	372	293	2276	198.55	-5.73	-92.05
20	SLV 7	-18	-417	864	96.23	-0.34	2.36
20	SLV 8	67	-373	865	96.49	-0.38	-18.6
20	SLV 9	-15	302	2597	224.65	-7.24	4.27
20	SLV 10	70	346	2598	224.91	-7.27	-16.69
20	SLV 11	-321	-363	1186	122.59	-1.88	77.72
20	SLV 12	-235	-319	1187	122.85	-1.92	56.75
20	SLV 13	-475	132	2479	219.67	-7.16	117.74
20	SLV 14	-390	176	2480	219.93	-7.19	97.08
20	SLV 15	-566	-68	2056	189.05	-5.55	139.77
20	SLV 16	-482	-24	2057	189.31	-5.59	119.12
20	CRTFP Ux+	0	0	0	0	0	0
20	CRTFP Ux-	0	0	0	0	0	0
20	CRTFP Uy+	0	0	0	0	0	0
20	CRTFP Uy-	0	0	0	0	0	0
21	SLU 1	26	-50	1694	207.33	-4.42	-6.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLU 2	26	-50	1694	207.33	-4.42	-6.96
21	SLU 3	26	-50	1694	207.33	-4.42	-6.96
21	SLU 4	26	-50	1694	207.33	-4.42	-6.96
21	SLU 5	26	-50	1694	207.33	-4.42	-6.96
21	SLU 6	26	-50	1694	207.33	-4.42	-6.96
21	SLU 7	26	-50	1694	207.33	-4.42	-6.96
21	SLU 8	26	-50	1694	207.33	-4.42	-6.96
21	SLU 9	26	-50	1694	207.33	-4.42	-6.96
21	SLU 10	20	-58	2023	239.5	-5.3	-5.77
21	SLU 11	20	-58	2023	239.5	-5.3	-5.77
21	SLU 12	20	-58	2023	239.5	-5.3	-5.77
21	SLU 13	20	-58	2023	239.5	-5.3	-5.77
21	SLU 14	20	-58	2023	239.5	-5.3	-5.77
21	SLU 15	20	-58	2023	239.5	-5.3	-5.77
21	SLU 16	20	-58	2023	239.5	-5.3	-5.77
21	SLU 17	20	-58	2023	239.5	-5.3	-5.77
21	SLU 18	18	-62	2164	253.29	-5.68	-5.26
21	SLU 19	18	-62	2164	253.29	-5.68	-5.26
21	SLU 20	18	-62	2164	253.29	-5.68	-5.26
21	SLU 21	18	-62	2164	253.29	-5.68	-5.26
21	SLU 22	24	-56	1937	230.99	-5.07	-6.57
21	SLU 23	24	-56	1937	230.99	-5.07	-6.57
21	SLU 24	24	-56	1937	230.99	-5.07	-6.57
21	SLU 25	24	-56	1937	230.99	-5.07	-6.57
21	SLU 26	24	-56	1937	230.99	-5.07	-6.57
21	SLU 27	24	-56	1937	230.99	-5.07	-6.57
21	SLU 28	24	-56	1937	230.99	-5.07	-6.57
21	SLU 29	24	-56	1937	230.99	-5.07	-6.57
21	SLU 30	24	-56	1937	230.99	-5.07	-6.57
21	SLU 31	18	-65	2266	263.16	-5.95	-5.38
21	SLU 32	18	-65	2266	263.16	-5.95	-5.38
21	SLU 33	18	-65	2266	263.16	-5.95	-5.38
21	SLU 34	18	-65	2266	263.16	-5.95	-5.38
21	SLU 35	18	-65	2266	263.16	-5.95	-5.38
21	SLU 36	18	-65	2266	263.16	-5.95	-5.38
21	SLU 37	18	-65	2266	263.16	-5.95	-5.38
21	SLU 38	18	-65	2266	263.16	-5.95	-5.38
21	SLU 39	16	-68	2407	276.95	-6.32	-4.87
21	SLU 40	16	-68	2407	276.95	-6.32	-4.87
21	SLU 41	16	-68	2407	276.95	-6.32	-4.87
21	SLU 42	16	-68	2407	276.95	-6.32	-4.87
21	SLU 43	34	-63	2119	261.42	-5.53	-9.19
21	SLU 44	34	-63	2119	261.42	-5.53	-9.19
21	SLU 45	34	-63	2119	261.42	-5.53	-9.19
21	SLU 46	34	-63	2119	261.42	-5.53	-9.19
21	SLU 47	34	-63	2119	261.42	-5.53	-9.19
21	SLU 48	34	-63	2119	261.42	-5.53	-9.19
21	SLU 49	34	-63	2119	261.42	-5.53	-9.19
21	SLU 50	34	-63	2119	261.42	-5.53	-9.19
21	SLU 51	34	-63	2119	261.42	-5.53	-9.19
21	SLU 52	29	-71	2448	293.59	-6.41	-7.99
21	SLU 53	29	-71	2448	293.59	-6.41	-7.99
21	SLU 54	29	-71	2448	293.59	-6.41	-7.99
21	SLU 55	29	-71	2448	293.59	-6.41	-7.99
21	SLU 56	29	-71	2448	293.59	-6.41	-7.99
21	SLU 57	29	-71	2448	293.59	-6.41	-7.99
21	SLU 58	29	-71	2448	293.59	-6.41	-7.99
21	SLU 59	29	-71	2448	293.59	-6.41	-7.99
21	SLU 60	26	-75	2589	307.38	-6.79	-7.48
21	SLU 61	26	-75	2589	307.38	-6.79	-7.48
21	SLU 62	26	-75	2589	307.38	-6.79	-7.48
21	SLU 63	26	-75	2589	307.38	-6.79	-7.48
21	SLU 64	32	-69	2362	285.08	-6.17	-8.8
21	SLU 65	32	-69	2362	285.08	-6.17	-8.8
21	SLU 66	32	-69	2362	285.08	-6.17	-8.8
21	SLU 67	32	-69	2362	285.08	-6.17	-8.8
21	SLU 68	32	-69	2362	285.08	-6.17	-8.8
21	SLU 69	32	-69	2362	285.08	-6.17	-8.8
21	SLU 70	32	-69	2362	285.08	-6.17	-8.8
21	SLU 71	32	-69	2362	285.08	-6.17	-8.8
21	SLU 72	32	-69	2362	285.08	-6.17	-8.8
21	SLU 73	27	-78	2691	317.25	-7.05	-7.6
21	SLU 74	27	-78	2691	317.25	-7.05	-7.6
21	SLU 75	27	-78	2691	317.25	-7.05	-7.6
21	SLU 76	27	-78	2691	317.25	-7.05	-7.6
21	SLU 77	27	-78	2691	317.25	-7.05	-7.6
21	SLU 78	27	-78	2691	317.25	-7.05	-7.6
21	SLU 79	27	-78	2691	317.25	-7.05	-7.6
21	SLU 80	27	-78	2691	317.25	-7.05	-7.6
21	SLU 81	24	-81	2832	331.04	-7.43	-7.09
21	SLU 82	24	-81	2832	331.04	-7.43	-7.09
21	SLU 83	24	-81	2832	331.04	-7.43	-7.09
21	SLU 84	24	-81	2832	331.04	-7.43	-7.09
21	SLE RA 1	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 2	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 3	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 4	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 5	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 6	25	-52	1763	214.09	-4.61	-6.85



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
21	SLE RA 7	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 8	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 9	25	-52	1763	214.09	-4.61	-6.85
21	SLE RA 10	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 11	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 12	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 13	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 14	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 15	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 16	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 17	21	-57	1983	235.54	-5.19	-6.06
21	SLE RA 18	20	-60	2077	244.73	-5.44	-5.71
21	SLE RA 19	20	-60	2077	244.73	-5.44	-5.71
21	SLE RA 20	20	-60	2077	244.73	-5.44	-5.71
21	SLE RA 21	20	-60	2077	244.73	-5.44	-5.71
21	SLE FR 1	25	-52	1763	214.09	-4.61	-6.85
21	SLE FR 2	25	-52	1763	214.09	-4.61	-6.85
21	SLE FR 3	25	-52	1763	214.09	-4.61	-6.85
21	SLE FR 4	24	-54	1857	223.28	-4.86	-6.51
21	SLE FR 5	24	-54	1857	223.28	-4.86	-6.51
21	SLE FR 6	23	-56	1920	229.41	-5.03	-6.28
21	SLE QP 1	25	-52	1763	214.09	-4.61	-6.85
21	SLE QP 2	24	-54	1857	223.28	-4.86	-6.51
21	SLD 1	247	-61	1688	202.46	-3.93	-61.97
21	SLD 2	284	-37	1689	202.68	-3.95	-71.05
21	SLD 3	207	-163	1482	182.46	-3.09	-52.29
21	SLD 4	244	-139	1483	182.67	-3.11	-61.38
21	SLD 5	138	89	2119	247.3	-5.85	-34.57
21	SLD 6	176	113	2120	247.52	-5.87	-43.79
21	SLD 7	4	-250	1432	180.62	-3.05	-2.33
21	SLD 8	42	-225	1433	180.84	-3.06	-11.54
21	SLD 9	5	116	2282	265.73	-6.65	-1.48
21	SLD 10	43	141	2283	265.95	-6.67	-10.69
21	SLD 11	-129	-222	1595	199.05	-3.85	30.77
21	SLD 12	-91	-198	1596	199.27	-3.87	21.55
21	SLD 13	-197	30	2232	263.89	-6.61	48.35
21	SLD 14	-160	54	2232	264.11	-6.63	39.27
21	SLD 15	-237	-71	2026	243.89	-5.77	58.03
21	SLD 16	-200	-47	2027	244.11	-5.78	48.95
21	SLV 1	531	-70	1476	176.55	-2.77	-132.49
21	SLV 2	615	-15	1478	177.04	-2.81	-153.09
21	SLV 3	439	-303	1001	129.84	-0.83	-110.38
21	SLV 4	523	-248	1003	130.33	-0.87	-130.98
21	SLV 5	285	276	2462	279.93	-7.15	-70.47
21	SLV 6	370	331	2464	280.42	-7.19	-91.39
21	SLV 7	-21	-503	880	124.24	-0.7	3.23
21	SLV 8	64	-447	882	124.74	-0.74	-17.69
21	SLV 9	-17	339	2833	321.83	-8.98	4.66
21	SLV 10	68	394	2835	322.33	-9.02	-16.25
21	SLV 11	-323	-440	1251	166.14	-2.53	78.37
21	SLV 12	-238	-384	1253	166.64	-2.56	57.45
21	SLV 13	-476	140	2712	316.23	-8.85	117.96
21	SLV 14	-392	195	2714	316.72	-8.89	97.35
21	SLV 15	-568	-94	2237	269.53	-6.91	140.07
21	SLV 16	-484	-39	2239	270.02	-6.95	119.47
21	CRTFP Ux+	0	0	0	0	0	0
21	CRTFP Ux-	0	0	0	0	0	0
21	CRTFP Uy+	0	0	0	0	0	0
21	CRTFP Uy-	0	0	0	0	0	0
22	SLU 1	24	-65	1840	285.3	-5.59	-6.42
22	SLU 2	24	-65	1840	285.3	-5.59	-6.42
22	SLU 3	24	-65	1840	285.3	-5.59	-6.42
22	SLU 4	24	-65	1840	285.3	-5.59	-6.42
22	SLU 5	24	-65	1840	285.3	-5.59	-6.42
22	SLU 6	24	-65	1840	285.3	-5.59	-6.42
22	SLU 7	24	-65	1840	285.3	-5.59	-6.42
22	SLU 8	24	-65	1840	285.3	-5.59	-6.42
22	SLU 9	24	-65	1840	285.3	-5.59	-6.42
22	SLU 10	18	-78	2198	334.59	-6.73	-5.1
22	SLU 11	18	-78	2198	334.59	-6.73	-5.1
22	SLU 12	18	-78	2198	334.59	-6.73	-5.1
22	SLU 13	18	-78	2198	334.59	-6.73	-5.1
22	SLU 14	18	-78	2198	334.59	-6.73	-5.1
22	SLU 15	18	-78	2198	334.59	-6.73	-5.1
22	SLU 16	18	-78	2198	334.59	-6.73	-5.1
22	SLU 17	18	-78	2198	334.59	-6.73	-5.1
22	SLU 18	15	-83	2352	355.71	-7.22	-4.53
22	SLU 19	15	-83	2352	355.71	-7.22	-4.53
22	SLU 20	15	-83	2352	355.71	-7.22	-4.53
22	SLU 21	15	-83	2352	355.71	-7.22	-4.53
22	SLU 22	22	-74	2104	321.54	-6.43	-5.93
22	SLU 23	22	-74	2104	321.54	-6.43	-5.93
22	SLU 24	22	-74	2104	321.54	-6.43	-5.93
22	SLU 25	22	-74	2104	321.54	-6.43	-5.93
22	SLU 26	22	-74	2104	321.54	-6.43	-5.93
22	SLU 27	22	-74	2104	321.54	-6.43	-5.93
22	SLU 28	22	-74	2104	321.54	-6.43	-5.93
22	SLU 29	22	-74	2104	321.54	-6.43	-5.93
22	SLU 30	22	-74	2104	321.54	-6.43	-5.93



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
22	SLU 31	16	-87	2463	370.83	-7.56	-4.61
22	SLU 32	16	-87	2463	370.83	-7.56	-4.61
22	SLU 33	16	-87	2463	370.83	-7.56	-4.61
22	SLU 34	16	-87	2463	370.83	-7.56	-4.61
22	SLU 35	16	-87	2463	370.83	-7.56	-4.61
22	SLU 36	16	-87	2463	370.83	-7.56	-4.61
22	SLU 37	16	-87	2463	370.83	-7.56	-4.61
22	SLU 38	16	-87	2463	370.83	-7.56	-4.61
22	SLU 39	13	-92	2616	391.96	-8.05	-4.05
22	SLU 40	13	-92	2616	391.96	-8.05	-4.05
22	SLU 41	13	-92	2616	391.96	-8.05	-4.05
22	SLU 42	13	-92	2616	391.96	-8.05	-4.05
22	SLU 43	32	-81	2302	358.46	-6.98	-8.51
22	SLU 44	32	-81	2302	358.46	-6.98	-8.51
22	SLU 45	32	-81	2302	358.46	-6.98	-8.51
22	SLU 46	32	-81	2302	358.46	-6.98	-8.51
22	SLU 47	32	-81	2302	358.46	-6.98	-8.51
22	SLU 48	32	-81	2302	358.46	-6.98	-8.51
22	SLU 49	32	-81	2302	358.46	-6.98	-8.51
22	SLU 50	32	-81	2302	358.46	-6.98	-8.51
22	SLU 51	32	-81	2302	358.46	-6.98	-8.51
22	SLU 52	26	-94	2660	407.75	-8.12	-7.19
22	SLU 53	26	-94	2660	407.75	-8.12	-7.19
22	SLU 54	26	-94	2660	407.75	-8.12	-7.19
22	SLU 55	26	-94	2660	407.75	-8.12	-7.19
22	SLU 56	26	-94	2660	407.75	-8.12	-7.19
22	SLU 57	26	-94	2660	407.75	-8.12	-7.19
22	SLU 58	26	-94	2660	407.75	-8.12	-7.19
22	SLU 59	26	-94	2660	407.75	-8.12	-7.19
22	SLU 60	23	-99	2813	428.87	-8.61	-6.62
22	SLU 61	23	-99	2813	428.87	-8.61	-6.62
22	SLU 62	23	-99	2813	428.87	-8.61	-6.62
22	SLU 63	23	-99	2813	428.87	-8.61	-6.62
22	SLU 64	29	-90	2566	394.7	-7.82	-8.02
22	SLU 65	29	-90	2566	394.7	-7.82	-8.02
22	SLU 66	29	-90	2566	394.7	-7.82	-8.02
22	SLU 67	29	-90	2566	394.7	-7.82	-8.02
22	SLU 68	29	-90	2566	394.7	-7.82	-8.02
22	SLU 69	29	-90	2566	394.7	-7.82	-8.02
22	SLU 70	29	-90	2566	394.7	-7.82	-8.02
22	SLU 71	29	-90	2566	394.7	-7.82	-8.02
22	SLU 72	29	-90	2566	394.7	-7.82	-8.02
22	SLU 73	24	-103	2924	443.99	-8.95	-6.7
22	SLU 74	24	-103	2924	443.99	-8.95	-6.7
22	SLU 75	24	-103	2924	443.99	-8.95	-6.7
22	SLU 76	24	-103	2924	443.99	-8.95	-6.7
22	SLU 77	24	-103	2924	443.99	-8.95	-6.7
22	SLU 78	24	-103	2924	443.99	-8.95	-6.7
22	SLU 79	24	-103	2924	443.99	-8.95	-6.7
22	SLU 80	24	-103	2924	443.99	-8.95	-6.7
22	SLU 81	21	-109	3078	465.12	-9.44	-6.14
22	SLU 82	21	-109	3078	465.12	-9.44	-6.14
22	SLU 83	21	-109	3078	465.12	-9.44	-6.14
22	SLU 84	21	-109	3078	465.12	-9.44	-6.14
22	SLE RA 1	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 2	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 3	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 4	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 5	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 6	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 7	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 8	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 9	23	-68	1916	295.65	-5.83	-6.28
22	SLE RA 10	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 11	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 12	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 13	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 14	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 15	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 16	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 17	19	-76	2155	328.51	-6.59	-5.4
22	SLE RA 18	18	-80	2257	342.59	-6.91	-5.02
22	SLE RA 19	18	-80	2257	342.59	-6.91	-5.02
22	SLE RA 20	18	-80	2257	342.59	-6.91	-5.02
22	SLE RA 21	18	-80	2257	342.59	-6.91	-5.02
22	SLE FR 1	23	-68	1916	295.65	-5.83	-6.28
22	SLE FR 2	23	-68	1916	295.65	-5.83	-6.28
22	SLE FR 3	23	-68	1916	295.65	-5.83	-6.28
22	SLE FR 4	22	-71	2018	309.73	-6.15	-5.9
22	SLE FR 5	22	-71	2018	309.73	-6.15	-5.9
22	SLE FR 6	20	-74	2086	319.12	-6.37	-5.65
22	SLE QP 1	23	-68	1916	295.65	-5.83	-6.28
22	SLE QP 2	22	-71	2018	309.73	-6.15	-5.9
22	SLD 1	244	-81	1820	278.45	-5.07	-61.23
22	SLD 2	281	-52	1821	278.75	-5.08	-70.3
22	SLD 3	204	-197	1587	247.53	-4.06	-51.49
22	SLD 4	241	-167	1588	247.83	-4.08	-60.57
22	SLD 5	136	90	2311	347.14	-7.34	-34.02
22	SLD 6	174	120	2312	347.44	-7.36	-43.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLD 7	2	-294	1535	244.07	-4	-1.57
22	SLD 8	40	-265	1537	244.38	-4.02	-10.78
22	SLD 9	4	122	2499	375.09	-8.29	-1.03
22	SLD 10	41	152	2501	375.4	-8.31	-10.23
22	SLD 11	-131	-262	1724	272.03	-4.95	31.42
22	SLD 12	-93	-233	1725	272.33	-4.97	22.22
22	SLD 13	-198	25	2448	371.64	-8.23	48.76
22	SLD 14	-161	55	2449	371.94	-8.24	39.69
22	SLD 15	-238	-90	2215	340.72	-7.22	58.5
22	SLD 16	-201	-61	2217	341.02	-7.24	49.43
22	SLV 1	528	-94	1570	239.17	-3.69	-131.59
22	SLV 2	612	-27	1573	239.85	-3.73	-152.16
22	SLV 3	436	-359	1034	167.69	-1.39	-109.33
22	SLV 4	520	-292	1037	168.37	-1.43	-129.91
22	SLV 5	283	301	2695	396.74	-8.89	-70
22	SLV 6	368	369	2698	397.43	-8.93	-90.89
22	SLV 7	-24	-584	909	158.46	-1.22	4.18
22	SLV 8	61	-516	912	159.15	-1.26	-16.71
22	SLV 9	-18	374	3124	460.32	-11.05	4.91
22	SLV 10	67	442	3127	461.01	-11.09	-15.98
22	SLV 11	-325	-511	1338	222.04	-3.37	79.09
22	SLV 12	-240	-443	1341	222.73	-3.42	58.2
22	SLV 13	-477	150	2999	451.1	-10.88	118.11
22	SLV 14	-393	217	3002	451.78	-10.92	97.53
22	SLV 15	-569	-115	2463	379.62	-8.58	140.36
22	SLV 16	-485	-49	2466	380.3	-8.62	119.79
22	CRTFP Ux+	0	0	0	0	0	0
22	CRTFP Ux-	0	0	0	0	0	0
22	CRTFP Uy+	0	0	0	0	0	0
22	CRTFP Uy-	0	0	0	0	0	0
23	SLU 1	19	-65	1740	331.38	44.14	-3.25
23	SLU 2	19	-65	1740	331.38	44.14	-3.25
23	SLU 3	19	-65	1740	331.38	44.14	-3.25
23	SLU 4	19	-65	1740	331.38	44.14	-3.25
23	SLU 5	19	-65	1740	331.38	44.14	-3.25
23	SLU 6	19	-65	1740	331.38	44.14	-3.25
23	SLU 7	19	-65	1740	331.38	44.14	-3.25
23	SLU 8	19	-65	1740	331.38	44.14	-3.25
23	SLU 9	19	-65	1740	331.38	44.14	-3.25
23	SLU 10	14	-79	2080	392.67	52.73	-1.6
23	SLU 11	14	-79	2080	392.67	52.73	-1.6
23	SLU 12	14	-79	2080	392.67	52.73	-1.6
23	SLU 13	14	-79	2080	392.67	52.73	-1.6
23	SLU 14	14	-79	2080	392.67	52.73	-1.6
23	SLU 15	14	-79	2080	392.67	52.73	-1.6
23	SLU 16	14	-79	2080	392.67	52.73	-1.6
23	SLU 17	14	-79	2080	392.67	52.73	-1.6
23	SLU 18	12	-85	2226	418.93	56.4	-0.89
23	SLU 19	12	-85	2226	418.93	56.4	-0.89
23	SLU 20	12	-85	2226	418.93	56.4	-0.89
23	SLU 21	12	-85	2226	418.93	56.4	-0.89
23	SLU 22	17	-76	1991	376.45	50.47	-2.46
23	SLU 23	17	-76	1991	376.45	50.47	-2.46
23	SLU 24	17	-76	1991	376.45	50.47	-2.46
23	SLU 25	17	-76	1991	376.45	50.47	-2.46
23	SLU 26	17	-76	1991	376.45	50.47	-2.46
23	SLU 27	17	-76	1991	376.45	50.47	-2.46
23	SLU 28	17	-76	1991	376.45	50.47	-2.46
23	SLU 29	17	-76	1991	376.45	50.47	-2.46
23	SLU 30	17	-76	1991	376.45	50.47	-2.46
23	SLU 31	12	-90	2331	437.73	59.06	-0.81
23	SLU 32	12	-90	2331	437.73	59.06	-0.81
23	SLU 33	12	-90	2331	437.73	59.06	-0.81
23	SLU 34	12	-90	2331	437.73	59.06	-0.81
23	SLU 35	12	-90	2331	437.73	59.06	-0.81
23	SLU 36	12	-90	2331	437.73	59.06	-0.81
23	SLU 37	12	-90	2331	437.73	59.06	-0.81
23	SLU 38	12	-90	2331	437.73	59.06	-0.81
23	SLU 39	10	-96	2477	463.99	62.73	-0.11
23	SLU 40	10	-96	2477	463.99	62.73	-0.11
23	SLU 41	10	-96	2477	463.99	62.73	-0.11
23	SLU 42	10	-96	2477	463.99	62.73	-0.11
23	SLU 43	26	-81	2176	415.35	55.22	-4.49
23	SLU 44	26	-81	2176	415.35	55.22	-4.49
23	SLU 45	26	-81	2176	415.35	55.22	-4.49
23	SLU 46	26	-81	2176	415.35	55.22	-4.49
23	SLU 47	26	-81	2176	415.35	55.22	-4.49
23	SLU 48	26	-81	2176	415.35	55.22	-4.49
23	SLU 49	26	-81	2176	415.35	55.22	-4.49
23	SLU 50	26	-81	2176	415.35	55.22	-4.49
23	SLU 51	26	-81	2176	415.35	55.22	-4.49
23	SLU 52	21	-96	2516	476.63	63.8	-2.85
23	SLU 53	21	-96	2516	476.63	63.8	-2.85
23	SLU 54	21	-96	2516	476.63	63.8	-2.85
23	SLU 55	21	-96	2516	476.63	63.8	-2.85
23	SLU 56	21	-96	2516	476.63	63.8	-2.85
23	SLU 57	21	-96	2516	476.63	63.8	-2.85
23	SLU 58	21	-96	2516	476.63	63.8	-2.85
23	SLU 59	21	-96	2516	476.63	63.8	-2.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLU 60	18	-102	2662	502.89	67.48	-2.14
23	SLU 61	18	-102	2662	502.89	67.48	-2.14
23	SLU 62	18	-102	2662	502.89	67.48	-2.14
23	SLU 63	18	-102	2662	502.89	67.48	-2.14
23	SLU 64	24	-92	2427	460.41	61.55	-3.71
23	SLU 65	24	-92	2427	460.41	61.55	-3.71
23	SLU 66	24	-92	2427	460.41	61.55	-3.71
23	SLU 67	24	-92	2427	460.41	61.55	-3.71
23	SLU 68	24	-92	2427	460.41	61.55	-3.71
23	SLU 69	24	-92	2427	460.41	61.55	-3.71
23	SLU 70	24	-92	2427	460.41	61.55	-3.71
23	SLU 71	24	-92	2427	460.41	61.55	-3.71
23	SLU 72	24	-92	2427	460.41	61.55	-3.71
23	SLU 73	19	-106	2767	521.69	70.13	-2.06
23	SLU 74	19	-106	2767	521.69	70.13	-2.06
23	SLU 75	19	-106	2767	521.69	70.13	-2.06
23	SLU 76	19	-106	2767	521.69	70.13	-2.06
23	SLU 77	19	-106	2767	521.69	70.13	-2.06
23	SLU 78	19	-106	2767	521.69	70.13	-2.06
23	SLU 79	19	-106	2767	521.69	70.13	-2.06
23	SLU 80	19	-106	2767	521.69	70.13	-2.06
23	SLU 81	16	-112	2913	547.96	73.81	-1.35
23	SLU 82	16	-112	2913	547.96	73.81	-1.35
23	SLU 83	16	-112	2913	547.96	73.81	-1.35
23	SLU 84	16	-112	2913	547.96	73.81	-1.35
23	SLE RA 1	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 2	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 3	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 4	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 5	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 6	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 7	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 8	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 9	19	-68	1812	344.26	45.95	-3.02
23	SLE RA 10	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 11	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 12	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 13	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 14	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 15	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 16	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 17	15	-78	2039	385.11	51.67	-1.93
23	SLE RA 18	14	-82	2136	402.62	54.13	-1.45
23	SLE RA 19	14	-82	2136	402.62	54.13	-1.45
23	SLE RA 20	14	-82	2136	402.62	54.13	-1.45
23	SLE RA 21	14	-82	2136	402.62	54.13	-1.45
23	SLE FR 1	19	-68	1812	344.26	45.95	-3.02
23	SLE FR 2	19	-68	1812	344.26	45.95	-3.02
23	SLE FR 3	19	-68	1812	344.26	45.95	-3.02
23	SLE FR 4	17	-72	1909	361.77	48.4	-2.55
23	SLE FR 5	17	-72	1909	361.77	48.4	-2.55
23	SLE FR 6	16	-75	1974	373.44	50.04	-2.24
23	SLE QP 1	19	-68	1812	344.26	45.95	-3.02
23	SLE QP 2	17	-72	1909	361.77	48.4	-2.55
23	SLD 1	210	20	1709	323.47	43.65	-51.88
23	SLD 2	242	50	1711	323.8	43.68	-60.6
23	SLD 3	175	-89	1483	284.78	38.07	-40.97
23	SLD 4	207	-60	1484	285.11	38.1	-49.69
23	SLD 5	117	111	2193	408.84	55.44	-30.78
23	SLD 6	149	141	2194	409.18	55.47	-39.63
23	SLD 7	0	-254	1436	279.87	36.82	5.59
23	SLD 8	33	-224	1438	280.21	36.86	-3.26
23	SLD 9	2	79	2380	443.33	59.95	-1.84
23	SLD 10	35	109	2381	443.66	59.99	-10.69
23	SLD 11	-115	-285	1624	314.36	41.34	34.53
23	SLD 12	-82	-255	1625	314.7	41.37	25.68
23	SLD 13	-172	-85	2334	438.42	58.71	44.59
23	SLD 14	-140	-55	2335	438.76	58.74	35.86
23	SLD 15	-207	-194	2107	399.73	53.13	55.5
23	SLD 16	-175	-165	2109	400.07	53.16	46.78
23	SLV 1	455	140	1458	275.25	37.66	-114.65
23	SLV 2	528	207	1462	276	37.74	-134.44
23	SLV 3	375	-112	936	186.07	24.8	-89.65
23	SLV 4	448	-45	939	186.83	24.88	-109.43
23	SLV 5	244	349	2564	470.79	64.66	-67.04
23	SLV 6	318	418	2568	471.56	64.74	-87.12
23	SLV 7	-23	-490	823	173.54	21.79	16.32
23	SLV 8	51	-422	827	174.31	21.87	-3.76
23	SLV 9	-16	277	2991	549.23	74.94	-1.35
23	SLV 10	57	346	2994	550	75.02	-21.43
23	SLV 11	-283	-562	1250	251.98	32.07	82.02
23	SLV 12	-209	-494	1253	252.75	32.15	61.93
23	SLV 13	-413	-100	2879	536.71	71.93	104.32
23	SLV 14	-341	-33	2882	537.46	72.01	84.54
23	SLV 15	-493	-352	2356	447.54	59.07	129.33
23	SLV 16	-421	-285	2360	448.29	59.15	109.55
23	CRTFP Ux+	0	0	0	0	0	0
23	CRTFP Ux-	0	0	0	0	0	0
23	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	CRTFP Uy-	0	0	0	0	0	0
25	SLU 1	29	-110	2930	517.61	659.6	21.75
25	SLU 2	29	-110	2930	517.61	659.6	21.75
25	SLU 3	29	-110	2930	517.61	659.6	21.75
25	SLU 4	29	-110	2930	517.61	659.6	21.75
25	SLU 5	29	-110	2930	517.61	659.6	21.75
25	SLU 6	29	-110	2930	517.61	659.6	21.75
25	SLU 7	29	-110	2930	517.61	659.6	21.75
25	SLU 8	29	-110	2930	517.61	659.6	21.75
25	SLU 9	29	-110	2930	517.61	659.6	21.75
25	SLU 10	20	-134	3506	618.31	788.18	29.45
25	SLU 11	20	-134	3506	618.31	788.18	29.45
25	SLU 12	20	-134	3506	618.31	788.18	29.45
25	SLU 13	20	-134	3506	618.31	788.18	29.45
25	SLU 14	20	-134	3506	618.31	788.18	29.45
25	SLU 15	20	-134	3506	618.31	788.18	29.45
25	SLU 16	20	-134	3506	618.31	788.18	29.45
25	SLU 17	20	-134	3506	618.31	788.18	29.45
25	SLU 18	16	-145	3753	661.47	843.29	32.76
25	SLU 19	16	-145	3753	661.47	843.29	32.76
25	SLU 20	16	-145	3753	661.47	843.29	32.76
25	SLU 21	16	-145	3753	661.47	843.29	32.76
25	SLU 22	25	-128	3355	591.74	754.48	26.84
25	SLU 23	25	-128	3355	591.74	754.48	26.84
25	SLU 24	25	-128	3355	591.74	754.48	26.84
25	SLU 25	25	-128	3355	591.74	754.48	26.84
25	SLU 26	25	-128	3355	591.74	754.48	26.84
25	SLU 27	25	-128	3355	591.74	754.48	26.84
25	SLU 28	25	-128	3355	591.74	754.48	26.84
25	SLU 29	25	-128	3355	591.74	754.48	26.84
25	SLU 30	25	-128	3355	591.74	754.48	26.84
25	SLU 31	16	-152	3930	692.45	883.07	34.55
25	SLU 32	16	-152	3930	692.45	883.07	34.55
25	SLU 33	16	-152	3930	692.45	883.07	34.55
25	SLU 34	16	-152	3930	692.45	883.07	34.55
25	SLU 35	16	-152	3930	692.45	883.07	34.55
25	SLU 36	16	-152	3930	692.45	883.07	34.55
25	SLU 37	16	-152	3930	692.45	883.07	34.55
25	SLU 38	16	-152	3930	692.45	883.07	34.55
25	SLU 39	12	-163	4177	735.61	938.17	37.85
25	SLU 40	12	-163	4177	735.61	938.17	37.85
25	SLU 41	12	-163	4177	735.61	938.17	37.85
25	SLU 42	12	-163	4177	735.61	938.17	37.85
25	SLU 43	39	-136	3664	647.47	824.95	26.52
25	SLU 44	39	-136	3664	647.47	824.95	26.52
25	SLU 45	39	-136	3664	647.47	824.95	26.52
25	SLU 46	39	-136	3664	647.47	824.95	26.52
25	SLU 47	39	-136	3664	647.47	824.95	26.52
25	SLU 48	39	-136	3664	647.47	824.95	26.52
25	SLU 49	39	-136	3664	647.47	824.95	26.52
25	SLU 50	39	-136	3664	647.47	824.95	26.52
25	SLU 51	39	-136	3664	647.47	824.95	26.52
25	SLU 52	30	-161	4239	748.18	953.53	34.23
25	SLU 53	30	-161	4239	748.18	953.53	34.23
25	SLU 54	30	-161	4239	748.18	953.53	34.23
25	SLU 55	30	-161	4239	748.18	953.53	34.23
25	SLU 56	30	-161	4239	748.18	953.53	34.23
25	SLU 57	30	-161	4239	748.18	953.53	34.23
25	SLU 58	30	-161	4239	748.18	953.53	34.23
25	SLU 59	30	-161	4239	748.18	953.53	34.23
25	SLU 60	26	-172	4486	791.34	1008.63	37.53
25	SLU 61	26	-172	4486	791.34	1008.63	37.53
25	SLU 62	26	-172	4486	791.34	1008.63	37.53
25	SLU 63	26	-172	4486	791.34	1008.63	37.53
25	SLU 64	35	-154	4088	721.61	919.83	31.62
25	SLU 65	35	-154	4088	721.61	919.83	31.62
25	SLU 66	35	-154	4088	721.61	919.83	31.62
25	SLU 67	35	-154	4088	721.61	919.83	31.62
25	SLU 68	35	-154	4088	721.61	919.83	31.62
25	SLU 69	35	-154	4088	721.61	919.83	31.62
25	SLU 70	35	-154	4088	721.61	919.83	31.62
25	SLU 71	35	-154	4088	721.61	919.83	31.62
25	SLU 72	35	-154	4088	721.61	919.83	31.62
25	SLU 73	26	-179	4664	822.31	1048.41	39.33
25	SLU 74	26	-179	4664	822.31	1048.41	39.33
25	SLU 75	26	-179	4664	822.31	1048.41	39.33
25	SLU 76	26	-179	4664	822.31	1048.41	39.33
25	SLU 77	26	-179	4664	822.31	1048.41	39.33
25	SLU 78	26	-179	4664	822.31	1048.41	39.33
25	SLU 79	26	-179	4664	822.31	1048.41	39.33
25	SLU 80	26	-179	4664	822.31	1048.41	39.33
25	SLU 81	22	-190	4911	865.47	1103.52	42.63
25	SLU 82	22	-190	4911	865.47	1103.52	42.63
25	SLU 83	22	-190	4911	865.47	1103.52	42.63
25	SLU 84	22	-190	4911	865.47	1103.52	42.63
25	SLE RA 1	28	-115	3051	538.79	686.71	23.2
25	SLE RA 2	28	-115	3051	538.79	686.71	23.2
25	SLE RA 3	28	-115	3051	538.79	686.71	23.2
25	SLE RA 4	28	-115	3051	538.79	686.71	23.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLE RA 5	28	-115	3051	538.79	686.71	23.2
25	SLE RA 6	28	-115	3051	538.79	686.71	23.2
25	SLE RA 7	28	-115	3051	538.79	686.71	23.2
25	SLE RA 8	28	-115	3051	538.79	686.71	23.2
25	SLE RA 9	28	-115	3051	538.79	686.71	23.2
25	SLE RA 10	22	-131	3435	605.93	772.43	28.34
25	SLE RA 11	22	-131	3435	605.93	772.43	28.34
25	SLE RA 12	22	-131	3435	605.93	772.43	28.34
25	SLE RA 13	22	-131	3435	605.93	772.43	28.34
25	SLE RA 14	22	-131	3435	605.93	772.43	28.34
25	SLE RA 15	22	-131	3435	605.93	772.43	28.34
25	SLE RA 16	22	-131	3435	605.93	772.43	28.34
25	SLE RA 17	22	-131	3435	605.93	772.43	28.34
25	SLE RA 18	19	-138	3600	634.7	809.17	30.54
25	SLE RA 19	19	-138	3600	634.7	809.17	30.54
25	SLE RA 20	19	-138	3600	634.7	809.17	30.54
25	SLE RA 21	19	-138	3600	634.7	809.17	30.54
25	SLE FR 1	28	-115	3051	538.79	686.71	23.2
25	SLE FR 2	28	-115	3051	538.79	686.71	23.2
25	SLE FR 3	28	-115	3051	538.79	686.71	23.2
25	SLE FR 4	25	-122	3216	567.56	723.45	25.4
25	SLE FR 5	25	-122	3216	567.56	723.45	25.4
25	SLE FR 6	24	-127	3326	586.74	747.94	26.87
25	SLE QP 1	28	-115	3051	538.79	686.71	23.2
25	SLE QP 2	25	-122	3216	567.56	723.45	25.4
25	SLD 1	334	32	2870	506.49	649.75	-59.92
25	SLD 2	386	83	2873	507.02	650.35	-81.9
25	SLD 3	277	-148	2479	440.86	562.87	-7.04
25	SLD 4	329	-98	2482	441.39	563.47	-29.02
25	SLD 5	186	180	3705	648.59	832.89	-72.54
25	SLD 6	238	232	3708	649.12	833.5	-94.84
25	SLD 7	-4	-422	2400	429.83	543.29	103.73
25	SLD 8	49	-371	2403	430.37	543.9	81.43
25	SLD 9	2	127	4029	704.76	902.99	-30.62
25	SLD 10	55	178	4032	705.3	903.6	-52.92
25	SLD 11	-188	-475	2724	486	613.39	145.65
25	SLD 12	-135	-424	2727	486.54	614	123.35
25	SLD 13	-279	-146	3950	693.73	883.43	79.82
25	SLD 14	-227	-95	3953	694.26	884.03	57.84
25	SLD 15	-336	-326	3559	628.1	796.55	132.71
25	SLD 16	-284	-276	3562	628.63	797.15	110.73
25	SLV 1	727	232	2435	429.53	556.94	-169.11
25	SLV 2	845	347	2441	430.74	558.3	-218.96
25	SLV 3	597	-184	1533	278.43	356.87	-47.4
25	SLV 4	714	-69	1540	279.63	358.23	-97.26
25	SLV 5	391	574	4346	754.9	976.45	-199.71
25	SLV 6	511	691	4353	756.12	977.84	-250.33
25	SLV 7	-43	-812	1341	251.22	309.54	205.98
25	SLV 8	76	-696	1348	252.44	310.92	155.37
25	SLV 9	-26	452	5084	882.68	1135.97	-104.56
25	SLV 10	94	569	5091	883.9	1137.35	-155.17
25	SLV 11	-461	-934	2078	379.01	469.06	301.14
25	SLV 12	-341	-818	2085	380.23	470.44	250.52
25	SLV 13	-664	-174	4892	855.49	1088.66	148.07
25	SLV 14	-546	-60	4899	856.69	1090.03	98.21
25	SLV 15	-794	-590	3990	704.39	888.59	269.77
25	SLV 16	-676	-476	3997	705.59	889.95	219.91
25	CRTFP Ux+	0	0	0	0.01	0.01	0
25	CRTFP Ux-	0	0	0	-0.01	-0.01	0
25	CRTFP Uy+	0	0	0	-0.01	-0.01	0
25	CRTFP Uy-	0	0	0	0.01	0.01	0
50	SLU 1	23	-80	2014	52.96	549.93	27.25
50	SLU 2	23	-80	2014	52.96	549.93	27.25
50	SLU 3	23	-80	2014	52.96	549.93	27.25
50	SLU 4	23	-80	2014	52.96	549.93	27.25
50	SLU 5	23	-80	2014	52.96	549.93	27.25
50	SLU 6	23	-80	2014	52.96	549.93	27.25
50	SLU 7	23	-80	2014	52.96	549.93	27.25
50	SLU 8	23	-80	2014	52.96	549.93	27.25
50	SLU 9	23	-80	2014	52.96	549.93	27.25
50	SLU 10	17	-97	2407	63.16	654.08	33.49
50	SLU 11	17	-97	2407	63.16	654.08	33.49
50	SLU 12	17	-97	2407	63.16	654.08	33.49
50	SLU 13	17	-97	2407	63.16	654.08	33.49
50	SLU 14	17	-97	2407	63.16	654.08	33.49
50	SLU 15	17	-97	2407	63.16	654.08	33.49
50	SLU 16	17	-97	2407	63.16	654.08	33.49
50	SLU 17	17	-97	2407	63.16	654.08	33.49
50	SLU 18	15	-105	2575	67.54	698.71	36.16
50	SLU 19	15	-105	2575	67.54	698.71	36.16
50	SLU 20	15	-105	2575	67.54	698.71	36.16
50	SLU 21	15	-105	2575	67.54	698.71	36.16
50	SLU 22	21	-93	2303	60.46	626.72	31.73
50	SLU 23	21	-93	2303	60.46	626.72	31.73
50	SLU 24	21	-93	2303	60.46	626.72	31.73
50	SLU 25	21	-93	2303	60.46	626.72	31.73
50	SLU 26	21	-93	2303	60.46	626.72	31.73
50	SLU 27	21	-93	2303	60.46	626.72	31.73
50	SLU 28	21	-93	2303	60.46	626.72	31.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 29	21	-93	2303	60.46	626.72	31.73
50	SLU 30	21	-93	2303	60.46	626.72	31.73
50	SLU 31	15	-110	2696	70.66	730.87	37.97
50	SLU 32	15	-110	2696	70.66	730.87	37.97
50	SLU 33	15	-110	2696	70.66	730.87	37.97
50	SLU 34	15	-110	2696	70.66	730.87	37.97
50	SLU 35	15	-110	2696	70.66	730.87	37.97
50	SLU 36	15	-110	2696	70.66	730.87	37.97
50	SLU 37	15	-110	2696	70.66	730.87	37.97
50	SLU 38	15	-110	2696	70.66	730.87	37.97
50	SLU 39	13	-118	2864	75.03	775.5	40.64
50	SLU 40	13	-118	2864	75.03	775.5	40.64
50	SLU 41	13	-118	2864	75.03	775.5	40.64
50	SLU 42	13	-118	2864	75.03	775.5	40.64
50	SLU 43	30	-99	2520	66.28	688.59	33.89
50	SLU 44	30	-99	2520	66.28	688.59	33.89
50	SLU 45	30	-99	2520	66.28	688.59	33.89
50	SLU 46	30	-99	2520	66.28	688.59	33.89
50	SLU 47	30	-99	2520	66.28	688.59	33.89
50	SLU 48	30	-99	2520	66.28	688.59	33.89
50	SLU 49	30	-99	2520	66.28	688.59	33.89
50	SLU 50	30	-99	2520	66.28	688.59	33.89
50	SLU 51	30	-99	2520	66.28	688.59	33.89
50	SLU 52	25	-117	2912	76.48	792.73	40.13
50	SLU 53	25	-117	2912	76.48	792.73	40.13
50	SLU 54	25	-117	2912	76.48	792.73	40.13
50	SLU 55	25	-117	2912	76.48	792.73	40.13
50	SLU 56	25	-117	2912	76.48	792.73	40.13
50	SLU 57	25	-117	2912	76.48	792.73	40.13
50	SLU 58	25	-117	2912	76.48	792.73	40.13
50	SLU 59	25	-117	2912	76.48	792.73	40.13
50	SLU 60	22	-124	3080	80.86	837.37	42.8
50	SLU 61	22	-124	3080	80.86	837.37	42.8
50	SLU 62	22	-124	3080	80.86	837.37	42.8
50	SLU 63	22	-124	3080	80.86	837.37	42.8
50	SLU 64	28	-112	2809	73.77	765.37	38.37
50	SLU 65	28	-112	2809	73.77	765.37	38.37
50	SLU 66	28	-112	2809	73.77	765.37	38.37
50	SLU 67	28	-112	2809	73.77	765.37	38.37
50	SLU 68	28	-112	2809	73.77	765.37	38.37
50	SLU 69	28	-112	2809	73.77	765.37	38.37
50	SLU 70	28	-112	2809	73.77	765.37	38.37
50	SLU 71	28	-112	2809	73.77	765.37	38.37
50	SLU 72	28	-112	2809	73.77	765.37	38.37
50	SLU 73	23	-130	3201	83.98	869.52	44.61
50	SLU 74	23	-130	3201	83.98	869.52	44.61
50	SLU 75	23	-130	3201	83.98	869.52	44.61
50	SLU 76	23	-130	3201	83.98	869.52	44.61
50	SLU 77	23	-130	3201	83.98	869.52	44.61
50	SLU 78	23	-130	3201	83.98	869.52	44.61
50	SLU 79	23	-130	3201	83.98	869.52	44.61
50	SLU 80	23	-130	3201	83.98	869.52	44.61
50	SLU 81	20	-137	3369	88.35	914.15	47.28
50	SLU 82	20	-137	3369	88.35	914.15	47.28
50	SLU 83	20	-137	3369	88.35	914.15	47.28
50	SLU 84	20	-137	3369	88.35	914.15	47.28
50	SLE RA 1	22	-83	2097	55.1	571.87	28.53
50	SLE RA 2	22	-83	2097	55.1	571.87	28.53
50	SLE RA 3	22	-83	2097	55.1	571.87	28.53
50	SLE RA 4	22	-83	2097	55.1	571.87	28.53
50	SLE RA 5	22	-83	2097	55.1	571.87	28.53
50	SLE RA 6	22	-83	2097	55.1	571.87	28.53
50	SLE RA 7	22	-83	2097	55.1	571.87	28.53
50	SLE RA 8	22	-83	2097	55.1	571.87	28.53
50	SLE RA 9	22	-83	2097	55.1	571.87	28.53
50	SLE RA 10	18	-95	2359	61.9	641.3	32.69
50	SLE RA 11	18	-95	2359	61.9	641.3	32.69
50	SLE RA 12	18	-95	2359	61.9	641.3	32.69
50	SLE RA 13	18	-95	2359	61.9	641.3	32.69
50	SLE RA 14	18	-95	2359	61.9	641.3	32.69
50	SLE RA 15	18	-95	2359	61.9	641.3	32.69
50	SLE RA 16	18	-95	2359	61.9	641.3	32.69
50	SLE RA 17	18	-95	2359	61.9	641.3	32.69
50	SLE RA 18	17	-100	2471	64.82	671.06	34.47
50	SLE RA 19	17	-100	2471	64.82	671.06	34.47
50	SLE RA 20	17	-100	2471	64.82	671.06	34.47
50	SLE RA 21	17	-100	2471	64.82	671.06	34.47
50	SLE FR 1	22	-83	2097	55.1	571.87	28.53
50	SLE FR 2	22	-83	2097	55.1	571.87	28.53
50	SLE FR 3	22	-83	2097	55.1	571.87	28.53
50	SLE FR 4	21	-88	2209	58.02	601.63	30.31
50	SLE FR 5	21	-88	2209	58.02	601.63	30.31
50	SLE FR 6	20	-92	2284	59.96	621.47	31.5
50	SLE QP 1	22	-83	2097	55.1	571.87	28.53
50	SLE QP 2	21	-88	2209	58.02	601.63	30.31
50	SLD 1	240	23	1976	51.95	544.03	-11.69
50	SLD 2	275	59	1978	52	544.5	-25.17
50	SLD 3	201	-108	1722	45.84	475.59	34.94
50	SLD 4	236	-72	1724	45.89	476.06	21.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLD 5	133	131	2524	65.46	687.98	-48.19
50	SLD 6	168	168	2526	65.51	688.46	-61.87
50	SLD 7	3	-307	1677	45.07	459.85	107.25
50	SLD 8	39	-270	1679	45.12	460.33	93.57
50	SLD 9	2	93	2740	70.91	742.93	-32.94
50	SLD 10	38	130	2742	70.96	743.4	-46.62
50	SLD 11	-127	-345	1892	50.53	514.8	122.5
50	SLD 12	-92	-308	1894	50.58	515.28	108.82
50	SLD 13	-195	-104	2694	70.14	727.19	39.17
50	SLD 14	-160	-68	2696	70.19	727.66	25.68
50	SLD 15	-234	-236	2440	64.03	658.76	85.8
50	SLD 16	-199	-200	2442	64.08	659.23	72.32
50	SLV 1	519	167	1683	44.31	471.48	-65.99
50	SLV 2	599	249	1687	44.42	472.55	-96.58
50	SLV 3	430	-135	1097	30.23	313.88	41.38
50	SLV 4	510	-53	1102	30.34	314.95	10.79
50	SLV 5	276	418	2938	75.22	801.23	-150.48
50	SLV 6	357	501	2942	75.33	802.32	-181.53
50	SLV 7	-20	-591	986	28.29	275.89	207.41
50	SLV 8	61	-508	991	28.4	276.97	176.36
50	SLV 9	-20	331	3428	87.63	926.28	-115.73
50	SLV 10	61	414	3432	87.75	927.37	-146.78
50	SLV 11	-316	-678	1476	40.7	400.94	242.16
50	SLV 12	-235	-595	1481	40.81	402.02	211.11
50	SLV 13	-469	-123	3317	85.69	888.31	49.84
50	SLV 14	-389	-42	3321	85.8	889.38	19.25
50	SLV 15	-558	-426	2731	71.61	730.71	157.21
50	SLV 16	-478	-344	2736	71.72	731.78	126.62
50	CRTFP Ux+	0	0	0	0	0.01	0
50	CRTFP Ux-	0	0	0	0	-0.01	0
50	CRTFP Uy+	0	0	0	0	-0.01	0
50	CRTFP Uy-	0	0	0	0	0.01	0
51	SLU 1	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 2	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 3	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 4	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 5	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 6	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 7	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 8	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 9	2116	-2227	37450	58.5	65.01	-5.45
51	SLU 10	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 11	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 12	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 13	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 14	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 15	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 16	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 17	2798	-2960	45435	73.54	80.98	-7.88
51	SLU 18	3090	-3274	48857	79.99	87.83	-8.92
51	SLU 19	3090	-3274	48857	79.99	87.83	-8.92
51	SLU 20	3090	-3274	48857	79.99	87.83	-8.92
51	SLU 21	3090	-3274	48857	79.99	87.83	-8.92
51	SLU 22	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 23	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 24	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 25	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 26	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 27	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 28	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 29	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 30	2579	-2722	43517	69.84	77.18	-7.04
51	SLU 31	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 32	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 33	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 34	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 35	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 36	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 37	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 38	3261	-3455	51501	84.88	93.15	-9.47
51	SLU 39	3553	-3769	54923	91.33	100	-10.51
51	SLU 40	3553	-3769	54923	91.33	100	-10.51
51	SLU 41	3553	-3769	54923	91.33	100	-10.51
51	SLU 42	3553	-3769	54923	91.33	100	-10.51
51	SLU 43	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 44	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 45	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 46	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 47	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 48	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 49	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 50	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 51	2592	-2725	46605	72.16	80.33	-6.54
51	SLU 52	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 53	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 54	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 55	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 56	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 57	3274	-3458	54589	87.2	96.31	-8.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 58	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 59	3274	-3458	54589	87.2	96.31	-8.97
51	SLU 60	3566	-3772	58011	93.65	103.16	-10.01
51	SLU 61	3566	-3772	58011	93.65	103.16	-10.01
51	SLU 62	3566	-3772	58011	93.65	103.16	-10.01
51	SLU 63	3566	-3772	58011	93.65	103.16	-10.01
51	SLU 64	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 65	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 66	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 67	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 68	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 69	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 70	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 71	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 72	3055	-3221	52671	83.5	92.51	-8.13
51	SLU 73	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 74	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 75	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 76	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 77	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 78	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 79	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 80	3737	-3954	60656	98.54	108.48	-10.56
51	SLU 81	4029	-4268	64078	104.99	115.33	-11.6
51	SLU 82	4029	-4268	64078	104.99	115.33	-11.6
51	SLU 83	4029	-4268	64078	104.99	115.33	-11.6
51	SLU 84	4029	-4268	64078	104.99	115.33	-11.6
51	SLE RA 1	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 2	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 3	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 4	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 5	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 6	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 7	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 8	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 9	2248	-2369	39183	61.74	68.48	-5.9
51	SLE RA 10	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 11	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 12	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 13	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 14	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 15	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 16	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 17	2703	-2857	44506	71.76	79.13	-7.52
51	SLE RA 18	2898	-3067	46788	76.06	83.7	-8.22
51	SLE RA 19	2898	-3067	46788	76.06	83.7	-8.22
51	SLE RA 20	2898	-3067	46788	76.06	83.7	-8.22
51	SLE RA 21	2898	-3067	46788	76.06	83.7	-8.22
51	SLE FR 1	2248	-2369	39183	61.74	68.48	-5.9
51	SLE FR 2	2248	-2369	39183	61.74	68.48	-5.9
51	SLE FR 3	2248	-2369	39183	61.74	68.48	-5.9
51	SLE FR 4	2443	-2578	41465	66.03	73.05	-6.6
51	SLE FR 5	2443	-2578	41465	66.03	73.05	-6.6
51	SLE FR 6	2573	-2718	42985	68.9	76.09	-7.06
51	SLE QP 1	2248	-2369	39183	61.74	68.48	-5.9
51	SLE QP 2	2443	-2578	41465	66.03	73.05	-6.6
51	SLD 1	2984	-2914	49692	73.82	109.9	-0.82
51	SLD 2	3554	-3542	49764	81.28	116.93	4.17
51	SLD 3	4224	-4408	46460	97.67	120.1	5.89
51	SLD 4	4794	-5036	46533	105.13	127.13	10.88
51	SLD 5	521	-188	48808	29.54	66.13	-16.83
51	SLD 6	1099	-825	48882	37.1	73.26	-11.77
51	SLD 7	4655	-5169	38036	109.03	100.12	5.55
51	SLD 8	5233	-5806	38110	116.6	107.24	10.62
51	SLD 9	-347	650	44820	15.47	38.85	-23.81
51	SLD 10	231	13	44893	23.04	45.98	-18.75
51	SLD 11	3787	-4331	34047	94.97	72.84	-1.42
51	SLD 12	4365	-4968	34121	102.53	79.96	3.64
51	SLD 13	92	-120	36396	26.94	18.97	-24.07
51	SLD 14	662	-748	36469	34.39	26	-19.08
51	SLD 15	1332	-1614	33165	50.79	29.17	-17.36
51	SLD 16	1902	-2242	33237	58.24	36.19	-12.37
51	SLV 1	3658	-3326	60172	83.44	156.61	6.45
51	SLV 2	4950	-4750	60337	100.35	172.55	17.77
51	SLV 3	6529	-6784	52767	138.5	180.09	21.91
51	SLV 4	7822	-8209	52931	155.41	196.02	33.23
51	SLV 5	-2010	2952	58250	-18.3	56.82	-30.18
51	SLV 6	-697	1506	58417	-1.13	73	-18.69
51	SLV 7	7561	-8575	33564	165.23	135.06	21.36
51	SLV 8	8874	-10021	33731	182.4	151.24	32.85
51	SLV 9	-3988	4865	49198	-50.34	-5.14	-46.04
51	SLV 10	-2676	3419	49365	-33.17	11.04	-34.55
51	SLV 11	5583	-6662	24512	133.2	73.1	5.5
51	SLV 12	6895	-8108	24679	150.37	89.28	16.99
51	SLV 13	-2936	3053	29998	-23.34	-49.93	-46.42
51	SLV 14	-1644	1628	30162	-6.43	-33.99	-35.1
51	SLV 15	-65	-406	22592	31.72	-26.45	-30.96
51	SLV 16	1228	-1830	22757	48.63	-10.52	-19.64
51	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
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
55	SLU 1	27	-92	2205	-3.96	532.28	32.31
55	SLU 2	27	-92	2205	-3.96	532.28	32.31
55	SLU 3	27	-92	2205	-3.96	532.28	32.31
55	SLU 4	27	-92	2205	-3.96	532.28	32.31
55	SLU 5	27	-92	2205	-3.96	532.28	32.31
55	SLU 6	27	-92	2205	-3.96	532.28	32.31
55	SLU 7	27	-92	2205	-3.96	532.28	32.31
55	SLU 8	27	-92	2205	-3.96	532.28	32.31
55	SLU 9	27	-92	2205	-3.96	532.28	32.31
55	SLU 10	22	-112	2630	-4.85	629.97	39.33
55	SLU 11	22	-112	2630	-4.85	629.97	39.33
55	SLU 12	22	-112	2630	-4.85	629.97	39.33
55	SLU 13	22	-112	2630	-4.85	629.97	39.33
55	SLU 14	22	-112	2630	-4.85	629.97	39.33
55	SLU 15	22	-112	2630	-4.85	629.97	39.33
55	SLU 16	22	-112	2630	-4.85	629.97	39.33
55	SLU 17	22	-112	2630	-4.85	629.97	39.33
55	SLU 18	20	-121	2813	-5.24	671.84	42.35
55	SLU 19	20	-121	2813	-5.24	671.84	42.35
55	SLU 20	20	-121	2813	-5.24	671.84	42.35
55	SLU 21	20	-121	2813	-5.24	671.84	42.35
55	SLU 22	25	-107	2517	-4.65	604.09	37.42
55	SLU 23	25	-107	2517	-4.65	604.09	37.42
55	SLU 24	25	-107	2517	-4.65	604.09	37.42
55	SLU 25	25	-107	2517	-4.65	604.09	37.42
55	SLU 26	25	-107	2517	-4.65	604.09	37.42
55	SLU 27	25	-107	2517	-4.65	604.09	37.42
55	SLU 28	25	-107	2517	-4.65	604.09	37.42
55	SLU 29	25	-107	2517	-4.65	604.09	37.42
55	SLU 30	25	-107	2517	-4.65	604.09	37.42
55	SLU 31	21	-127	2943	-5.54	701.79	44.44
55	SLU 32	21	-127	2943	-5.54	701.79	44.44
55	SLU 33	21	-127	2943	-5.54	701.79	44.44
55	SLU 34	21	-127	2943	-5.54	701.79	44.44
55	SLU 35	21	-127	2943	-5.54	701.79	44.44
55	SLU 36	21	-127	2943	-5.54	701.79	44.44
55	SLU 37	21	-127	2943	-5.54	701.79	44.44
55	SLU 38	21	-127	2943	-5.54	701.79	44.44
55	SLU 39	19	-136	3125	-5.92	743.66	47.45
55	SLU 40	19	-136	3125	-5.92	743.66	47.45
55	SLU 41	19	-136	3125	-5.92	743.66	47.45
55	SLU 42	19	-136	3125	-5.92	743.66	47.45
55	SLU 43	35	-115	2759	-4.91	667.34	40.25
55	SLU 44	35	-115	2759	-4.91	667.34	40.25
55	SLU 45	35	-115	2759	-4.91	667.34	40.25
55	SLU 46	35	-115	2759	-4.91	667.34	40.25
55	SLU 47	35	-115	2759	-4.91	667.34	40.25
55	SLU 48	35	-115	2759	-4.91	667.34	40.25
55	SLU 49	35	-115	2759	-4.91	667.34	40.25
55	SLU 50	35	-115	2759	-4.91	667.34	40.25
55	SLU 51	35	-115	2759	-4.91	667.34	40.25
55	SLU 52	31	-135	3185	-5.81	765.04	47.28
55	SLU 53	31	-135	3185	-5.81	765.04	47.28
55	SLU 54	31	-135	3185	-5.81	765.04	47.28
55	SLU 55	31	-135	3185	-5.81	765.04	47.28
55	SLU 56	31	-135	3185	-5.81	765.04	47.28
55	SLU 57	31	-135	3185	-5.81	765.04	47.28
55	SLU 58	31	-135	3185	-5.81	765.04	47.28
55	SLU 59	31	-135	3185	-5.81	765.04	47.28
55	SLU 60	29	-144	3367	-6.19	806.91	50.29
55	SLU 61	29	-144	3367	-6.19	806.91	50.29
55	SLU 62	29	-144	3367	-6.19	806.91	50.29
55	SLU 63	29	-144	3367	-6.19	806.91	50.29
55	SLU 64	34	-130	3072	-5.6	739.16	45.36
55	SLU 65	34	-130	3072	-5.6	739.16	45.36
55	SLU 66	34	-130	3072	-5.6	739.16	45.36
55	SLU 67	34	-130	3072	-5.6	739.16	45.36
55	SLU 68	34	-130	3072	-5.6	739.16	45.36
55	SLU 69	34	-130	3072	-5.6	739.16	45.36
55	SLU 70	34	-130	3072	-5.6	739.16	45.36
55	SLU 71	34	-130	3072	-5.6	739.16	45.36
55	SLU 72	34	-130	3072	-5.6	739.16	45.36
55	SLU 73	29	-150	3497	-6.49	836.85	52.38
55	SLU 74	29	-150	3497	-6.49	836.85	52.38
55	SLU 75	29	-150	3497	-6.49	836.85	52.38
55	SLU 76	29	-150	3497	-6.49	836.85	52.38
55	SLU 77	29	-150	3497	-6.49	836.85	52.38
55	SLU 78	29	-150	3497	-6.49	836.85	52.38
55	SLU 79	29	-150	3497	-6.49	836.85	52.38
55	SLU 80	29	-150	3497	-6.49	836.85	52.38
55	SLU 81	27	-158	3679	-6.88	878.72	55.39
55	SLU 82	27	-158	3679	-6.88	878.72	55.39
55	SLU 83	27	-158	3679	-6.88	878.72	55.39
55	SLU 84	27	-158	3679	-6.88	878.72	55.39
55	SLE RA 1	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 2	26	-96	2294	-4.16	552.8	33.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLE RA 3	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 4	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 5	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 6	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 7	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 8	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 9	26	-96	2294	-4.16	552.8	33.77
55	SLE RA 10	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 11	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 12	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 13	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 14	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 15	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 16	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 17	23	-110	2578	-4.75	617.93	38.45
55	SLE RA 18	22	-116	2699	-5.01	645.84	40.46
55	SLE RA 19	22	-116	2699	-5.01	645.84	40.46
55	SLE RA 20	22	-116	2699	-5.01	645.84	40.46
55	SLE RA 21	22	-116	2699	-5.01	645.84	40.46
55	SLE FR 1	26	-96	2294	-4.16	552.8	33.77
55	SLE FR 2	26	-96	2294	-4.16	552.8	33.77
55	SLE FR 3	26	-96	2294	-4.16	552.8	33.77
55	SLE FR 4	25	-102	2416	-4.41	580.71	35.78
55	SLE FR 5	25	-102	2416	-4.41	580.71	35.78
55	SLE FR 6	24	-106	2497	-4.58	599.32	37.11
55	SLE QP 1	26	-96	2294	-4.16	552.8	33.77
55	SLE QP 2	25	-102	2416	-4.41	580.71	35.78
55	SLD 1	266	27	2163	-3.85	527.86	-9.16
55	SLD 2	302	69	2165	-3.86	528.36	-23.6
55	SLD 3	225	-125	1909	-2.47	467.49	43.96
55	SLD 4	261	-84	1911	-2.48	467.98	29.53
55	SLD 5	146	152	2725	-6.33	656.24	-53.12
55	SLD 6	182	195	2727	-6.34	656.75	-67.77
55	SLD 7	11	-355	1877	-1.74	455	123.96
55	SLD 8	47	-313	1879	-1.74	455.5	109.32
55	SLD 9	3	108	2952	-7.08	705.92	-37.77
55	SLD 10	39	150	2954	-7.09	706.42	-52.41
55	SLD 11	-132	-399	2105	-2.48	504.67	139.32
55	SLD 12	-96	-357	2107	-2.49	505.18	124.67
55	SLD 13	-211	-121	2920	-6.34	693.44	42.02
55	SLD 14	-175	-79	2922	-6.35	693.94	27.59
55	SLD 15	-251	-273	2666	-4.96	633.07	95.15
55	SLD 16	-215	-231	2668	-4.97	633.56	80.71
55	SLV 1	572	194	1845	-3.15	461.23	-67.41
55	SLV 2	653	289	1849	-3.17	462.36	-100.15
55	SLV 3	479	-156	1259	0.02	322.22	54.92
55	SLV 4	561	-62	1264	0.01	323.35	22.17
55	SLV 5	300	484	3130	-8.85	755.3	-168.99
55	SLV 6	383	580	3135	-8.86	756.44	-202.23
55	SLV 7	-8	-684	1180	1.74	291.93	238.75
55	SLV 8	75	-588	1184	1.72	293.07	205.51
55	SLV 9	-24	383	3647	-10.55	868.35	-133.96
55	SLV 10	58	479	3652	-10.57	869.5	-167.2
55	SLV 11	-333	-785	1696	0.04	404.98	273.78
55	SLV 12	-250	-689	1701	0.02	406.13	240.54
55	SLV 13	-510	-143	3567	-8.83	838.08	49.38
55	SLV 14	-429	-48	3572	-8.85	839.21	16.63
55	SLV 15	-603	-493	2982	-5.65	699.06	171.7
55	SLV 16	-521	-399	2987	-5.67	700.19	138.96
55	CRTFP Ux+	0	0	0	0	0	0
55	CRTFP Ux-	0	0	0	0	0	0
55	CRTFP Uy+	0	0	0	0	-0.01	0
55	CRTFP Uy-	0	0	0	0	0.01	0
56	SLU 1	20	125	531	-38.86	-70.84	32.94
56	SLU 2	20	125	531	-38.86	-70.84	32.94
56	SLU 3	20	125	531	-38.86	-70.84	32.94
56	SLU 4	20	125	531	-38.86	-70.84	32.94
56	SLU 5	20	125	531	-38.86	-70.84	32.94
56	SLU 6	20	125	531	-38.86	-70.84	32.94
56	SLU 7	20	125	531	-38.86	-70.84	32.94
56	SLU 8	20	125	531	-38.86	-70.84	32.94
56	SLU 9	20	125	531	-38.86	-70.84	32.94
56	SLU 10	32	157	613	-44.74	-75.21	41.98
56	SLU 11	32	157	613	-44.74	-75.21	41.98
56	SLU 12	32	157	613	-44.74	-75.21	41.98
56	SLU 13	32	157	613	-44.74	-75.21	41.98
56	SLU 14	32	157	613	-44.74	-75.21	41.98
56	SLU 15	32	157	613	-44.74	-75.21	41.98
56	SLU 16	32	157	613	-44.74	-75.21	41.98
56	SLU 17	32	157	613	-44.74	-75.21	41.98
56	SLU 18	37	171	649	-47.26	-77.09	45.86
56	SLU 19	37	171	649	-47.26	-77.09	45.86
56	SLU 20	37	171	649	-47.26	-77.09	45.86
56	SLU 21	37	171	649	-47.26	-77.09	45.86
56	SLU 22	27	149	597	-43.58	-74.56	39.41
56	SLU 23	27	149	597	-43.58	-74.56	39.41
56	SLU 24	27	149	597	-43.58	-74.56	39.41
56	SLU 25	27	149	597	-43.58	-74.56	39.41
56	SLU 26	27	149	597	-43.58	-74.56	39.41



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
56	SLU 27	27	149	597	-43.58	-74.56	39.41
56	SLU 28	27	149	597	-43.58	-74.56	39.41
56	SLU 29	27	149	597	-43.58	-74.56	39.41
56	SLU 30	27	149	597	-43.58	-74.56	39.41
56	SLU 31	39	181	679	-49.46	-78.93	48.45
56	SLU 32	39	181	679	-49.46	-78.93	48.45
56	SLU 33	39	181	679	-49.46	-78.93	48.45
56	SLU 34	39	181	679	-49.46	-78.93	48.45
56	SLU 35	39	181	679	-49.46	-78.93	48.45
56	SLU 36	39	181	679	-49.46	-78.93	48.45
56	SLU 37	39	181	679	-49.46	-78.93	48.45
56	SLU 38	39	181	679	-49.46	-78.93	48.45
56	SLU 39	44	194	714	-51.98	-80.81	52.32
56	SLU 40	44	194	714	-51.98	-80.81	52.32
56	SLU 41	44	194	714	-51.98	-80.81	52.32
56	SLU 42	44	194	714	-51.98	-80.81	52.32
56	SLU 43	23	155	668	-48.9	-90.82	40.61
56	SLU 44	23	155	668	-48.9	-90.82	40.61
56	SLU 45	23	155	668	-48.9	-90.82	40.61
56	SLU 46	23	155	668	-48.9	-90.82	40.61
56	SLU 47	23	155	668	-48.9	-90.82	40.61
56	SLU 48	23	155	668	-48.9	-90.82	40.61
56	SLU 49	23	155	668	-48.9	-90.82	40.61
56	SLU 50	23	155	668	-48.9	-90.82	40.61
56	SLU 51	23	155	668	-48.9	-90.82	40.61
56	SLU 52	35	187	750	-54.78	-95.19	49.65
56	SLU 53	35	187	750	-54.78	-95.19	49.65
56	SLU 54	35	187	750	-54.78	-95.19	49.65
56	SLU 55	35	187	750	-54.78	-95.19	49.65
56	SLU 56	35	187	750	-54.78	-95.19	49.65
56	SLU 57	35	187	750	-54.78	-95.19	49.65
56	SLU 58	35	187	750	-54.78	-95.19	49.65
56	SLU 59	35	187	750	-54.78	-95.19	49.65
56	SLU 60	40	201	785	-57.3	-97.07	53.52
56	SLU 61	40	201	785	-57.3	-97.07	53.52
56	SLU 62	40	201	785	-57.3	-97.07	53.52
56	SLU 63	40	201	785	-57.3	-97.07	53.52
56	SLU 64	31	178	733	-53.62	-94.54	47.07
56	SLU 65	31	178	733	-53.62	-94.54	47.07
56	SLU 66	31	178	733	-53.62	-94.54	47.07
56	SLU 67	31	178	733	-53.62	-94.54	47.07
56	SLU 68	31	178	733	-53.62	-94.54	47.07
56	SLU 69	31	178	733	-53.62	-94.54	47.07
56	SLU 70	31	178	733	-53.62	-94.54	47.07
56	SLU 71	31	178	733	-53.62	-94.54	47.07
56	SLU 72	31	178	733	-53.62	-94.54	47.07
56	SLU 73	43	210	816	-59.5	-98.91	56.11
56	SLU 74	43	210	816	-59.5	-98.91	56.11
56	SLU 75	43	210	816	-59.5	-98.91	56.11
56	SLU 76	43	210	816	-59.5	-98.91	56.11
56	SLU 77	43	210	816	-59.5	-98.91	56.11
56	SLU 78	43	210	816	-59.5	-98.91	56.11
56	SLU 79	43	210	816	-59.5	-98.91	56.11
56	SLU 80	43	210	816	-59.5	-98.91	56.11
56	SLU 81	48	224	851	-62.02	-100.78	59.99
56	SLU 82	48	224	851	-62.02	-100.78	59.99
56	SLU 83	48	224	851	-62.02	-100.78	59.99
56	SLU 84	48	224	851	-62.02	-100.78	59.99
56	SLE RA 1	22	132	550	-40.21	-71.91	34.79
56	SLE RA 2	22	132	550	-40.21	-71.91	34.79
56	SLE RA 3	22	132	550	-40.21	-71.91	34.79
56	SLE RA 4	22	132	550	-40.21	-71.91	34.79
56	SLE RA 5	22	132	550	-40.21	-71.91	34.79
56	SLE RA 6	22	132	550	-40.21	-71.91	34.79
56	SLE RA 7	22	132	550	-40.21	-71.91	34.79
56	SLE RA 8	22	132	550	-40.21	-71.91	34.79
56	SLE RA 9	22	132	550	-40.21	-71.91	34.79
56	SLE RA 10	30	153	605	-44.13	-74.82	40.82
56	SLE RA 11	30	153	605	-44.13	-74.82	40.82
56	SLE RA 12	30	153	605	-44.13	-74.82	40.82
56	SLE RA 13	30	153	605	-44.13	-74.82	40.82
56	SLE RA 14	30	153	605	-44.13	-74.82	40.82
56	SLE RA 15	30	153	605	-44.13	-74.82	40.82
56	SLE RA 16	30	153	605	-44.13	-74.82	40.82
56	SLE RA 17	30	153	605	-44.13	-74.82	40.82
56	SLE RA 18	33	162	628	-45.81	-76.07	43.4
56	SLE RA 19	33	162	628	-45.81	-76.07	43.4
56	SLE RA 20	33	162	628	-45.81	-76.07	43.4
56	SLE RA 21	33	162	628	-45.81	-76.07	43.4
56	SLE FR 1	22	132	550	-40.21	-71.91	34.79
56	SLE FR 2	22	132	550	-40.21	-71.91	34.79
56	SLE FR 3	22	132	550	-40.21	-71.91	34.79
56	SLE FR 4	25	141	573	-41.89	-73.16	37.37
56	SLE FR 5	25	141	573	-41.89	-73.16	37.37
56	SLE FR 6	28	147	589	-43.01	-73.99	39.09
56	SLE QP 1	22	132	550	-40.21	-71.91	34.79
56	SLE QP 2	25	141	573	-41.89	-73.16	37.37
56	SLD 1	124	287	725	-53.74	-80.22	81.72
56	SLD 2	103	255	727	-53.87	-81	72.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLD 3	55	173	665	-48.78	-73.87	47.48
56	SLD 4	34	142	667	-48.92	-74.66	37.78
56	SLD 5	167	368	709	-52.91	-84.62	106.07
56	SLD 6	146	336	711	-53.05	-85.42	96.23
56	SLD 7	-63	-10	509	-36.39	-63.46	-8.06
56	SLD 8	-84	-42	511	-36.52	-64.26	-17.9
56	SLD 9	135	324	636	-47.25	-82.05	92.64
56	SLD 10	114	292	637	-47.39	-82.85	82.81
56	SLD 11	-95	-54	436	-30.72	-60.89	-21.49
56	SLD 12	-116	-86	437	-30.86	-61.69	-31.33
56	SLD 13	17	140	480	-34.86	-71.65	36.96
56	SLD 14	-4	109	481	-35	-72.44	27.27
56	SLD 15	-52	27	420	-29.9	-65.31	2.72
56	SLD 16	-73	-5	421	-30.04	-66.09	-6.97
56	SLV 1	250	474	919	-68.86	-89.34	138.65
56	SLV 2	203	402	922	-69.17	-91.13	116.66
56	SLV 3	91	213	781	-57.44	-74.69	59.82
56	SLV 4	45	141	784	-57.75	-76.48	37.83
56	SLV 5	350	663	886	-67.18	-99.58	195.18
56	SLV 6	303	590	888	-67.5	-101.39	172.85
56	SLV 7	-179	-208	425	-29.13	-50.77	-67.59
56	SLV 8	-226	-281	428	-29.44	-52.59	-89.91
56	SLV 9	277	563	718	-54.33	-93.72	164.66
56	SLV 10	230	490	721	-54.65	-95.54	142.33
56	SLV 11	-252	-308	258	-16.28	-44.92	-98.11
56	SLV 12	-299	-381	261	-16.59	-46.73	-120.43
56	SLV 13	6	141	362	-26.03	-69.83	36.91
56	SLV 14	-40	69	365	-26.34	-71.62	14.92
56	SLV 15	-152	-120	224	-14.61	-55.18	-41.92
56	SLV 16	-199	-192	227	-14.92	-56.97	-63.91
56	CRTFP Ux+	0	0	0	0	0	0
56	CRTFP Ux-	0	0	0	0	0	0
56	CRTFP Uy+	0	0	0	0	0	0
56	CRTFP Uy-	0	0	0	0	0	0
58	SLU 1	25	-92	2108	-2.56	452.67	32.3
58	SLU 2	25	-92	2108	-2.56	452.67	32.3
58	SLU 3	25	-92	2108	-2.56	452.67	32.3
58	SLU 4	25	-92	2108	-2.56	452.67	32.3
58	SLU 5	25	-92	2108	-2.56	452.67	32.3
58	SLU 6	25	-92	2108	-2.56	452.67	32.3
58	SLU 7	25	-92	2108	-2.56	452.67	32.3
58	SLU 8	25	-92	2108	-2.56	452.67	32.3
58	SLU 9	25	-92	2108	-2.56	452.67	32.3
58	SLU 10	22	-112	2512	-3.12	533.18	39.32
58	SLU 11	22	-112	2512	-3.12	533.18	39.32
58	SLU 12	22	-112	2512	-3.12	533.18	39.32
58	SLU 13	22	-112	2512	-3.12	533.18	39.32
58	SLU 14	22	-112	2512	-3.12	533.18	39.32
58	SLU 15	22	-112	2512	-3.12	533.18	39.32
58	SLU 16	22	-112	2512	-3.12	533.18	39.32
58	SLU 17	22	-112	2512	-3.12	533.18	39.32
58	SLU 18	20	-121	2685	-3.36	567.69	42.32
58	SLU 19	20	-121	2685	-3.36	567.69	42.32
58	SLU 20	20	-121	2685	-3.36	567.69	42.32
58	SLU 21	20	-121	2685	-3.36	567.69	42.32
58	SLU 22	24	-107	2404	-3	511.56	37.4
58	SLU 23	24	-107	2404	-3	511.56	37.4
58	SLU 24	24	-107	2404	-3	511.56	37.4
58	SLU 25	24	-107	2404	-3	511.56	37.4
58	SLU 26	24	-107	2404	-3	511.56	37.4
58	SLU 27	24	-107	2404	-3	511.56	37.4
58	SLU 28	24	-107	2404	-3	511.56	37.4
58	SLU 29	24	-107	2404	-3	511.56	37.4
58	SLU 30	24	-107	2404	-3	511.56	37.4
58	SLU 31	21	-127	2808	-3.56	592.07	44.42
58	SLU 32	21	-127	2808	-3.56	592.07	44.42
58	SLU 33	21	-127	2808	-3.56	592.07	44.42
58	SLU 34	21	-127	2808	-3.56	592.07	44.42
58	SLU 35	21	-127	2808	-3.56	592.07	44.42
58	SLU 36	21	-127	2808	-3.56	592.07	44.42
58	SLU 37	21	-127	2808	-3.56	592.07	44.42
58	SLU 38	21	-127	2808	-3.56	592.07	44.42
58	SLU 39	20	-135	2981	-3.8	626.58	47.43
58	SLU 40	20	-135	2981	-3.8	626.58	47.43
58	SLU 41	20	-135	2981	-3.8	626.58	47.43
58	SLU 42	20	-135	2981	-3.8	626.58	47.43
58	SLU 43	33	-115	2639	-3.18	568.28	40.24
58	SLU 44	33	-115	2639	-3.18	568.28	40.24
58	SLU 45	33	-115	2639	-3.18	568.28	40.24
58	SLU 46	33	-115	2639	-3.18	568.28	40.24
58	SLU 47	33	-115	2639	-3.18	568.28	40.24
58	SLU 48	33	-115	2639	-3.18	568.28	40.24
58	SLU 49	33	-115	2639	-3.18	568.28	40.24
58	SLU 50	33	-115	2639	-3.18	568.28	40.24
58	SLU 51	33	-115	2639	-3.18	568.28	40.24
58	SLU 52	30	-135	3043	-3.73	648.79	47.26
58	SLU 53	30	-135	3043	-3.73	648.79	47.26
58	SLU 54	30	-135	3043	-3.73	648.79	47.26
58	SLU 55	30	-135	3043	-3.73	648.79	47.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLU 56	30	-135	3043	-3.73	648.79	47.26
58	SLU 57	30	-135	3043	-3.73	648.79	47.26
58	SLU 58	30	-135	3043	-3.73	648.79	47.26
58	SLU 59	30	-135	3043	-3.73	648.79	47.26
58	SLU 60	28	-143	3216	-3.97	683.3	50.26
58	SLU 61	28	-143	3216	-3.97	683.3	50.26
58	SLU 62	28	-143	3216	-3.97	683.3	50.26
58	SLU 63	28	-143	3216	-3.97	683.3	50.26
58	SLU 64	32	-129	2935	-3.62	627.17	45.34
58	SLU 65	32	-129	2935	-3.62	627.17	45.34
58	SLU 66	32	-129	2935	-3.62	627.17	45.34
58	SLU 67	32	-129	2935	-3.62	627.17	45.34
58	SLU 68	32	-129	2935	-3.62	627.17	45.34
58	SLU 69	32	-129	2935	-3.62	627.17	45.34
58	SLU 70	32	-129	2935	-3.62	627.17	45.34
58	SLU 71	32	-129	2935	-3.62	627.17	45.34
58	SLU 72	32	-129	2935	-3.62	627.17	45.34
58	SLU 73	29	-149	3339	-4.18	707.68	52.36
58	SLU 74	29	-149	3339	-4.18	707.68	52.36
58	SLU 75	29	-149	3339	-4.18	707.68	52.36
58	SLU 76	29	-149	3339	-4.18	707.68	52.36
58	SLU 77	29	-149	3339	-4.18	707.68	52.36
58	SLU 78	29	-149	3339	-4.18	707.68	52.36
58	SLU 79	29	-149	3339	-4.18	707.68	52.36
58	SLU 80	29	-149	3339	-4.18	707.68	52.36
58	SLU 81	28	-158	3512	-4.41	742.19	55.37
58	SLU 82	28	-158	3512	-4.41	742.19	55.37
58	SLU 83	28	-158	3512	-4.41	742.19	55.37
58	SLU 84	28	-158	3512	-4.41	742.19	55.37
58	SLE RA 1	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 2	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 3	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 4	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 5	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 6	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 7	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 8	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 9	25	-96	2193	-2.69	469.49	33.76
58	SLE RA 10	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 11	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 12	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 13	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 14	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 15	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 16	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 17	23	-110	2462	-3.06	523.17	38.43
58	SLE RA 18	22	-115	2577	-3.22	546.17	40.44
58	SLE RA 19	22	-115	2577	-3.22	546.17	40.44
58	SLE RA 20	22	-115	2577	-3.22	546.17	40.44
58	SLE RA 21	22	-115	2577	-3.22	546.17	40.44
58	SLE FR 1	25	-96	2193	-2.69	469.49	33.76
58	SLE FR 2	25	-96	2193	-2.69	469.49	33.76
58	SLE FR 3	25	-96	2193	-2.69	469.49	33.76
58	SLE FR 4	24	-102	2308	-2.85	492.5	35.76
58	SLE FR 5	24	-102	2308	-2.85	492.5	35.76
58	SLE FR 6	23	-106	2385	-2.95	507.83	37.1
58	SLE QP 1	25	-96	2193	-2.69	469.49	33.76
58	SLE QP 2	24	-102	2308	-2.85	492.5	35.76
58	SLD 1	252	27	2069	-2.47	450.26	-9.29
58	SLD 2	283	69	2070	-2.48	450.73	-23.75
58	SLD 3	215	-125	1852	-1.27	406.1	43.95
58	SLD 4	246	-83	1854	-1.27	406.57	29.49
58	SLD 5	137	153	2564	-4.56	546.63	-53.34
58	SLD 6	169	195	2565	-4.57	547.1	-68.01
58	SLD 7	14	-355	1843	-0.54	399.44	124.14
58	SLD 8	46	-313	1845	-0.55	399.91	109.46
58	SLD 9	2	109	2772	-5.15	585.08	-37.94
58	SLD 10	34	151	2774	-5.15	585.55	-52.62
58	SLD 11	-121	-399	2051	-1.13	437.89	139.53
58	SLD 12	-89	-357	2053	-1.13	438.36	124.86
58	SLD 13	-198	-121	2762	-4.42	578.42	42.03
58	SLD 14	-167	-79	2764	-4.43	578.89	27.57
58	SLD 15	-235	-273	2546	-3.22	534.27	95.28
58	SLD 16	-204	-231	2548	-3.22	534.73	80.81
58	SLV 1	542	195	1766	-2	396.94	-67.68
58	SLV 2	613	290	1770	-2.02	397.99	-100.49
58	SLV 3	458	-156	1268	0.77	295.29	54.91
58	SLV 4	528	-61	1273	0.76	296.34	22.1
58	SLV 5	282	485	2899	-6.8	617.62	-169.47
58	SLV 6	353	582	2903	-6.81	618.69	-202.78
58	SLV 7	1	-684	1240	2.46	278.79	239.17
58	SLV 8	73	-588	1244	2.44	279.86	205.87
58	SLV 9	-25	384	3372	-8.14	705.13	-134.34
58	SLV 10	47	481	3377	-8.15	706.2	-167.65
58	SLV 11	-305	-786	1713	1.12	366.3	274.3
58	SLV 12	-234	-689	1717	1.11	367.37	241
58	SLV 13	-480	-142	3344	-6.45	688.65	49.42
58	SLV 14	-410	-48	3348	-6.47	689.7	16.61
58	SLV 15	-565	-493	2846	-3.68	587	172.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLV 16	-494	-399	2850	-3.69	588.05	139.2
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
59	SLU 1	21	153	780	-26.16	-102.87	39.38
59	SLU 2	21	153	780	-26.16	-102.87	39.38
59	SLU 3	21	153	780	-26.16	-102.87	39.38
59	SLU 4	21	153	780	-26.16	-102.87	39.38
59	SLU 5	21	153	780	-26.16	-102.87	39.38
59	SLU 6	21	153	780	-26.16	-102.87	39.38
59	SLU 7	21	153	780	-26.16	-102.87	39.38
59	SLU 8	21	153	780	-26.16	-102.87	39.38
59	SLU 9	21	153	780	-26.16	-102.87	39.38
59	SLU 10	32	193	908	-30.19	-113.29	49.82
59	SLU 11	32	193	908	-30.19	-113.29	49.82
59	SLU 12	32	193	908	-30.19	-113.29	49.82
59	SLU 13	32	193	908	-30.19	-113.29	49.82
59	SLU 14	32	193	908	-30.19	-113.29	49.82
59	SLU 15	32	193	908	-30.19	-113.29	49.82
59	SLU 16	32	193	908	-30.19	-113.29	49.82
59	SLU 17	32	193	908	-30.19	-113.29	49.82
59	SLU 18	37	210	962	-31.91	-117.76	54.3
59	SLU 19	37	210	962	-31.91	-117.76	54.3
59	SLU 20	37	210	962	-31.91	-117.76	54.3
59	SLU 21	37	210	962	-31.91	-117.76	54.3
59	SLU 22	28	182	880	-29.37	-110.84	46.91
59	SLU 23	28	182	880	-29.37	-110.84	46.91
59	SLU 24	28	182	880	-29.37	-110.84	46.91
59	SLU 25	28	182	880	-29.37	-110.84	46.91
59	SLU 26	28	182	880	-29.37	-110.84	46.91
59	SLU 27	28	182	880	-29.37	-110.84	46.91
59	SLU 28	28	182	880	-29.37	-110.84	46.91
59	SLU 29	28	182	880	-29.37	-110.84	46.91
59	SLU 30	28	182	880	-29.37	-110.84	46.91
59	SLU 31	39	221	1007	-33.4	-121.27	57.36
59	SLU 32	39	221	1007	-33.4	-121.27	57.36
59	SLU 33	39	221	1007	-33.4	-121.27	57.36
59	SLU 34	39	221	1007	-33.4	-121.27	57.36
59	SLU 35	39	221	1007	-33.4	-121.27	57.36
59	SLU 36	39	221	1007	-33.4	-121.27	57.36
59	SLU 37	39	221	1007	-33.4	-121.27	57.36
59	SLU 38	39	221	1007	-33.4	-121.27	57.36
59	SLU 39	44	238	1062	-35.12	-125.73	61.83
59	SLU 40	44	238	1062	-35.12	-125.73	61.83
59	SLU 41	44	238	1062	-35.12	-125.73	61.83
59	SLU 42	44	238	1062	-35.12	-125.73	61.83
59	SLU 43	25	190	980	-32.91	-131	48.61
59	SLU 44	25	190	980	-32.91	-131	48.61
59	SLU 45	25	190	980	-32.91	-131	48.61
59	SLU 46	25	190	980	-32.91	-131	48.61
59	SLU 47	25	190	980	-32.91	-131	48.61
59	SLU 48	25	190	980	-32.91	-131	48.61
59	SLU 49	25	190	980	-32.91	-131	48.61
59	SLU 50	25	190	980	-32.91	-131	48.61
59	SLU 51	25	190	980	-32.91	-131	48.61
59	SLU 52	36	229	1107	-36.93	-141.42	59.05
59	SLU 53	36	229	1107	-36.93	-141.42	59.05
59	SLU 54	36	229	1107	-36.93	-141.42	59.05
59	SLU 55	36	229	1107	-36.93	-141.42	59.05
59	SLU 56	36	229	1107	-36.93	-141.42	59.05
59	SLU 57	36	229	1107	-36.93	-141.42	59.05
59	SLU 58	36	229	1107	-36.93	-141.42	59.05
59	SLU 59	36	229	1107	-36.93	-141.42	59.05
59	SLU 60	41	246	1162	-38.66	-145.88	63.53
59	SLU 61	41	246	1162	-38.66	-145.88	63.53
59	SLU 62	41	246	1162	-38.66	-145.88	63.53
59	SLU 63	41	246	1162	-38.66	-145.88	63.53
59	SLU 64	32	218	1080	-36.12	-138.97	56.14
59	SLU 65	32	218	1080	-36.12	-138.97	56.14
59	SLU 66	32	218	1080	-36.12	-138.97	56.14
59	SLU 67	32	218	1080	-36.12	-138.97	56.14
59	SLU 68	32	218	1080	-36.12	-138.97	56.14
59	SLU 69	32	218	1080	-36.12	-138.97	56.14
59	SLU 70	32	218	1080	-36.12	-138.97	56.14
59	SLU 71	32	218	1080	-36.12	-138.97	56.14
59	SLU 72	32	218	1080	-36.12	-138.97	56.14
59	SLU 73	43	258	1207	-40.15	-149.39	66.59
59	SLU 74	43	258	1207	-40.15	-149.39	66.59
59	SLU 75	43	258	1207	-40.15	-149.39	66.59
59	SLU 76	43	258	1207	-40.15	-149.39	66.59
59	SLU 77	43	258	1207	-40.15	-149.39	66.59
59	SLU 78	43	258	1207	-40.15	-149.39	66.59
59	SLU 79	43	258	1207	-40.15	-149.39	66.59
59	SLU 80	43	258	1207	-40.15	-149.39	66.59
59	SLU 81	48	275	1262	-41.87	-153.86	71.06
59	SLU 82	48	275	1262	-41.87	-153.86	71.06
59	SLU 83	48	275	1262	-41.87	-153.86	71.06
59	SLU 84	48	275	1262	-41.87	-153.86	71.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLE RA 1	23	162	809	-27.08	-105.15	41.53
59	SLE RA 2	23	162	809	-27.08	-105.15	41.53
59	SLE RA 3	23	162	809	-27.08	-105.15	41.53
59	SLE RA 4	23	162	809	-27.08	-105.15	41.53
59	SLE RA 5	23	162	809	-27.08	-105.15	41.53
59	SLE RA 6	23	162	809	-27.08	-105.15	41.53
59	SLE RA 7	23	162	809	-27.08	-105.15	41.53
59	SLE RA 8	23	162	809	-27.08	-105.15	41.53
59	SLE RA 9	23	162	809	-27.08	-105.15	41.53
59	SLE RA 10	31	188	894	-29.76	-112.1	48.49
59	SLE RA 11	31	188	894	-29.76	-112.1	48.49
59	SLE RA 12	31	188	894	-29.76	-112.1	48.49
59	SLE RA 13	31	188	894	-29.76	-112.1	48.49
59	SLE RA 14	31	188	894	-29.76	-112.1	48.49
59	SLE RA 15	31	188	894	-29.76	-112.1	48.49
59	SLE RA 16	31	188	894	-29.76	-112.1	48.49
59	SLE RA 17	31	188	894	-29.76	-112.1	48.49
59	SLE RA 18	34	199	930	-30.91	-115.07	51.48
59	SLE RA 19	34	199	930	-30.91	-115.07	51.48
59	SLE RA 20	34	199	930	-30.91	-115.07	51.48
59	SLE RA 21	34	199	930	-30.91	-115.07	51.48
59	SLE FR 1	23	162	809	-27.08	-105.15	41.53
59	SLE FR 2	23	162	809	-27.08	-105.15	41.53
59	SLE FR 3	23	162	809	-27.08	-105.15	41.53
59	SLE FR 4	26	173	845	-28.23	-108.13	44.52
59	SLE FR 5	26	173	845	-28.23	-108.13	44.52
59	SLE FR 6	28	180	869	-29	-110.11	46.51
59	SLE QP 1	23	162	809	-27.08	-105.15	41.53
59	SLE QP 2	26	173	845	-28.23	-108.13	44.52
59	SLD 1	143	352	1038	-35.82	-116.67	94.18
59	SLD 2	123	313	1038	-35.88	-117.78	83.39
59	SLD 3	76	213	974	-32.77	-113.55	55.86
59	SLD 4	57	174	974	-32.83	-114.66	45.07
59	SLD 5	169	452	1000	-35.1	-115.03	121.4
59	SLD 6	150	412	1000	-35.16	-116.15	110.45
59	SLD 7	-53	-13	787	-24.95	-104.63	-6.36
59	SLD 8	-73	-52	787	-25.01	-105.75	-17.3
59	SLD 9	125	398	903	-31.44	-110.5	106.33
59	SLD 10	105	358	903	-31.51	-111.63	95.39
59	SLD 11	-97	-67	690	-21.29	-100.1	-21.42
59	SLD 12	-117	-106	690	-21.36	-101.23	-32.36
59	SLD 13	-4	172	716	-23.62	-101.59	43.96
59	SLD 14	-24	133	716	-23.69	-102.7	33.18
59	SLD 15	-71	33	652	-20.58	-98.47	5.64
59	SLD 16	-90	-6	652	-20.64	-99.58	-5.15
59	SLV 1	292	582	1285	-45.49	-127.64	157.94
59	SLV 2	248	494	1285	-45.64	-130.15	133.47
59	SLV 3	139	261	1137	-38.48	-120.44	69.7
59	SLV 4	94	173	1137	-38.62	-122.94	45.23
59	SLV 5	355	814	1200	-43.99	-124.01	221.13
59	SLV 6	309	724	1200	-44.14	-126.56	196.29
59	SLV 7	-157	-256	709	-20.62	-99.99	-73.01
59	SLV 8	-202	-346	709	-20.76	-102.54	-97.86
59	SLV 9	254	691	981	-35.69	-113.71	186.89
59	SLV 10	209	601	981	-35.84	-116.26	162.05
59	SLV 11	-257	-378	490	-12.32	-89.69	-107.26
59	SLV 12	-302	-468	490	-12.47	-92.24	-132.1
59	SLV 13	-42	173	553	-17.83	-93.31	43.8
59	SLV 14	-86	85	553	-17.98	-95.82	19.33
59	SLV 15	-195	-148	405	-10.82	-86.1	-44.44
59	SLV 16	-240	-236	405	-10.97	-88.61	-68.91
59	CRTFP Ux+	0	0	0	0	0	0
59	CRTFP Ux-	0	0	0	0	0	0
59	CRTFP Uy+	0	0	0	0	0	0
59	CRTFP Uy-	0	0	0	0	0	0
62	SLU 1	22	-92	2055	-1.07	406.18	32.17
62	SLU 2	22	-92	2055	-1.07	406.18	32.17
62	SLU 3	22	-92	2055	-1.07	406.18	32.17
62	SLU 4	22	-92	2055	-1.07	406.18	32.17
62	SLU 5	22	-92	2055	-1.07	406.18	32.17
62	SLU 6	22	-92	2055	-1.07	406.18	32.17
62	SLU 7	22	-92	2055	-1.07	406.18	32.17
62	SLU 8	22	-92	2055	-1.07	406.18	32.17
62	SLU 9	22	-92	2055	-1.07	406.18	32.17
62	SLU 10	19	-112	2447	-1.26	477.17	39.16
62	SLU 11	19	-112	2447	-1.26	477.17	39.16
62	SLU 12	19	-112	2447	-1.26	477.17	39.16
62	SLU 13	19	-112	2447	-1.26	477.17	39.16
62	SLU 14	19	-112	2447	-1.26	477.17	39.16
62	SLU 15	19	-112	2447	-1.26	477.17	39.16
62	SLU 16	19	-112	2447	-1.26	477.17	39.16
62	SLU 17	19	-112	2447	-1.26	477.17	39.16
62	SLU 18	18	-120	2616	-1.34	507.6	42.16
62	SLU 19	18	-120	2616	-1.34	507.6	42.16
62	SLU 20	18	-120	2616	-1.34	507.6	42.16
62	SLU 21	18	-120	2616	-1.34	507.6	42.16
62	SLU 22	21	-106	2341	-1.24	457.75	37.25
62	SLU 23	21	-106	2341	-1.24	457.75	37.25
62	SLU 24	21	-106	2341	-1.24	457.75	37.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLU 25	21	-106	2341	-1.24	457.75	37.25
62	SLU 26	21	-106	2341	-1.24	457.75	37.25
62	SLU 27	21	-106	2341	-1.24	457.75	37.25
62	SLU 28	21	-106	2341	-1.24	457.75	37.25
62	SLU 29	21	-106	2341	-1.24	457.75	37.25
62	SLU 30	21	-106	2341	-1.24	457.75	37.25
62	SLU 31	18	-126	2734	-1.43	528.75	44.24
62	SLU 32	18	-126	2734	-1.43	528.75	44.24
62	SLU 33	18	-126	2734	-1.43	528.75	44.24
62	SLU 34	18	-126	2734	-1.43	528.75	44.24
62	SLU 35	18	-126	2734	-1.43	528.75	44.24
62	SLU 36	18	-126	2734	-1.43	528.75	44.24
62	SLU 37	18	-126	2734	-1.43	528.75	44.24
62	SLU 38	18	-126	2734	-1.43	528.75	44.24
62	SLU 39	17	-135	2902	-1.52	559.17	47.24
62	SLU 40	17	-135	2902	-1.52	559.17	47.24
62	SLU 41	17	-135	2902	-1.52	559.17	47.24
62	SLU 42	17	-135	2902	-1.52	559.17	47.24
62	SLU 43	28	-114	2573	-1.33	510.35	40.08
62	SLU 44	28	-114	2573	-1.33	510.35	40.08
62	SLU 45	28	-114	2573	-1.33	510.35	40.08
62	SLU 46	28	-114	2573	-1.33	510.35	40.08
62	SLU 47	28	-114	2573	-1.33	510.35	40.08
62	SLU 48	28	-114	2573	-1.33	510.35	40.08
62	SLU 49	28	-114	2573	-1.33	510.35	40.08
62	SLU 50	28	-114	2573	-1.33	510.35	40.08
62	SLU 51	28	-114	2573	-1.33	510.35	40.08
62	SLU 52	26	-134	2966	-1.52	581.34	47.07
62	SLU 53	26	-134	2966	-1.52	581.34	47.07
62	SLU 54	26	-134	2966	-1.52	581.34	47.07
62	SLU 55	26	-134	2966	-1.52	581.34	47.07
62	SLU 56	26	-134	2966	-1.52	581.34	47.07
62	SLU 57	26	-134	2966	-1.52	581.34	47.07
62	SLU 58	26	-134	2966	-1.52	581.34	47.07
62	SLU 59	26	-134	2966	-1.52	581.34	47.07
62	SLU 60	25	-143	3134	-1.6	611.77	50.07
62	SLU 61	25	-143	3134	-1.6	611.77	50.07
62	SLU 62	25	-143	3134	-1.6	611.77	50.07
62	SLU 63	25	-143	3134	-1.6	611.77	50.07
62	SLU 64	28	-129	2859	-1.5	561.92	45.17
62	SLU 65	28	-129	2859	-1.5	561.92	45.17
62	SLU 66	28	-129	2859	-1.5	561.92	45.17
62	SLU 67	28	-129	2859	-1.5	561.92	45.17
62	SLU 68	28	-129	2859	-1.5	561.92	45.17
62	SLU 69	28	-129	2859	-1.5	561.92	45.17
62	SLU 70	28	-129	2859	-1.5	561.92	45.17
62	SLU 71	28	-129	2859	-1.5	561.92	45.17
62	SLU 72	28	-129	2859	-1.5	561.92	45.17
62	SLU 73	25	-149	3252	-1.69	632.92	52.15
62	SLU 74	25	-149	3252	-1.69	632.92	52.15
62	SLU 75	25	-149	3252	-1.69	632.92	52.15
62	SLU 76	25	-149	3252	-1.69	632.92	52.15
62	SLU 77	25	-149	3252	-1.69	632.92	52.15
62	SLU 78	25	-149	3252	-1.69	632.92	52.15
62	SLU 79	25	-149	3252	-1.69	632.92	52.15
62	SLU 80	25	-149	3252	-1.69	632.92	52.15
62	SLU 81	24	-157	3421	-1.78	663.34	55.15
62	SLU 82	24	-157	3421	-1.78	663.34	55.15
62	SLU 83	24	-157	3421	-1.78	663.34	55.15
62	SLU 84	24	-157	3421	-1.78	663.34	55.15
62	SLE RA 1	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 2	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 3	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 4	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 5	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 6	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 7	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 8	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 9	22	-96	2137	-1.12	420.91	33.63
62	SLE RA 10	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 11	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 12	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 13	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 14	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 15	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 16	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 17	20	-109	2398	-1.25	468.24	38.29
62	SLE RA 18	19	-115	2511	-1.3	488.53	40.28
62	SLE RA 19	19	-115	2511	-1.3	488.53	40.28
62	SLE RA 20	19	-115	2511	-1.3	488.53	40.28
62	SLE RA 21	19	-115	2511	-1.3	488.53	40.28
62	SLE FR 1	22	-96	2137	-1.12	420.91	33.63
62	SLE FR 2	22	-96	2137	-1.12	420.91	33.63
62	SLE FR 3	22	-96	2137	-1.12	420.91	33.63
62	SLE FR 4	21	-101	2249	-1.17	441.2	35.62
62	SLE FR 5	21	-101	2249	-1.17	441.2	35.62
62	SLE FR 6	20	-105	2324	-1.21	454.72	36.95
62	SLE QP 1	22	-96	2137	-1.12	420.91	33.63
62	SLE QP 2	21	-101	2249	-1.17	441.2	35.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLD 1	238	28	2016	-0.99	405.07	-9.53
62	SLD 2	265	70	2018	-0.99	405.48	-24.02
62	SLD 3	204	-125	1832	0.04	373.54	43.8
62	SLD 4	231	-83	1834	0.04	373.94	29.31
62	SLD 5	129	154	2457	-2.68	478.04	-53.63
62	SLD 6	155	196	2458	-2.69	478.45	-68.34
62	SLD 7	14	-355	1845	0.76	372.93	124.14
62	SLD 8	41	-312	1846	0.76	373.34	109.44
62	SLD 9	0	110	2651	-3.1	509.05	-38.19
62	SLD 10	27	152	2653	-3.11	509.46	-52.9
62	SLD 11	-114	-399	2039	0.34	403.94	139.58
62	SLD 12	-87	-357	2041	0.34	404.35	124.88
62	SLD 13	-189	-120	2664	-2.39	508.45	41.93
62	SLD 14	-163	-78	2665	-2.39	508.86	27.44
62	SLD 15	-223	-273	2480	-1.35	476.91	95.27
62	SLD 16	-197	-231	2482	-1.36	477.32	80.77
62	SLV 1	515	196	1722	-0.76	359.37	-68.05
62	SLV 2	575	291	1726	-0.77	360.29	-100.92
62	SLV 3	437	-156	1299	1.62	286.81	54.76
62	SLV 4	497	-61	1303	1.61	287.73	21.88
62	SLV 5	266	487	2730	-4.66	526.37	-169.97
62	SLV 6	327	583	2734	-4.67	527.31	-203.35
62	SLV 7	6	-685	1322	3.28	284.5	239.37
62	SLV 8	67	-588	1326	3.27	285.44	205.99
62	SLV 9	-25	385	3172	-5.61	596.95	-134.75
62	SLV 10	36	482	3176	-5.62	597.89	-168.12
62	SLV 11	-285	-786	1763	2.32	355.08	274.59
62	SLV 12	-224	-689	1767	2.31	356.02	241.22
62	SLV 13	-456	-142	3194	-3.95	594.66	49.36
62	SLV 14	-395	-47	3198	-3.96	595.58	16.49
62	SLV 15	-534	-493	2772	-1.57	522.1	172.17
62	SLV 16	-473	-398	2776	-1.58	523.02	139.29
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
63	SLU 1	13	127	758	3.34	-98.54	31.86
63	SLU 2	13	127	758	3.34	-98.54	31.86
63	SLU 3	13	127	758	3.34	-98.54	31.86
63	SLU 4	13	127	758	3.34	-98.54	31.86
63	SLU 5	13	127	758	3.34	-98.54	31.86
63	SLU 6	13	127	758	3.34	-98.54	31.86
63	SLU 7	13	127	758	3.34	-98.54	31.86
63	SLU 8	13	127	758	3.34	-98.54	31.86
63	SLU 9	13	127	758	3.34	-98.54	31.86
63	SLU 10	20	159	888	4.06	-111.21	40.11
63	SLU 11	20	159	888	4.06	-111.21	40.11
63	SLU 12	20	159	888	4.06	-111.21	40.11
63	SLU 13	20	159	888	4.06	-111.21	40.11
63	SLU 14	20	159	888	4.06	-111.21	40.11
63	SLU 15	20	159	888	4.06	-111.21	40.11
63	SLU 16	20	159	888	4.06	-111.21	40.11
63	SLU 17	20	159	888	4.06	-111.21	40.11
63	SLU 18	23	173	943	4.37	-116.63	43.64
63	SLU 19	23	173	943	4.37	-116.63	43.64
63	SLU 20	23	173	943	4.37	-116.63	43.64
63	SLU 21	23	173	943	4.37	-116.63	43.64
63	SLU 22	18	151	858	3.87	-107.89	37.85
63	SLU 23	18	151	858	3.87	-107.89	37.85
63	SLU 24	18	151	858	3.87	-107.89	37.85
63	SLU 25	18	151	858	3.87	-107.89	37.85
63	SLU 26	18	151	858	3.87	-107.89	37.85
63	SLU 27	18	151	858	3.87	-107.89	37.85
63	SLU 28	18	151	858	3.87	-107.89	37.85
63	SLU 29	18	151	858	3.87	-107.89	37.85
63	SLU 30	18	151	858	3.87	-107.89	37.85
63	SLU 31	24	183	988	4.59	-120.55	46.1
63	SLU 32	24	183	988	4.59	-120.55	46.1
63	SLU 33	24	183	988	4.59	-120.55	46.1
63	SLU 34	24	183	988	4.59	-120.55	46.1
63	SLU 35	24	183	988	4.59	-120.55	46.1
63	SLU 36	24	183	988	4.59	-120.55	46.1
63	SLU 37	24	183	988	4.59	-120.55	46.1
63	SLU 38	24	183	988	4.59	-120.55	46.1
63	SLU 39	27	197	1043	4.89	-125.98	49.63
63	SLU 40	27	197	1043	4.89	-125.98	49.63
63	SLU 41	27	197	1043	4.89	-125.98	49.63
63	SLU 42	27	197	1043	4.89	-125.98	49.63
63	SLU 43	16	157	952	4.17	-124.9	39.37
63	SLU 44	16	157	952	4.17	-124.9	39.37
63	SLU 45	16	157	952	4.17	-124.9	39.37
63	SLU 46	16	157	952	4.17	-124.9	39.37
63	SLU 47	16	157	952	4.17	-124.9	39.37
63	SLU 48	16	157	952	4.17	-124.9	39.37
63	SLU 49	16	157	952	4.17	-124.9	39.37
63	SLU 50	16	157	952	4.17	-124.9	39.37
63	SLU 51	16	157	952	4.17	-124.9	39.37
63	SLU 52	23	189	1081	4.88	-137.57	47.62
63	SLU 53	23	189	1081	4.88	-137.57	47.62



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
63	SLU 54	23	189	1081	4.88	-137.57	47.62
63	SLU 55	23	189	1081	4.88	-137.57	47.62
63	SLU 56	23	189	1081	4.88	-137.57	47.62
63	SLU 57	23	189	1081	4.88	-137.57	47.62
63	SLU 58	23	189	1081	4.88	-137.57	47.62
63	SLU 59	23	189	1081	4.88	-137.57	47.62
63	SLU 60	25	203	1136	5.19	-142.99	51.15
63	SLU 61	25	203	1136	5.19	-142.99	51.15
63	SLU 62	25	203	1136	5.19	-142.99	51.15
63	SLU 63	25	203	1136	5.19	-142.99	51.15
63	SLU 64	20	180	1052	4.69	-134.25	45.36
63	SLU 65	20	180	1052	4.69	-134.25	45.36
63	SLU 66	20	180	1052	4.69	-134.25	45.36
63	SLU 67	20	180	1052	4.69	-134.25	45.36
63	SLU 68	20	180	1052	4.69	-134.25	45.36
63	SLU 69	20	180	1052	4.69	-134.25	45.36
63	SLU 70	20	180	1052	4.69	-134.25	45.36
63	SLU 71	20	180	1052	4.69	-134.25	45.36
63	SLU 72	20	180	1052	4.69	-134.25	45.36
63	SLU 73	27	213	1181	5.41	-146.91	53.6
63	SLU 74	27	213	1181	5.41	-146.91	53.6
63	SLU 75	27	213	1181	5.41	-146.91	53.6
63	SLU 76	27	213	1181	5.41	-146.91	53.6
63	SLU 77	27	213	1181	5.41	-146.91	53.6
63	SLU 78	27	213	1181	5.41	-146.91	53.6
63	SLU 79	27	213	1181	5.41	-146.91	53.6
63	SLU 80	27	213	1181	5.41	-146.91	53.6
63	SLU 81	29	227	1236	5.72	-152.34	57.14
63	SLU 82	29	227	1236	5.72	-152.34	57.14
63	SLU 83	29	227	1236	5.72	-152.34	57.14
63	SLU 84	29	227	1236	5.72	-152.34	57.14
63	SLE RA 1	15	134	787	3.49	-101.21	33.58
63	SLE RA 2	15	134	787	3.49	-101.21	33.58
63	SLE RA 3	15	134	787	3.49	-101.21	33.58
63	SLE RA 4	15	134	787	3.49	-101.21	33.58
63	SLE RA 5	15	134	787	3.49	-101.21	33.58
63	SLE RA 6	15	134	787	3.49	-101.21	33.58
63	SLE RA 7	15	134	787	3.49	-101.21	33.58
63	SLE RA 8	15	134	787	3.49	-101.21	33.58
63	SLE RA 9	15	134	787	3.49	-101.21	33.58
63	SLE RA 10	19	155	873	3.97	-109.66	39.07
63	SLE RA 11	19	155	873	3.97	-109.66	39.07
63	SLE RA 12	19	155	873	3.97	-109.66	39.07
63	SLE RA 13	19	155	873	3.97	-109.66	39.07
63	SLE RA 14	19	155	873	3.97	-109.66	39.07
63	SLE RA 15	19	155	873	3.97	-109.66	39.07
63	SLE RA 16	19	155	873	3.97	-109.66	39.07
63	SLE RA 17	19	155	873	3.97	-109.66	39.07
63	SLE RA 18	21	165	910	4.18	-113.27	41.43
63	SLE RA 19	21	165	910	4.18	-113.27	41.43
63	SLE RA 20	21	165	910	4.18	-113.27	41.43
63	SLE RA 21	21	165	910	4.18	-113.27	41.43
63	SLE FR 1	15	134	787	3.49	-101.21	33.58
63	SLE FR 2	15	134	787	3.49	-101.21	33.58
63	SLE FR 3	15	134	787	3.49	-101.21	33.58
63	SLE FR 4	16	143	824	3.7	-104.83	35.93
63	SLE FR 5	16	143	824	3.7	-104.83	35.93
63	SLE FR 6	18	149	848	3.83	-107.24	37.5
63	SLE QP 1	15	134	787	3.49	-101.21	33.58
63	SLE QP 2	16	143	824	3.7	-104.83	35.93
63	SLD 1	113	292	991	3.93	-111.81	73.27
63	SLD 2	101	259	990	3.9	-112.76	65.04
63	SLD 3	72	176	946	4.24	-113.22	43.92
63	SLD 4	60	144	945	4.22	-114.17	35.69
63	SLD 5	112	375	942	3.3	-104.45	94.6
63	SLD 6	100	342	941	3.27	-105.41	86.25
63	SLD 7	-25	-11	793	4.35	-109.15	-3.26
63	SLD 8	-37	-44	792	4.32	-110.11	-11.61
63	SLD 9	70	330	856	3.07	-99.55	83.47
63	SLD 10	58	297	855	3.04	-100.51	75.12
63	SLD 11	-67	-56	706	4.13	-104.26	-14.39
63	SLD 12	-80	-89	705	4.1	-105.22	-22.74
63	SLD 13	-27	142	702	3.18	-95.49	36.17
63	SLD 14	-39	110	701	3.15	-96.44	27.95
63	SLD 15	-68	27	658	3.5	-96.9	6.82
63	SLD 16	-80	-6	657	3.47	-97.85	-14.1
63	SLV 1	237	483	1204	4.21	-120.75	121.24
63	SLV 2	210	409	1202	4.15	-122.9	102.57
63	SLV 3	142	216	1101	4.94	-123.98	53.64
63	SLV 4	115	143	1099	4.88	-126.13	34.97
63	SLV 5	236	675	1095	2.77	-103.95	170.72
63	SLV 6	209	601	1093	2.71	-106.13	151.77
63	SLV 7	-80	-213	751	5.2	-114.7	-54.61
63	SLV 8	-108	-288	749	5.13	-116.88	-73.56
63	SLV 9	141	573	899	2.26	-92.78	145.42
63	SLV 10	113	499	896	2.2	-94.96	126.47
63	SLV 11	-176	-315	555	4.69	-103.54	-79.91
63	SLV 12	-203	-390	553	4.62	-105.72	-98.86
63	SLV 13	-82	143	549	2.52	-83.53	36.89



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLV 14	-109	69	547	2.45	-85.68	18.23
63	SLV 15	-177	-124	446	3.24	-86.76	-30.71
63	SLV 16	-204	-197	444	3.18	-88.91	-49.37
63	CRTFP Ux+	0	0	0	0	0	0
63	CRTFP Ux-	0	0	0	0	0	0
63	CRTFP Uy+	0	0	0	0	0	0
63	CRTFP Uy-	0	0	0	0	0	0
66	SLU 1	17	-91	2045	0.43	393.2	31.93
66	SLU 2	17	-91	2045	0.43	393.2	31.93
66	SLU 3	17	-91	2045	0.43	393.2	31.93
66	SLU 4	17	-91	2045	0.43	393.2	31.93
66	SLU 5	17	-91	2045	0.43	393.2	31.93
66	SLU 6	17	-91	2045	0.43	393.2	31.93
66	SLU 7	17	-91	2045	0.43	393.2	31.93
66	SLU 8	17	-91	2045	0.43	393.2	31.93
66	SLU 9	17	-91	2045	0.43	393.2	31.93
66	SLU 10	14	-111	2438	0.6	462.47	38.87
66	SLU 11	14	-111	2438	0.6	462.47	38.87
66	SLU 12	14	-111	2438	0.6	462.47	38.87
66	SLU 13	14	-111	2438	0.6	462.47	38.87
66	SLU 14	14	-111	2438	0.6	462.47	38.87
66	SLU 15	14	-111	2438	0.6	462.47	38.87
66	SLU 16	14	-111	2438	0.6	462.47	38.87
66	SLU 17	14	-111	2438	0.6	462.47	38.87
66	SLU 18	13	-119	2606	0.68	492.16	41.84
66	SLU 19	13	-119	2606	0.68	492.16	41.84
66	SLU 20	13	-119	2606	0.68	492.16	41.84
66	SLU 21	13	-119	2606	0.68	492.16	41.84
66	SLU 22	16	-105	2331	0.52	443.15	36.97
66	SLU 23	16	-105	2331	0.52	443.15	36.97
66	SLU 24	16	-105	2331	0.52	443.15	36.97
66	SLU 25	16	-105	2331	0.52	443.15	36.97
66	SLU 26	16	-105	2331	0.52	443.15	36.97
66	SLU 27	16	-105	2331	0.52	443.15	36.97
66	SLU 28	16	-105	2331	0.52	443.15	36.97
66	SLU 29	16	-105	2331	0.52	443.15	36.97
66	SLU 30	16	-105	2331	0.52	443.15	36.97
66	SLU 31	13	-125	2723	0.7	512.42	43.91
66	SLU 32	13	-125	2723	0.7	512.42	43.91
66	SLU 33	13	-125	2723	0.7	512.42	43.91
66	SLU 34	13	-125	2723	0.7	512.42	43.91
66	SLU 35	13	-125	2723	0.7	512.42	43.91
66	SLU 36	13	-125	2723	0.7	512.42	43.91
66	SLU 37	13	-125	2723	0.7	512.42	43.91
66	SLU 38	13	-125	2723	0.7	512.42	43.91
66	SLU 39	12	-133	2892	0.77	542.1	46.89
66	SLU 40	12	-133	2892	0.77	542.1	46.89
66	SLU 41	12	-133	2892	0.77	542.1	46.89
66	SLU 42	12	-133	2892	0.77	542.1	46.89
66	SLU 43	22	-113	2561	0.52	494.04	39.78
66	SLU 44	22	-113	2561	0.52	494.04	39.78
66	SLU 45	22	-113	2561	0.52	494.04	39.78
66	SLU 46	22	-113	2561	0.52	494.04	39.78
66	SLU 47	22	-113	2561	0.52	494.04	39.78
66	SLU 48	22	-113	2561	0.52	494.04	39.78
66	SLU 49	22	-113	2561	0.52	494.04	39.78
66	SLU 50	22	-113	2561	0.52	494.04	39.78
66	SLU 51	22	-113	2561	0.52	494.04	39.78
66	SLU 52	20	-133	2954	0.7	563.31	46.72
66	SLU 53	20	-133	2954	0.7	563.31	46.72
66	SLU 54	20	-133	2954	0.7	563.31	46.72
66	SLU 55	20	-133	2954	0.7	563.31	46.72
66	SLU 56	20	-133	2954	0.7	563.31	46.72
66	SLU 57	20	-133	2954	0.7	563.31	46.72
66	SLU 58	20	-133	2954	0.7	563.31	46.72
66	SLU 59	20	-133	2954	0.7	563.31	46.72
66	SLU 60	18	-141	3122	0.78	592.99	49.7
66	SLU 61	18	-141	3122	0.78	592.99	49.7
66	SLU 62	18	-141	3122	0.78	592.99	49.7
66	SLU 63	18	-141	3122	0.78	592.99	49.7
66	SLU 64	21	-127	2846	0.62	543.99	44.82
66	SLU 65	21	-127	2846	0.62	543.99	44.82
66	SLU 66	21	-127	2846	0.62	543.99	44.82
66	SLU 67	21	-127	2846	0.62	543.99	44.82
66	SLU 68	21	-127	2846	0.62	543.99	44.82
66	SLU 69	21	-127	2846	0.62	543.99	44.82
66	SLU 70	21	-127	2846	0.62	543.99	44.82
66	SLU 71	21	-127	2846	0.62	543.99	44.82
66	SLU 72	21	-127	2846	0.62	543.99	44.82
66	SLU 73	19	-147	3239	0.79	613.26	51.76
66	SLU 74	19	-147	3239	0.79	613.26	51.76
66	SLU 75	19	-147	3239	0.79	613.26	51.76
66	SLU 76	19	-147	3239	0.79	613.26	51.76
66	SLU 77	19	-147	3239	0.79	613.26	51.76
66	SLU 78	19	-147	3239	0.79	613.26	51.76
66	SLU 79	19	-147	3239	0.79	613.26	51.76
66	SLU 80	19	-147	3239	0.79	613.26	51.76
66	SLU 81	18	-156	3407	0.87	642.94	54.74
66	SLU 82	18	-156	3407	0.87	642.94	54.74



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
66	SLU 83	18	-156	3407	0.87	642.94	54.74
66	SLU 84	18	-156	3407	0.87	642.94	54.74
66	SLE RA 1	17	-95	2127	0.45	407.48	33.37
66	SLE RA 2	17	-95	2127	0.45	407.48	33.37
66	SLE RA 3	17	-95	2127	0.45	407.48	33.37
66	SLE RA 4	17	-95	2127	0.45	407.48	33.37
66	SLE RA 5	17	-95	2127	0.45	407.48	33.37
66	SLE RA 6	17	-95	2127	0.45	407.48	33.37
66	SLE RA 7	17	-95	2127	0.45	407.48	33.37
66	SLE RA 8	17	-95	2127	0.45	407.48	33.37
66	SLE RA 9	17	-95	2127	0.45	407.48	33.37
66	SLE RA 10	15	-108	2389	0.57	453.65	38
66	SLE RA 11	15	-108	2389	0.57	453.65	38
66	SLE RA 12	15	-108	2389	0.57	453.65	38
66	SLE RA 13	15	-108	2389	0.57	453.65	38
66	SLE RA 14	15	-108	2389	0.57	453.65	38
66	SLE RA 15	15	-108	2389	0.57	453.65	38
66	SLE RA 16	15	-108	2389	0.57	453.65	38
66	SLE RA 17	15	-108	2389	0.57	453.65	38
66	SLE RA 18	14	-114	2501	0.62	473.44	39.98
66	SLE RA 19	14	-114	2501	0.62	473.44	39.98
66	SLE RA 20	14	-114	2501	0.62	473.44	39.98
66	SLE RA 21	14	-114	2501	0.62	473.44	39.98
66	SLE FR 1	17	-95	2127	0.45	407.48	33.37
66	SLE FR 2	17	-95	2127	0.45	407.48	33.37
66	SLE FR 3	17	-95	2127	0.45	407.48	33.37
66	SLE FR 4	16	-100	2239	0.5	427.27	35.36
66	SLE FR 5	16	-100	2239	0.5	427.27	35.36
66	SLE FR 6	15	-104	2314	0.54	440.46	36.68
66	SLE QP 1	17	-95	2127	0.45	407.48	33.37
66	SLE QP 2	16	-100	2239	0.5	427.27	35.36
66	SLD 1	226	29	2006	0.52	392.56	-9.87
66	SLD 2	248	71	2008	0.52	392.85	-24.39
66	SLD 3	193	-124	1850	1.4	370.5	43.52
66	SLD 4	216	-82	1852	1.39	370.79	29
66	SLD 5	120	155	2405	-0.82	450.2	-54.01
66	SLD 6	142	198	2407	-0.82	450.5	-68.73
66	SLD 7	12	-354	1885	2.1	376.68	123.97
66	SLD 8	35	-312	1887	2.1	376.97	109.24
66	SLD 9	-3	111	2591	-1.09	477.56	-38.53
66	SLD 10	20	153	2593	-1.09	477.86	-53.26
66	SLD 11	-111	-398	2071	1.83	404.03	139.44
66	SLD 12	-88	-356	2073	1.83	404.33	124.72
66	SLD 13	-184	-119	2626	-0.39	483.74	41.71
66	SLD 14	-162	-77	2628	-0.39	484.03	27.19
66	SLD 15	-216	-272	2470	0.49	461.68	95.1
66	SLD 16	-194	-230	2472	0.49	461.97	80.58
66	SLV 1	492	197	1712	0.54	348.56	-68.49
66	SLV 2	543	292	1716	0.53	349.23	-101.42
66	SLV 3	419	-155	1353	2.56	297.83	54.45
66	SLV 4	469	-60	1357	2.55	298.5	21.52
66	SLV 5	252	488	2624	-2.55	480.36	-170.49
66	SLV 6	303	585	2628	-2.55	481.04	-203.92
66	SLV 7	7	-684	1427	4.18	311.26	239.32
66	SLV 8	59	-588	1431	4.18	311.93	205.89
66	SLV 9	-27	387	3047	-3.17	542.6	-135.18
66	SLV 10	25	483	3051	-3.18	543.28	-168.61
66	SLV 11	-272	-785	1850	3.56	373.5	274.63
66	SLV 12	-220	-689	1854	3.55	374.17	241.2
66	SLV 13	-438	-141	3121	-1.54	556.03	49.19
66	SLV 14	-387	-46	3125	-1.55	556.7	16.26
66	SLV 15	-511	-493	2762	0.48	505.3	172.13
66	SLV 16	-460	-398	2766	0.47	505.97	139.2
66	CRTFP Ux+	0	0	0	0	0	0
66	CRTFP Ux-	0	0	0	0	0	0
66	CRTFP Uy+	0	0	0	0	0	0
66	CRTFP Uy-	0	0	0	0	0	0
67	SLU 1	8	126	861	3.44	-121.17	31.68
67	SLU 2	8	126	861	3.44	-121.17	31.68
67	SLU 3	8	126	861	3.44	-121.17	31.68
67	SLU 4	8	126	861	3.44	-121.17	31.68
67	SLU 5	8	126	861	3.44	-121.17	31.68
67	SLU 6	8	126	861	3.44	-121.17	31.68
67	SLU 7	8	126	861	3.44	-121.17	31.68
67	SLU 8	8	126	861	3.44	-121.17	31.68
67	SLU 9	8	126	861	3.44	-121.17	31.68
67	SLU 10	12	158	1013	4.22	-139.61	39.88
67	SLU 11	12	158	1013	4.22	-139.61	39.88
67	SLU 12	12	158	1013	4.22	-139.61	39.88
67	SLU 13	12	158	1013	4.22	-139.61	39.88
67	SLU 14	12	158	1013	4.22	-139.61	39.88
67	SLU 15	12	158	1013	4.22	-139.61	39.88
67	SLU 16	12	158	1013	4.22	-139.61	39.88
67	SLU 17	12	158	1013	4.22	-139.61	39.88
67	SLU 18	14	172	1078	4.55	-147.52	43.39
67	SLU 19	14	172	1078	4.55	-147.52	43.39
67	SLU 20	14	172	1078	4.55	-147.52	43.39
67	SLU 21	14	172	1078	4.55	-147.52	43.39
67	SLU 22	10	149	977	4.01	-134.69	37.63



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
67	SLU 23	10	149	977	4.01	-134.69	37.63
67	SLU 24	10	149	977	4.01	-134.69	37.63
67	SLU 25	10	149	977	4.01	-134.69	37.63
67	SLU 26	10	149	977	4.01	-134.69	37.63
67	SLU 27	10	149	977	4.01	-134.69	37.63
67	SLU 28	10	149	977	4.01	-134.69	37.63
67	SLU 29	10	149	977	4.01	-134.69	37.63
67	SLU 30	10	149	977	4.01	-134.69	37.63
67	SLU 31	14	182	1129	4.78	-153.14	45.83
67	SLU 32	14	182	1129	4.78	-153.14	45.83
67	SLU 33	14	182	1129	4.78	-153.14	45.83
67	SLU 34	14	182	1129	4.78	-153.14	45.83
67	SLU 35	14	182	1129	4.78	-153.14	45.83
67	SLU 36	14	182	1129	4.78	-153.14	45.83
67	SLU 37	14	182	1129	4.78	-153.14	45.83
67	SLU 38	14	182	1129	4.78	-153.14	45.83
67	SLU 39	16	196	1194	5.11	-161.05	49.35
67	SLU 40	16	196	1194	5.11	-161.05	49.35
67	SLU 41	16	196	1194	5.11	-161.05	49.35
67	SLU 42	16	196	1194	5.11	-161.05	49.35
67	SLU 43	9	155	1079	4.29	-152.88	39.14
67	SLU 44	9	155	1079	4.29	-152.88	39.14
67	SLU 45	9	155	1079	4.29	-152.88	39.14
67	SLU 46	9	155	1079	4.29	-152.88	39.14
67	SLU 47	9	155	1079	4.29	-152.88	39.14
67	SLU 48	9	155	1079	4.29	-152.88	39.14
67	SLU 49	9	155	1079	4.29	-152.88	39.14
67	SLU 50	9	155	1079	4.29	-152.88	39.14
67	SLU 51	9	155	1079	4.29	-152.88	39.14
67	SLU 52	13	188	1231	5.06	-171.33	47.34
67	SLU 53	13	188	1231	5.06	-171.33	47.34
67	SLU 54	13	188	1231	5.06	-171.33	47.34
67	SLU 55	13	188	1231	5.06	-171.33	47.34
67	SLU 56	13	188	1231	5.06	-171.33	47.34
67	SLU 57	13	188	1231	5.06	-171.33	47.34
67	SLU 58	13	188	1231	5.06	-171.33	47.34
67	SLU 59	13	188	1231	5.06	-171.33	47.34
67	SLU 60	15	202	1296	5.39	-179.23	50.86
67	SLU 61	15	202	1296	5.39	-179.23	50.86
67	SLU 62	15	202	1296	5.39	-179.23	50.86
67	SLU 63	15	202	1296	5.39	-179.23	50.86
67	SLU 64	12	179	1196	4.85	-166.41	45.09
67	SLU 65	12	179	1196	4.85	-166.41	45.09
67	SLU 66	12	179	1196	4.85	-166.41	45.09
67	SLU 67	12	179	1196	4.85	-166.41	45.09
67	SLU 68	12	179	1196	4.85	-166.41	45.09
67	SLU 69	12	179	1196	4.85	-166.41	45.09
67	SLU 70	12	179	1196	4.85	-166.41	45.09
67	SLU 71	12	179	1196	4.85	-166.41	45.09
67	SLU 72	12	179	1196	4.85	-166.41	45.09
67	SLU 73	16	212	1347	5.62	-184.85	53.3
67	SLU 74	16	212	1347	5.62	-184.85	53.3
67	SLU 75	16	212	1347	5.62	-184.85	53.3
67	SLU 76	16	212	1347	5.62	-184.85	53.3
67	SLU 77	16	212	1347	5.62	-184.85	53.3
67	SLU 78	16	212	1347	5.62	-184.85	53.3
67	SLU 79	16	212	1347	5.62	-184.85	53.3
67	SLU 80	16	212	1347	5.62	-184.85	53.3
67	SLU 81	18	226	1412	5.95	-192.76	56.81
67	SLU 82	18	226	1412	5.95	-192.76	56.81
67	SLU 83	18	226	1412	5.95	-192.76	56.81
67	SLU 84	18	226	1412	5.95	-192.76	56.81
67	SLE RA 1	8	133	894	3.61	-125.03	33.38
67	SLE RA 2	8	133	894	3.61	-125.03	33.38
67	SLE RA 3	8	133	894	3.61	-125.03	33.38
67	SLE RA 4	8	133	894	3.61	-125.03	33.38
67	SLE RA 5	8	133	894	3.61	-125.03	33.38
67	SLE RA 6	8	133	894	3.61	-125.03	33.38
67	SLE RA 7	8	133	894	3.61	-125.03	33.38
67	SLE RA 8	8	133	894	3.61	-125.03	33.38
67	SLE RA 9	8	133	894	3.61	-125.03	33.38
67	SLE RA 10	11	154	995	4.12	-137.33	38.85
67	SLE RA 11	11	154	995	4.12	-137.33	38.85
67	SLE RA 12	11	154	995	4.12	-137.33	38.85
67	SLE RA 13	11	154	995	4.12	-137.33	38.85
67	SLE RA 14	11	154	995	4.12	-137.33	38.85
67	SLE RA 15	11	154	995	4.12	-137.33	38.85
67	SLE RA 16	11	154	995	4.12	-137.33	38.85
67	SLE RA 17	11	154	995	4.12	-137.33	38.85
67	SLE RA 18	12	164	1039	4.34	-142.6	41.19
67	SLE RA 19	12	164	1039	4.34	-142.6	41.19
67	SLE RA 20	12	164	1039	4.34	-142.6	41.19
67	SLE RA 21	12	164	1039	4.34	-142.6	41.19
67	SLE FR 1	8	133	894	3.61	-125.03	33.38
67	SLE FR 2	8	133	894	3.61	-125.03	33.38
67	SLE FR 3	8	133	894	3.61	-125.03	33.38
67	SLE FR 4	10	142	938	3.83	-130.3	35.72
67	SLE FR 5	10	142	938	3.83	-130.3	35.72
67	SLE FR 6	10	148	966	3.97	-133.82	37.28



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
67	SLE QP 1	8	133	894	3.61	-125.03	33.38
67	SLE QP 2	10	142	938	3.83	-130.3	35.72
67	SLD 1	109	290	1112	4.09	-140.24	72.94
67	SLD 2	101	258	1110	4.07	-140.9	64.73
67	SLD 3	79	175	1075	4.45	-142.86	43.69
67	SLD 4	71	143	1073	4.43	-143.53	35.48
67	SLD 5	88	373	1047	3.37	-129.06	94.18
67	SLD 6	79	340	1045	3.35	-129.74	85.86
67	SLD 7	-12	-12	923	4.56	-137.81	-3.32
67	SLD 8	-20	-45	922	4.54	-138.49	-11.65
67	SLD 9	39	328	953	3.11	-122.12	83.09
67	SLD 10	31	295	952	3.09	-122.79	74.76
67	SLD 11	-60	-57	830	4.3	-130.86	-14.42
67	SLD 12	-68	-89	829	4.29	-131.54	-22.74
67	SLD 13	-52	141	802	3.23	-117.08	35.96
67	SLD 14	-60	109	800	3.21	-117.75	27.75
67	SLD 15	-82	26	765	3.58	-119.7	6.71
67	SLD 16	-90	-7	763	3.57	-120.37	-1.5
67	SLV 1	236	481	1334	4.42	-152.93	120.74
67	SLV 2	217	408	1330	4.37	-154.44	102.13
67	SLV 3	167	215	1249	5.24	-158.92	53.38
67	SLV 4	149	142	1245	5.2	-160.44	34.78
67	SLV 5	188	673	1187	2.77	-127.45	170.03
67	SLV 6	169	599	1183	2.72	-128.99	151.14
67	SLV 7	-40	-213	903	5.52	-147.44	-54.48
67	SLV 8	-59	-287	899	5.47	-148.98	-73.37
67	SLV 9	78	571	976	2.18	-111.62	144.81
67	SLV 10	60	497	972	2.14	-113.16	125.92
67	SLV 11	-150	-315	692	4.93	-131.61	-79.7
67	SLV 12	-169	-389	688	4.88	-133.15	-98.59
67	SLV 13	-130	142	630	2.46	-100.16	36.66
67	SLV 14	-148	68	626	2.41	-101.68	18.06
67	SLV 15	-198	-124	545	3.28	-106.16	-30.69
67	SLV 16	-217	-197	541	3.24	-107.68	-49.3
67	CRTFP Ux+	0	0	0	0	0	0
67	CRTFP Ux-	0	0	0	0	0	0
67	CRTFP Uy+	0	0	0	0	0	0
67	CRTFP Uy-	0	0	0	0	0	0
70	SLU 1	11	-90	2079	1.84	412.07	31.57
70	SLU 2	11	-90	2079	1.84	412.07	31.57
70	SLU 3	11	-90	2079	1.84	412.07	31.57
70	SLU 4	11	-90	2079	1.84	412.07	31.57
70	SLU 5	11	-90	2079	1.84	412.07	31.57
70	SLU 6	11	-90	2079	1.84	412.07	31.57
70	SLU 7	11	-90	2079	1.84	412.07	31.57
70	SLU 8	11	-90	2079	1.84	412.07	31.57
70	SLU 9	11	-90	2079	1.84	412.07	31.57
70	SLU 10	8	-109	2482	2.37	487.07	38.43
70	SLU 11	8	-109	2482	2.37	487.07	38.43
70	SLU 12	8	-109	2482	2.37	487.07	38.43
70	SLU 13	8	-109	2482	2.37	487.07	38.43
70	SLU 14	8	-109	2482	2.37	487.07	38.43
70	SLU 15	8	-109	2482	2.37	487.07	38.43
70	SLU 16	8	-109	2482	2.37	487.07	38.43
70	SLU 17	8	-109	2482	2.37	487.07	38.43
70	SLU 18	6	-118	2655	2.6	519.21	41.38
70	SLU 19	6	-118	2655	2.6	519.21	41.38
70	SLU 20	6	-118	2655	2.6	519.21	41.38
70	SLU 21	6	-118	2655	2.6	519.21	41.38
70	SLU 22	10	-104	2371	2.19	465.83	36.55
70	SLU 23	10	-104	2371	2.19	465.83	36.55
70	SLU 24	10	-104	2371	2.19	465.83	36.55
70	SLU 25	10	-104	2371	2.19	465.83	36.55
70	SLU 26	10	-104	2371	2.19	465.83	36.55
70	SLU 27	10	-104	2371	2.19	465.83	36.55
70	SLU 28	10	-104	2371	2.19	465.83	36.55
70	SLU 29	10	-104	2371	2.19	465.83	36.55
70	SLU 30	10	-104	2371	2.19	465.83	36.55
70	SLU 31	6	-123	2774	2.72	540.83	43.42
70	SLU 32	6	-123	2774	2.72	540.83	43.42
70	SLU 33	6	-123	2774	2.72	540.83	43.42
70	SLU 34	6	-123	2774	2.72	540.83	43.42
70	SLU 35	6	-123	2774	2.72	540.83	43.42
70	SLU 36	6	-123	2774	2.72	540.83	43.42
70	SLU 37	6	-123	2774	2.72	540.83	43.42
70	SLU 38	6	-123	2774	2.72	540.83	43.42
70	SLU 39	5	-132	2947	2.95	572.97	46.36
70	SLU 40	5	-132	2947	2.95	572.97	46.36
70	SLU 41	5	-132	2947	2.95	572.97	46.36
70	SLU 42	5	-132	2947	2.95	572.97	46.36
70	SLU 43	15	-112	2602	2.28	517.26	39.33
70	SLU 44	15	-112	2602	2.28	517.26	39.33
70	SLU 45	15	-112	2602	2.28	517.26	39.33
70	SLU 46	15	-112	2602	2.28	517.26	39.33
70	SLU 47	15	-112	2602	2.28	517.26	39.33
70	SLU 48	15	-112	2602	2.28	517.26	39.33
70	SLU 49	15	-112	2602	2.28	517.26	39.33
70	SLU 50	15	-112	2602	2.28	517.26	39.33
70	SLU 51	15	-112	2602	2.28	517.26	39.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
70	SLU 52	12	-131	3006	2.81	592.26	46.19
70	SLU 53	12	-131	3006	2.81	592.26	46.19
70	SLU 54	12	-131	3006	2.81	592.26	46.19
70	SLU 55	12	-131	3006	2.81	592.26	46.19
70	SLU 56	12	-131	3006	2.81	592.26	46.19
70	SLU 57	12	-131	3006	2.81	592.26	46.19
70	SLU 58	12	-131	3006	2.81	592.26	46.19
70	SLU 59	12	-131	3006	2.81	592.26	46.19
70	SLU 60	10	-140	3178	3.03	624.4	49.14
70	SLU 61	10	-140	3178	3.03	624.4	49.14
70	SLU 62	10	-140	3178	3.03	624.4	49.14
70	SLU 63	10	-140	3178	3.03	624.4	49.14
70	SLU 64	14	-126	2894	2.63	571.02	44.31
70	SLU 65	14	-126	2894	2.63	571.02	44.31
70	SLU 66	14	-126	2894	2.63	571.02	44.31
70	SLU 67	14	-126	2894	2.63	571.02	44.31
70	SLU 68	14	-126	2894	2.63	571.02	44.31
70	SLU 69	14	-126	2894	2.63	571.02	44.31
70	SLU 70	14	-126	2894	2.63	571.02	44.31
70	SLU 71	14	-126	2894	2.63	571.02	44.31
70	SLU 72	14	-126	2894	2.63	571.02	44.31
70	SLU 73	10	-145	3298	3.16	646.02	51.18
70	SLU 74	10	-145	3298	3.16	646.02	51.18
70	SLU 75	10	-145	3298	3.16	646.02	51.18
70	SLU 76	10	-145	3298	3.16	646.02	51.18
70	SLU 77	10	-145	3298	3.16	646.02	51.18
70	SLU 78	10	-145	3298	3.16	646.02	51.18
70	SLU 79	10	-145	3298	3.16	646.02	51.18
70	SLU 80	10	-145	3298	3.16	646.02	51.18
70	SLU 81	9	-154	3470	3.38	678.16	54.12
70	SLU 82	9	-154	3470	3.38	678.16	54.12
70	SLU 83	9	-154	3470	3.38	678.16	54.12
70	SLU 84	9	-154	3470	3.38	678.16	54.12
70	SLE RA 1	11	-94	2162	1.94	427.43	32.99
70	SLE RA 2	11	-94	2162	1.94	427.43	32.99
70	SLE RA 3	11	-94	2162	1.94	427.43	32.99
70	SLE RA 4	11	-94	2162	1.94	427.43	32.99
70	SLE RA 5	11	-94	2162	1.94	427.43	32.99
70	SLE RA 6	11	-94	2162	1.94	427.43	32.99
70	SLE RA 7	11	-94	2162	1.94	427.43	32.99
70	SLE RA 8	11	-94	2162	1.94	427.43	32.99
70	SLE RA 9	11	-94	2162	1.94	427.43	32.99
70	SLE RA 10	9	-107	2431	2.3	477.43	37.57
70	SLE RA 11	9	-107	2431	2.3	477.43	37.57
70	SLE RA 12	9	-107	2431	2.3	477.43	37.57
70	SLE RA 13	9	-107	2431	2.3	477.43	37.57
70	SLE RA 14	9	-107	2431	2.3	477.43	37.57
70	SLE RA 15	9	-107	2431	2.3	477.43	37.57
70	SLE RA 16	9	-107	2431	2.3	477.43	37.57
70	SLE RA 17	9	-107	2431	2.3	477.43	37.57
70	SLE RA 18	8	-112	2546	2.45	498.86	39.53
70	SLE RA 19	8	-112	2546	2.45	498.86	39.53
70	SLE RA 20	8	-112	2546	2.45	498.86	39.53
70	SLE RA 21	8	-112	2546	2.45	498.86	39.53
70	SLE FR 1	11	-94	2162	1.94	427.43	32.99
70	SLE FR 2	11	-94	2162	1.94	427.43	32.99
70	SLE FR 3	11	-94	2162	1.94	427.43	32.99
70	SLE FR 4	10	-99	2278	2.09	448.86	34.95
70	SLE FR 5	10	-99	2278	2.09	448.86	34.95
70	SLE FR 6	9	-103	2354	2.2	463.14	36.26
70	SLE QP 1	11	-94	2162	1.94	427.43	32.99
70	SLE QP 2	10	-99	2278	2.09	448.86	34.95
70	SLD 1	214	30	2039	2.05	411.13	-10.32
70	SLD 2	233	72	2040	2.04	411.27	-24.85
70	SLD 3	184	-122	1906	2.79	395.63	43.1
70	SLD 4	202	-81	1907	2.79	395.77	28.56
70	SLD 5	111	156	2407	0.96	461	-54.45
70	SLD 6	130	199	2409	0.95	461.14	-69.2
70	SLD 7	9	-353	1964	3.43	409.33	123.61
70	SLD 8	27	-310	1965	3.43	409.47	108.86
70	SLD 9	-8	112	2590	0.76	488.25	-38.95
70	SLD 10	11	154	2591	0.76	488.39	-53.7
70	SLD 11	-110	-397	2146	3.24	436.58	139.11
70	SLD 12	-92	-355	2148	3.23	436.72	124.36
70	SLD 13	-182	-118	2648	1.4	501.95	41.34
70	SLD 14	-164	-76	2649	1.4	502.09	26.81
70	SLD 15	-213	-271	2515	2.14	486.45	94.76
70	SLD 16	-195	-229	2516	2.14	486.59	80.23
70	SLV 1	474	198	1736	1.98	363.24	-68.99
70	SLV 2	516	293	1740	1.97	363.55	-101.96
70	SLV 3	404	-154	1430	3.69	327.62	54
70	SLV 4	446	-59	1434	3.68	327.93	21.03
70	SLV 5	240	490	2578	-0.53	477.08	-170.98
70	SLV 6	283	586	2582	-0.54	477.39	-204.46
70	SLV 7	7	-683	1558	5.17	358.36	239.01
70	SLV 8	49	-587	1561	5.16	358.68	205.53
70	SLV 9	-30	388	2994	-0.97	539.04	-135.62
70	SLV 10	13	485	2997	-0.98	539.36	-169.1
70	SLV 11	-263	-784	1973	4.73	420.33	274.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
70	SLV 12	-221	-688	1977	4.72	420.64	240.89
70	SLV 13	-426	-140	3121	0.51	569.79	48.88
70	SLV 14	-384	-45	3125	0.5	570.1	15.9
70	SLV 15	-496	-492	2815	2.22	534.17	171.87
70	SLV 16	-454	-397	2819	2.21	534.48	138.9
70	CRTFP Ux+	0	0	0	0	0	0
70	CRTFP Ux-	0	0	0	0	0	0
70	CRTFP Uy+	0	0	0	0	0	0
70	CRTFP Uy-	0	0	0	0	0	0
71	SLU 1	0	125	967	3.58	-150.76	31.44
71	SLU 2	0	125	967	3.58	-150.76	31.44
71	SLU 3	0	125	967	3.58	-150.76	31.44
71	SLU 4	0	125	967	3.58	-150.76	31.44
71	SLU 5	0	125	967	3.58	-150.76	31.44
71	SLU 6	0	125	967	3.58	-150.76	31.44
71	SLU 7	0	125	967	3.58	-150.76	31.44
71	SLU 8	0	125	967	3.58	-150.76	31.44
71	SLU 9	0	125	967	3.58	-150.76	31.44
71	SLU 10	2	157	1143	4.42	-176.6	39.58
71	SLU 11	2	157	1143	4.42	-176.6	39.58
71	SLU 12	2	157	1143	4.42	-176.6	39.58
71	SLU 13	2	157	1143	4.42	-176.6	39.58
71	SLU 14	2	157	1143	4.42	-176.6	39.58
71	SLU 15	2	157	1143	4.42	-176.6	39.58
71	SLU 16	2	157	1143	4.42	-176.6	39.58
71	SLU 17	2	157	1143	4.42	-176.6	39.58
71	SLU 18	3	171	1219	4.78	-187.67	43.08
71	SLU 19	3	171	1219	4.78	-187.67	43.08
71	SLU 20	3	171	1219	4.78	-187.67	43.08
71	SLU 21	3	171	1219	4.78	-187.67	43.08
71	SLU 22	2	148	1101	4.19	-169.69	37.35
71	SLU 23	2	148	1101	4.19	-169.69	37.35
71	SLU 24	2	148	1101	4.19	-169.69	37.35
71	SLU 25	2	148	1101	4.19	-169.69	37.35
71	SLU 26	2	148	1101	4.19	-169.69	37.35
71	SLU 27	2	148	1101	4.19	-169.69	37.35
71	SLU 28	2	148	1101	4.19	-169.69	37.35
71	SLU 29	2	148	1101	4.19	-169.69	37.35
71	SLU 30	2	148	1101	4.19	-169.69	37.35
71	SLU 31	4	180	1277	5.03	-195.53	45.5
71	SLU 32	4	180	1277	5.03	-195.53	45.5
71	SLU 33	4	180	1277	5.03	-195.53	45.5
71	SLU 34	4	180	1277	5.03	-195.53	45.5
71	SLU 35	4	180	1277	5.03	-195.53	45.5
71	SLU 36	4	180	1277	5.03	-195.53	45.5
71	SLU 37	4	180	1277	5.03	-195.53	45.5
71	SLU 38	4	180	1277	5.03	-195.53	45.5
71	SLU 39	4	194	1353	5.39	-206.6	48.99
71	SLU 40	4	194	1353	5.39	-206.6	48.99
71	SLU 41	4	194	1353	5.39	-206.6	48.99
71	SLU 42	4	194	1353	5.39	-206.6	48.99
71	SLU 43	0	154	1211	4.45	-189.5	38.84
71	SLU 44	0	154	1211	4.45	-189.5	38.84
71	SLU 45	0	154	1211	4.45	-189.5	38.84
71	SLU 46	0	154	1211	4.45	-189.5	38.84
71	SLU 47	0	154	1211	4.45	-189.5	38.84
71	SLU 48	0	154	1211	4.45	-189.5	38.84
71	SLU 49	0	154	1211	4.45	-189.5	38.84
71	SLU 50	0	154	1211	4.45	-189.5	38.84
71	SLU 51	0	154	1211	4.45	-189.5	38.84
71	SLU 52	2	186	1388	5.29	-215.34	46.99
71	SLU 53	2	186	1388	5.29	-215.34	46.99
71	SLU 54	2	186	1388	5.29	-215.34	46.99
71	SLU 55	2	186	1388	5.29	-215.34	46.99
71	SLU 56	2	186	1388	5.29	-215.34	46.99
71	SLU 57	2	186	1388	5.29	-215.34	46.99
71	SLU 58	2	186	1388	5.29	-215.34	46.99
71	SLU 59	2	186	1388	5.29	-215.34	46.99
71	SLU 60	3	200	1463	5.65	-226.41	50.48
71	SLU 61	3	200	1463	5.65	-226.41	50.48
71	SLU 62	3	200	1463	5.65	-226.41	50.48
71	SLU 63	3	200	1463	5.65	-226.41	50.48
71	SLU 64	1	178	1345	5.06	-208.43	44.75
71	SLU 65	1	178	1345	5.06	-208.43	44.75
71	SLU 66	1	178	1345	5.06	-208.43	44.75
71	SLU 67	1	178	1345	5.06	-208.43	44.75
71	SLU 68	1	178	1345	5.06	-208.43	44.75
71	SLU 69	1	178	1345	5.06	-208.43	44.75
71	SLU 70	1	178	1345	5.06	-208.43	44.75
71	SLU 71	1	178	1345	5.06	-208.43	44.75
71	SLU 72	1	178	1345	5.06	-208.43	44.75
71	SLU 73	3	210	1521	5.9	-234.27	52.9
71	SLU 74	3	210	1521	5.9	-234.27	52.9
71	SLU 75	3	210	1521	5.9	-234.27	52.9
71	SLU 76	3	210	1521	5.9	-234.27	52.9
71	SLU 77	3	210	1521	5.9	-234.27	52.9
71	SLU 78	3	210	1521	5.9	-234.27	52.9
71	SLU 79	3	210	1521	5.9	-234.27	52.9
71	SLU 80	3	210	1521	5.9	-234.27	52.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
71	SLU 81	4	224	1597	6.26	-245.34	56.39
71	SLU 82	4	224	1597	6.26	-245.34	56.39
71	SLU 83	4	224	1597	6.26	-245.34	56.39
71	SLU 84	4	224	1597	6.26	-245.34	56.39
71	SLE RA 1	1	131	1005	3.76	-156.17	33.12
71	SLE RA 2	1	131	1005	3.76	-156.17	33.12
71	SLE RA 3	1	131	1005	3.76	-156.17	33.12
71	SLE RA 4	1	131	1005	3.76	-156.17	33.12
71	SLE RA 5	1	131	1005	3.76	-156.17	33.12
71	SLE RA 6	1	131	1005	3.76	-156.17	33.12
71	SLE RA 7	1	131	1005	3.76	-156.17	33.12
71	SLE RA 8	1	131	1005	3.76	-156.17	33.12
71	SLE RA 9	1	131	1005	3.76	-156.17	33.12
71	SLE RA 10	2	153	1123	4.32	-173.4	38.56
71	SLE RA 11	2	153	1123	4.32	-173.4	38.56
71	SLE RA 12	2	153	1123	4.32	-173.4	38.56
71	SLE RA 13	2	153	1123	4.32	-173.4	38.56
71	SLE RA 14	2	153	1123	4.32	-173.4	38.56
71	SLE RA 15	2	153	1123	4.32	-173.4	38.56
71	SLE RA 16	2	153	1123	4.32	-173.4	38.56
71	SLE RA 17	2	153	1123	4.32	-173.4	38.56
71	SLE RA 18	3	162	1173	4.56	-180.78	40.88
71	SLE RA 19	3	162	1173	4.56	-180.78	40.88
71	SLE RA 20	3	162	1173	4.56	-180.78	40.88
71	SLE RA 21	3	162	1173	4.56	-180.78	40.88
71	SLE FR 1	1	131	1005	3.76	-156.17	33.12
71	SLE FR 2	1	131	1005	3.76	-156.17	33.12
71	SLE FR 3	1	131	1005	3.76	-156.17	33.12
71	SLE FR 4	1	141	1056	4	-163.55	35.45
71	SLE FR 5	1	141	1056	4	-163.55	35.45
71	SLE FR 6	2	147	1089	4.16	-168.47	37
71	SLE QP 1	1	131	1005	3.76	-156.17	33.12
71	SLE QP 2	1	141	1056	4	-163.55	35.45
71	SLD 1	107	289	1240	4.3	-177.67	72.5
71	SLD 2	102	257	1238	4.28	-178	64.34
71	SLD 3	86	174	1210	4.7	-181.38	43.4
71	SLD 4	81	142	1208	4.69	-181.71	35.23
71	SLD 5	66	371	1157	3.48	-162.04	93.63
71	SLD 6	61	338	1155	3.47	-162.38	85.34
71	SLD 7	-3	-12	1058	4.82	-174.41	-3.39
71	SLD 8	-8	-45	1055	4.81	-174.75	-11.68
71	SLD 9	11	326	1056	3.18	-152.36	82.58
71	SLD 10	6	294	1054	3.17	-152.7	74.3
71	SLD 11	-58	-57	957	4.53	-164.73	-14.44
71	SLD 12	-63	-90	955	4.51	-165.07	-22.72
71	SLD 13	-78	140	904	3.3	-145.39	35.68
71	SLD 14	-83	108	902	3.29	-145.73	27.51
71	SLD 15	-99	25	874	3.71	-149.1	6.57
71	SLD 16	-104	-8	872	3.7	-149.44	-1.6
71	SLV 1	240	479	1474	4.67	-195.67	120.09
71	SLV 2	229	406	1469	4.65	-196.42	101.56
71	SLV 3	193	214	1405	5.6	-204.14	53.07
71	SLV 4	182	141	1400	5.58	-204.9	34.54
71	SLV 5	149	670	1287	2.8	-160.06	169.12
71	SLV 6	137	596	1282	2.77	-160.83	150.31
71	SLV 7	-9	-213	1059	5.9	-188.31	-54.29
71	SLV 8	-20	-287	1054	5.87	-189.08	-73.09
71	SLV 9	23	568	1058	2.12	-138.02	144
71	SLV 10	12	494	1053	2.1	-138.79	125.19
71	SLV 11	-135	-314	830	5.22	-166.28	-79.4
71	SLV 12	-146	-389	825	5.19	-167.04	-98.21
71	SLV 13	-179	140	711	2.41	-122.21	36.36
71	SLV 14	-190	67	706	2.39	-122.97	17.84
71	SLV 15	-227	-125	643	3.34	-130.68	-30.66
71	SLV 16	-238	-198	638	3.32	-131.44	-49.18
71	CRTFP Ux+	0	0	0	0	0	0
71	CRTFP Ux-	0	0	0	0	0	0
71	CRTFP Uy+	0	0	0	0	0	0
71	CRTFP Uy-	0	0	0	0	0	0
74	SLU 1	5	-88	2152	3.1	459.22	31.08
74	SLU 2	5	-88	2152	3.1	459.22	31.08
74	SLU 3	5	-88	2152	3.1	459.22	31.08
74	SLU 4	5	-88	2152	3.1	459.22	31.08
74	SLU 5	5	-88	2152	3.1	459.22	31.08
74	SLU 6	5	-88	2152	3.1	459.22	31.08
74	SLU 7	5	-88	2152	3.1	459.22	31.08
74	SLU 8	5	-88	2152	3.1	459.22	31.08
74	SLU 9	5	-88	2152	3.1	459.22	31.08
74	SLU 10	0	-107	2576	3.94	546.65	37.86
74	SLU 11	0	-107	2576	3.94	546.65	37.86
74	SLU 12	0	-107	2576	3.94	546.65	37.86
74	SLU 13	0	-107	2576	3.94	546.65	37.86
74	SLU 14	0	-107	2576	3.94	546.65	37.86
74	SLU 15	0	-107	2576	3.94	546.65	37.86
74	SLU 16	0	-107	2576	3.94	546.65	37.86
74	SLU 17	0	-107	2576	3.94	546.65	37.86
74	SLU 18	-1	-116	2757	4.3	584.11	40.77
74	SLU 19	-1	-116	2757	4.3	584.11	40.77
74	SLU 20	-1	-116	2757	4.3	584.11	40.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
74	SLU 21	-1	-116	2757	4.3	584.11	40.77
74	SLU 22	2	-102	2458	3.67	521.67	36
74	SLU 23	2	-102	2458	3.67	521.67	36
74	SLU 24	2	-102	2458	3.67	521.67	36
74	SLU 25	2	-102	2458	3.67	521.67	36
74	SLU 26	2	-102	2458	3.67	521.67	36
74	SLU 27	2	-102	2458	3.67	521.67	36
74	SLU 28	2	-102	2458	3.67	521.67	36
74	SLU 29	2	-102	2458	3.67	521.67	36
74	SLU 30	2	-102	2458	3.67	521.67	36
74	SLU 31	-2	-121	2881	4.51	609.1	42.78
74	SLU 32	-2	-121	2881	4.51	609.1	42.78
74	SLU 33	-2	-121	2881	4.51	609.1	42.78
74	SLU 34	-2	-121	2881	4.51	609.1	42.78
74	SLU 35	-2	-121	2881	4.51	609.1	42.78
74	SLU 36	-2	-121	2881	4.51	609.1	42.78
74	SLU 37	-2	-121	2881	4.51	609.1	42.78
74	SLU 38	-2	-121	2881	4.51	609.1	42.78
74	SLU 39	-4	-130	3063	4.87	646.56	45.69
74	SLU 40	-4	-130	3063	4.87	646.56	45.69
74	SLU 41	-4	-130	3063	4.87	646.56	45.69
74	SLU 42	-4	-130	3063	4.87	646.56	45.69
74	SLU 43	7	-110	2693	3.83	575.58	38.72
74	SLU 44	7	-110	2693	3.83	575.58	38.72
74	SLU 45	7	-110	2693	3.83	575.58	38.72
74	SLU 46	7	-110	2693	3.83	575.58	38.72
74	SLU 47	7	-110	2693	3.83	575.58	38.72
74	SLU 48	7	-110	2693	3.83	575.58	38.72
74	SLU 49	7	-110	2693	3.83	575.58	38.72
74	SLU 50	7	-110	2693	3.83	575.58	38.72
74	SLU 51	7	-110	2693	3.83	575.58	38.72
74	SLU 52	3	-129	3117	4.67	663	45.5
74	SLU 53	3	-129	3117	4.67	663	45.5
74	SLU 54	3	-129	3117	4.67	663	45.5
74	SLU 55	3	-129	3117	4.67	663	45.5
74	SLU 56	3	-129	3117	4.67	663	45.5
74	SLU 57	3	-129	3117	4.67	663	45.5
74	SLU 58	3	-129	3117	4.67	663	45.5
74	SLU 59	3	-129	3117	4.67	663	45.5
74	SLU 60	1	-137	3298	5.03	700.47	48.41
74	SLU 61	1	-137	3298	5.03	700.47	48.41
74	SLU 62	1	-137	3298	5.03	700.47	48.41
74	SLU 63	1	-137	3298	5.03	700.47	48.41
74	SLU 64	5	-124	2999	4.4	638.03	43.64
74	SLU 65	5	-124	2999	4.4	638.03	43.64
74	SLU 66	5	-124	2999	4.4	638.03	43.64
74	SLU 67	5	-124	2999	4.4	638.03	43.64
74	SLU 68	5	-124	2999	4.4	638.03	43.64
74	SLU 69	5	-124	2999	4.4	638.03	43.64
74	SLU 70	5	-124	2999	4.4	638.03	43.64
74	SLU 71	5	-124	2999	4.4	638.03	43.64
74	SLU 72	5	-124	2999	4.4	638.03	43.64
74	SLU 73	0	-143	3422	5.24	725.45	50.42
74	SLU 74	0	-143	3422	5.24	725.45	50.42
74	SLU 75	0	-143	3422	5.24	725.45	50.42
74	SLU 76	0	-143	3422	5.24	725.45	50.42
74	SLU 77	0	-143	3422	5.24	725.45	50.42
74	SLU 78	0	-143	3422	5.24	725.45	50.42
74	SLU 79	0	-143	3422	5.24	725.45	50.42
74	SLU 80	0	-143	3422	5.24	725.45	50.42
74	SLU 81	-2	-151	3604	5.6	762.92	53.32
74	SLU 82	-2	-151	3604	5.6	762.92	53.32
74	SLU 83	-2	-151	3604	5.6	762.92	53.32
74	SLU 84	-2	-151	3604	5.6	762.92	53.32
74	SLE RA 1	4	-92	2240	3.26	477.07	32.49
74	SLE RA 2	4	-92	2240	3.26	477.07	32.49
74	SLE RA 3	4	-92	2240	3.26	477.07	32.49
74	SLE RA 4	4	-92	2240	3.26	477.07	32.49
74	SLE RA 5	4	-92	2240	3.26	477.07	32.49
74	SLE RA 6	4	-92	2240	3.26	477.07	32.49
74	SLE RA 7	4	-92	2240	3.26	477.07	32.49
74	SLE RA 8	4	-92	2240	3.26	477.07	32.49
74	SLE RA 9	4	-92	2240	3.26	477.07	32.49
74	SLE RA 10	1	-105	2522	3.82	535.35	37.01
74	SLE RA 11	1	-105	2522	3.82	535.35	37.01
74	SLE RA 12	1	-105	2522	3.82	535.35	37.01
74	SLE RA 13	1	-105	2522	3.82	535.35	37.01
74	SLE RA 14	1	-105	2522	3.82	535.35	37.01
74	SLE RA 15	1	-105	2522	3.82	535.35	37.01
74	SLE RA 16	1	-105	2522	3.82	535.35	37.01
74	SLE RA 17	1	-105	2522	3.82	535.35	37.01
74	SLE RA 18	0	-111	2643	4.06	560.33	38.94
74	SLE RA 19	0	-111	2643	4.06	560.33	38.94
74	SLE RA 20	0	-111	2643	4.06	560.33	38.94
74	SLE RA 21	0	-111	2643	4.06	560.33	38.94
74	SLE FR 1	4	-92	2240	3.26	477.07	32.49
74	SLE FR 2	4	-92	2240	3.26	477.07	32.49
74	SLE FR 3	4	-92	2240	3.26	477.07	32.49
74	SLE FR 4	3	-98	2361	3.5	502.04	34.43



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
74	SLE FR 5	3	-98	2361	3.5	502.04	34.43
74	SLE FR 6	2	-101	2441	3.66	518.7	35.72
74	SLE QP 1	4	-92	2240	3.26	477.07	32.49
74	SLE QP 2	3	-98	2361	3.5	502.04	34.43
74	SLD 1	205	32	2110	2.81	457.59	-10.85
74	SLD 2	220	74	2111	2.81	457.58	-25.4
74	SLD 3	175	-121	1995	3.44	445.71	42.55
74	SLD 4	190	-79	1997	3.44	445.71	28
74	SLD 5	103	158	2458	2.33	506.72	-54.95
74	SLD 6	118	200	2459	2.33	506.72	-69.7
74	SLD 7	4	-351	2077	4.45	467.13	123.05
74	SLD 8	19	-309	2079	4.45	467.13	108.29
74	SLD 9	-14	113	2642	2.55	536.96	-39.44
74	SLD 10	2	156	2644	2.55	536.96	-54.19
74	SLD 11	-112	-396	2262	4.67	497.37	138.56
74	SLD 12	-97	-353	2263	4.67	497.37	123.8
74	SLD 13	-184	-116	2724	3.56	558.38	40.85
74	SLD 14	-169	-74	2726	3.56	558.38	26.3
74	SLD 15	-214	-269	2610	4.19	546.5	94.25
74	SLD 16	-199	-227	2612	4.19	546.5	79.7
74	SLV 1	461	200	1792	1.92	401.13	-69.53
74	SLV 2	495	295	1795	1.91	401.12	-102.52
74	SLV 3	394	-152	1529	3.38	373.87	53.43
74	SLV 4	428	-57	1533	3.38	373.86	20.43
74	SLV 5	231	491	2587	0.81	513.1	-171.44
74	SLV 6	265	587	2590	0.8	513.09	-204.94
74	SLV 7	6	-681	1712	5.69	422.26	238.41
74	SLV 8	40	-585	1715	5.68	422.26	204.91
74	SLV 9	-34	390	3006	1.32	581.83	-136.06
74	SLV 10	0	486	3010	1.31	581.82	-169.55
74	SLV 11	-259	-783	2131	6.2	490.99	273.79
74	SLV 12	-225	-686	2134	6.19	490.98	240.3
74	SLV 13	-422	-138	3189	3.62	630.22	48.42
74	SLV 14	-388	-43	3192	3.62	630.21	15.43
74	SLV 15	-489	-490	2926	5.09	602.97	171.38
74	SLV 16	-456	-395	2929	5.08	602.96	138.38
74	CRTFP Ux+	0	0	0	0	0	0
74	CRTFP Ux-	0	0	0	0	0	0
74	CRTFP Uy+	0	0	0	0	0	0
74	CRTFP Uy-	0	0	0	0	0	0
75	SLU 1	-8	124	1078	3.74	-186.12	31.15
75	SLU 2	-8	124	1078	3.74	-186.12	31.15
75	SLU 3	-8	124	1078	3.74	-186.12	31.15
75	SLU 4	-8	124	1078	3.74	-186.12	31.15
75	SLU 5	-8	124	1078	3.74	-186.12	31.15
75	SLU 6	-8	124	1078	3.74	-186.12	31.15
75	SLU 7	-8	124	1078	3.74	-186.12	31.15
75	SLU 8	-8	124	1078	3.74	-186.12	31.15
75	SLU 9	-8	124	1078	3.74	-186.12	31.15
75	SLU 10	-8	156	1280	4.64	-220.83	39.23
75	SLU 11	-8	156	1280	4.64	-220.83	39.23
75	SLU 12	-8	156	1280	4.64	-220.83	39.23
75	SLU 13	-8	156	1280	4.64	-220.83	39.23
75	SLU 14	-8	156	1280	4.64	-220.83	39.23
75	SLU 15	-8	156	1280	4.64	-220.83	39.23
75	SLU 16	-8	156	1280	4.64	-220.83	39.23
75	SLU 17	-8	156	1280	4.64	-220.83	39.23
75	SLU 18	-8	169	1367	5.03	-235.71	42.7
75	SLU 19	-8	169	1367	5.03	-235.71	42.7
75	SLU 20	-8	169	1367	5.03	-235.71	42.7
75	SLU 21	-8	169	1367	5.03	-235.71	42.7
75	SLU 22	-8	147	1231	4.39	-211.55	37.01
75	SLU 23	-8	147	1231	4.39	-211.55	37.01
75	SLU 24	-8	147	1231	4.39	-211.55	37.01
75	SLU 25	-8	147	1231	4.39	-211.55	37.01
75	SLU 26	-8	147	1231	4.39	-211.55	37.01
75	SLU 27	-8	147	1231	4.39	-211.55	37.01
75	SLU 28	-8	147	1231	4.39	-211.55	37.01
75	SLU 29	-8	147	1231	4.39	-211.55	37.01
75	SLU 30	-8	147	1231	4.39	-211.55	37.01
75	SLU 31	-8	179	1433	5.3	-246.27	45.09
75	SLU 32	-8	179	1433	5.3	-246.27	45.09
75	SLU 33	-8	179	1433	5.3	-246.27	45.09
75	SLU 34	-8	179	1433	5.3	-246.27	45.09
75	SLU 35	-8	179	1433	5.3	-246.27	45.09
75	SLU 36	-8	179	1433	5.3	-246.27	45.09
75	SLU 37	-8	179	1433	5.3	-246.27	45.09
75	SLU 38	-8	179	1433	5.3	-246.27	45.09
75	SLU 39	-8	193	1520	5.68	-261.14	48.56
75	SLU 40	-8	193	1520	5.68	-261.14	48.56
75	SLU 41	-8	193	1520	5.68	-261.14	48.56
75	SLU 42	-8	193	1520	5.68	-261.14	48.56
75	SLU 43	-10	153	1349	4.63	-233.24	38.49
75	SLU 44	-10	153	1349	4.63	-233.24	38.49
75	SLU 45	-10	153	1349	4.63	-233.24	38.49
75	SLU 46	-10	153	1349	4.63	-233.24	38.49
75	SLU 47	-10	153	1349	4.63	-233.24	38.49
75	SLU 48	-10	153	1349	4.63	-233.24	38.49
75	SLU 49	-10	153	1349	4.63	-233.24	38.49



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
75	SLU 50	-10	153	1349	4.63	-233.24	38.49
75	SLU 51	-10	153	1349	4.63	-233.24	38.49
75	SLU 52	-10	185	1551	5.54	-267.95	46.57
75	SLU 53	-10	185	1551	5.54	-267.95	46.57
75	SLU 54	-10	185	1551	5.54	-267.95	46.57
75	SLU 55	-10	185	1551	5.54	-267.95	46.57
75	SLU 56	-10	185	1551	5.54	-267.95	46.57
75	SLU 57	-10	185	1551	5.54	-267.95	46.57
75	SLU 58	-10	185	1551	5.54	-267.95	46.57
75	SLU 59	-10	185	1551	5.54	-267.95	46.57
75	SLU 60	-10	198	1638	5.93	-282.83	50.03
75	SLU 61	-10	198	1638	5.93	-282.83	50.03
75	SLU 62	-10	198	1638	5.93	-282.83	50.03
75	SLU 63	-10	198	1638	5.93	-282.83	50.03
75	SLU 64	-10	176	1502	5.29	-258.67	44.35
75	SLU 65	-10	176	1502	5.29	-258.67	44.35
75	SLU 66	-10	176	1502	5.29	-258.67	44.35
75	SLU 67	-10	176	1502	5.29	-258.67	44.35
75	SLU 68	-10	176	1502	5.29	-258.67	44.35
75	SLU 69	-10	176	1502	5.29	-258.67	44.35
75	SLU 70	-10	176	1502	5.29	-258.67	44.35
75	SLU 71	-10	176	1502	5.29	-258.67	44.35
75	SLU 72	-10	176	1502	5.29	-258.67	44.35
75	SLU 73	-10	208	1704	6.19	-293.38	52.43
75	SLU 74	-10	208	1704	6.19	-293.38	52.43
75	SLU 75	-10	208	1704	6.19	-293.38	52.43
75	SLU 76	-10	208	1704	6.19	-293.38	52.43
75	SLU 77	-10	208	1704	6.19	-293.38	52.43
75	SLU 78	-10	208	1704	6.19	-293.38	52.43
75	SLU 79	-10	208	1704	6.19	-293.38	52.43
75	SLU 80	-10	208	1704	6.19	-293.38	52.43
75	SLU 81	-10	222	1791	6.58	-308.26	55.89
75	SLU 82	-10	222	1791	6.58	-308.26	55.89
75	SLU 83	-10	222	1791	6.58	-308.26	55.89
75	SLU 84	-10	222	1791	6.58	-308.26	55.89
75	SLE RA 1	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 2	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 3	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 4	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 5	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 6	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 7	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 8	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 9	-8	130	1122	3.92	-193.39	32.83
75	SLE RA 10	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 11	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 12	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 13	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 14	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 15	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 16	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 17	-8	152	1257	4.53	-216.53	38.21
75	SLE RA 18	-8	161	1314	4.79	-226.45	40.52
75	SLE RA 19	-8	161	1314	4.79	-226.45	40.52
75	SLE RA 20	-8	161	1314	4.79	-226.45	40.52
75	SLE RA 21	-8	161	1314	4.79	-226.45	40.52
75	SLE FR 1	-8	130	1122	3.92	-193.39	32.83
75	SLE FR 2	-8	130	1122	3.92	-193.39	32.83
75	SLE FR 3	-8	130	1122	3.92	-193.39	32.83
75	SLE FR 4	-8	139	1179	4.18	-203.31	35.14
75	SLE FR 5	-8	139	1179	4.18	-203.31	35.14
75	SLE FR 6	-8	145	1218	4.35	-209.92	36.68
75	SLE QP 1	-8	130	1122	3.92	-193.39	32.83
75	SLE QP 2	-8	139	1179	4.18	-203.31	35.14
75	SLD 1	107	287	1376	4.52	-222.61	71.99
75	SLD 2	105	255	1374	4.52	-222.65	63.87
75	SLD 3	91	172	1351	4.97	-227.69	43.06
75	SLD 4	89	140	1348	4.96	-227.74	34.94
75	SLD 5	52	369	1279	3.61	-201.37	92.97
75	SLD 6	49	336	1276	3.61	-201.41	84.73
75	SLD 7	-1	-13	1193	5.09	-218.32	-3.46
75	SLD 8	-4	-46	1190	5.09	-218.36	-11.7
75	SLD 9	-12	324	1169	3.27	-188.25	81.97
75	SLD 10	-14	292	1166	3.27	-188.29	73.73
75	SLD 11	-65	-58	1083	4.76	-205.2	-14.46
75	SLD 12	-67	-90	1080	4.75	-205.24	-22.7
75	SLD 13	-104	138	1011	3.4	-178.87	35.33
75	SLD 14	-106	106	1008	3.4	-178.92	27.21
75	SLD 15	-120	24	985	3.85	-183.96	6.4
75	SLD 16	-122	-8	983	3.84	-184	-1.72
75	SLV 1	253	477	1627	4.95	-247.17	119.33
75	SLV 2	248	404	1621	4.94	-247.27	100.9
75	SLV 3	216	213	1568	5.97	-258.78	52.71
75	SLV 4	211	140	1562	5.96	-258.88	34.29
75	SLV 5	127	667	1405	2.86	-198.81	168.01
75	SLV 6	122	593	1399	2.85	-198.92	149.31
75	SLV 7	6	-213	1209	6.28	-237.53	-54.03
75	SLV 8	1	-287	1203	6.27	-237.63	-72.74
75	SLV 9	-17	565	1156	2.1	-168.98	143.01



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
75	SLV 10	-22	491	1150	2.09	-169.08	124.3
75	SLV 11	-137	-314	960	5.51	-207.69	-79.03
75	SLV 12	-143	-388	954	5.5	-207.8	-97.74
75	SLV 13	-227	139	797	2.4	-147.73	35.98
75	SLV 14	-232	66	791	2.39	-147.83	17.56
75	SLV 15	-263	-125	738	3.42	-159.34	-30.63
75	SLV 16	-268	-198	732	3.41	-159.44	-49.05
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
78	SLU 1	-2	-87	2259	4.06	529.49	30.49
78	SLU 2	-2	-87	2259	4.06	529.49	30.49
78	SLU 3	-2	-87	2259	4.06	529.49	30.49
78	SLU 4	-2	-87	2259	4.06	529.49	30.49
78	SLU 5	-2	-87	2259	4.06	529.49	30.49
78	SLU 6	-2	-87	2259	4.06	529.49	30.49
78	SLU 7	-2	-87	2259	4.06	529.49	30.49
78	SLU 8	-2	-87	2259	4.06	529.49	30.49
78	SLU 9	-2	-87	2259	4.06	529.49	30.49
78	SLU 10	-7	-105	2710	5.13	634.82	37.17
78	SLU 11	-7	-105	2710	5.13	634.82	37.17
78	SLU 12	-7	-105	2710	5.13	634.82	37.17
78	SLU 13	-7	-105	2710	5.13	634.82	37.17
78	SLU 14	-7	-105	2710	5.13	634.82	37.17
78	SLU 15	-7	-105	2710	5.13	634.82	37.17
78	SLU 16	-7	-105	2710	5.13	634.82	37.17
78	SLU 17	-7	-105	2710	5.13	634.82	37.17
78	SLU 18	-10	-114	2904	5.59	679.97	40.03
78	SLU 19	-10	-114	2904	5.59	679.97	40.03
78	SLU 20	-10	-114	2904	5.59	679.97	40.03
78	SLU 21	-10	-114	2904	5.59	679.97	40.03
78	SLU 22	-5	-100	2584	4.8	604.62	35.33
78	SLU 23	-5	-100	2584	4.8	604.62	35.33
78	SLU 24	-5	-100	2584	4.8	604.62	35.33
78	SLU 25	-5	-100	2584	4.8	604.62	35.33
78	SLU 26	-5	-100	2584	4.8	604.62	35.33
78	SLU 27	-5	-100	2584	4.8	604.62	35.33
78	SLU 28	-5	-100	2584	4.8	604.62	35.33
78	SLU 29	-5	-100	2584	4.8	604.62	35.33
78	SLU 30	-5	-100	2584	4.8	604.62	35.33
78	SLU 31	-11	-119	3036	5.88	709.95	42
78	SLU 32	-11	-119	3036	5.88	709.95	42
78	SLU 33	-11	-119	3036	5.88	709.95	42
78	SLU 34	-11	-119	3036	5.88	709.95	42
78	SLU 35	-11	-119	3036	5.88	709.95	42
78	SLU 36	-11	-119	3036	5.88	709.95	42
78	SLU 37	-11	-119	3036	5.88	709.95	42
78	SLU 38	-11	-119	3036	5.88	709.95	42
78	SLU 39	-13	-127	3229	6.34	755.1	44.86
78	SLU 40	-13	-127	3229	6.34	755.1	44.86
78	SLU 41	-13	-127	3229	6.34	755.1	44.86
78	SLU 42	-13	-127	3229	6.34	755.1	44.86
78	SLU 43	-1	-108	2825	5.02	662.58	37.98
78	SLU 44	-1	-108	2825	5.02	662.58	37.98
78	SLU 45	-1	-108	2825	5.02	662.58	37.98
78	SLU 46	-1	-108	2825	5.02	662.58	37.98
78	SLU 47	-1	-108	2825	5.02	662.58	37.98
78	SLU 48	-1	-108	2825	5.02	662.58	37.98
78	SLU 49	-1	-108	2825	5.02	662.58	37.98
78	SLU 50	-1	-108	2825	5.02	662.58	37.98
78	SLU 51	-1	-108	2825	5.02	662.58	37.98
78	SLU 52	-7	-127	3276	6.1	767.91	44.65
78	SLU 53	-7	-127	3276	6.1	767.91	44.65
78	SLU 54	-7	-127	3276	6.1	767.91	44.65
78	SLU 55	-7	-127	3276	6.1	767.91	44.65
78	SLU 56	-7	-127	3276	6.1	767.91	44.65
78	SLU 57	-7	-127	3276	6.1	767.91	44.65
78	SLU 58	-7	-127	3276	6.1	767.91	44.65
78	SLU 59	-7	-127	3276	6.1	767.91	44.65
78	SLU 60	-9	-135	3470	6.56	813.06	47.51
78	SLU 61	-9	-135	3470	6.56	813.06	47.51
78	SLU 62	-9	-135	3470	6.56	813.06	47.51
78	SLU 63	-9	-135	3470	6.56	813.06	47.51
78	SLU 64	-4	-121	3150	5.77	737.7	42.82
78	SLU 65	-4	-121	3150	5.77	737.7	42.82
78	SLU 66	-4	-121	3150	5.77	737.7	42.82
78	SLU 67	-4	-121	3150	5.77	737.7	42.82
78	SLU 68	-4	-121	3150	5.77	737.7	42.82
78	SLU 69	-4	-121	3150	5.77	737.7	42.82
78	SLU 70	-4	-121	3150	5.77	737.7	42.82
78	SLU 71	-4	-121	3150	5.77	737.7	42.82
78	SLU 72	-4	-121	3150	5.77	737.7	42.82
78	SLU 73	-10	-140	3602	6.84	843.04	49.49
78	SLU 74	-10	-140	3602	6.84	843.04	49.49
78	SLU 75	-10	-140	3602	6.84	843.04	49.49
78	SLU 76	-10	-140	3602	6.84	843.04	49.49
78	SLU 77	-10	-140	3602	6.84	843.04	49.49
78	SLU 78	-10	-140	3602	6.84	843.04	49.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
78	SLU 79	-10	-140	3602	6.84	843.04	49.49
78	SLU 80	-10	-140	3602	6.84	843.04	49.49
78	SLU 81	-13	-149	3795	7.3	888.18	52.35
78	SLU 82	-13	-149	3795	7.3	888.18	52.35
78	SLU 83	-13	-149	3795	7.3	888.18	52.35
78	SLU 84	-13	-149	3795	7.3	888.18	52.35
78	SLE RA 1	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 2	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 3	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 4	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 5	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 6	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 7	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 8	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 9	-3	-90	2351	4.27	550.95	31.87
78	SLE RA 10	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 11	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 12	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 13	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 14	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 15	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 16	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 17	-6	-103	2653	4.99	621.18	36.32
78	SLE RA 18	-8	-108	2782	5.3	651.27	38.23
78	SLE RA 19	-8	-108	2782	5.3	651.27	38.23
78	SLE RA 20	-8	-108	2782	5.3	651.27	38.23
78	SLE RA 21	-8	-108	2782	5.3	651.27	38.23
78	SLE FR 1	-3	-90	2351	4.27	550.95	31.87
78	SLE FR 2	-3	-90	2351	4.27	550.95	31.87
78	SLE FR 3	-3	-90	2351	4.27	550.95	31.87
78	SLE FR 4	-4	-96	2481	4.58	581.05	33.78
78	SLE FR 5	-4	-96	2481	4.58	581.05	33.78
78	SLE FR 6	-5	-99	2567	4.78	601.11	35.05
78	SLE QP 1	-3	-90	2351	4.27	550.95	31.87
78	SLE QP 2	-4	-96	2481	4.58	581.05	33.78
78	SLD 1	198	33	2213	3.81	527.1	-11.45
78	SLD 2	209	75	2214	3.8	527.03	-26
78	SLD 3	169	-119	2114	4.36	516.15	41.88
78	SLD 4	180	-77	2115	4.36	516.08	27.34
78	SLD 5	96	159	2549	3.51	581.49	-55.49
78	SLD 6	108	202	2551	3.5	581.43	-70.24
78	SLD 7	0	-349	2220	5.36	545	122.3
78	SLD 8	11	-307	2222	5.36	544.93	107.54
78	SLD 9	-20	115	2739	3.8	617.17	-39.98
78	SLD 10	-8	158	2741	3.8	617.1	-54.74
78	SLD 11	-116	-394	2410	5.66	580.67	137.81
78	SLD 12	-104	-351	2412	5.65	580.61	123.05
78	SLD 13	-189	-114	2846	4.8	646.02	40.23
78	SLD 14	-177	-73	2847	4.8	645.95	25.68
78	SLD 15	-217	-267	2747	5.36	635.07	93.56
78	SLD 16	-206	-225	2749	5.35	635	79.02
78	SLV 1	454	201	1873	2.82	458.57	-70.08
78	SLV 2	480	296	1876	2.81	458.42	-103.08
78	SLV 3	388	-150	1646	4.1	433.48	52.73
78	SLV 4	414	-55	1649	4.09	433.33	19.74
78	SLV 5	223	492	2641	2.11	582.41	-171.84
78	SLV 6	250	589	2645	2.1	582.26	-205.34
78	SLV 7	5	-679	1885	6.38	498.78	237.53
78	SLV 8	31	-583	1888	6.37	498.63	204.03
78	SLV 9	-40	391	3073	2.79	663.47	-136.47
78	SLV 10	-13	487	3076	2.78	663.32	-169.97
78	SLV 11	-258	-780	2316	7.06	579.84	272.9
78	SLV 12	-232	-684	2320	7.05	579.69	239.41
78	SLV 13	-423	-136	3312	5.07	728.76	47.83
78	SLV 14	-397	-41	3315	5.06	728.61	14.83
78	SLV 15	-488	-488	3085	6.35	703.67	170.64
78	SLV 16	-462	-393	3088	6.34	703.52	137.64
78	CRTFP Ux+	0	0	0	0	0	0
78	CRTFP Ux-	0	0	0	0	0	0
78	CRTFP Uy+	0	0	0	0	0	0
78	CRTFP Uy-	0	0	0	0	0	0
79	SLU 1	-16	122	1193	3.85	-226.39	30.84
79	SLU 2	-16	122	1193	3.85	-226.39	30.84
79	SLU 3	-16	122	1193	3.85	-226.39	30.84
79	SLU 4	-16	122	1193	3.85	-226.39	30.84
79	SLU 5	-16	122	1193	3.85	-226.39	30.84
79	SLU 6	-16	122	1193	3.85	-226.39	30.84
79	SLU 7	-16	122	1193	3.85	-226.39	30.84
79	SLU 8	-16	122	1193	3.85	-226.39	30.84
79	SLU 9	-16	122	1193	3.85	-226.39	30.84
79	SLU 10	-17	154	1424	4.8	-271.29	38.83
79	SLU 11	-17	154	1424	4.8	-271.29	38.83
79	SLU 12	-17	154	1424	4.8	-271.29	38.83
79	SLU 13	-17	154	1424	4.8	-271.29	38.83
79	SLU 14	-17	154	1424	4.8	-271.29	38.83
79	SLU 15	-17	154	1424	4.8	-271.29	38.83
79	SLU 16	-17	154	1424	4.8	-271.29	38.83
79	SLU 17	-17	154	1424	4.8	-271.29	38.83
79	SLU 18	-18	168	1522	5.22	-290.53	42.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
79	SLU 19	-18	168	1522	5.22	-290.53	42.26
79	SLU 20	-18	168	1522	5.22	-290.53	42.26
79	SLU 21	-18	168	1522	5.22	-290.53	42.26
79	SLU 22	-17	145	1366	4.53	-259.28	36.63
79	SLU 23	-17	145	1366	4.53	-259.28	36.63
79	SLU 24	-17	145	1366	4.53	-259.28	36.63
79	SLU 25	-17	145	1366	4.53	-259.28	36.63
79	SLU 26	-17	145	1366	4.53	-259.28	36.63
79	SLU 27	-17	145	1366	4.53	-259.28	36.63
79	SLU 28	-17	145	1366	4.53	-259.28	36.63
79	SLU 29	-17	145	1366	4.53	-259.28	36.63
79	SLU 30	-17	145	1366	4.53	-259.28	36.63
79	SLU 31	-18	177	1597	5.49	-304.18	44.63
79	SLU 32	-18	177	1597	5.49	-304.18	44.63
79	SLU 33	-18	177	1597	5.49	-304.18	44.63
79	SLU 34	-18	177	1597	5.49	-304.18	44.63
79	SLU 35	-18	177	1597	5.49	-304.18	44.63
79	SLU 36	-18	177	1597	5.49	-304.18	44.63
79	SLU 37	-18	177	1597	5.49	-304.18	44.63
79	SLU 38	-18	177	1597	5.49	-304.18	44.63
79	SLU 39	-19	191	1696	5.9	-323.42	48.06
79	SLU 40	-19	191	1696	5.9	-323.42	48.06
79	SLU 41	-19	191	1696	5.9	-323.42	48.06
79	SLU 42	-19	191	1696	5.9	-323.42	48.06
79	SLU 43	-20	151	1491	4.76	-283.04	38.1
79	SLU 44	-20	151	1491	4.76	-283.04	38.1
79	SLU 45	-20	151	1491	4.76	-283.04	38.1
79	SLU 46	-20	151	1491	4.76	-283.04	38.1
79	SLU 47	-20	151	1491	4.76	-283.04	38.1
79	SLU 48	-20	151	1491	4.76	-283.04	38.1
79	SLU 49	-20	151	1491	4.76	-283.04	38.1
79	SLU 50	-20	151	1491	4.76	-283.04	38.1
79	SLU 51	-20	151	1491	4.76	-283.04	38.1
79	SLU 52	-21	183	1722	5.72	-327.93	46.1
79	SLU 53	-21	183	1722	5.72	-327.93	46.1
79	SLU 54	-21	183	1722	5.72	-327.93	46.1
79	SLU 55	-21	183	1722	5.72	-327.93	46.1
79	SLU 56	-21	183	1722	5.72	-327.93	46.1
79	SLU 57	-21	183	1722	5.72	-327.93	46.1
79	SLU 58	-21	183	1722	5.72	-327.93	46.1
79	SLU 59	-21	183	1722	5.72	-327.93	46.1
79	SLU 60	-22	197	1821	6.13	-347.17	49.52
79	SLU 61	-22	197	1821	6.13	-347.17	49.52
79	SLU 62	-22	197	1821	6.13	-347.17	49.52
79	SLU 63	-22	197	1821	6.13	-347.17	49.52
79	SLU 64	-21	174	1664	5.45	-315.92	43.9
79	SLU 65	-21	174	1664	5.45	-315.92	43.9
79	SLU 66	-21	174	1664	5.45	-315.92	43.9
79	SLU 67	-21	174	1664	5.45	-315.92	43.9
79	SLU 68	-21	174	1664	5.45	-315.92	43.9
79	SLU 69	-21	174	1664	5.45	-315.92	43.9
79	SLU 70	-21	174	1664	5.45	-315.92	43.9
79	SLU 71	-21	174	1664	5.45	-315.92	43.9
79	SLU 72	-21	174	1664	5.45	-315.92	43.9
79	SLU 73	-23	206	1895	6.41	-360.82	51.89
79	SLU 74	-23	206	1895	6.41	-360.82	51.89
79	SLU 75	-23	206	1895	6.41	-360.82	51.89
79	SLU 76	-23	206	1895	6.41	-360.82	51.89
79	SLU 77	-23	206	1895	6.41	-360.82	51.89
79	SLU 78	-23	206	1895	6.41	-360.82	51.89
79	SLU 79	-23	206	1895	6.41	-360.82	51.89
79	SLU 80	-23	206	1895	6.41	-360.82	51.89
79	SLU 81	-23	220	1994	6.82	-380.06	55.32
79	SLU 82	-23	220	1994	6.82	-380.06	55.32
79	SLU 83	-23	220	1994	6.82	-380.06	55.32
79	SLU 84	-23	220	1994	6.82	-380.06	55.32
79	SLE RA 1	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 2	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 3	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 4	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 5	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 6	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 7	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 8	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 9	-16	129	1242	4.04	-235.79	32.49
79	SLE RA 10	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 11	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 12	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 13	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 14	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 15	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 16	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 17	-17	150	1396	4.68	-265.72	37.82
79	SLE RA 18	-17	159	1462	4.96	-278.55	40.11
79	SLE RA 19	-17	159	1462	4.96	-278.55	40.11
79	SLE RA 20	-17	159	1462	4.96	-278.55	40.11
79	SLE RA 21	-17	159	1462	4.96	-278.55	40.11
79	SLE FR 1	-16	129	1242	4.04	-235.79	32.49
79	SLE FR 2	-16	129	1242	4.04	-235.79	32.49



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
79	SLE FR 3	-16	129	1242	4.04	-235.79	32.49
79	SLE FR 4	-16	138	1308	4.32	-248.62	34.78
79	SLE FR 5	-16	138	1308	4.32	-248.62	34.78
79	SLE FR 6	-17	144	1352	4.5	-257.17	36.3
79	SLE QP 1	-16	129	1242	4.04	-235.79	32.49
79	SLE QP 2	-16	138	1308	4.32	-248.62	34.78
79	SLD 1	111	285	1523	4.69	-273.88	71.42
79	SLD 2	111	253	1521	4.69	-273.71	63.35
79	SLD 3	95	171	1495	5.16	-280.78	42.7
79	SLD 4	95	139	1492	5.16	-280.61	34.63
79	SLD 5	47	367	1416	3.71	-245.79	92.21
79	SLD 6	47	334	1414	3.71	-245.62	84.02
79	SLD 7	-8	-14	1322	5.29	-268.79	-3.52
79	SLD 8	-8	-46	1320	5.29	-268.62	-11.71
79	SLD 9	-25	322	1297	3.34	-228.61	81.26
79	SLD 10	-25	290	1294	3.34	-228.44	73.08
79	SLD 11	-80	-58	1202	4.93	-251.61	-14.47
79	SLD 12	-80	-91	1200	4.93	-251.44	-22.66
79	SLD 13	-128	137	1124	3.47	-216.62	34.93
79	SLD 14	-128	105	1122	3.47	-216.45	26.86
79	SLD 15	-144	23	1096	3.95	-223.52	6.21
79	SLD 16	-144	-9	1093	3.95	-223.35	-1.86
79	SLV 1	274	474	1796	5.15	-305.99	118.47
79	SLV 2	273	401	1791	5.15	-305.61	100.17
79	SLV 3	236	212	1732	6.25	-321.76	52.34
79	SLV 4	236	139	1726	6.25	-321.38	34.04
79	SLV 5	128	663	1554	2.9	-242.04	166.73
79	SLV 6	127	589	1548	2.91	-241.66	148.15
79	SLV 7	3	-212	1340	6.56	-294.62	-53.71
79	SLV 8	2	-286	1334	6.56	-294.23	-72.29
79	SLV 9	-35	562	1282	2.07	-203	141.84
79	SLV 10	-36	488	1277	2.07	-202.61	123.26
79	SLV 11	-160	-313	1068	5.73	-255.58	-78.59
79	SLV 12	-161	-387	1062	5.73	-255.19	-97.18
79	SLV 13	-269	137	890	2.38	-175.85	35.52
79	SLV 14	-269	64	884	2.38	-175.47	17.21
79	SLV 15	-306	-125	826	3.48	-191.62	-30.61
79	SLV 16	-307	-198	820	3.48	-191.24	-48.92
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	-7	-85	2387	4.56	616.04	29.8
82	SLU 2	-7	-85	2387	4.56	616.04	29.8
82	SLU 3	-7	-85	2387	4.56	616.04	29.8
82	SLU 4	-7	-85	2387	4.56	616.04	29.8
82	SLU 5	-7	-85	2387	4.56	616.04	29.8
82	SLU 6	-7	-85	2387	4.56	616.04	29.8
82	SLU 7	-7	-85	2387	4.56	616.04	29.8
82	SLU 8	-7	-85	2387	4.56	616.04	29.8
82	SLU 9	-7	-85	2387	4.56	616.04	29.8
82	SLU 10	-14	-103	2872	5.75	743.01	36.36
82	SLU 11	-14	-103	2872	5.75	743.01	36.36
82	SLU 12	-14	-103	2872	5.75	743.01	36.36
82	SLU 13	-14	-103	2872	5.75	743.01	36.36
82	SLU 14	-14	-103	2872	5.75	743.01	36.36
82	SLU 15	-14	-103	2872	5.75	743.01	36.36
82	SLU 16	-14	-103	2872	5.75	743.01	36.36
82	SLU 17	-14	-103	2872	5.75	743.01	36.36
82	SLU 18	-17	-111	3080	6.25	797.42	39.17
82	SLU 19	-17	-111	3080	6.25	797.42	39.17
82	SLU 20	-17	-111	3080	6.25	797.42	39.17
82	SLU 21	-17	-111	3080	6.25	797.42	39.17
82	SLU 22	-12	-98	2735	5.38	706.55	34.55
82	SLU 23	-12	-98	2735	5.38	706.55	34.55
82	SLU 24	-12	-98	2735	5.38	706.55	34.55
82	SLU 25	-12	-98	2735	5.38	706.55	34.55
82	SLU 26	-12	-98	2735	5.38	706.55	34.55
82	SLU 27	-12	-98	2735	5.38	706.55	34.55
82	SLU 28	-12	-98	2735	5.38	706.55	34.55
82	SLU 29	-12	-98	2735	5.38	706.55	34.55
82	SLU 30	-12	-98	2735	5.38	706.55	34.55
82	SLU 31	-19	-117	3221	6.57	833.52	41.11
82	SLU 32	-19	-117	3221	6.57	833.52	41.11
82	SLU 33	-19	-117	3221	6.57	833.52	41.11
82	SLU 34	-19	-117	3221	6.57	833.52	41.11
82	SLU 35	-19	-117	3221	6.57	833.52	41.11
82	SLU 36	-19	-117	3221	6.57	833.52	41.11
82	SLU 37	-19	-117	3221	6.57	833.52	41.11
82	SLU 38	-19	-117	3221	6.57	833.52	41.11
82	SLU 39	-22	-125	3429	7.08	887.94	43.92
82	SLU 40	-22	-125	3429	7.08	887.94	43.92
82	SLU 41	-22	-125	3429	7.08	887.94	43.92
82	SLU 42	-22	-125	3429	7.08	887.94	43.92
82	SLU 43	-8	-105	2983	5.64	769.81	37.11
82	SLU 44	-8	-105	2983	5.64	769.81	37.11
82	SLU 45	-8	-105	2983	5.64	769.81	37.11
82	SLU 46	-8	-105	2983	5.64	769.81	37.11
82	SLU 47	-8	-105	2983	5.64	769.81	37.11



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
82	SLU 48	-8	-105	2983	5.64	769.81	37.11
82	SLU 49	-8	-105	2983	5.64	769.81	37.11
82	SLU 50	-8	-105	2983	5.64	769.81	37.11
82	SLU 51	-8	-105	2983	5.64	769.81	37.11
82	SLU 52	-15	-124	3469	6.83	896.78	43.67
82	SLU 53	-15	-124	3469	6.83	896.78	43.67
82	SLU 54	-15	-124	3469	6.83	896.78	43.67
82	SLU 55	-15	-124	3469	6.83	896.78	43.67
82	SLU 56	-15	-124	3469	6.83	896.78	43.67
82	SLU 57	-15	-124	3469	6.83	896.78	43.67
82	SLU 58	-15	-124	3469	6.83	896.78	43.67
82	SLU 59	-15	-124	3469	6.83	896.78	43.67
82	SLU 60	-18	-132	3677	7.34	951.2	46.48
82	SLU 61	-18	-132	3677	7.34	951.2	46.48
82	SLU 62	-18	-132	3677	7.34	951.2	46.48
82	SLU 63	-18	-132	3677	7.34	951.2	46.48
82	SLU 64	-12	-119	3332	6.47	860.33	41.86
82	SLU 65	-12	-119	3332	6.47	860.33	41.86
82	SLU 66	-12	-119	3332	6.47	860.33	41.86
82	SLU 67	-12	-119	3332	6.47	860.33	41.86
82	SLU 68	-12	-119	3332	6.47	860.33	41.86
82	SLU 69	-12	-119	3332	6.47	860.33	41.86
82	SLU 70	-12	-119	3332	6.47	860.33	41.86
82	SLU 71	-12	-119	3332	6.47	860.33	41.86
82	SLU 72	-12	-119	3332	6.47	860.33	41.86
82	SLU 73	-20	-138	3817	7.66	987.3	48.42
82	SLU 74	-20	-138	3817	7.66	987.3	48.42
82	SLU 75	-20	-138	3817	7.66	987.3	48.42
82	SLU 76	-20	-138	3817	7.66	987.3	48.42
82	SLU 77	-20	-138	3817	7.66	987.3	48.42
82	SLU 78	-20	-138	3817	7.66	987.3	48.42
82	SLU 79	-20	-138	3817	7.66	987.3	48.42
82	SLU 80	-20	-138	3817	7.66	987.3	48.42
82	SLU 81	-23	-145	4026	8.16	1041.71	51.23
82	SLU 82	-23	-145	4026	8.16	1041.71	51.23
82	SLU 83	-23	-145	4026	8.16	1041.71	51.23
82	SLU 84	-23	-145	4026	8.16	1041.71	51.23
82	SLE RA 1	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 2	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 3	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 4	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 5	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 6	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 7	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 8	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 9	-9	-89	2486	4.79	641.9	31.16
82	SLE RA 10	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 11	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 12	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 13	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 14	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 15	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 16	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 17	-13	-101	2810	5.59	726.54	35.53
82	SLE RA 18	-15	-106	2949	5.92	762.82	37.4
82	SLE RA 19	-15	-106	2949	5.92	762.82	37.4
82	SLE RA 20	-15	-106	2949	5.92	762.82	37.4
82	SLE RA 21	-15	-106	2949	5.92	762.82	37.4
82	SLE FR 1	-9	-89	2486	4.79	641.9	31.16
82	SLE FR 2	-9	-89	2486	4.79	641.9	31.16
82	SLE FR 3	-9	-89	2486	4.79	641.9	31.16
82	SLE FR 4	-11	-94	2625	5.13	678.17	33.03
82	SLE FR 5	-11	-94	2625	5.13	678.17	33.03
82	SLE FR 6	-12	-97	2718	5.36	702.36	34.28
82	SLE QP 1	-9	-89	2486	4.79	641.9	31.16
82	SLE QP 2	-11	-94	2625	5.13	678.17	33.03
82	SLD 1	193	35	2337	4.31	612.89	-12.12
82	SLD 2	201	77	2338	4.31	612.85	-26.65
82	SLD 3	165	-117	2251	4.81	601.04	41.12
82	SLD 4	173	-75	2252	4.81	601.01	26.58
82	SLD 5	90	161	2669	4.13	676.56	-56.06
82	SLD 6	99	204	2670	4.13	676.53	-70.81
82	SLD 7	-4	-347	2382	5.8	637.09	121.39
82	SLD 8	5	-304	2383	5.79	637.05	106.64
82	SLD 9	-26	117	2867	4.47	719.3	-40.58
82	SLD 10	-18	159	2868	4.47	719.26	-55.33
82	SLD 11	-120	-391	2580	6.14	679.82	136.87
82	SLD 12	-111	-349	2581	6.14	679.79	122.12
82	SLD 13	-194	-112	2998	5.46	755.34	39.48
82	SLD 14	-186	-71	2999	5.45	755.3	24.94
82	SLD 15	-222	-265	2912	5.96	743.5	92.72
82	SLD 16	-214	-223	2913	5.95	743.46	78.18
82	SLV 1	451	203	1972	3.26	529.99	-70.63
82	SLV 2	470	297	1975	3.25	529.91	-103.61
82	SLV 3	387	-148	1774	4.42	502.87	51.95
82	SLV 4	406	-53	1777	4.41	502.79	18.97
82	SLV 5	218	493	2728	2.83	674.88	-172.19
82	SLV 6	237	590	2731	2.82	674.8	-205.67
82	SLV 7	5	-676	2069	6.67	584.48	236.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLV 8	24	-580	2072	6.66	584.39	202.94
82	SLV 9	-45	392	3178	3.61	771.96	-136.87
82	SLV 10	-26	489	3181	3.6	771.87	-170.35
82	SLV 11	-259	-777	2519	7.45	681.55	271.73
82	SLV 12	-240	-681	2522	7.44	681.47	238.25
82	SLV 13	-427	-134	3473	5.86	853.56	47.09
82	SLV 14	-409	-39	3476	5.85	853.48	14.11
82	SLV 15	-491	-485	3275	7.01	826.44	169.67
82	SLV 16	-473	-390	3278	7	826.36	136.69
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	-23	121	1309	3.81	-269.88	30.48
83	SLU 2	-23	121	1309	3.81	-269.88	30.48
83	SLU 3	-23	121	1309	3.81	-269.88	30.48
83	SLU 4	-23	121	1309	3.81	-269.88	30.48
83	SLU 5	-23	121	1309	3.81	-269.88	30.48
83	SLU 6	-23	121	1309	3.81	-269.88	30.48
83	SLU 7	-23	121	1309	3.81	-269.88	30.48
83	SLU 8	-23	121	1309	3.81	-269.88	30.48
83	SLU 9	-23	121	1309	3.81	-269.88	30.48
83	SLU 10	-25	153	1569	4.77	-325.74	38.39
83	SLU 11	-25	153	1569	4.77	-325.74	38.39
83	SLU 12	-25	153	1569	4.77	-325.74	38.39
83	SLU 13	-25	153	1569	4.77	-325.74	38.39
83	SLU 14	-25	153	1569	4.77	-325.74	38.39
83	SLU 15	-25	153	1569	4.77	-325.74	38.39
83	SLU 16	-25	153	1569	4.77	-325.74	38.39
83	SLU 17	-25	153	1569	4.77	-325.74	38.39
83	SLU 18	-26	166	1680	5.19	-349.68	41.77
83	SLU 19	-26	166	1680	5.19	-349.68	41.77
83	SLU 20	-26	166	1680	5.19	-349.68	41.77
83	SLU 21	-26	166	1680	5.19	-349.68	41.77
83	SLU 22	-25	144	1503	4.5	-310.8	36.21
83	SLU 23	-25	144	1503	4.5	-310.8	36.21
83	SLU 24	-25	144	1503	4.5	-310.8	36.21
83	SLU 25	-25	144	1503	4.5	-310.8	36.21
83	SLU 26	-25	144	1503	4.5	-310.8	36.21
83	SLU 27	-25	144	1503	4.5	-310.8	36.21
83	SLU 28	-25	144	1503	4.5	-310.8	36.21
83	SLU 29	-25	144	1503	4.5	-310.8	36.21
83	SLU 30	-25	144	1503	4.5	-310.8	36.21
83	SLU 31	-27	175	1763	5.46	-366.66	44.11
83	SLU 32	-27	175	1763	5.46	-366.66	44.11
83	SLU 33	-27	175	1763	5.46	-366.66	44.11
83	SLU 34	-27	175	1763	5.46	-366.66	44.11
83	SLU 35	-27	175	1763	5.46	-366.66	44.11
83	SLU 36	-27	175	1763	5.46	-366.66	44.11
83	SLU 37	-27	175	1763	5.46	-366.66	44.11
83	SLU 38	-27	175	1763	5.46	-366.66	44.11
83	SLU 39	-28	189	1875	5.88	-390.6	47.5
83	SLU 40	-28	189	1875	5.88	-390.6	47.5
83	SLU 41	-28	189	1875	5.88	-390.6	47.5
83	SLU 42	-28	189	1875	5.88	-390.6	47.5
83	SLU 43	-29	150	1635	4.72	-336.82	37.66
83	SLU 44	-29	150	1635	4.72	-336.82	37.66
83	SLU 45	-29	150	1635	4.72	-336.82	37.66
83	SLU 46	-29	150	1635	4.72	-336.82	37.66
83	SLU 47	-29	150	1635	4.72	-336.82	37.66
83	SLU 48	-29	150	1635	4.72	-336.82	37.66
83	SLU 49	-29	150	1635	4.72	-336.82	37.66
83	SLU 50	-29	150	1635	4.72	-336.82	37.66
83	SLU 51	-29	150	1635	4.72	-336.82	37.66
83	SLU 52	-31	181	1895	5.68	-392.68	45.57
83	SLU 53	-31	181	1895	5.68	-392.68	45.57
83	SLU 54	-31	181	1895	5.68	-392.68	45.57
83	SLU 55	-31	181	1895	5.68	-392.68	45.57
83	SLU 56	-31	181	1895	5.68	-392.68	45.57
83	SLU 57	-31	181	1895	5.68	-392.68	45.57
83	SLU 58	-31	181	1895	5.68	-392.68	45.57
83	SLU 59	-31	181	1895	5.68	-392.68	45.57
83	SLU 60	-32	195	2007	6.09	-416.62	48.95
83	SLU 61	-32	195	2007	6.09	-416.62	48.95
83	SLU 62	-32	195	2007	6.09	-416.62	48.95
83	SLU 63	-32	195	2007	6.09	-416.62	48.95
83	SLU 64	-31	172	1829	5.41	-377.74	43.39
83	SLU 65	-31	172	1829	5.41	-377.74	43.39
83	SLU 66	-31	172	1829	5.41	-377.74	43.39
83	SLU 67	-31	172	1829	5.41	-377.74	43.39
83	SLU 68	-31	172	1829	5.41	-377.74	43.39
83	SLU 69	-31	172	1829	5.41	-377.74	43.39
83	SLU 70	-31	172	1829	5.41	-377.74	43.39
83	SLU 71	-31	172	1829	5.41	-377.74	43.39
83	SLU 72	-31	172	1829	5.41	-377.74	43.39
83	SLU 73	-33	204	2089	6.37	-433.59	51.29
83	SLU 74	-33	204	2089	6.37	-433.59	51.29
83	SLU 75	-33	204	2089	6.37	-433.59	51.29
83	SLU 76	-33	204	2089	6.37	-433.59	51.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLU 77	-33	204	2089	6.37	-433.59	51.29
83	SLU 78	-33	204	2089	6.37	-433.59	51.29
83	SLU 79	-33	204	2089	6.37	-433.59	51.29
83	SLU 80	-33	204	2089	6.37	-433.59	51.29
83	SLU 81	-34	217	2201	6.78	-457.53	54.68
83	SLU 82	-34	217	2201	6.78	-457.53	54.68
83	SLU 83	-34	217	2201	6.78	-457.53	54.68
83	SLU 84	-34	217	2201	6.78	-457.53	54.68
83	SLE RA 1	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 2	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 3	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 4	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 5	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 6	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 7	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 8	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 9	-23	128	1364	4.01	-281.57	32.12
83	SLE RA 10	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 11	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 12	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 13	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 14	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 15	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 16	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 17	-25	149	1538	4.65	-318.81	37.39
83	SLE RA 18	-26	158	1612	4.93	-334.77	39.65
83	SLE RA 19	-26	158	1612	4.93	-334.77	39.65
83	SLE RA 20	-26	158	1612	4.93	-334.77	39.65
83	SLE RA 21	-26	158	1612	4.93	-334.77	39.65
83	SLE FR 1	-23	128	1364	4.01	-281.57	32.12
83	SLE FR 2	-23	128	1364	4.01	-281.57	32.12
83	SLE FR 3	-23	128	1364	4.01	-281.57	32.12
83	SLE FR 4	-24	137	1439	4.28	-297.53	34.38
83	SLE FR 5	-24	137	1439	4.28	-297.53	34.38
83	SLE FR 6	-25	143	1488	4.47	-308.17	35.88
83	SLE QP 1	-23	128	1364	4.01	-281.57	32.12
83	SLE QP 2	-24	137	1439	4.28	-297.53	34.38
83	SLD 1	99	283	1639	4.65	-329.16	70.79
83	SLD 2	100	251	1637	4.66	-328.85	62.78
83	SLD 3	119	170	1676	5.14	-338.23	42.31
83	SLD 4	120	138	1673	5.15	-337.92	34.3
83	SLD 5	-17	364	1444	3.65	-293.37	91.36
83	SLD 6	-16	332	1441	3.65	-293.05	83.23
83	SLD 7	48	-14	1567	5.28	-323.62	-3.58
83	SLD 8	49	-46	1564	5.29	-323.3	-11.7
83	SLD 9	-97	320	1313	3.28	-271.76	80.46
83	SLD 10	-96	287	1311	3.28	-271.45	72.33
83	SLD 11	-32	-58	1436	4.91	-302.01	-14.48
83	SLD 12	-31	-91	1434	4.92	-301.7	-22.6
83	SLD 13	-168	135	1204	3.42	-257.15	34.45
83	SLD 14	-167	103	1202	3.42	-256.84	26.44
83	SLD 15	-148	22	1241	3.91	-266.22	5.97
83	SLD 16	-147	-10	1239	3.91	-265.91	-2.04
83	SLV 1	256	471	1893	5.12	-369.3	117.56
83	SLV 2	258	399	1888	5.13	-368.6	99.39
83	SLV 3	300	210	1977	6.25	-390.07	51.98
83	SLV 4	302	138	1972	6.26	-389.37	33.81
83	SLV 5	-9	659	1450	2.82	-287.82	165.29
83	SLV 6	-6	585	1444	2.83	-287.11	146.84
83	SLV 7	140	-211	1729	6.58	-357.04	-53.31
83	SLV 8	142	-285	1724	6.59	-356.33	-71.75
83	SLV 9	-190	558	1154	1.98	-238.74	140.51
83	SLV 10	-188	485	1148	1.98	-238.03	122.06
83	SLV 11	-42	-312	1433	5.74	-307.96	-78.09
83	SLV 12	-40	-386	1428	5.75	-307.25	-96.54
83	SLV 13	-351	136	906	2.31	-205.7	34.95
83	SLV 14	-348	63	901	2.32	-205	16.78
83	SLV 15	-306	-126	990	3.44	-226.47	-30.63
83	SLV 16	-304	-198	985	3.45	-225.76	-48.8
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	-11	-83	2520	4.33	709.25	29
86	SLU 2	-11	-83	2520	4.33	709.25	29
86	SLU 3	-11	-83	2520	4.33	709.25	29
86	SLU 4	-11	-83	2520	4.33	709.25	29
86	SLU 5	-11	-83	2520	4.33	709.25	29
86	SLU 6	-11	-83	2520	4.33	709.25	29
86	SLU 7	-11	-83	2520	4.33	709.25	29
86	SLU 8	-11	-83	2520	4.33	709.25	29
86	SLU 9	-11	-83	2520	4.33	709.25	29
86	SLU 10	-20	-101	3040	5.44	858.97	35.43
86	SLU 11	-20	-101	3040	5.44	858.97	35.43
86	SLU 12	-20	-101	3040	5.44	858.97	35.43
86	SLU 13	-20	-101	3040	5.44	858.97	35.43
86	SLU 14	-20	-101	3040	5.44	858.97	35.43
86	SLU 15	-20	-101	3040	5.44	858.97	35.43
86	SLU 16	-20	-101	3040	5.44	858.97	35.43



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
86	SLU 17	-20	-101	3040	5.44	858.97	35.43
86	SLU 18	-23	-109	3262	5.92	923.13	38.18
86	SLU 19	-23	-109	3262	5.92	923.13	38.18
86	SLU 20	-23	-109	3262	5.92	923.13	38.18
86	SLU 21	-23	-109	3262	5.92	923.13	38.18
86	SLU 22	-17	-96	2892	5.1	816	33.65
86	SLU 23	-17	-96	2892	5.1	816	33.65
86	SLU 24	-17	-96	2892	5.1	816	33.65
86	SLU 25	-17	-96	2892	5.1	816	33.65
86	SLU 26	-17	-96	2892	5.1	816	33.65
86	SLU 27	-17	-96	2892	5.1	816	33.65
86	SLU 28	-17	-96	2892	5.1	816	33.65
86	SLU 29	-17	-96	2892	5.1	816	33.65
86	SLU 30	-17	-96	2892	5.1	816	33.65
86	SLU 31	-25	-114	3412	6.21	965.71	40.08
86	SLU 32	-25	-114	3412	6.21	965.71	40.08
86	SLU 33	-25	-114	3412	6.21	965.71	40.08
86	SLU 34	-25	-114	3412	6.21	965.71	40.08
86	SLU 35	-25	-114	3412	6.21	965.71	40.08
86	SLU 36	-25	-114	3412	6.21	965.71	40.08
86	SLU 37	-25	-114	3412	6.21	965.71	40.08
86	SLU 38	-25	-114	3412	6.21	965.71	40.08
86	SLU 39	-29	-122	3635	6.69	1029.87	42.83
86	SLU 40	-29	-122	3635	6.69	1029.87	42.83
86	SLU 41	-29	-122	3635	6.69	1029.87	42.83
86	SLU 42	-29	-122	3635	6.69	1029.87	42.83
86	SLU 43	-13	-103	3148	5.36	885.43	36.11
86	SLU 44	-13	-103	3148	5.36	885.43	36.11
86	SLU 45	-13	-103	3148	5.36	885.43	36.11
86	SLU 46	-13	-103	3148	5.36	885.43	36.11
86	SLU 47	-13	-103	3148	5.36	885.43	36.11
86	SLU 48	-13	-103	3148	5.36	885.43	36.11
86	SLU 49	-13	-103	3148	5.36	885.43	36.11
86	SLU 50	-13	-103	3148	5.36	885.43	36.11
86	SLU 51	-13	-103	3148	5.36	885.43	36.11
86	SLU 52	-21	-121	3668	6.47	1035.14	42.54
86	SLU 53	-21	-121	3668	6.47	1035.14	42.54
86	SLU 54	-21	-121	3668	6.47	1035.14	42.54
86	SLU 55	-21	-121	3668	6.47	1035.14	42.54
86	SLU 56	-21	-121	3668	6.47	1035.14	42.54
86	SLU 57	-21	-121	3668	6.47	1035.14	42.54
86	SLU 58	-21	-121	3668	6.47	1035.14	42.54
86	SLU 59	-21	-121	3668	6.47	1035.14	42.54
86	SLU 60	-25	-129	3891	6.95	1099.31	45.29
86	SLU 61	-25	-129	3891	6.95	1099.31	45.29
86	SLU 62	-25	-129	3891	6.95	1099.31	45.29
86	SLU 63	-25	-129	3891	6.95	1099.31	45.29
86	SLU 64	-18	-116	3520	6.14	992.17	40.76
86	SLU 65	-18	-116	3520	6.14	992.17	40.76
86	SLU 66	-18	-116	3520	6.14	992.17	40.76
86	SLU 67	-18	-116	3520	6.14	992.17	40.76
86	SLU 68	-18	-116	3520	6.14	992.17	40.76
86	SLU 69	-18	-116	3520	6.14	992.17	40.76
86	SLU 70	-18	-116	3520	6.14	992.17	40.76
86	SLU 71	-18	-116	3520	6.14	992.17	40.76
86	SLU 72	-18	-116	3520	6.14	992.17	40.76
86	SLU 73	-27	-134	4040	7.25	1141.89	47.19
86	SLU 74	-27	-134	4040	7.25	1141.89	47.19
86	SLU 75	-27	-134	4040	7.25	1141.89	47.19
86	SLU 76	-27	-134	4040	7.25	1141.89	47.19
86	SLU 77	-27	-134	4040	7.25	1141.89	47.19
86	SLU 78	-27	-134	4040	7.25	1141.89	47.19
86	SLU 79	-27	-134	4040	7.25	1141.89	47.19
86	SLU 80	-27	-134	4040	7.25	1141.89	47.19
86	SLU 81	-30	-142	4263	7.72	1206.05	49.94
86	SLU 82	-30	-142	4263	7.72	1206.05	49.94
86	SLU 83	-30	-142	4263	7.72	1206.05	49.94
86	SLU 84	-30	-142	4263	7.72	1206.05	49.94
86	SLE RA 1	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 2	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 3	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 4	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 5	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 6	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 7	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 8	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 9	-13	-86	2626	4.55	739.75	30.33
86	SLE RA 10	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 11	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 12	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 13	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 14	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 15	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 16	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 17	-19	-99	2973	5.29	839.56	34.62
86	SLE RA 18	-21	-104	3121	5.61	882.33	36.45
86	SLE RA 19	-21	-104	3121	5.61	882.33	36.45
86	SLE RA 20	-21	-104	3121	5.61	882.33	36.45
86	SLE RA 21	-21	-104	3121	5.61	882.33	36.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
86	SLE FR 1	-13	-86	2626	4.55	739.75	30.33
86	SLE FR 2	-13	-86	2626	4.55	739.75	30.33
86	SLE FR 3	-13	-86	2626	4.55	739.75	30.33
86	SLE FR 4	-15	-92	2775	4.87	782.53	32.17
86	SLE FR 5	-15	-92	2775	4.87	782.53	32.17
86	SLE FR 6	-17	-95	2874	5.08	811.04	33.39
86	SLE QP 1	-13	-86	2626	4.55	739.75	30.33
86	SLE QP 2	-15	-92	2775	4.87	782.53	32.17
86	SLD 1	191	-110	2467	4.1	705.36	-12.84
86	SLD 2	196	-68	2468	4.09	705.41	-27.36
86	SLD 3	163	-262	2391	4.56	691.8	40.26
86	SLD 4	168	-220	2392	4.56	691.85	25.73
86	SLD 5	87	119	2797	3.94	779.93	-56.67
86	SLD 6	92	161	2798	3.93	779.98	-71.41
86	SLD 7	-5	-388	2544	5.48	734.72	120.31
86	SLD 8	0	-346	2545	5.48	734.77	105.58
86	SLD 9	-30	163	3004	4.26	830.28	-41.24
86	SLD 10	-25	205	3005	4.25	830.33	-55.97
86	SLD 11	-122	-344	2751	5.8	785.07	135.75
86	SLD 12	-117	-302	2753	5.8	785.12	121.01
86	SLD 13	-199	37	3157	5.18	873.21	38.6
86	SLD 14	-194	79	3158	5.17	873.25	24.08
86	SLD 15	-227	-115	3082	5.64	859.64	91.7
86	SLD 16	-222	-73	3083	5.64	859.69	77.18
86	SLV 1	453	-132	2076	3.12	607.4	-71.18
86	SLV 2	464	-37	2079	3.1	607.51	-104.12
86	SLV 3	391	-482	1902	4.18	576.35	51.08
86	SLV 4	402	-387	1905	4.17	576.46	18.14
86	SLV 5	216	394	2828	2.73	777.05	-172.48
86	SLV 6	228	490	2830	2.71	777.16	-205.93
86	SLV 7	7	-774	2248	6.29	673.53	235.05
86	SLV 8	19	-677	2251	6.28	673.64	201.61
86	SLV 9	-50	494	3298	3.46	891.41	-137.27
86	SLV 10	-38	591	3301	3.45	891.52	-170.72
86	SLV 11	-258	-673	2719	7.02	787.89	270.26
86	SLV 12	-247	-577	2722	7.01	788	236.82
86	SLV 13	-433	204	3645	5.56	988.59	46.19
86	SLV 14	-421	299	3647	5.55	988.7	13.25
86	SLV 15	-495	-146	3471	6.63	957.54	168.46
86	SLV 16	-484	-51	3473	6.62	957.65	135.51
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
87	SLU 1	-28	120	1420	3.47	-313.28	30.1
87	SLU 2	-28	120	1420	3.47	-313.28	30.1
87	SLU 3	-28	120	1420	3.47	-313.28	30.1
87	SLU 4	-28	120	1420	3.47	-313.28	30.1
87	SLU 5	-28	120	1420	3.47	-313.28	30.1
87	SLU 6	-28	120	1420	3.47	-313.28	30.1
87	SLU 7	-28	120	1420	3.47	-313.28	30.1
87	SLU 8	-28	120	1420	3.47	-313.28	30.1
87	SLU 9	-28	120	1420	3.47	-313.28	30.1
87	SLU 10	-31	151	1708	4.35	-379.86	37.9
87	SLU 11	-31	151	1708	4.35	-379.86	37.9
87	SLU 12	-31	151	1708	4.35	-379.86	37.9
87	SLU 13	-31	151	1708	4.35	-379.86	37.9
87	SLU 14	-31	151	1708	4.35	-379.86	37.9
87	SLU 15	-31	151	1708	4.35	-379.86	37.9
87	SLU 16	-31	151	1708	4.35	-379.86	37.9
87	SLU 17	-31	151	1708	4.35	-379.86	37.9
87	SLU 18	-32	164	1832	4.72	-408.4	41.24
87	SLU 19	-32	164	1832	4.72	-408.4	41.24
87	SLU 20	-32	164	1832	4.72	-408.4	41.24
87	SLU 21	-32	164	1832	4.72	-408.4	41.24
87	SLU 22	-30	142	1634	4.1	-362.06	35.75
87	SLU 23	-30	142	1634	4.1	-362.06	35.75
87	SLU 24	-30	142	1634	4.1	-362.06	35.75
87	SLU 25	-30	142	1634	4.1	-362.06	35.75
87	SLU 26	-30	142	1634	4.1	-362.06	35.75
87	SLU 27	-30	142	1634	4.1	-362.06	35.75
87	SLU 28	-30	142	1634	4.1	-362.06	35.75
87	SLU 29	-30	142	1634	4.1	-362.06	35.75
87	SLU 30	-30	142	1634	4.1	-362.06	35.75
87	SLU 31	-33	174	1922	4.97	-428.65	43.54
87	SLU 32	-33	174	1922	4.97	-428.65	43.54
87	SLU 33	-33	174	1922	4.97	-428.65	43.54
87	SLU 34	-33	174	1922	4.97	-428.65	43.54
87	SLU 35	-33	174	1922	4.97	-428.65	43.54
87	SLU 36	-33	174	1922	4.97	-428.65	43.54
87	SLU 37	-33	174	1922	4.97	-428.65	43.54
87	SLU 38	-33	174	1922	4.97	-428.65	43.54
87	SLU 39	-34	187	2046	5.35	-457.18	46.88
87	SLU 40	-34	187	2046	5.35	-457.18	46.88
87	SLU 41	-34	187	2046	5.35	-457.18	46.88
87	SLU 42	-34	187	2046	5.35	-457.18	46.88
87	SLU 43	-36	148	1773	4.3	-390.53	37.2
87	SLU 44	-36	148	1773	4.3	-390.53	37.2
87	SLU 45	-36	148	1773	4.3	-390.53	37.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
87	SLU 46	-36	148	1773	4.3	-390.53	37.2
87	SLU 47	-36	148	1773	4.3	-390.53	37.2
87	SLU 48	-36	148	1773	4.3	-390.53	37.2
87	SLU 49	-36	148	1773	4.3	-390.53	37.2
87	SLU 50	-36	148	1773	4.3	-390.53	37.2
87	SLU 51	-36	148	1773	4.3	-390.53	37.2
87	SLU 52	-38	179	2061	5.18	-457.12	44.99
87	SLU 53	-38	179	2061	5.18	-457.12	44.99
87	SLU 54	-38	179	2061	5.18	-457.12	44.99
87	SLU 55	-38	179	2061	5.18	-457.12	44.99
87	SLU 56	-38	179	2061	5.18	-457.12	44.99
87	SLU 57	-38	179	2061	5.18	-457.12	44.99
87	SLU 58	-38	179	2061	5.18	-457.12	44.99
87	SLU 59	-38	179	2061	5.18	-457.12	44.99
87	SLU 60	-39	193	2184	5.55	-485.65	48.33
87	SLU 61	-39	193	2184	5.55	-485.65	48.33
87	SLU 62	-39	193	2184	5.55	-485.65	48.33
87	SLU 63	-39	193	2184	5.55	-485.65	48.33
87	SLU 64	-38	171	1987	4.92	-439.32	42.84
87	SLU 65	-38	171	1987	4.92	-439.32	42.84
87	SLU 66	-38	171	1987	4.92	-439.32	42.84
87	SLU 67	-38	171	1987	4.92	-439.32	42.84
87	SLU 68	-38	171	1987	4.92	-439.32	42.84
87	SLU 69	-38	171	1987	4.92	-439.32	42.84
87	SLU 70	-38	171	1987	4.92	-439.32	42.84
87	SLU 71	-38	171	1987	4.92	-439.32	42.84
87	SLU 72	-38	171	1987	4.92	-439.32	42.84
87	SLU 73	-40	202	2275	5.8	-505.9	50.64
87	SLU 74	-40	202	2275	5.8	-505.9	50.64
87	SLU 75	-40	202	2275	5.8	-505.9	50.64
87	SLU 76	-40	202	2275	5.8	-505.9	50.64
87	SLU 77	-40	202	2275	5.8	-505.9	50.64
87	SLU 78	-40	202	2275	5.8	-505.9	50.64
87	SLU 79	-40	202	2275	5.8	-505.9	50.64
87	SLU 80	-40	202	2275	5.8	-505.9	50.64
87	SLU 81	-42	215	2398	6.18	-534.44	53.98
87	SLU 82	-42	215	2398	6.18	-534.44	53.98
87	SLU 83	-42	215	2398	6.18	-534.44	53.98
87	SLU 84	-42	215	2398	6.18	-534.44	53.98
87	SLE RA 1	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 2	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 3	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 4	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 5	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 6	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 7	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 8	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 9	-29	126	1481	3.65	-327.22	31.71
87	SLE RA 10	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 11	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 12	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 13	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 14	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 15	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 16	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 17	-30	147	1673	4.23	-371.6	36.91
87	SLE RA 18	-31	156	1756	4.48	-390.63	39.14
87	SLE RA 19	-31	156	1756	4.48	-390.63	39.14
87	SLE RA 20	-31	156	1756	4.48	-390.63	39.14
87	SLE RA 21	-31	156	1756	4.48	-390.63	39.14
87	SLE FR 1	-29	126	1481	3.65	-327.22	31.71
87	SLE FR 2	-29	126	1481	3.65	-327.22	31.71
87	SLE FR 3	-29	126	1481	3.65	-327.22	31.71
87	SLE FR 4	-29	135	1563	3.9	-346.24	33.94
87	SLE FR 5	-29	135	1563	3.9	-346.24	33.94
87	SLE FR 6	-30	141	1618	4.07	-358.92	35.43
87	SLE QP 1	-29	126	1481	3.65	-327.22	31.71
87	SLE QP 2	-29	135	1563	3.9	-346.24	33.94
87	SLD 1	105	281	1775	4.21	-383.94	70.13
87	SLD 2	107	249	1773	4.22	-383.54	62.19
87	SLD 3	128	168	1823	4.69	-395.3	41.92
87	SLD 4	129	137	1821	4.7	-394.9	33.98
87	SLD 5	-23	361	1554	3.27	-340.45	90.42
87	SLD 6	-22	329	1552	3.27	-340.05	82.36
87	SLD 7	51	-14	1716	4.86	-378.34	-3.61
87	SLD 8	52	-47	1713	4.87	-377.93	-11.67
87	SLD 9	-111	317	1414	2.93	-314.55	79.55
87	SLD 10	-110	285	1411	2.94	-314.14	71.5
87	SLD 11	-37	-59	1575	4.53	-352.43	-14.48
87	SLD 12	-36	-91	1573	4.53	-352.03	-22.54
87	SLD 13	-188	134	1306	3.1	-297.58	33.91
87	SLD 14	-187	102	1304	3.11	-297.18	25.96
87	SLD 15	-166	21	1354	3.58	-308.94	5.69
87	SLD 16	-164	-11	1352	3.59	-308.55	-2.25
87	SLV 1	277	468	2043	4.61	-431.76	116.6
87	SLV 2	280	396	2038	4.62	-430.86	98.59
87	SLV 3	327	209	2154	5.71	-457.79	51.64
87	SLV 4	330	137	2149	5.72	-456.89	33.63
87	SLV 5	-15	655	1542	2.43	-332.74	163.7



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
87	SLV 6	-12	582	1536	2.44	-331.83	145.41
87	SLV 7	153	-211	1910	6.12	-419.5	-52.83
87	SLV 8	156	-284	1905	6.13	-418.59	-71.11
87	SLV 9	-215	554	1222	1.67	-273.89	139
87	SLV 10	-212	481	1217	1.68	-272.98	120.71
87	SLV 11	-46	-311	1591	5.36	-360.65	-77.53
87	SLV 12	-44	-384	1585	5.37	-359.74	-95.82
87	SLV 13	-389	134	978	2.08	-235.59	34.25
87	SLV 14	-386	62	973	2.09	-234.69	16.24
87	SLV 15	-338	-126	1089	3.18	-261.62	-30.7
87	SLV 16	-336	-198	1084	3.19	-260.72	-48.72
87	CRTFP Ux+	0	0	0	0	0	0
87	CRTFP Ux-	0	0	0	0	0	0
87	CRTFP Uy+	0	0	0	0	0	0
87	CRTFP Uy-	0	0	0	0	0	0
90	SLU 1	-12	-73	2390	-42.13	722.35	25.36
90	SLU 2	-12	-73	2390	-42.13	722.35	25.36
90	SLU 3	-12	-73	2390	-42.13	722.35	25.36
90	SLU 4	-12	-73	2390	-42.13	722.35	25.36
90	SLU 5	-12	-73	2390	-42.13	722.35	25.36
90	SLU 6	-12	-73	2390	-42.13	722.35	25.36
90	SLU 7	-12	-73	2390	-42.13	722.35	25.36
90	SLU 8	-12	-73	2390	-42.13	722.35	25.36
90	SLU 9	-12	-73	2390	-42.13	722.35	25.36
90	SLU 10	-20	-89	2888	-50.81	876.63	30.92
90	SLU 11	-20	-89	2888	-50.81	876.63	30.92
90	SLU 12	-20	-89	2888	-50.81	876.63	30.92
90	SLU 13	-20	-89	2888	-50.81	876.63	30.92
90	SLU 14	-20	-89	2888	-50.81	876.63	30.92
90	SLU 15	-20	-89	2888	-50.81	876.63	30.92
90	SLU 16	-20	-89	2888	-50.81	876.63	30.92
90	SLU 17	-20	-89	2888	-50.81	876.63	30.92
90	SLU 18	-24	-96	3102	-54.53	942.75	33.31
90	SLU 19	-24	-96	3102	-54.53	942.75	33.31
90	SLU 20	-24	-96	3102	-54.53	942.75	33.31
90	SLU 21	-24	-96	3102	-54.53	942.75	33.31
90	SLU 22	-18	-85	2747	-48.36	832.4	29.39
90	SLU 23	-18	-85	2747	-48.36	832.4	29.39
90	SLU 24	-18	-85	2747	-48.36	832.4	29.39
90	SLU 25	-18	-85	2747	-48.36	832.4	29.39
90	SLU 26	-18	-85	2747	-48.36	832.4	29.39
90	SLU 27	-18	-85	2747	-48.36	832.4	29.39
90	SLU 28	-18	-85	2747	-48.36	832.4	29.39
90	SLU 29	-18	-85	2747	-48.36	832.4	29.39
90	SLU 30	-18	-85	2747	-48.36	832.4	29.39
90	SLU 31	-26	-101	3245	-57.04	986.68	34.96
90	SLU 32	-26	-101	3245	-57.04	986.68	34.96
90	SLU 33	-26	-101	3245	-57.04	986.68	34.96
90	SLU 34	-26	-101	3245	-57.04	986.68	34.96
90	SLU 35	-26	-101	3245	-57.04	986.68	34.96
90	SLU 36	-26	-101	3245	-57.04	986.68	34.96
90	SLU 37	-26	-101	3245	-57.04	986.68	34.96
90	SLU 38	-26	-101	3245	-57.04	986.68	34.96
90	SLU 39	-29	-108	3458	-60.76	1052.8	37.34
90	SLU 40	-29	-108	3458	-60.76	1052.8	37.34
90	SLU 41	-29	-108	3458	-60.76	1052.8	37.34
90	SLU 42	-29	-108	3458	-60.76	1052.8	37.34
90	SLU 43	-14	-91	2985	-52.64	901.32	31.58
90	SLU 44	-14	-91	2985	-52.64	901.32	31.58
90	SLU 45	-14	-91	2985	-52.64	901.32	31.58
90	SLU 46	-14	-91	2985	-52.64	901.32	31.58
90	SLU 47	-14	-91	2985	-52.64	901.32	31.58
90	SLU 48	-14	-91	2985	-52.64	901.32	31.58
90	SLU 49	-14	-91	2985	-52.64	901.32	31.58
90	SLU 50	-14	-91	2985	-52.64	901.32	31.58
90	SLU 51	-14	-91	2985	-52.64	901.32	31.58
90	SLU 52	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 53	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 54	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 55	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 56	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 57	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 58	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 59	-22	-107	3483	-61.32	1055.6	37.15
90	SLU 60	-26	-114	3697	-65.04	1121.72	39.54
90	SLU 61	-26	-114	3697	-65.04	1121.72	39.54
90	SLU 62	-26	-114	3697	-65.04	1121.72	39.54
90	SLU 63	-26	-114	3697	-65.04	1121.72	39.54
90	SLU 64	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 65	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 66	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 67	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 68	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 69	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 70	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 71	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 72	-19	-103	3342	-58.86	1011.37	35.61
90	SLU 73	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 74	-27	-119	3840	-67.54	1165.65	41.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
90	SLU 75	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 76	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 77	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 78	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 79	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 80	-27	-119	3840	-67.54	1165.65	41.18
90	SLU 81	-31	-126	4053	-71.26	1231.78	43.57
90	SLU 82	-31	-126	4053	-71.26	1231.78	43.57
90	SLU 83	-31	-126	4053	-71.26	1231.78	43.57
90	SLU 84	-31	-126	4053	-71.26	1231.78	43.57
90	SLE RA 1	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 2	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 3	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 4	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 5	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 6	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 7	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 8	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 9	-14	-76	2492	-43.91	753.79	26.51
90	SLE RA 10	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 11	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 12	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 13	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 14	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 15	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 16	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 17	-19	-87	2824	-49.7	856.65	30.22
90	SLE RA 18	-21	-92	2966	-52.18	900.73	31.81
90	SLE RA 19	-21	-92	2966	-52.18	900.73	31.81
90	SLE RA 20	-21	-92	2966	-52.18	900.73	31.81
90	SLE RA 21	-21	-92	2966	-52.18	900.73	31.81
90	SLE FR 1	-14	-76	2492	-43.91	753.79	26.51
90	SLE FR 2	-14	-76	2492	-43.91	753.79	26.51
90	SLE FR 3	-14	-76	2492	-43.91	753.79	26.51
90	SLE FR 4	-16	-81	2634	-46.39	797.87	28.1
90	SLE FR 5	-16	-81	2634	-46.39	797.87	28.1
90	SLE FR 6	-18	-84	2729	-48.05	827.26	29.16
90	SLE QP 1	-14	-76	2492	-43.91	753.79	26.51
90	SLE QP 2	-16	-81	2634	-46.39	797.87	28.1
90	SLD 1	174	-98	2340	-41.25	718.39	32.84
90	SLD 2	176	-60	2341	-41.27	718.52	19.66
90	SLD 3	150	-236	2279	-39.87	704.38	80.99
90	SLD 4	151	-198	2280	-39.89	704.51	67.81
90	SLD 5	78	110	2639	-46.94	795.23	-38.8
90	SLD 6	80	148	2640	-46.96	795.36	-52.17
90	SLD 7	-5	-350	2435	-42.34	748.52	121.7
90	SLD 8	-3	-312	2435	-42.36	748.66	108.33
90	SLD 9	-29	150	2833	-50.43	847.08	-52.14
90	SLD 10	-28	188	2834	-50.45	847.22	-65.51
90	SLD 11	-112	-310	2629	-45.83	800.38	108.37
90	SLD 12	-110	-272	2630	-45.85	800.51	95
90	SLD 13	-183	36	2989	-52.89	891.23	-11.61
90	SLD 14	-182	74	2990	-52.91	891.36	-24.79
90	SLD 15	-208	-102	2928	-51.51	877.22	36.54
90	SLD 16	-207	-64	2929	-51.53	877.35	23.36
90	SLV 1	417	-118	1966	-34.74	617.5	38.37
90	SLV 2	420	-31	1968	-34.79	617.81	8.48
90	SLV 3	360	-435	1826	-31.57	585.42	149.25
90	SLV 4	364	-349	1828	-31.62	585.72	119.36
90	SLV 5	198	359	2646	-47.68	792.31	-126.3
90	SLV 6	202	447	2648	-47.73	792.62	-156.65
90	SLV 7	10	-700	2178	-37.12	685.37	243.31
90	SLV 8	14	-613	2180	-37.17	685.68	212.95
90	SLV 9	-46	451	3089	-55.61	910.06	-156.76
90	SLV 10	-42	538	3091	-55.66	910.37	-187.11
90	SLV 11	-234	-609	2621	-45.05	803.12	212.85
90	SLV 12	-230	-522	2623	-45.1	803.43	182.49
90	SLV 13	-396	187	3441	-61.17	1010.02	-63.16
90	SLV 14	-392	273	3443	-61.21	1010.32	-93.06
90	SLV 15	-452	-131	3301	-58	977.94	47.72
90	SLV 16	-449	-45	3303	-58.05	978.24	17.83
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
91	SLU 1	-27	108	1370	-23.51	-317.92	26.47
91	SLU 2	-27	108	1370	-23.51	-317.92	26.47
91	SLU 3	-27	108	1370	-23.51	-317.92	26.47
91	SLU 4	-27	108	1370	-23.51	-317.92	26.47
91	SLU 5	-27	108	1370	-23.51	-317.92	26.47
91	SLU 6	-27	108	1370	-23.51	-317.92	26.47
91	SLU 7	-27	108	1370	-23.51	-317.92	26.47
91	SLU 8	-27	108	1370	-23.51	-317.92	26.47
91	SLU 9	-27	108	1370	-23.51	-317.92	26.47
91	SLU 10	-29	136	1652	-28.27	-386.25	33.42
91	SLU 11	-29	136	1652	-28.27	-386.25	33.42
91	SLU 12	-29	136	1652	-28.27	-386.25	33.42
91	SLU 13	-29	136	1652	-28.27	-386.25	33.42
91	SLU 14	-29	136	1652	-28.27	-386.25	33.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
91	SLU 15	-29	136	1652	-28.27	-386.25	33.42
91	SLU 16	-29	136	1652	-28.27	-386.25	33.42
91	SLU 17	-29	136	1652	-28.27	-386.25	33.42
91	SLU 18	-30	148	1773	-30.31	-415.53	36.39
91	SLU 19	-30	148	1773	-30.31	-415.53	36.39
91	SLU 20	-30	148	1773	-30.31	-415.53	36.39
91	SLU 21	-30	148	1773	-30.31	-415.53	36.39
91	SLU 22	-29	128	1579	-27.06	-368.03	31.49
91	SLU 23	-29	128	1579	-27.06	-368.03	31.49
91	SLU 24	-29	128	1579	-27.06	-368.03	31.49
91	SLU 25	-29	128	1579	-27.06	-368.03	31.49
91	SLU 26	-29	128	1579	-27.06	-368.03	31.49
91	SLU 27	-29	128	1579	-27.06	-368.03	31.49
91	SLU 28	-29	128	1579	-27.06	-368.03	31.49
91	SLU 29	-29	128	1579	-27.06	-368.03	31.49
91	SLU 30	-29	128	1579	-27.06	-368.03	31.49
91	SLU 31	-31	156	1861	-31.81	-436.35	38.44
91	SLU 32	-31	156	1861	-31.81	-436.35	38.44
91	SLU 33	-31	156	1861	-31.81	-436.35	38.44
91	SLU 34	-31	156	1861	-31.81	-436.35	38.44
91	SLU 35	-31	156	1861	-31.81	-436.35	38.44
91	SLU 36	-31	156	1861	-31.81	-436.35	38.44
91	SLU 37	-31	156	1861	-31.81	-436.35	38.44
91	SLU 38	-31	156	1861	-31.81	-436.35	38.44
91	SLU 39	-32	168	1982	-33.85	-465.63	41.41
91	SLU 40	-32	168	1982	-33.85	-465.63	41.41
91	SLU 41	-32	168	1982	-33.85	-465.63	41.41
91	SLU 42	-32	168	1982	-33.85	-465.63	41.41
91	SLU 43	-35	133	1710	-29.35	-396.12	32.69
91	SLU 44	-35	133	1710	-29.35	-396.12	32.69
91	SLU 45	-35	133	1710	-29.35	-396.12	32.69
91	SLU 46	-35	133	1710	-29.35	-396.12	32.69
91	SLU 47	-35	133	1710	-29.35	-396.12	32.69
91	SLU 48	-35	133	1710	-29.35	-396.12	32.69
91	SLU 49	-35	133	1710	-29.35	-396.12	32.69
91	SLU 50	-35	133	1710	-29.35	-396.12	32.69
91	SLU 51	-35	133	1710	-29.35	-396.12	32.69
91	SLU 52	-37	161	1992	-34.11	-464.45	39.64
91	SLU 53	-37	161	1992	-34.11	-464.45	39.64
91	SLU 54	-37	161	1992	-34.11	-464.45	39.64
91	SLU 55	-37	161	1992	-34.11	-464.45	39.64
91	SLU 56	-37	161	1992	-34.11	-464.45	39.64
91	SLU 57	-37	161	1992	-34.11	-464.45	39.64
91	SLU 58	-37	161	1992	-34.11	-464.45	39.64
91	SLU 59	-37	161	1992	-34.11	-464.45	39.64
91	SLU 60	-37	173	2112	-36.15	-493.73	42.61
91	SLU 61	-37	173	2112	-36.15	-493.73	42.61
91	SLU 62	-37	173	2112	-36.15	-493.73	42.61
91	SLU 63	-37	173	2112	-36.15	-493.73	42.61
91	SLU 64	-36	154	1919	-32.89	-446.23	37.71
91	SLU 65	-36	154	1919	-32.89	-446.23	37.71
91	SLU 66	-36	154	1919	-32.89	-446.23	37.71
91	SLU 67	-36	154	1919	-32.89	-446.23	37.71
91	SLU 68	-36	154	1919	-32.89	-446.23	37.71
91	SLU 69	-36	154	1919	-32.89	-446.23	37.71
91	SLU 70	-36	154	1919	-32.89	-446.23	37.71
91	SLU 71	-36	154	1919	-32.89	-446.23	37.71
91	SLU 72	-36	154	1919	-32.89	-446.23	37.71
91	SLU 73	-38	182	2201	-37.65	-514.55	44.66
91	SLU 74	-38	182	2201	-37.65	-514.55	44.66
91	SLU 75	-38	182	2201	-37.65	-514.55	44.66
91	SLU 76	-38	182	2201	-37.65	-514.55	44.66
91	SLU 77	-38	182	2201	-37.65	-514.55	44.66
91	SLU 78	-38	182	2201	-37.65	-514.55	44.66
91	SLU 79	-38	182	2201	-37.65	-514.55	44.66
91	SLU 80	-38	182	2201	-37.65	-514.55	44.66
91	SLU 81	-39	194	2321	-39.69	-543.83	47.63
91	SLU 82	-39	194	2321	-39.69	-543.83	47.63
91	SLU 83	-39	194	2321	-39.69	-543.83	47.63
91	SLU 84	-39	194	2321	-39.69	-543.83	47.63
91	SLE RA 1	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 2	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 3	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 4	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 5	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 6	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 7	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 8	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 9	-28	114	1430	-24.53	-332.24	27.91
91	SLE RA 10	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 11	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 12	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 13	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 14	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 15	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 16	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 17	-29	132	1618	-27.7	-377.79	32.54
91	SLE RA 18	-29	140	1698	-29.06	-397.31	34.52
91	SLE RA 19	-29	140	1698	-29.06	-397.31	34.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
91	SLE RA 20	-29	140	1698	-29.06	-397.31	34.52
91	SLE RA 21	-29	140	1698	-29.06	-397.31	34.52
91	SLE FR 1	-28	114	1430	-24.53	-332.24	27.91
91	SLE FR 2	-28	114	1430	-24.53	-332.24	27.91
91	SLE FR 3	-28	114	1430	-24.53	-332.24	27.91
91	SLE FR 4	-28	122	1511	-25.88	-351.76	29.89
91	SLE FR 5	-28	122	1511	-25.88	-351.76	29.89
91	SLE FR 6	-29	127	1564	-26.79	-364.78	31.21
91	SLE QP 1	-28	114	1430	-24.53	-332.24	27.91
91	SLE QP 2	-28	122	1511	-25.88	-351.76	29.89
91	SLD 1	104	254	1709	-29.45	-390.23	64.57
91	SLD 2	104	225	1707	-29.41	-389.83	57.43
91	SLD 3	125	152	1764	-30.18	-402.34	39.32
91	SLD 4	125	123	1762	-30.15	-401.94	32.18
91	SLD 5	-21	326	1488	-25.85	-345.07	81.14
91	SLD 6	-20	297	1486	-25.81	-344.67	73.89
91	SLD 7	50	-13	1670	-28.31	-385.45	-3.02
91	SLD 8	50	-42	1668	-28.27	-385.05	-10.27
91	SLD 9	-106	286	1353	-23.5	-318.48	70.05
91	SLD 10	-106	257	1352	-23.46	-318.08	62.8
91	SLD 11	-36	-53	1535	-25.96	-358.85	-14.11
91	SLD 12	-36	-82	1533	-25.92	-358.45	-21.36
91	SLD 13	-182	120	1259	-21.62	-301.58	27.6
91	SLD 14	-181	92	1258	-21.58	-301.18	20.46
91	SLD 15	-160	19	1314	-22.36	-313.69	2.35
91	SLD 16	-160	-10	1312	-22.32	-313.3	-4.79
91	SLV 1	271	423	1961	-33.97	-439	109.05
91	SLV 2	272	358	1957	-33.88	-438.1	92.85
91	SLV 3	319	189	2085	-35.65	-466.76	50.92
91	SLV 4	320	123	2081	-35.56	-465.87	34.72
91	SLV 5	-12	591	1458	-25.78	-336.15	147.6
91	SLV 6	-11	524	1454	-25.69	-335.24	131.15
91	SLV 7	149	-190	1873	-31.4	-428.69	-46.17
91	SLV 8	150	-256	1869	-31.31	-427.78	-62.62
91	SLV 9	-206	500	1152	-20.46	-275.74	122.4
91	SLV 10	-205	434	1148	-20.37	-274.84	105.95
91	SLV 11	-46	-281	1567	-26.07	-368.28	-71.37
91	SLV 12	-45	-347	1563	-25.98	-367.38	-87.82
91	SLV 13	-377	120	940	-16.21	-237.66	25.06
91	SLV 14	-376	55	936	-16.12	-236.76	8.86
91	SLV 15	-328	-114	1064	-17.89	-265.42	-33.07
91	SLV 16	-327	-179	1060	-17.8	-264.52	-49.27
91	CRTFP Ux+	0	0	0	0	0	0
91	CRTFP Ux-	0	0	0	0	0	0
91	CRTFP Uy+	0	0	0	0	0	0
91	CRTFP Uy-	0	0	0	0	0	0
116	SLU 1	-65	299	3944	32.35	-729.32	54.5
116	SLU 2	-65	299	3944	32.35	-729.32	54.5
116	SLU 3	-65	299	3944	32.35	-729.32	54.5
116	SLU 4	-65	299	3944	32.35	-729.32	54.5
116	SLU 5	-65	299	3944	32.35	-729.32	54.5
116	SLU 6	-65	299	3944	32.35	-729.32	54.5
116	SLU 7	-65	299	3944	32.35	-729.32	54.5
116	SLU 8	-65	299	3944	32.35	-729.32	54.5
116	SLU 9	-65	299	3944	32.35	-729.32	54.5
116	SLU 10	-66	376	4754	39.2	-883.74	68.52
116	SLU 11	-66	376	4754	39.2	-883.74	68.52
116	SLU 12	-66	376	4754	39.2	-883.74	68.52
116	SLU 13	-66	376	4754	39.2	-883.74	68.52
116	SLU 14	-66	376	4754	39.2	-883.74	68.52
116	SLU 15	-66	376	4754	39.2	-883.74	68.52
116	SLU 16	-66	376	4754	39.2	-883.74	68.52
116	SLU 17	-66	376	4754	39.2	-883.74	68.52
116	SLU 18	-67	410	5102	42.13	-949.92	74.53
116	SLU 19	-67	410	5102	42.13	-949.92	74.53
116	SLU 20	-67	410	5102	42.13	-949.92	74.53
116	SLU 21	-67	410	5102	42.13	-949.92	74.53
116	SLU 22	-67	355	4544	37.12	-843	64.64
116	SLU 23	-67	355	4544	37.12	-843	64.64
116	SLU 24	-67	355	4544	37.12	-843	64.64
116	SLU 25	-67	355	4544	37.12	-843	64.64
116	SLU 26	-67	355	4544	37.12	-843	64.64
116	SLU 27	-67	355	4544	37.12	-843	64.64
116	SLU 28	-67	355	4544	37.12	-843	64.64
116	SLU 29	-67	355	4544	37.12	-843	64.64
116	SLU 30	-67	355	4544	37.12	-843	64.64
116	SLU 31	-69	432	5354	43.96	-997.42	78.66
116	SLU 32	-69	432	5354	43.96	-997.42	78.66
116	SLU 33	-69	432	5354	43.96	-997.42	78.66
116	SLU 34	-69	432	5354	43.96	-997.42	78.66
116	SLU 35	-69	432	5354	43.96	-997.42	78.66
116	SLU 36	-69	432	5354	43.96	-997.42	78.66
116	SLU 37	-69	432	5354	43.96	-997.42	78.66
116	SLU 38	-69	432	5354	43.96	-997.42	78.66
116	SLU 39	-69	465	5701	46.9	-1063.6	84.67
116	SLU 40	-69	465	5701	46.9	-1063.6	84.67
116	SLU 41	-69	465	5701	46.9	-1063.6	84.67
116	SLU 42	-69	465	5701	46.9	-1063.6	84.67
116	SLU 43	-83	370	4921	40.43	-909.14	67.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
116	SLU 44	-83	370	4921	40.43	-909.14	67.37
116	SLU 45	-83	370	4921	40.43	-909.14	67.37
116	SLU 46	-83	370	4921	40.43	-909.14	67.37
116	SLU 47	-83	370	4921	40.43	-909.14	67.37
116	SLU 48	-83	370	4921	40.43	-909.14	67.37
116	SLU 49	-83	370	4921	40.43	-909.14	67.37
116	SLU 50	-83	370	4921	40.43	-909.14	67.37
116	SLU 51	-83	370	4921	40.43	-909.14	67.37
116	SLU 52	-85	447	5732	47.27	-1063.56	81.39
116	SLU 53	-85	447	5732	47.27	-1063.56	81.39
116	SLU 54	-85	447	5732	47.27	-1063.56	81.39
116	SLU 55	-85	447	5732	47.27	-1063.56	81.39
116	SLU 56	-85	447	5732	47.27	-1063.56	81.39
116	SLU 57	-85	447	5732	47.27	-1063.56	81.39
116	SLU 58	-85	447	5732	47.27	-1063.56	81.39
116	SLU 59	-85	447	5732	47.27	-1063.56	81.39
116	SLU 60	-86	480	6079	50.21	-1129.74	87.4
116	SLU 61	-86	480	6079	50.21	-1129.74	87.4
116	SLU 62	-86	480	6079	50.21	-1129.74	87.4
116	SLU 63	-86	480	6079	50.21	-1129.74	87.4
116	SLU 64	-85	426	5521	45.19	-1022.82	77.51
116	SLU 65	-85	426	5521	45.19	-1022.82	77.51
116	SLU 66	-85	426	5521	45.19	-1022.82	77.51
116	SLU 67	-85	426	5521	45.19	-1022.82	77.51
116	SLU 68	-85	426	5521	45.19	-1022.82	77.51
116	SLU 69	-85	426	5521	45.19	-1022.82	77.51
116	SLU 70	-85	426	5521	45.19	-1022.82	77.51
116	SLU 71	-85	426	5521	45.19	-1022.82	77.51
116	SLU 72	-85	426	5521	45.19	-1022.82	77.51
116	SLU 73	-87	503	6331	52.04	-1177.24	91.53
116	SLU 74	-87	503	6331	52.04	-1177.24	91.53
116	SLU 75	-87	503	6331	52.04	-1177.24	91.53
116	SLU 76	-87	503	6331	52.04	-1177.24	91.53
116	SLU 77	-87	503	6331	52.04	-1177.24	91.53
116	SLU 78	-87	503	6331	52.04	-1177.24	91.53
116	SLU 79	-87	503	6331	52.04	-1177.24	91.53
116	SLU 80	-87	503	6331	52.04	-1177.24	91.53
116	SLU 81	-88	536	6679	54.97	-1243.42	97.54
116	SLU 82	-88	536	6679	54.97	-1243.42	97.54
116	SLU 83	-88	536	6679	54.97	-1243.42	97.54
116	SLU 84	-88	536	6679	54.97	-1243.42	97.54
116	SLE RA 1	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 2	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 3	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 4	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 5	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 6	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 7	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 8	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 9	-65	315	4115	33.72	-761.8	57.4
116	SLE RA 10	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 11	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 12	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 13	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 14	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 15	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 16	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 17	-66	367	4655	38.28	-864.75	66.74
116	SLE RA 18	-67	389	4887	40.23	-908.87	70.75
116	SLE RA 19	-67	389	4887	40.23	-908.87	70.75
116	SLE RA 20	-67	389	4887	40.23	-908.87	70.75
116	SLE RA 21	-67	389	4887	40.23	-908.87	70.75
116	SLE FR 1	-65	315	4115	33.72	-761.8	57.4
116	SLE FR 2	-65	315	4115	33.72	-761.8	57.4
116	SLE FR 3	-65	315	4115	33.72	-761.8	57.4
116	SLE FR 4	-66	337	4347	35.67	-805.92	61.4
116	SLE FR 5	-66	337	4347	35.67	-805.92	61.4
116	SLE FR 6	-66	352	4501	36.98	-835.34	64.07
116	SLE QP 1	-65	315	4115	33.72	-761.8	57.4
116	SLE QP 2	-66	337	4347	35.67	-805.92	61.4
116	SLD 1	378	703	4911	36.33	-900.13	126.63
116	SLD 2	374	624	4906	36.42	-899.28	112.33
116	SLD 3	320	422	5093	43.14	-930.99	75.44
116	SLD 4	316	342	5088	43.23	-930.14	61.14
116	SLD 5	157	902	4242	25.51	-787.69	163.72
116	SLD 6	153	821	4237	25.61	-786.83	149.2
116	SLD 7	-36	-36	4848	48.2	-890.54	-6.91
116	SLD 8	-41	-117	4843	48.29	-889.68	-21.42
116	SLD 9	-91	791	3850	23.05	-722.16	144.23
116	SLD 10	-95	710	3845	23.14	-721.3	129.72
116	SLD 11	-284	-147	4456	45.74	-825.02	-26.4
116	SLD 12	-288	-228	4451	45.83	-824.16	-40.91
116	SLD 13	-448	332	3605	28.12	-681.71	61.67
116	SLD 14	-452	252	3600	28.21	-680.86	47.36
116	SLD 15	-506	51	3787	34.92	-712.56	10.48
116	SLD 16	-510	-29	3782	35.01	-711.71	-3.83
116	SLV 1	943	1174	5627	37.1	-1019.53	210.41
116	SLV 2	934	992	5616	37.31	-1017.6	177.96
116	SLV 3	811	526	6043	52.81	-1090.31	92.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
116	SLV 4	802	344	6033	53.02	-1088.38	60.09
116	SLV 5	441	1636	4102	12.21	-763.35	296.49
116	SLV 6	431	1452	4091	12.42	-761.39	263.54
116	SLV 7	0	-524	5492	64.56	-999.27	-96.43
116	SLV 8	-9	-708	5481	64.77	-997.32	-129.37
116	SLV 9	-122	1383	3213	6.58	-614.53	252.18
116	SLV 10	-132	1199	3202	6.79	-612.57	219.23
116	SLV 11	-563	-777	4602	58.92	-850.45	-140.74
116	SLV 12	-572	-962	4591	59.13	-848.5	-173.68
116	SLV 13	-933	330	2661	18.33	-523.46	62.72
116	SLV 14	-942	149	2650	18.53	-521.54	30.26
116	SLV 15	-1065	-318	3078	34.03	-594.24	-55.16
116	SLV 16	-1074	-499	3067	34.24	-592.31	-87.61
116	CRTFP Ux+	0	0	0	0	0.01	0
116	CRTFP Ux-	0	0	0	0	-0.01	0
116	CRTFP Uy+	0	0	0	0	0	0
116	CRTFP Uy-	0	0	0	0	0	0
118	SLU 1	-45	202	2766	27.69	-77.1	3.05
118	SLU 2	-45	202	2766	27.69	-77.1	3.05
118	SLU 3	-45	202	2766	27.69	-77.1	3.05
118	SLU 4	-45	202	2766	27.69	-77.1	3.05
118	SLU 5	-45	202	2766	27.69	-77.1	3.05
118	SLU 6	-45	202	2766	27.69	-77.1	3.05
118	SLU 7	-45	202	2766	27.69	-77.1	3.05
118	SLU 8	-45	202	2766	27.69	-77.1	3.05
118	SLU 9	-45	202	2766	27.69	-77.1	3.05
118	SLU 10	-47	254	3350	33.59	-94.04	3.83
118	SLU 11	-47	254	3350	33.59	-94.04	3.83
118	SLU 12	-47	254	3350	33.59	-94.04	3.83
118	SLU 13	-47	254	3350	33.59	-94.04	3.83
118	SLU 14	-47	254	3350	33.59	-94.04	3.83
118	SLU 15	-47	254	3350	33.59	-94.04	3.83
118	SLU 16	-47	254	3350	33.59	-94.04	3.83
118	SLU 17	-47	254	3350	33.59	-94.04	3.83
118	SLU 18	-47	276	3601	36.12	-101.29	4.16
118	SLU 19	-47	276	3601	36.12	-101.29	4.16
118	SLU 20	-47	276	3601	36.12	-101.29	4.16
118	SLU 21	-47	276	3601	36.12	-101.29	4.16
118	SLU 22	-47	239	3197	31.7	-89.5	3.62
118	SLU 23	-47	239	3197	31.7	-89.5	3.62
118	SLU 24	-47	239	3197	31.7	-89.5	3.62
118	SLU 25	-47	239	3197	31.7	-89.5	3.62
118	SLU 26	-47	239	3197	31.7	-89.5	3.62
118	SLU 27	-47	239	3197	31.7	-89.5	3.62
118	SLU 28	-47	239	3197	31.7	-89.5	3.62
118	SLU 29	-47	239	3197	31.7	-89.5	3.62
118	SLU 30	-47	239	3197	31.7	-89.5	3.62
118	SLU 31	-48	291	3781	37.61	-106.43	4.39
118	SLU 32	-48	291	3781	37.61	-106.43	4.39
118	SLU 33	-48	291	3781	37.61	-106.43	4.39
118	SLU 34	-48	291	3781	37.61	-106.43	4.39
118	SLU 35	-48	291	3781	37.61	-106.43	4.39
118	SLU 36	-48	291	3781	37.61	-106.43	4.39
118	SLU 37	-48	291	3781	37.61	-106.43	4.39
118	SLU 38	-48	291	3781	37.61	-106.43	4.39
118	SLU 39	-49	314	4031	40.14	-113.69	4.72
118	SLU 40	-49	314	4031	40.14	-113.69	4.72
118	SLU 41	-49	314	4031	40.14	-113.69	4.72
118	SLU 42	-49	314	4031	40.14	-113.69	4.72
118	SLU 43	-58	249	3449	34.61	-95.98	3.78
118	SLU 44	-58	249	3449	34.61	-95.98	3.78
118	SLU 45	-58	249	3449	34.61	-95.98	3.78
118	SLU 46	-58	249	3449	34.61	-95.98	3.78
118	SLU 47	-58	249	3449	34.61	-95.98	3.78
118	SLU 48	-58	249	3449	34.61	-95.98	3.78
118	SLU 49	-58	249	3449	34.61	-95.98	3.78
118	SLU 50	-58	249	3449	34.61	-95.98	3.78
118	SLU 51	-58	249	3449	34.61	-95.98	3.78
118	SLU 52	-60	301	4033	40.52	-112.91	4.55
118	SLU 53	-60	301	4033	40.52	-112.91	4.55
118	SLU 54	-60	301	4033	40.52	-112.91	4.55
118	SLU 55	-60	301	4033	40.52	-112.91	4.55
118	SLU 56	-60	301	4033	40.52	-112.91	4.55
118	SLU 57	-60	301	4033	40.52	-112.91	4.55
118	SLU 58	-60	301	4033	40.52	-112.91	4.55
118	SLU 59	-60	301	4033	40.52	-112.91	4.55
118	SLU 60	-60	323	4283	43.05	-120.17	4.88
118	SLU 61	-60	323	4283	43.05	-120.17	4.88
118	SLU 62	-60	323	4283	43.05	-120.17	4.88
118	SLU 63	-60	323	4283	43.05	-120.17	4.88
118	SLU 64	-60	287	3879	38.63	-108.38	4.34
118	SLU 65	-60	287	3879	38.63	-108.38	4.34
118	SLU 66	-60	287	3879	38.63	-108.38	4.34
118	SLU 67	-60	287	3879	38.63	-108.38	4.34
118	SLU 68	-60	287	3879	38.63	-108.38	4.34
118	SLU 69	-60	287	3879	38.63	-108.38	4.34
118	SLU 70	-60	287	3879	38.63	-108.38	4.34
118	SLU 71	-60	287	3879	38.63	-108.38	4.34
118	SLU 72	-60	287	3879	38.63	-108.38	4.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
118	SLU 73	-61	339	4463	44.54	-125.31	5.11
118	SLU 74	-61	339	4463	44.54	-125.31	5.11
118	SLU 75	-61	339	4463	44.54	-125.31	5.11
118	SLU 76	-61	339	4463	44.54	-125.31	5.11
118	SLU 77	-61	339	4463	44.54	-125.31	5.11
118	SLU 78	-61	339	4463	44.54	-125.31	5.11
118	SLU 79	-61	339	4463	44.54	-125.31	5.11
118	SLU 80	-61	339	4463	44.54	-125.31	5.11
118	SLU 81	-62	361	4714	47.07	-132.57	5.44
118	SLU 82	-62	361	4714	47.07	-132.57	5.44
118	SLU 83	-62	361	4714	47.07	-132.57	5.44
118	SLU 84	-62	361	4714	47.07	-132.57	5.44
118	SLE RA 1	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 2	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 3	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 4	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 5	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 6	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 7	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 8	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 9	-46	212	2889	28.83	-80.64	3.21
118	SLE RA 10	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 11	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 12	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 13	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 14	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 15	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 16	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 17	-47	247	3279	32.77	-91.93	3.73
118	SLE RA 18	-47	262	3446	34.46	-96.77	3.95
118	SLE RA 19	-47	262	3446	34.46	-96.77	3.95
118	SLE RA 20	-47	262	3446	34.46	-96.77	3.95
118	SLE RA 21	-47	262	3446	34.46	-96.77	3.95
118	SLE FR 1	-46	212	2889	28.83	-80.64	3.21
118	SLE FR 2	-46	212	2889	28.83	-80.64	3.21
118	SLE FR 3	-46	212	2889	28.83	-80.64	3.21
118	SLE FR 4	-46	227	3056	30.52	-85.48	3.44
118	SLE FR 5	-46	227	3056	30.52	-85.48	3.44
118	SLE FR 6	-47	237	3167	31.65	-88.71	3.58
118	SLE QP 1	-46	212	2889	28.83	-80.64	3.21
118	SLE QP 2	-46	227	3056	30.52	-85.48	3.44
118	SLD 1	267	472	3418	30.28	-94.18	6.76
118	SLD 2	264	419	3415	30.4	-94.09	6.13
118	SLD 3	226	282	3537	37.97	-97.13	3.74
118	SLD 4	223	229	3534	38.09	-97.05	3.11
118	SLD 5	111	608	2986	18.75	-83.64	9.24
118	SLD 6	108	554	2983	18.87	-83.55	8.6
118	SLD 7	-26	-25	3382	44.37	-93.49	-0.83
118	SLD 8	-29	-79	3378	44.49	-93.4	-1.47
118	SLD 9	-64	534	2734	16.55	-77.56	8.34
118	SLD 10	-67	480	2731	16.67	-77.48	7.7
118	SLD 11	-200	-100	3130	42.17	-87.41	-1.73
118	SLD 12	-203	-154	3126	42.3	-87.32	-2.37
118	SLD 13	-315	225	2579	22.95	-73.92	3.76
118	SLD 14	-318	172	2575	23.07	-73.83	3.13
118	SLD 15	-356	35	2697	30.64	-76.87	0.74
118	SLD 16	-359	-18	2694	30.76	-76.79	0.11
118	SLV 1	664	787	3877	29.91	-105.19	11.05
118	SLV 2	658	666	3870	30.18	-105	9.62
118	SLV 3	571	349	4149	47.66	-111.97	4.09
118	SLV 4	565	229	4142	47.93	-111.78	2.66
118	SLV 5	310	1102	2892	3.33	-81.18	16.79
118	SLV 6	304	979	2885	3.6	-80.99	15.33
118	SLV 7	0	-357	3800	62.48	-103.78	-6.41
118	SLV 8	-7	-479	3792	62.75	-103.58	-7.86
118	SLV 9	-86	934	2320	-1.71	-67.38	14.73
118	SLV 10	-93	811	2313	-1.44	-67.19	13.28
118	SLV 11	-396	-525	3228	57.44	-89.97	-8.46
118	SLV 12	-403	-648	3220	57.71	-89.78	-9.91
118	SLV 13	-657	226	1970	13.11	-59.18	4.21
118	SLV 14	-664	105	1963	13.38	-58.99	2.78
118	SLV 15	-750	-212	2243	30.86	-65.96	-2.75
118	SLV 16	-757	-333	2235	31.13	-65.77	-4.18
118	CRTFP Ux+	0	0	0	0	0	0
118	CRTFP Ux-	0	0	0	0	0	0
118	CRTFP Uy+	0	0	0	0	0	0
118	CRTFP Uy-	0	0	0	0	0	0
119	SLU 1	-52	216	3209	31.05	-0.64	-3.57
119	SLU 2	-52	216	3209	31.05	-0.64	-3.57
119	SLU 3	-52	216	3209	31.05	-0.64	-3.57
119	SLU 4	-52	216	3209	31.05	-0.64	-3.57
119	SLU 5	-52	216	3209	31.05	-0.64	-3.57
119	SLU 6	-52	216	3209	31.05	-0.64	-3.57
119	SLU 7	-52	216	3209	31.05	-0.64	-3.57
119	SLU 8	-52	216	3209	31.05	-0.64	-3.57
119	SLU 9	-52	216	3209	31.05	-0.64	-3.57
119	SLU 10	-54	272	3915	37.67	-1.78	-4.5
119	SLU 11	-54	272	3915	37.67	-1.78	-4.5
119	SLU 12	-54	272	3915	37.67	-1.78	-4.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
119	SLU 13	-54	272	3915	37.67	-1.78	-4.5
119	SLU 14	-54	272	3915	37.67	-1.78	-4.5
119	SLU 15	-54	272	3915	37.67	-1.78	-4.5
119	SLU 16	-54	272	3915	37.67	-1.78	-4.5
119	SLU 17	-54	272	3915	37.67	-1.78	-4.5
119	SLU 18	-55	296	4217	40.51	-2.27	-4.9
119	SLU 19	-55	296	4217	40.51	-2.27	-4.9
119	SLU 20	-55	296	4217	40.51	-2.27	-4.9
119	SLU 21	-55	296	4217	40.51	-2.27	-4.9
119	SLU 22	-54	256	3726	35.54	-1.36	-4.24
119	SLU 23	-54	256	3726	35.54	-1.36	-4.24
119	SLU 24	-54	256	3726	35.54	-1.36	-4.24
119	SLU 25	-54	256	3726	35.54	-1.36	-4.24
119	SLU 26	-54	256	3726	35.54	-1.36	-4.24
119	SLU 27	-54	256	3726	35.54	-1.36	-4.24
119	SLU 28	-54	256	3726	35.54	-1.36	-4.24
119	SLU 29	-54	256	3726	35.54	-1.36	-4.24
119	SLU 30	-54	256	3726	35.54	-1.36	-4.24
119	SLU 31	-56	312	4431	42.17	-2.5	-5.17
119	SLU 32	-56	312	4431	42.17	-2.5	-5.17
119	SLU 33	-56	312	4431	42.17	-2.5	-5.17
119	SLU 34	-56	312	4431	42.17	-2.5	-5.17
119	SLU 35	-56	312	4431	42.17	-2.5	-5.17
119	SLU 36	-56	312	4431	42.17	-2.5	-5.17
119	SLU 37	-56	312	4431	42.17	-2.5	-5.17
119	SLU 38	-56	312	4431	42.17	-2.5	-5.17
119	SLU 39	-57	336	4734	45	-2.99	-5.57
119	SLU 40	-57	336	4734	45	-2.99	-5.57
119	SLU 41	-57	336	4734	45	-2.99	-5.57
119	SLU 42	-57	336	4734	45	-2.99	-5.57
119	SLU 43	-67	267	3995	38.82	-0.58	-4.41
119	SLU 44	-67	267	3995	38.82	-0.58	-4.41
119	SLU 45	-67	267	3995	38.82	-0.58	-4.41
119	SLU 46	-67	267	3995	38.82	-0.58	-4.41
119	SLU 47	-67	267	3995	38.82	-0.58	-4.41
119	SLU 48	-67	267	3995	38.82	-0.58	-4.41
119	SLU 49	-67	267	3995	38.82	-0.58	-4.41
119	SLU 50	-67	267	3995	38.82	-0.58	-4.41
119	SLU 51	-67	267	3995	38.82	-0.58	-4.41
119	SLU 52	-69	323	4700	45.44	-1.72	-5.34
119	SLU 53	-69	323	4700	45.44	-1.72	-5.34
119	SLU 54	-69	323	4700	45.44	-1.72	-5.34
119	SLU 55	-69	323	4700	45.44	-1.72	-5.34
119	SLU 56	-69	323	4700	45.44	-1.72	-5.34
119	SLU 57	-69	323	4700	45.44	-1.72	-5.34
119	SLU 58	-69	323	4700	45.44	-1.72	-5.34
119	SLU 59	-69	323	4700	45.44	-1.72	-5.34
119	SLU 60	-70	347	5003	48.28	-2.21	-5.74
119	SLU 61	-70	347	5003	48.28	-2.21	-5.74
119	SLU 62	-70	347	5003	48.28	-2.21	-5.74
119	SLU 63	-70	347	5003	48.28	-2.21	-5.74
119	SLU 64	-69	307	4511	43.31	-1.3	-5.08
119	SLU 65	-69	307	4511	43.31	-1.3	-5.08
119	SLU 66	-69	307	4511	43.31	-1.3	-5.08
119	SLU 67	-69	307	4511	43.31	-1.3	-5.08
119	SLU 68	-69	307	4511	43.31	-1.3	-5.08
119	SLU 69	-69	307	4511	43.31	-1.3	-5.08
119	SLU 70	-69	307	4511	43.31	-1.3	-5.08
119	SLU 71	-69	307	4511	43.31	-1.3	-5.08
119	SLU 72	-69	307	4511	43.31	-1.3	-5.08
119	SLU 73	-71	363	5217	49.94	-2.45	-6.01
119	SLU 74	-71	363	5217	49.94	-2.45	-6.01
119	SLU 75	-71	363	5217	49.94	-2.45	-6.01
119	SLU 76	-71	363	5217	49.94	-2.45	-6.01
119	SLU 77	-71	363	5217	49.94	-2.45	-6.01
119	SLU 78	-71	363	5217	49.94	-2.45	-6.01
119	SLU 79	-71	363	5217	49.94	-2.45	-6.01
119	SLU 80	-71	363	5217	49.94	-2.45	-6.01
119	SLU 81	-72	387	5519	52.78	-2.94	-6.41
119	SLU 82	-72	387	5519	52.78	-2.94	-6.41
119	SLU 83	-72	387	5519	52.78	-2.94	-6.41
119	SLU 84	-72	387	5519	52.78	-2.94	-6.41
119	SLE RA 1	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 2	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 3	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 4	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 5	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 6	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 7	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 8	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 9	-53	228	3357	32.33	-0.84	-3.76
119	SLE RA 10	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 11	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 12	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 13	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 14	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 15	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 16	-54	265	3827	36.75	-1.61	-4.38
119	SLE RA 17	-54	265	3827	36.75	-1.61	-4.38



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
119	SLE RA 18	-55	281	4029	38.64	-1.93	-4.65
119	SLE RA 19	-55	281	4029	38.64	-1.93	-4.65
119	SLE RA 20	-55	281	4029	38.64	-1.93	-4.65
119	SLE RA 21	-55	281	4029	38.64	-1.93	-4.65
119	SLE FR 1	-53	228	3357	32.33	-0.84	-3.76
119	SLE FR 2	-53	228	3357	32.33	-0.84	-3.76
119	SLE FR 3	-53	228	3357	32.33	-0.84	-3.76
119	SLE FR 4	-53	244	3558	34.22	-1.17	-4.03
119	SLE FR 5	-53	244	3558	34.22	-1.17	-4.03
119	SLE FR 6	-54	254	3693	35.48	-1.39	-4.2
119	SLE QP 1	-53	228	3357	32.33	-0.84	-3.76
119	SLE QP 2	-53	244	3558	34.22	-1.17	-4.03
119	SLD 1	309	504	3919	33.91	0.87	-8.64
119	SLD 2	306	448	3915	34.04	0.86	-7.54
119	SLD 3	262	299	4042	42.66	1.38	-5.59
119	SLD 4	259	243	4038	42.79	1.38	-4.5
119	SLD 5	129	653	3481	20.81	-1.34	-10.42
119	SLD 6	125	596	3478	20.94	-1.34	-9.31
119	SLD 7	-29	-30	3891	49.98	0.38	-0.27
119	SLD 8	-33	-87	3887	50.11	0.37	0.84
119	SLD 9	-74	574	3229	18.34	-2.71	-8.89
119	SLD 10	-77	517	3226	18.47	-2.72	-7.78
119	SLD 11	-232	-109	3638	47.5	-1	1.26
119	SLD 12	-235	-166	3635	47.63	-1	2.36
119	SLD 13	-365	244	3078	25.66	-3.72	-3.56
119	SLD 14	-369	188	3075	25.79	-3.72	-2.46
119	SLD 15	-413	39	3201	34.41	-3.2	-0.51
119	SLD 16	-416	-17	3198	34.54	-3.21	0.58
119	SLV 1	770	839	4376	33.43	3.45	-14.54
119	SLV 2	763	712	4368	33.73	3.44	-12.06
119	SLV 3	662	367	4657	53.63	4.63	-7.53
119	SLV 4	655	240	4649	53.92	4.62	-5.05
119	SLV 5	360	1183	3379	3.25	-1.57	-18.69
119	SLV 6	352	1054	3371	3.55	-1.58	-16.17
119	SLV 7	0	-389	4318	70.57	2.37	4.66
119	SLV 8	-7	-519	4310	70.87	2.35	7.18
119	SLV 9	-99	1006	2807	-2.42	-4.69	-15.23
119	SLV 10	-107	876	2799	-2.12	-4.71	-12.71
119	SLV 11	-459	-567	3745	64.9	-0.76	8.12
119	SLV 12	-467	-696	3737	65.19	-0.77	10.64
119	SLV 13	-761	247	2467	14.52	-6.96	-3
119	SLV 14	-769	120	2459	14.82	-6.97	-0.52
119	SLV 15	-869	-225	2749	34.72	-5.78	4
119	SLV 16	-877	-352	2741	35.01	-5.79	6.48
119	CRTFP Ux+	0	0	0	0	0	0
119	CRTFP Ux-	0	0	0	0	0	0
119	CRTFP Uy+	0	0	0	0	0	0
119	CRTFP Uy-	0	0	0	0	0	0
120	SLU 1	-52	196	3236	30.2	-1.14	-3.89
120	SLU 2	-52	196	3236	30.2	-1.14	-3.89
120	SLU 3	-52	196	3236	30.2	-1.14	-3.89
120	SLU 4	-52	196	3236	30.2	-1.14	-3.89
120	SLU 5	-52	196	3236	30.2	-1.14	-3.89
120	SLU 6	-52	196	3236	30.2	-1.14	-3.89
120	SLU 7	-52	196	3236	30.2	-1.14	-3.89
120	SLU 8	-52	196	3236	30.2	-1.14	-3.89
120	SLU 9	-52	196	3236	30.2	-1.14	-3.89
120	SLU 10	-54	246	3977	36.64	-2.35	-4.89
120	SLU 11	-54	246	3977	36.64	-2.35	-4.89
120	SLU 12	-54	246	3977	36.64	-2.35	-4.89
120	SLU 13	-54	246	3977	36.64	-2.35	-4.89
120	SLU 14	-54	246	3977	36.64	-2.35	-4.89
120	SLU 15	-54	246	3977	36.64	-2.35	-4.89
120	SLU 16	-54	246	3977	36.64	-2.35	-4.89
120	SLU 17	-54	246	3977	36.64	-2.35	-4.89
120	SLU 18	-55	268	4294	39.4	-2.86	-5.32
120	SLU 19	-55	268	4294	39.4	-2.86	-5.32
120	SLU 20	-55	268	4294	39.4	-2.86	-5.32
120	SLU 21	-55	268	4294	39.4	-2.86	-5.32
120	SLU 22	-54	232	3775	34.57	-1.91	-4.61
120	SLU 23	-54	232	3775	34.57	-1.91	-4.61
120	SLU 24	-54	232	3775	34.57	-1.91	-4.61
120	SLU 25	-54	232	3775	34.57	-1.91	-4.61
120	SLU 26	-54	232	3775	34.57	-1.91	-4.61
120	SLU 27	-54	232	3775	34.57	-1.91	-4.61
120	SLU 28	-54	232	3775	34.57	-1.91	-4.61
120	SLU 29	-54	232	3775	34.57	-1.91	-4.61
120	SLU 30	-54	232	3775	34.57	-1.91	-4.61
120	SLU 31	-56	282	4516	41.01	-3.11	-5.62
120	SLU 32	-56	282	4516	41.01	-3.11	-5.62
120	SLU 33	-56	282	4516	41.01	-3.11	-5.62
120	SLU 34	-56	282	4516	41.01	-3.11	-5.62
120	SLU 35	-56	282	4516	41.01	-3.11	-5.62
120	SLU 36	-56	282	4516	41.01	-3.11	-5.62
120	SLU 37	-56	282	4516	41.01	-3.11	-5.62
120	SLU 38	-56	282	4516	41.01	-3.11	-5.62
120	SLU 39	-57	304	4833	43.77	-3.63	-6.05
120	SLU 40	-57	304	4833	43.77	-3.63	-6.05
120	SLU 41	-57	304	4833	43.77	-3.63	-6.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
120	SLU 42	-57	304	4833	43.77	-3.63	-6.05
120	SLU 43	-66	242	4022	37.76	-1.22	-4.81
120	SLU 44	-66	242	4022	37.76	-1.22	-4.81
120	SLU 45	-66	242	4022	37.76	-1.22	-4.81
120	SLU 46	-66	242	4022	37.76	-1.22	-4.81
120	SLU 47	-66	242	4022	37.76	-1.22	-4.81
120	SLU 48	-66	242	4022	37.76	-1.22	-4.81
120	SLU 49	-66	242	4022	37.76	-1.22	-4.81
120	SLU 50	-66	242	4022	37.76	-1.22	-4.81
120	SLU 51	-66	242	4022	37.76	-1.22	-4.81
120	SLU 52	-69	292	4763	44.2	-2.43	-5.81
120	SLU 53	-69	292	4763	44.2	-2.43	-5.81
120	SLU 54	-69	292	4763	44.2	-2.43	-5.81
120	SLU 55	-69	292	4763	44.2	-2.43	-5.81
120	SLU 56	-69	292	4763	44.2	-2.43	-5.81
120	SLU 57	-69	292	4763	44.2	-2.43	-5.81
120	SLU 58	-69	292	4763	44.2	-2.43	-5.81
120	SLU 59	-69	292	4763	44.2	-2.43	-5.81
120	SLU 60	-70	314	5080	46.96	-2.94	-6.24
120	SLU 61	-70	314	5080	46.96	-2.94	-6.24
120	SLU 62	-70	314	5080	46.96	-2.94	-6.24
120	SLU 63	-70	314	5080	46.96	-2.94	-6.24
120	SLU 64	-69	278	4561	42.13	-1.99	-5.53
120	SLU 65	-69	278	4561	42.13	-1.99	-5.53
120	SLU 66	-69	278	4561	42.13	-1.99	-5.53
120	SLU 67	-69	278	4561	42.13	-1.99	-5.53
120	SLU 68	-69	278	4561	42.13	-1.99	-5.53
120	SLU 69	-69	278	4561	42.13	-1.99	-5.53
120	SLU 70	-69	278	4561	42.13	-1.99	-5.53
120	SLU 71	-69	278	4561	42.13	-1.99	-5.53
120	SLU 72	-69	278	4561	42.13	-1.99	-5.53
120	SLU 73	-71	329	5302	48.57	-3.19	-6.54
120	SLU 74	-71	329	5302	48.57	-3.19	-6.54
120	SLU 75	-71	329	5302	48.57	-3.19	-6.54
120	SLU 76	-71	329	5302	48.57	-3.19	-6.54
120	SLU 77	-71	329	5302	48.57	-3.19	-6.54
120	SLU 78	-71	329	5302	48.57	-3.19	-6.54
120	SLU 79	-71	329	5302	48.57	-3.19	-6.54
120	SLU 80	-71	329	5302	48.57	-3.19	-6.54
120	SLU 81	-72	350	5619	51.33	-3.71	-6.97
120	SLU 82	-72	350	5619	51.33	-3.71	-6.97
120	SLU 83	-72	350	5619	51.33	-3.71	-6.97
120	SLU 84	-72	350	5619	51.33	-3.71	-6.97
120	SLE RA 1	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 2	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 3	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 4	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 5	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 6	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 7	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 8	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 9	-52	206	3390	31.45	-1.36	-4.1
120	SLE RA 10	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 11	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 12	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 13	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 14	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 15	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 16	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 17	-54	240	3884	35.74	-2.17	-4.77
120	SLE RA 18	-54	254	4095	37.58	-2.51	-5.05
120	SLE RA 19	-54	254	4095	37.58	-2.51	-5.05
120	SLE RA 20	-54	254	4095	37.58	-2.51	-5.05
120	SLE RA 21	-54	254	4095	37.58	-2.51	-5.05
120	SLE FR 1	-52	206	3390	31.45	-1.36	-4.1
120	SLE FR 2	-52	206	3390	31.45	-1.36	-4.1
120	SLE FR 3	-52	206	3390	31.45	-1.36	-4.1
120	SLE FR 4	-53	220	3602	33.29	-1.71	-4.38
120	SLE FR 5	-53	220	3602	33.29	-1.71	-4.38
120	SLE FR 6	-53	230	3743	34.52	-1.94	-4.57
120	SLE QP 1	-52	206	3390	31.45	-1.36	-4.1
120	SLE QP 2	-53	220	3602	33.29	-1.71	-4.38
120	SLD 1	310	456	3903	32.93	0.23	-9
120	SLD 2	307	406	3900	33.05	0.22	-7.87
120	SLD 3	263	268	4012	41.59	0.7	-5.86
120	SLD 4	259	218	4008	41.71	0.7	-4.73
120	SLD 5	129	594	3529	20.02	-1.85	-10.93
120	SLD 6	126	543	3526	20.14	-1.86	-9.79
120	SLD 7	-29	-32	3890	48.86	-0.26	-0.46
120	SLD 8	-33	-83	3887	48.98	-0.26	0.68
120	SLD 9	-74	524	3316	17.6	-3.15	-9.44
120	SLD 10	-77	473	3313	17.72	-3.16	-8.3
120	SLD 11	-232	-102	3678	46.44	-1.56	1.03
120	SLD 12	-235	-153	3674	46.56	-1.57	2.17
120	SLD 13	-365	223	3195	24.87	-4.11	-4.04
120	SLD 14	-369	173	3192	24.99	-4.12	-2.91
120	SLD 15	-413	35	3303	33.53	-3.63	-0.89
120	SLD 16	-416	-15	3300	33.65	-3.64	0.23
120	SLV 1	772	759	4286	32.4	2.68	-14.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
120	SLV 2	764	645	4278	32.68	2.66	-12.36
120	SLV 3	664	326	4534	52.38	3.77	-7.68
120	SLV 4	656	213	4527	52.65	3.75	-5.13
120	SLV 5	361	1079	3432	2.63	-2.05	-19.41
120	SLV 6	353	963	3425	2.91	-2.06	-16.83
120	SLV 7	1	-363	4261	69.22	1.6	4.68
120	SLV 8	-7	-479	4254	69.49	1.58	7.26
120	SLV 9	-99	920	2950	-2.91	-5	-16.03
120	SLV 10	-107	804	2942	-2.64	-5.02	-13.44
120	SLV 11	-459	-522	3778	63.67	-1.35	8.06
120	SLV 12	-467	-638	3771	63.95	-1.37	10.65
120	SLV 13	-762	228	2676	13.93	-7.17	-3.64
120	SLV 14	-770	114	2669	14.2	-7.18	-1.09
120	SLV 15	-870	-204	2925	33.9	-6.07	3.59
120	SLV 16	-878	-318	2918	34.18	-6.09	6.14
120	CRTFP Ux+	0	0	0	0	0	0
120	CRTFP Ux-	0	0	0	0	0	0
120	CRTFP Uy+	0	0	0	0	0	0
120	CRTFP Uy-	0	0	0	0	0	0
121	SLU 1	-51	174	3274	29.41	-1.39	-4.08
121	SLU 2	-51	174	3274	29.41	-1.39	-4.08
121	SLU 3	-51	174	3274	29.41	-1.39	-4.08
121	SLU 4	-51	174	3274	29.41	-1.39	-4.08
121	SLU 5	-51	174	3274	29.41	-1.39	-4.08
121	SLU 6	-51	174	3274	29.41	-1.39	-4.08
121	SLU 7	-51	174	3274	29.41	-1.39	-4.08
121	SLU 8	-51	174	3274	29.41	-1.39	-4.08
121	SLU 9	-51	174	3274	29.41	-1.39	-4.08
121	SLU 10	-54	219	4050	35.68	-2.56	-5.12
121	SLU 11	-54	219	4050	35.68	-2.56	-5.12
121	SLU 12	-54	219	4050	35.68	-2.56	-5.12
121	SLU 13	-54	219	4050	35.68	-2.56	-5.12
121	SLU 14	-54	219	4050	35.68	-2.56	-5.12
121	SLU 15	-54	219	4050	35.68	-2.56	-5.12
121	SLU 16	-54	219	4050	35.68	-2.56	-5.12
121	SLU 17	-54	219	4050	35.68	-2.56	-5.12
121	SLU 18	-55	238	4383	38.36	-3.06	-5.57
121	SLU 19	-55	238	4383	38.36	-3.06	-5.57
121	SLU 20	-55	238	4383	38.36	-3.06	-5.57
121	SLU 21	-55	238	4383	38.36	-3.06	-5.57
121	SLU 22	-54	206	3836	33.66	-2.14	-4.83
121	SLU 23	-54	206	3836	33.66	-2.14	-4.83
121	SLU 24	-54	206	3836	33.66	-2.14	-4.83
121	SLU 25	-54	206	3836	33.66	-2.14	-4.83
121	SLU 26	-54	206	3836	33.66	-2.14	-4.83
121	SLU 27	-54	206	3836	33.66	-2.14	-4.83
121	SLU 28	-54	206	3836	33.66	-2.14	-4.83
121	SLU 29	-54	206	3836	33.66	-2.14	-4.83
121	SLU 30	-54	206	3836	33.66	-2.14	-4.83
121	SLU 31	-56	251	4612	39.92	-3.31	-5.87
121	SLU 32	-56	251	4612	39.92	-3.31	-5.87
121	SLU 33	-56	251	4612	39.92	-3.31	-5.87
121	SLU 34	-56	251	4612	39.92	-3.31	-5.87
121	SLU 35	-56	251	4612	39.92	-3.31	-5.87
121	SLU 36	-56	251	4612	39.92	-3.31	-5.87
121	SLU 37	-56	251	4612	39.92	-3.31	-5.87
121	SLU 38	-56	251	4612	39.92	-3.31	-5.87
121	SLU 39	-58	270	4944	42.61	-3.81	-6.32
121	SLU 40	-58	270	4944	42.61	-3.81	-6.32
121	SLU 41	-58	270	4944	42.61	-3.81	-6.32
121	SLU 42	-58	270	4944	42.61	-3.81	-6.32
121	SLU 43	-66	215	4064	36.77	-1.55	-5.04
121	SLU 44	-66	215	4064	36.77	-1.55	-5.04
121	SLU 45	-66	215	4064	36.77	-1.55	-5.04
121	SLU 46	-66	215	4064	36.77	-1.55	-5.04
121	SLU 47	-66	215	4064	36.77	-1.55	-5.04
121	SLU 48	-66	215	4064	36.77	-1.55	-5.04
121	SLU 49	-66	215	4064	36.77	-1.55	-5.04
121	SLU 50	-66	215	4064	36.77	-1.55	-5.04
121	SLU 51	-66	215	4064	36.77	-1.55	-5.04
121	SLU 52	-68	260	4840	43.04	-2.72	-6.09
121	SLU 53	-68	260	4840	43.04	-2.72	-6.09
121	SLU 54	-68	260	4840	43.04	-2.72	-6.09
121	SLU 55	-68	260	4840	43.04	-2.72	-6.09
121	SLU 56	-68	260	4840	43.04	-2.72	-6.09
121	SLU 57	-68	260	4840	43.04	-2.72	-6.09
121	SLU 58	-68	260	4840	43.04	-2.72	-6.09
121	SLU 59	-68	260	4840	43.04	-2.72	-6.09
121	SLU 60	-69	279	5172	45.73	-3.22	-6.53
121	SLU 61	-69	279	5172	45.73	-3.22	-6.53
121	SLU 62	-69	279	5172	45.73	-3.22	-6.53
121	SLU 63	-69	279	5172	45.73	-3.22	-6.53
121	SLU 64	-68	247	4625	41.02	-2.3	-5.8
121	SLU 65	-68	247	4625	41.02	-2.3	-5.8
121	SLU 66	-68	247	4625	41.02	-2.3	-5.8
121	SLU 67	-68	247	4625	41.02	-2.3	-5.8
121	SLU 68	-68	247	4625	41.02	-2.3	-5.8
121	SLU 69	-68	247	4625	41.02	-2.3	-5.8
121	SLU 70	-68	247	4625	41.02	-2.3	-5.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
121	SLU 71	-68	247	4625	41.02	-2.3	-5.8
121	SLU 72	-68	247	4625	41.02	-2.3	-5.8
121	SLU 73	-71	292	5401	47.29	-3.47	-6.84
121	SLU 74	-71	292	5401	47.29	-3.47	-6.84
121	SLU 75	-71	292	5401	47.29	-3.47	-6.84
121	SLU 76	-71	292	5401	47.29	-3.47	-6.84
121	SLU 77	-71	292	5401	47.29	-3.47	-6.84
121	SLU 78	-71	292	5401	47.29	-3.47	-6.84
121	SLU 79	-71	292	5401	47.29	-3.47	-6.84
121	SLU 80	-71	292	5401	47.29	-3.47	-6.84
121	SLU 81	-72	311	5734	49.98	-3.97	-7.29
121	SLU 82	-72	311	5734	49.98	-3.97	-7.29
121	SLU 83	-72	311	5734	49.98	-3.97	-7.29
121	SLU 84	-72	311	5734	49.98	-3.97	-7.29
121	SLE RA 1	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 2	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 3	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 4	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 5	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 6	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 7	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 8	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 9	-52	183	3434	30.62	-1.6	-4.29
121	SLE RA 10	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 11	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 12	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 13	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 14	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 15	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 16	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 17	-54	213	3952	34.8	-2.38	-4.99
121	SLE RA 18	-54	226	4174	36.59	-2.71	-5.29
121	SLE RA 19	-54	226	4174	36.59	-2.71	-5.29
121	SLE RA 20	-54	226	4174	36.59	-2.71	-5.29
121	SLE RA 21	-54	226	4174	36.59	-2.71	-5.29
121	SLE FR 1	-52	183	3434	30.62	-1.6	-4.29
121	SLE FR 2	-52	183	3434	30.62	-1.6	-4.29
121	SLE FR 3	-52	183	3434	30.62	-1.6	-4.29
121	SLE FR 4	-53	196	3656	32.41	-1.94	-4.59
121	SLE FR 5	-53	196	3656	32.41	-1.94	-4.59
121	SLE FR 6	-53	204	3804	33.61	-2.16	-4.79
121	SLE QP 1	-52	183	3434	30.62	-1.6	-4.29
121	SLE QP 2	-53	196	3656	32.41	-1.94	-4.59
121	SLD 1	311	407	3902	32.02	-0.07	-9.04
121	SLD 2	308	363	3898	32.13	-0.08	-7.91
121	SLD 3	263	236	3997	40.58	0.39	-5.97
121	SLD 4	260	192	3993	40.7	0.38	-4.83
121	SLD 5	130	534	3587	19.26	-2.06	-10.99
121	SLD 6	126	489	3584	19.37	-2.07	-9.85
121	SLD 7	-29	-35	3904	47.82	-0.55	-0.74
121	SLD 8	-32	-80	3900	47.93	-0.56	0.41
121	SLD 9	-73	472	3412	16.89	-3.31	-9.59
121	SLD 10	-77	427	3409	17.01	-3.32	-8.44
121	SLD 11	-232	-97	3729	45.45	-1.81	0.67
121	SLD 12	-235	-142	3726	45.57	-1.81	1.81
121	SLD 13	-365	200	3319	24.13	-4.25	-4.35
121	SLD 14	-369	156	3316	24.24	-4.26	-3.22
121	SLD 15	-413	29	3414	32.7	-3.8	-1.27
121	SLD 16	-416	-15	3411	32.81	-3.81	-0.14
121	SLV 1	773	678	4212	31.44	2.3	-14.74
121	SLV 2	766	578	4205	31.69	2.29	-12.18
121	SLV 3	665	285	4430	51.22	3.34	-7.67
121	SLV 4	658	185	4423	51.47	3.32	-5.1
121	SLV 5	362	973	3495	2.02	-2.23	-19.29
121	SLV 6	354	871	3488	2.28	-2.25	-16.68
121	SLV 7	1	-338	4222	67.97	1.22	4.3
121	SLV 8	-6	-439	4215	68.23	1.21	6.91
121	SLV 9	-99	831	3098	-3.4	-5.08	-16.09
121	SLV 10	-107	730	3091	-3.14	-5.1	-13.48
121	SLV 11	-460	-480	3825	62.54	-1.62	7.5
121	SLV 12	-467	-581	3818	62.8	-1.64	10.11
121	SLV 13	-763	207	2889	13.35	-7.2	-4.08
121	SLV 14	-770	107	2882	13.61	-7.21	-1.51
121	SLV 15	-871	-187	3107	33.13	-6.16	3
121	SLV 16	-879	-286	3100	33.39	-6.18	5.56
121	CRTFP Ux+	0	0	0	0	0	0
121	CRTFP Ux-	0	0	0	0	0	0
121	CRTFP Uy+	0	0	0	0	0	0
121	CRTFP Uy-	0	0	0	0	0	0
122	SLU 1	-50	151	3316	28.66	-1.44	-4.16
122	SLU 2	-50	151	3316	28.66	-1.44	-4.16
122	SLU 3	-50	151	3316	28.66	-1.44	-4.16
122	SLU 4	-50	151	3316	28.66	-1.44	-4.16
122	SLU 5	-50	151	3316	28.66	-1.44	-4.16
122	SLU 6	-50	151	3316	28.66	-1.44	-4.16
122	SLU 7	-50	151	3316	28.66	-1.44	-4.16
122	SLU 8	-50	151	3316	28.66	-1.44	-4.16
122	SLU 9	-50	151	3316	28.66	-1.44	-4.16
122	SLU 10	-54	190	4126	34.77	-2.51	-5.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
122	SLU 11	-54	190	4126	34.77	-2.51	-5.21
122	SLU 12	-54	190	4126	34.77	-2.51	-5.21
122	SLU 13	-54	190	4126	34.77	-2.51	-5.21
122	SLU 14	-54	190	4126	34.77	-2.51	-5.21
122	SLU 15	-54	190	4126	34.77	-2.51	-5.21
122	SLU 16	-54	190	4126	34.77	-2.51	-5.21
122	SLU 17	-54	190	4126	34.77	-2.51	-5.21
122	SLU 18	-55	207	4473	37.39	-2.96	-5.67
122	SLU 19	-55	207	4473	37.39	-2.96	-5.67
122	SLU 20	-55	207	4473	37.39	-2.96	-5.67
122	SLU 21	-55	207	4473	37.39	-2.96	-5.67
122	SLU 22	-53	180	3899	32.8	-2.12	-4.92
122	SLU 23	-53	180	3899	32.8	-2.12	-4.92
122	SLU 24	-53	180	3899	32.8	-2.12	-4.92
122	SLU 25	-53	180	3899	32.8	-2.12	-4.92
122	SLU 26	-53	180	3899	32.8	-2.12	-4.92
122	SLU 27	-53	180	3899	32.8	-2.12	-4.92
122	SLU 28	-53	180	3899	32.8	-2.12	-4.92
122	SLU 29	-53	180	3899	32.8	-2.12	-4.92
122	SLU 30	-53	180	3899	32.8	-2.12	-4.92
122	SLU 31	-57	219	4708	38.91	-3.19	-5.98
122	SLU 32	-57	219	4708	38.91	-3.19	-5.98
122	SLU 33	-57	219	4708	38.91	-3.19	-5.98
122	SLU 34	-57	219	4708	38.91	-3.19	-5.98
122	SLU 35	-57	219	4708	38.91	-3.19	-5.98
122	SLU 36	-57	219	4708	38.91	-3.19	-5.98
122	SLU 37	-57	219	4708	38.91	-3.19	-5.98
122	SLU 38	-57	219	4708	38.91	-3.19	-5.98
122	SLU 39	-58	235	5055	41.52	-3.64	-6.43
122	SLU 40	-58	235	5055	41.52	-3.64	-6.43
122	SLU 41	-58	235	5055	41.52	-3.64	-6.43
122	SLU 42	-58	235	5055	41.52	-3.64	-6.43
122	SLU 43	-65	187	4112	35.85	-1.64	-5.15
122	SLU 44	-65	187	4112	35.85	-1.64	-5.15
122	SLU 45	-65	187	4112	35.85	-1.64	-5.15
122	SLU 46	-65	187	4112	35.85	-1.64	-5.15
122	SLU 47	-65	187	4112	35.85	-1.64	-5.15
122	SLU 48	-65	187	4112	35.85	-1.64	-5.15
122	SLU 49	-65	187	4112	35.85	-1.64	-5.15
122	SLU 50	-65	187	4112	35.85	-1.64	-5.15
122	SLU 51	-65	187	4112	35.85	-1.64	-5.15
122	SLU 52	-68	226	4921	41.95	-2.71	-6.2
122	SLU 53	-68	226	4921	41.95	-2.71	-6.2
122	SLU 54	-68	226	4921	41.95	-2.71	-6.2
122	SLU 55	-68	226	4921	41.95	-2.71	-6.2
122	SLU 56	-68	226	4921	41.95	-2.71	-6.2
122	SLU 57	-68	226	4921	41.95	-2.71	-6.2
122	SLU 58	-68	226	4921	41.95	-2.71	-6.2
122	SLU 59	-68	226	4921	41.95	-2.71	-6.2
122	SLU 60	-69	243	5268	44.57	-3.16	-6.65
122	SLU 61	-69	243	5268	44.57	-3.16	-6.65
122	SLU 62	-69	243	5268	44.57	-3.16	-6.65
122	SLU 63	-69	243	5268	44.57	-3.16	-6.65
122	SLU 64	-68	215	4694	39.98	-2.32	-5.91
122	SLU 65	-68	215	4694	39.98	-2.32	-5.91
122	SLU 66	-68	215	4694	39.98	-2.32	-5.91
122	SLU 67	-68	215	4694	39.98	-2.32	-5.91
122	SLU 68	-68	215	4694	39.98	-2.32	-5.91
122	SLU 69	-68	215	4694	39.98	-2.32	-5.91
122	SLU 70	-68	215	4694	39.98	-2.32	-5.91
122	SLU 71	-68	215	4694	39.98	-2.32	-5.91
122	SLU 72	-68	215	4694	39.98	-2.32	-5.91
122	SLU 73	-71	254	5504	46.09	-3.39	-6.96
122	SLU 74	-71	254	5504	46.09	-3.39	-6.96
122	SLU 75	-71	254	5504	46.09	-3.39	-6.96
122	SLU 76	-71	254	5504	46.09	-3.39	-6.96
122	SLU 77	-71	254	5504	46.09	-3.39	-6.96
122	SLU 78	-71	254	5504	46.09	-3.39	-6.96
122	SLU 79	-71	254	5504	46.09	-3.39	-6.96
122	SLU 80	-71	254	5504	46.09	-3.39	-6.96
122	SLU 81	-72	271	5850	48.7	-3.84	-7.42
122	SLU 82	-72	271	5850	48.7	-3.84	-7.42
122	SLU 83	-72	271	5850	48.7	-3.84	-7.42
122	SLU 84	-72	271	5850	48.7	-3.84	-7.42
122	SLE RA 1	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 2	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 3	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 4	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 5	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 6	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 7	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 8	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 9	-51	159	3483	29.85	-1.64	-4.38
122	SLE RA 10	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 11	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 12	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 13	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 14	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 15	-54	185	4022	33.92	-2.35	-5.08



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
122	SLE RA 16	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 17	-54	185	4022	33.92	-2.35	-5.08
122	SLE RA 18	-54	197	4254	35.66	-2.65	-5.38
122	SLE RA 19	-54	197	4254	35.66	-2.65	-5.38
122	SLE RA 20	-54	197	4254	35.66	-2.65	-5.38
122	SLE RA 21	-54	197	4254	35.66	-2.65	-5.38
122	SLE FR 1	-51	159	3483	29.85	-1.64	-4.38
122	SLE FR 2	-51	159	3483	29.85	-1.64	-4.38
122	SLE FR 3	-51	159	3483	29.85	-1.64	-4.38
122	SLE FR 4	-52	171	3714	31.59	-1.94	-4.68
122	SLE FR 5	-52	171	3714	31.59	-1.94	-4.68
122	SLE FR 6	-53	178	3868	32.75	-2.14	-4.88
122	SLE QP 1	-51	159	3483	29.85	-1.64	-4.38
122	SLE QP 2	-52	171	3714	31.59	-1.94	-4.68
122	SLD 1	312	358	3904	31.16	-0.11	-8.83
122	SLD 2	308	321	3902	31.26	-0.12	-7.71
122	SLD 3	264	204	3987	39.65	0.32	-5.96
122	SLD 4	261	166	3984	39.75	0.32	-4.83
122	SLD 5	130	475	3647	18.54	-2.05	-10.69
122	SLD 6	127	436	3644	18.65	-2.06	-9.55
122	SLD 7	-28	-40	3922	46.85	-0.6	-1.1
122	SLD 8	-32	-79	3919	46.96	-0.61	0.04
122	SLD 9	-73	420	3509	16.22	-3.28	-9.4
122	SLD 10	-76	381	3506	16.33	-3.28	-8.25
122	SLD 11	-231	-95	3784	44.53	-1.82	0.19
122	SLD 12	-235	-133	3781	44.64	-1.83	1.33
122	SLD 13	-365	175	3444	23.43	-4.2	-4.53
122	SLD 14	-369	137	3441	23.53	-4.2	-3.4
122	SLD 15	-413	21	3527	31.92	-3.76	-1.65
122	SLD 16	-416	-17	3524	32.03	-3.77	-0.53
122	SLV 1	774	600	4146	30.53	2.21	-14.15
122	SLV 2	767	514	4139	30.76	2.19	-11.6
122	SLV 3	666	244	4335	50.14	3.2	-7.54
122	SLV 4	659	158	4328	50.38	3.19	-4.99
122	SLV 5	363	870	3559	1.44	-2.2	-18.47
122	SLV 6	355	782	3552	1.68	-2.22	-15.88
122	SLV 7	2	-316	4190	66.82	1.12	3.58
122	SLV 8	-6	-403	4183	67.06	1.1	6.17
122	SLV 9	-99	745	3245	-3.88	-4.98	-15.53
122	SLV 10	-106	657	3239	-3.63	-5	-12.94
122	SLV 11	-460	-441	3876	61.5	-1.66	6.52
122	SLV 12	-467	-528	3869	61.74	-1.68	9.11
122	SLV 13	-763	183	3100	12.8	-7.07	-4.37
122	SLV 14	-771	97	3093	13.04	-7.09	-1.82
122	SLV 15	-871	-173	3289	32.42	-6.07	2.24
122	SLV 16	-879	-259	3283	32.65	-6.09	4.79
122	CRTFP Ux+	0	0	0	0	0	0
122	CRTFP Ux-	0	0	0	0	0	0
122	CRTFP Uy+	0	0	0	0	0	0
122	CRTFP Uy-	0	0	0	0	0	0
123	SLU 1	-50	129	3358	27.97	-1.35	-4.16
123	SLU 2	-50	129	3358	27.97	-1.35	-4.16
123	SLU 3	-50	129	3358	27.97	-1.35	-4.16
123	SLU 4	-50	129	3358	27.97	-1.35	-4.16
123	SLU 5	-50	129	3358	27.97	-1.35	-4.16
123	SLU 6	-50	129	3358	27.97	-1.35	-4.16
123	SLU 7	-50	129	3358	27.97	-1.35	-4.16
123	SLU 8	-50	129	3358	27.97	-1.35	-4.16
123	SLU 9	-50	129	3358	27.97	-1.35	-4.16
123	SLU 10	-54	162	4197	33.92	-2.26	-5.21
123	SLU 11	-54	162	4197	33.92	-2.26	-5.21
123	SLU 12	-54	162	4197	33.92	-2.26	-5.21
123	SLU 13	-54	162	4197	33.92	-2.26	-5.21
123	SLU 14	-54	162	4197	33.92	-2.26	-5.21
123	SLU 15	-54	162	4197	33.92	-2.26	-5.21
123	SLU 16	-54	162	4197	33.92	-2.26	-5.21
123	SLU 17	-54	162	4197	33.92	-2.26	-5.21
123	SLU 18	-55	176	4556	36.48	-2.65	-5.66
123	SLU 19	-55	176	4556	36.48	-2.65	-5.66
123	SLU 20	-55	176	4556	36.48	-2.65	-5.66
123	SLU 21	-55	176	4556	36.48	-2.65	-5.66
123	SLU 22	-53	153	3960	32	-1.93	-4.92
123	SLU 23	-53	153	3960	32	-1.93	-4.92
123	SLU 24	-53	153	3960	32	-1.93	-4.92
123	SLU 25	-53	153	3960	32	-1.93	-4.92
123	SLU 26	-53	153	3960	32	-1.93	-4.92
123	SLU 27	-53	153	3960	32	-1.93	-4.92
123	SLU 28	-53	153	3960	32	-1.93	-4.92
123	SLU 29	-53	153	3960	32	-1.93	-4.92
123	SLU 30	-53	153	3960	32	-1.93	-4.92
123	SLU 31	-57	186	4798	37.95	-2.84	-5.97
123	SLU 32	-57	186	4798	37.95	-2.84	-5.97
123	SLU 33	-57	186	4798	37.95	-2.84	-5.97
123	SLU 34	-57	186	4798	37.95	-2.84	-5.97
123	SLU 35	-57	186	4798	37.95	-2.84	-5.97
123	SLU 36	-57	186	4798	37.95	-2.84	-5.97
123	SLU 37	-57	186	4798	37.95	-2.84	-5.97
123	SLU 38	-57	186	4798	37.95	-2.84	-5.97
123	SLU 39	-59	200	5158	40.51	-3.23	-6.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
123	SLU 40	-59	200	5158	40.51	-3.23	-6.42
123	SLU 41	-59	200	5158	40.51	-3.23	-6.42
123	SLU 42	-59	200	5158	40.51	-3.23	-6.42
123	SLU 43	-63	159	4159	34.98	-1.56	-5.15
123	SLU 44	-63	159	4159	34.98	-1.56	-5.15
123	SLU 45	-63	159	4159	34.98	-1.56	-5.15
123	SLU 46	-63	159	4159	34.98	-1.56	-5.15
123	SLU 47	-63	159	4159	34.98	-1.56	-5.15
123	SLU 48	-63	159	4159	34.98	-1.56	-5.15
123	SLU 49	-63	159	4159	34.98	-1.56	-5.15
123	SLU 50	-63	159	4159	34.98	-1.56	-5.15
123	SLU 51	-63	159	4159	34.98	-1.56	-5.15
123	SLU 52	-67	192	4998	40.93	-2.47	-6.2
123	SLU 53	-67	192	4998	40.93	-2.47	-6.2
123	SLU 54	-67	192	4998	40.93	-2.47	-6.2
123	SLU 55	-67	192	4998	40.93	-2.47	-6.2
123	SLU 56	-67	192	4998	40.93	-2.47	-6.2
123	SLU 57	-67	192	4998	40.93	-2.47	-6.2
123	SLU 58	-67	192	4998	40.93	-2.47	-6.2
123	SLU 59	-67	192	4998	40.93	-2.47	-6.2
123	SLU 60	-69	207	5357	43.49	-2.86	-6.65
123	SLU 61	-69	207	5357	43.49	-2.86	-6.65
123	SLU 62	-69	207	5357	43.49	-2.86	-6.65
123	SLU 63	-69	207	5357	43.49	-2.86	-6.65
123	SLU 64	-67	183	4761	39.01	-2.14	-5.91
123	SLU 65	-67	183	4761	39.01	-2.14	-5.91
123	SLU 66	-67	183	4761	39.01	-2.14	-5.91
123	SLU 67	-67	183	4761	39.01	-2.14	-5.91
123	SLU 68	-67	183	4761	39.01	-2.14	-5.91
123	SLU 69	-67	183	4761	39.01	-2.14	-5.91
123	SLU 70	-67	183	4761	39.01	-2.14	-5.91
123	SLU 71	-67	183	4761	39.01	-2.14	-5.91
123	SLU 72	-67	183	4761	39.01	-2.14	-5.91
123	SLU 73	-71	217	5599	44.96	-3.04	-6.95
123	SLU 74	-71	217	5599	44.96	-3.04	-6.95
123	SLU 75	-71	217	5599	44.96	-3.04	-6.95
123	SLU 76	-71	217	5599	44.96	-3.04	-6.95
123	SLU 77	-71	217	5599	44.96	-3.04	-6.95
123	SLU 78	-71	217	5599	44.96	-3.04	-6.95
123	SLU 79	-71	217	5599	44.96	-3.04	-6.95
123	SLU 80	-71	217	5599	44.96	-3.04	-6.95
123	SLU 81	-73	231	5959	47.51	-3.43	-7.4
123	SLU 82	-73	231	5959	47.51	-3.43	-7.4
123	SLU 83	-73	231	5959	47.51	-3.43	-7.4
123	SLU 84	-73	231	5959	47.51	-3.43	-7.4
123	SLE RA 1	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 2	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 3	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 4	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 5	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 6	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 7	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 8	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 9	-51	136	3530	29.12	-1.52	-4.38
123	SLE RA 10	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 11	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 12	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 13	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 14	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 15	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 16	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 17	-53	158	4089	33.09	-2.12	-5.08
123	SLE RA 18	-55	167	4329	34.79	-2.38	-5.37
123	SLE RA 19	-55	167	4329	34.79	-2.38	-5.37
123	SLE RA 20	-55	167	4329	34.79	-2.38	-5.37
123	SLE RA 21	-55	167	4329	34.79	-2.38	-5.37
123	SLE FR 1	-51	136	3530	29.12	-1.52	-4.38
123	SLE FR 2	-51	136	3530	29.12	-1.52	-4.38
123	SLE FR 3	-51	136	3530	29.12	-1.52	-4.38
123	SLE FR 4	-52	145	3770	30.82	-1.78	-4.68
123	SLE FR 5	-52	145	3770	30.82	-1.78	-4.68
123	SLE FR 6	-53	151	3929	31.96	-1.95	-4.88
123	SLE QP 1	-51	136	3530	29.12	-1.52	-4.38
123	SLE QP 2	-52	145	3770	30.82	-1.78	-4.68
123	SLD 1	312	312	3906	30.35	0.01	-8.42
123	SLD 2	309	280	3904	30.45	0	-7.32
123	SLD 3	265	172	3977	38.78	0.43	-5.86
123	SLD 4	261	140	3974	38.88	0.42	-4.75
123	SLD 5	131	418	3704	17.86	-1.88	-10.08
123	SLD 6	128	386	3702	17.96	-1.88	-8.96
123	SLD 7	-28	-47	3940	45.96	-0.47	-1.54
123	SLD 8	-31	-79	3937	46.05	-0.48	-0.42
123	SLD 9	-72	370	3602	15.59	-3.07	-8.94
123	SLD 10	-76	337	3600	15.69	-3.08	-7.81
123	SLD 11	-231	-96	3837	43.68	-1.67	-0.39
123	SLD 12	-234	-128	3835	43.78	-1.68	0.73
123	SLD 13	-365	150	3565	22.77	-3.98	-4.6
123	SLD 14	-368	118	3563	22.86	-3.99	-3.49
123	SLD 15	-413	11	3636	31.19	-3.56	-2.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
123	SLD 16	-416	-21	3633	31.29	-3.56	-0.93
123	SLV 1	775	526	4079	29.68	-13.22	-13.22
123	SLV 2	768	453	4073	29.9	2.26	-10.71
123	SLV 3	667	204	4241	49.14	3.24	-7.33
123	SLV 4	659	132	4235	49.36	3.22	-4.81
123	SLV 5	363	773	3619	0.88	-2.02	-17.08
123	SLV 6	356	700	3613	1.1	-2.04	-14.53
123	SLV 7	2	-299	4159	65.76	1.2	2.57
123	SLV 8	-6	-372	4153	65.98	1.18	5.12
123	SLV 9	-98	663	3386	-4.34	-4.73	-14.48
123	SLV 10	-106	589	3380	-4.11	-4.75	-11.93
123	SLV 11	-459	-409	3926	60.54	-1.52	5.18
123	SLV 12	-467	-483	3920	60.76	-1.54	7.73
123	SLV 13	-763	158	3304	12.28	-6.78	-4.54
123	SLV 14	-770	86	3298	12.5	-6.8	-2.03
123	SLV 15	-871	-163	3466	31.74	-5.81	1.36
123	SLV 16	-879	-235	3460	31.97	-5.83	3.87
123	CRTFP Ux+	0	0	0	0	0	0
123	CRTFP Ux-	0	0	0	0	0	0
123	CRTFP Uy+	0	0	0	0	0	0
123	CRTFP Uy-	0	0	0	0	0	0
124	SLU 1	-49	106	3395	27.32	-1.14	-4.1
124	SLU 2	-49	106	3395	27.32	-1.14	-4.1
124	SLU 3	-49	106	3395	27.32	-1.14	-4.1
124	SLU 4	-49	106	3395	27.32	-1.14	-4.1
124	SLU 5	-49	106	3395	27.32	-1.14	-4.1
124	SLU 6	-49	106	3395	27.32	-1.14	-4.1
124	SLU 7	-49	106	3395	27.32	-1.14	-4.1
124	SLU 8	-49	106	3395	27.32	-1.14	-4.1
124	SLU 9	-49	106	3395	27.32	-1.14	-4.1
124	SLU 10	-54	134	4258	33.14	-1.85	-5.13
124	SLU 11	-54	134	4258	33.14	-1.85	-5.13
124	SLU 12	-54	134	4258	33.14	-1.85	-5.13
124	SLU 13	-54	134	4258	33.14	-1.85	-5.13
124	SLU 14	-54	134	4258	33.14	-1.85	-5.13
124	SLU 15	-54	134	4258	33.14	-1.85	-5.13
124	SLU 16	-54	134	4258	33.14	-1.85	-5.13
124	SLU 17	-54	134	4258	33.14	-1.85	-5.13
124	SLU 18	-56	146	4628	35.63	-2.15	-5.57
124	SLU 19	-56	146	4628	35.63	-2.15	-5.57
124	SLU 20	-56	146	4628	35.63	-2.15	-5.57
124	SLU 21	-56	146	4628	35.63	-2.15	-5.57
124	SLU 22	-53	126	4012	31.25	-1.58	-4.85
124	SLU 23	-53	126	4012	31.25	-1.58	-4.85
124	SLU 24	-53	126	4012	31.25	-1.58	-4.85
124	SLU 25	-53	126	4012	31.25	-1.58	-4.85
124	SLU 26	-53	126	4012	31.25	-1.58	-4.85
124	SLU 27	-53	126	4012	31.25	-1.58	-4.85
124	SLU 28	-53	126	4012	31.25	-1.58	-4.85
124	SLU 29	-53	126	4012	31.25	-1.58	-4.85
124	SLU 30	-53	126	4012	31.25	-1.58	-4.85
124	SLU 31	-58	154	4875	37.06	-2.3	-5.87
124	SLU 32	-58	154	4875	37.06	-2.3	-5.87
124	SLU 33	-58	154	4875	37.06	-2.3	-5.87
124	SLU 34	-58	154	4875	37.06	-2.3	-5.87
124	SLU 35	-58	154	4875	37.06	-2.3	-5.87
124	SLU 36	-58	154	4875	37.06	-2.3	-5.87
124	SLU 37	-58	154	4875	37.06	-2.3	-5.87
124	SLU 38	-58	154	4875	37.06	-2.3	-5.87
124	SLU 39	-60	166	5245	39.56	-2.6	-6.31
124	SLU 40	-60	166	5245	39.56	-2.6	-6.31
124	SLU 41	-60	166	5245	39.56	-2.6	-6.31
124	SLU 42	-60	166	5245	39.56	-2.6	-6.31
124	SLU 43	-62	131	4202	34.17	-1.33	-5.08
124	SLU 44	-62	131	4202	34.17	-1.33	-5.08
124	SLU 45	-62	131	4202	34.17	-1.33	-5.08
124	SLU 46	-62	131	4202	34.17	-1.33	-5.08
124	SLU 47	-62	131	4202	34.17	-1.33	-5.08
124	SLU 48	-62	131	4202	34.17	-1.33	-5.08
124	SLU 49	-62	131	4202	34.17	-1.33	-5.08
124	SLU 50	-62	131	4202	34.17	-1.33	-5.08
124	SLU 51	-62	131	4202	34.17	-1.33	-5.08
124	SLU 52	-67	159	5065	39.98	-2.04	-6.1
124	SLU 53	-67	159	5065	39.98	-2.04	-6.1
124	SLU 54	-67	159	5065	39.98	-2.04	-6.1
124	SLU 55	-67	159	5065	39.98	-2.04	-6.1
124	SLU 56	-67	159	5065	39.98	-2.04	-6.1
124	SLU 57	-67	159	5065	39.98	-2.04	-6.1
124	SLU 58	-67	159	5065	39.98	-2.04	-6.1
124	SLU 59	-67	159	5065	39.98	-2.04	-6.1
124	SLU 60	-69	171	5435	42.48	-2.34	-6.54
124	SLU 61	-69	171	5435	42.48	-2.34	-6.54
124	SLU 62	-69	171	5435	42.48	-2.34	-6.54
124	SLU 63	-69	171	5435	42.48	-2.34	-6.54
124	SLU 64	-66	151	4819	38.1	-1.77	-5.82
124	SLU 65	-66	151	4819	38.1	-1.77	-5.82
124	SLU 66	-66	151	4819	38.1	-1.77	-5.82
124	SLU 67	-66	151	4819	38.1	-1.77	-5.82
124	SLU 68	-66	151	4819	38.1	-1.77	-5.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
124	SLU 69	-66	151	4819	38.1	-1.77	-5.82
124	SLU 70	-66	151	4819	38.1	-1.77	-5.82
124	SLU 71	-66	151	4819	38.1	-1.77	-5.82
124	SLU 72	-66	151	4819	38.1	-1.77	-5.82
124	SLU 73	-71	179	5682	43.91	-2.48	-6.85
124	SLU 74	-71	179	5682	43.91	-2.48	-6.85
124	SLU 75	-71	179	5682	43.91	-2.48	-6.85
124	SLU 76	-71	179	5682	43.91	-2.48	-6.85
124	SLU 77	-71	179	5682	43.91	-2.48	-6.85
124	SLU 78	-71	179	5682	43.91	-2.48	-6.85
124	SLU 79	-71	179	5682	43.91	-2.48	-6.85
124	SLU 80	-71	179	5682	43.91	-2.48	-6.85
124	SLU 81	-73	191	6052	46.41	-2.79	-7.28
124	SLU 82	-73	191	6052	46.41	-2.79	-7.28
124	SLU 83	-73	191	6052	46.41	-2.79	-7.28
124	SLU 84	-73	191	6052	46.41	-2.79	-7.28
124	SLE RA 1	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 2	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 3	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 4	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 5	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 6	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 7	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 8	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 9	-50	112	3571	28.44	-1.27	-4.31
124	SLE RA 10	-53	130	4147	32.32	-1.74	-5
124	SLE RA 11	-53	130	4147	32.32	-1.74	-5
124	SLE RA 12	-53	130	4147	32.32	-1.74	-5
124	SLE RA 13	-53	130	4147	32.32	-1.74	-5
124	SLE RA 14	-53	130	4147	32.32	-1.74	-5
124	SLE RA 15	-53	130	4147	32.32	-1.74	-5
124	SLE RA 16	-53	130	4147	32.32	-1.74	-5
124	SLE RA 17	-53	130	4147	32.32	-1.74	-5
124	SLE RA 18	-55	138	4393	33.98	-1.94	-5.29
124	SLE RA 19	-55	138	4393	33.98	-1.94	-5.29
124	SLE RA 20	-55	138	4393	33.98	-1.94	-5.29
124	SLE RA 21	-55	138	4393	33.98	-1.94	-5.29
124	SLE FR 1	-50	112	3571	28.44	-1.27	-4.31
124	SLE FR 2	-50	112	3571	28.44	-1.27	-4.31
124	SLE FR 3	-50	112	3571	28.44	-1.27	-4.31
124	SLE FR 4	-51	120	3818	30.1	-1.47	-4.61
124	SLE FR 5	-51	120	3818	30.1	-1.47	-4.61
124	SLE FR 6	-52	125	3982	31.21	-1.6	-4.8
124	SLE QP 1	-50	112	3571	28.44	-1.27	-4.31
124	SLE QP 2	-51	120	3818	30.1	-1.47	-4.61
124	SLD 1	313	267	3902	29.6	0.24	-7.87
124	SLD 2	310	242	3900	29.69	0.23	-6.78
124	SLD 3	265	141	3962	37.97	0.65	-5.7
124	SLD 4	262	115	3960	38.06	0.64	-4.62
124	SLD 5	131	366	3754	17.23	-1.56	-9.25
124	SLD 6	128	339	3752	17.32	-1.57	-8.15
124	SLD 7	-27	-57	3952	45.13	-0.22	-2.05
124	SLD 8	-31	-83	3950	45.22	-0.23	-0.94
124	SLD 9	-72	323	3686	14.99	-2.71	-8.27
124	SLD 10	-75	297	3684	15.08	-2.72	-7.17
124	SLD 11	-231	-99	3884	42.89	-1.36	-1.07
124	SLD 12	-234	-126	3882	42.98	-1.37	0.04
124	SLD 13	-365	125	3676	22.15	-3.57	-4.6
124	SLD 14	-368	99	3674	22.24	-3.58	-3.51
124	SLD 15	-412	-2	3736	30.52	-3.17	-2.44
124	SLD 16	-415	-28	3734	30.61	-3.18	-1.35
124	SLV 1	776	457	4009	28.89	2.42	-12.04
124	SLV 2	769	399	4004	29.09	2.39	-9.57
124	SLV 3	668	166	4146	48.22	3.34	-7.07
124	SLV 4	660	107	4140	48.42	3.32	-4.6
124	SLV 5	364	685	3670	0.35	-1.7	-15.26
124	SLV 6	356	625	3665	0.55	-1.72	-12.75
124	SLV 7	3	-288	4125	64.79	1.39	1.31
124	SLV 8	-5	-348	4120	64.99	1.36	3.82
124	SLV 9	-98	587	3516	-4.79	-4.3	-13.03
124	SLV 10	-105	528	3511	-4.58	-4.32	-10.53
124	SLV 11	-459	-385	3971	59.66	-1.21	3.54
124	SLV 12	-467	-445	3966	59.86	-1.24	6.04
124	SLV 13	-763	133	3496	11.78	-6.26	-4.62
124	SLV 14	-770	74	3490	11.99	-6.28	-2.15
124	SLV 15	-871	-159	3632	31.12	-5.33	0.36
124	SLV 16	-879	-218	3627	31.32	-5.35	2.82
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
125	SLU 1	-48	84	3425	26.72	-0.83	-4
125	SLU 2	-48	84	3425	26.72	-0.83	-4
125	SLU 3	-48	84	3425	26.72	-0.83	-4
125	SLU 4	-48	84	3425	26.72	-0.83	-4
125	SLU 5	-48	84	3425	26.72	-0.83	-4
125	SLU 6	-48	84	3425	26.72	-0.83	-4
125	SLU 7	-48	84	3425	26.72	-0.83	-4
125	SLU 8	-48	84	3425	26.72	-0.83	-4



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
125	SLU 9	-48	84	3425	26.72	-0.83	-4
125	SLU 10	-53	106	4305	32.4	-1.31	-4.99
125	SLU 11	-53	106	4305	32.4	-1.31	-4.99
125	SLU 12	-53	106	4305	32.4	-1.31	-4.99
125	SLU 13	-53	106	4305	32.4	-1.31	-4.99
125	SLU 14	-53	106	4305	32.4	-1.31	-4.99
125	SLU 15	-53	106	4305	32.4	-1.31	-4.99
125	SLU 16	-53	106	4305	32.4	-1.31	-4.99
125	SLU 17	-53	106	4305	32.4	-1.31	-4.99
125	SLU 18	-56	116	4683	34.84	-1.52	-5.42
125	SLU 19	-56	116	4683	34.84	-1.52	-5.42
125	SLU 20	-56	116	4683	34.84	-1.52	-5.42
125	SLU 21	-56	116	4683	34.84	-1.52	-5.42
125	SLU 22	-52	100	4052	30.55	-1.12	-4.72
125	SLU 23	-52	100	4052	30.55	-1.12	-4.72
125	SLU 24	-52	100	4052	30.55	-1.12	-4.72
125	SLU 25	-52	100	4052	30.55	-1.12	-4.72
125	SLU 26	-52	100	4052	30.55	-1.12	-4.72
125	SLU 27	-52	100	4052	30.55	-1.12	-4.72
125	SLU 28	-52	100	4052	30.55	-1.12	-4.72
125	SLU 29	-52	100	4052	30.55	-1.12	-4.72
125	SLU 30	-52	100	4052	30.55	-1.12	-4.72
125	SLU 31	-58	123	4933	36.24	-1.61	-5.71
125	SLU 32	-58	123	4933	36.24	-1.61	-5.71
125	SLU 33	-58	123	4933	36.24	-1.61	-5.71
125	SLU 34	-58	123	4933	36.24	-1.61	-5.71
125	SLU 35	-58	123	4933	36.24	-1.61	-5.71
125	SLU 36	-58	123	4933	36.24	-1.61	-5.71
125	SLU 37	-58	123	4933	36.24	-1.61	-5.71
125	SLU 38	-58	123	4933	36.24	-1.61	-5.71
125	SLU 39	-61	132	5310	38.67	-1.82	-6.14
125	SLU 40	-61	132	5310	38.67	-1.82	-6.14
125	SLU 41	-61	132	5310	38.67	-1.82	-6.14
125	SLU 42	-61	132	5310	38.67	-1.82	-6.14
125	SLU 43	-60	104	4237	33.42	-0.97	-4.96
125	SLU 44	-60	104	4237	33.42	-0.97	-4.96
125	SLU 45	-60	104	4237	33.42	-0.97	-4.96
125	SLU 46	-60	104	4237	33.42	-0.97	-4.96
125	SLU 47	-60	104	4237	33.42	-0.97	-4.96
125	SLU 48	-60	104	4237	33.42	-0.97	-4.96
125	SLU 49	-60	104	4237	33.42	-0.97	-4.96
125	SLU 50	-60	104	4237	33.42	-0.97	-4.96
125	SLU 51	-60	104	4237	33.42	-0.97	-4.96
125	SLU 52	-66	126	5117	39.1	-1.46	-5.95
125	SLU 53	-66	126	5117	39.1	-1.46	-5.95
125	SLU 54	-66	126	5117	39.1	-1.46	-5.95
125	SLU 55	-66	126	5117	39.1	-1.46	-5.95
125	SLU 56	-66	126	5117	39.1	-1.46	-5.95
125	SLU 57	-66	126	5117	39.1	-1.46	-5.95
125	SLU 58	-66	126	5117	39.1	-1.46	-5.95
125	SLU 59	-66	126	5117	39.1	-1.46	-5.95
125	SLU 60	-69	136	5495	41.54	-1.67	-6.37
125	SLU 61	-69	136	5495	41.54	-1.67	-6.37
125	SLU 62	-69	136	5495	41.54	-1.67	-6.37
125	SLU 63	-69	136	5495	41.54	-1.67	-6.37
125	SLU 64	-65	120	4865	37.25	-1.27	-5.68
125	SLU 65	-65	120	4865	37.25	-1.27	-5.68
125	SLU 66	-65	120	4865	37.25	-1.27	-5.68
125	SLU 67	-65	120	4865	37.25	-1.27	-5.68
125	SLU 68	-65	120	4865	37.25	-1.27	-5.68
125	SLU 69	-65	120	4865	37.25	-1.27	-5.68
125	SLU 70	-65	120	4865	37.25	-1.27	-5.68
125	SLU 71	-65	120	4865	37.25	-1.27	-5.68
125	SLU 72	-65	120	4865	37.25	-1.27	-5.68
125	SLU 73	-71	142	5745	42.94	-1.76	-6.67
125	SLU 74	-71	142	5745	42.94	-1.76	-6.67
125	SLU 75	-71	142	5745	42.94	-1.76	-6.67
125	SLU 76	-71	142	5745	42.94	-1.76	-6.67
125	SLU 77	-71	142	5745	42.94	-1.76	-6.67
125	SLU 78	-71	142	5745	42.94	-1.76	-6.67
125	SLU 79	-71	142	5745	42.94	-1.76	-6.67
125	SLU 80	-71	142	5745	42.94	-1.76	-6.67
125	SLU 81	-73	152	6122	45.37	-1.96	-7.09
125	SLU 82	-73	152	6122	45.37	-1.96	-7.09
125	SLU 83	-73	152	6122	45.37	-1.96	-7.09
125	SLU 84	-73	152	6122	45.37	-1.96	-7.09
125	SLE RA 1	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 2	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 3	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 4	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 5	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 6	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 7	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 8	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 9	-49	89	3604	27.81	-0.91	-4.21
125	SLE RA 10	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 11	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 12	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 13	-53	104	4191	31.6	-1.24	-4.87



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
125	SLE RA 14	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 15	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 16	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 17	-53	104	4191	31.6	-1.24	-4.87
125	SLE RA 18	-54	110	4443	33.23	-1.37	-5.15
125	SLE RA 19	-54	110	4443	33.23	-1.37	-5.15
125	SLE RA 20	-54	110	4443	33.23	-1.37	-5.15
125	SLE RA 21	-54	110	4443	33.23	-1.37	-5.15
125	SLE FR 1	-49	89	3604	27.81	-0.91	-4.21
125	SLE FR 2	-49	89	3604	27.81	-0.91	-4.21
125	SLE FR 3	-49	89	3604	27.81	-0.91	-4.21
125	SLE FR 4	-51	95	3856	29.44	-1.05	-4.49
125	SLE FR 5	-51	95	3856	29.44	-1.05	-4.49
125	SLE FR 6	-52	99	4023	30.52	-1.14	-4.68
125	SLE QP 1	-49	89	3604	27.81	-0.91	-4.21
125	SLE QP 2	-51	95	3856	29.44	-1.05	-4.49
125	SLD 1	314	227	3892	28.91	0.51	-7.2
125	SLD 2	310	207	3890	28.99	0.5	-6.13
125	SLD 3	266	111	3941	37.23	0.89	-5.51
125	SLD 4	263	91	3939	37.31	0.88	-4.45
125	SLD 5	132	318	3793	16.63	-1.15	-8.25
125	SLD 6	129	298	3791	16.72	-1.16	-7.16
125	SLD 7	-27	-69	3956	44.36	0.11	-2.62
125	SLD 8	-30	-90	3954	44.45	0.1	-1.54
125	SLD 9	-71	280	3757	14.43	-2.2	-7.45
125	SLD 10	-74	260	3755	14.51	-2.21	-6.36
125	SLD 11	-230	-107	3921	42.16	-0.94	-1.82
125	SLD 12	-233	-128	3919	42.24	-0.95	-0.73
125	SLD 13	-364	100	3772	21.57	-2.98	-4.54
125	SLD 14	-367	80	3770	21.65	-2.99	-3.47
125	SLD 15	-411	-16	3821	29.88	-2.6	-2.85
125	SLD 16	-415	-36	3819	29.97	-2.61	-1.78
125	SLV 1	777	396	3938	28.16	2.48	-10.67
125	SLV 2	769	351	3933	28.34	2.46	-8.25
125	SLV 3	668	129	4051	47.38	3.35	-6.79
125	SLV 4	661	83	4046	47.57	3.33	-4.37
125	SLV 5	365	608	3710	-0.16	-1.3	-13.1
125	SLV 6	357	562	3706	0.03	-1.32	-10.64
125	SLV 7	3	-285	4087	63.9	1.59	-0.16
125	SLV 8	-4	-331	4083	64.09	1.57	2.3
125	SLV 9	-97	521	3628	-5.22	-3.67	-11.29
125	SLV 10	-104	475	3624	-5.03	-3.7	-8.82
125	SLV 11	-458	-371	4005	58.85	-0.78	1.66
125	SLV 12	-466	-418	4001	59.04	-0.8	4.12
125	SLV 13	-762	107	3665	11.31	-5.43	-4.62
125	SLV 14	-769	62	3660	11.5	-5.45	-2.19
125	SLV 15	-870	-161	3778	30.53	-4.56	-0.73
125	SLV 16	-878	-206	3774	30.72	-4.58	1.69
125	CRTFP Ux+	0	0	0	0	0	0
125	CRTFP Ux-	0	0	0	0	0	0
125	CRTFP Uy+	0	0	0	0	0	0
125	CRTFP Uy-	0	0	0	0	0	0
126	SLU 1	-46	63	3444	26.16	-0.47	-3.87
126	SLU 2	-46	63	3444	26.16	-0.47	-3.87
126	SLU 3	-46	63	3444	26.16	-0.47	-3.87
126	SLU 4	-46	63	3444	26.16	-0.47	-3.87
126	SLU 5	-46	63	3444	26.16	-0.47	-3.87
126	SLU 6	-46	63	3444	26.16	-0.47	-3.87
126	SLU 7	-46	63	3444	26.16	-0.47	-3.87
126	SLU 8	-46	63	3444	26.16	-0.47	-3.87
126	SLU 9	-46	63	3444	26.16	-0.47	-3.87
126	SLU 10	-53	80	4335	31.72	-0.72	-4.83
126	SLU 11	-53	80	4335	31.72	-0.72	-4.83
126	SLU 12	-53	80	4335	31.72	-0.72	-4.83
126	SLU 13	-53	80	4335	31.72	-0.72	-4.83
126	SLU 14	-53	80	4335	31.72	-0.72	-4.83
126	SLU 15	-53	80	4335	31.72	-0.72	-4.83
126	SLU 16	-53	80	4335	31.72	-0.72	-4.83
126	SLU 17	-53	80	4335	31.72	-0.72	-4.83
126	SLU 18	-56	87	4717	34.11	-0.83	-5.23
126	SLU 19	-56	87	4717	34.11	-0.83	-5.23
126	SLU 20	-56	87	4717	34.11	-0.83	-5.23
126	SLU 21	-56	87	4717	34.11	-0.83	-5.23
126	SLU 22	-51	75	4078	29.91	-0.61	-4.57
126	SLU 23	-51	75	4078	29.91	-0.61	-4.57
126	SLU 24	-51	75	4078	29.91	-0.61	-4.57
126	SLU 25	-51	75	4078	29.91	-0.61	-4.57
126	SLU 26	-51	75	4078	29.91	-0.61	-4.57
126	SLU 27	-51	75	4078	29.91	-0.61	-4.57
126	SLU 28	-51	75	4078	29.91	-0.61	-4.57
126	SLU 29	-51	75	4078	29.91	-0.61	-4.57
126	SLU 30	-51	75	4078	29.91	-0.61	-4.57
126	SLU 31	-58	92	4970	35.47	-0.86	-5.52
126	SLU 32	-58	92	4970	35.47	-0.86	-5.52
126	SLU 33	-58	92	4970	35.47	-0.86	-5.52
126	SLU 34	-58	92	4970	35.47	-0.86	-5.52
126	SLU 35	-58	92	4970	35.47	-0.86	-5.52
126	SLU 36	-58	92	4970	35.47	-0.86	-5.52
126	SLU 37	-58	92	4970	35.47	-0.86	-5.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
126	SLU 38	-58	92	4970	35.47	-0.86	-5.52
126	SLU 39	-61	99	5352	37.86	-0.97	-5.93
126	SLU 40	-61	99	5352	37.86	-0.97	-5.93
126	SLU 41	-61	99	5352	37.86	-0.97	-5.93
126	SLU 42	-61	99	5352	37.86	-0.97	-5.93
126	SLU 43	-58	78	4260	32.73	-0.57	-4.8
126	SLU 44	-58	78	4260	32.73	-0.57	-4.8
126	SLU 45	-58	78	4260	32.73	-0.57	-4.8
126	SLU 46	-58	78	4260	32.73	-0.57	-4.8
126	SLU 47	-58	78	4260	32.73	-0.57	-4.8
126	SLU 48	-58	78	4260	32.73	-0.57	-4.8
126	SLU 49	-58	78	4260	32.73	-0.57	-4.8
126	SLU 50	-58	78	4260	32.73	-0.57	-4.8
126	SLU 51	-58	78	4260	32.73	-0.57	-4.8
126	SLU 52	-65	95	5151	38.29	-0.82	-5.75
126	SLU 53	-65	95	5151	38.29	-0.82	-5.75
126	SLU 54	-65	95	5151	38.29	-0.82	-5.75
126	SLU 55	-65	95	5151	38.29	-0.82	-5.75
126	SLU 56	-65	95	5151	38.29	-0.82	-5.75
126	SLU 57	-65	95	5151	38.29	-0.82	-5.75
126	SLU 58	-65	95	5151	38.29	-0.82	-5.75
126	SLU 59	-65	95	5151	38.29	-0.82	-5.75
126	SLU 60	-68	102	5533	40.67	-0.92	-6.16
126	SLU 61	-68	102	5533	40.67	-0.92	-6.16
126	SLU 62	-68	102	5533	40.67	-0.92	-6.16
126	SLU 63	-68	102	5533	40.67	-0.92	-6.16
126	SLU 64	-64	90	4894	36.47	-0.71	-5.49
126	SLU 65	-64	90	4894	36.47	-0.71	-5.49
126	SLU 66	-64	90	4894	36.47	-0.71	-5.49
126	SLU 67	-64	90	4894	36.47	-0.71	-5.49
126	SLU 68	-64	90	4894	36.47	-0.71	-5.49
126	SLU 69	-64	90	4894	36.47	-0.71	-5.49
126	SLU 70	-64	90	4894	36.47	-0.71	-5.49
126	SLU 71	-64	90	4894	36.47	-0.71	-5.49
126	SLU 72	-64	90	4894	36.47	-0.71	-5.49
126	SLU 73	-70	107	5785	42.04	-0.96	-6.44
126	SLU 74	-70	107	5785	42.04	-0.96	-6.44
126	SLU 75	-70	107	5785	42.04	-0.96	-6.44
126	SLU 76	-70	107	5785	42.04	-0.96	-6.44
126	SLU 77	-70	107	5785	42.04	-0.96	-6.44
126	SLU 78	-70	107	5785	42.04	-0.96	-6.44
126	SLU 79	-70	107	5785	42.04	-0.96	-6.44
126	SLU 80	-70	107	5785	42.04	-0.96	-6.44
126	SLU 81	-73	114	6167	44.42	-1.06	-6.85
126	SLU 82	-73	114	6167	44.42	-1.06	-6.85
126	SLU 83	-73	114	6167	44.42	-1.06	-6.85
126	SLU 84	-73	114	6167	44.42	-1.06	-6.85
126	SLE RA 1	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 2	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 3	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 4	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 5	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 6	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 7	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 8	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 9	-48	66	3625	27.23	-0.51	-4.07
126	SLE RA 10	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 11	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 12	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 13	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 14	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 15	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 16	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 17	-52	78	4219	30.94	-0.68	-4.71
126	SLE RA 18	-54	83	4474	32.53	-0.75	-4.98
126	SLE RA 19	-54	83	4474	32.53	-0.75	-4.98
126	SLE RA 20	-54	83	4474	32.53	-0.75	-4.98
126	SLE RA 21	-54	83	4474	32.53	-0.75	-4.98
126	SLE FR 1	-48	66	3625	27.23	-0.51	-4.07
126	SLE FR 2	-48	66	3625	27.23	-0.51	-4.07
126	SLE FR 3	-48	66	3625	27.23	-0.51	-4.07
126	SLE FR 4	-50	71	3880	28.82	-0.58	-4.34
126	SLE FR 5	-50	71	3880	28.82	-0.58	-4.34
126	SLE FR 6	-51	74	4050	29.88	-0.63	-4.53
126	SLE QP 1	-48	66	3625	27.23	-0.51	-4.07
126	SLE QP 2	-50	71	3880	28.82	-0.58	-4.34
126	SLD 1	314	190	3880	28.27	0.69	-6.48
126	SLD 2	311	176	3878	28.35	0.68	-5.42
126	SLD 3	267	82	3920	36.55	1.03	-5.31
126	SLD 4	263	67	3919	36.62	1.02	-4.26
126	SLD 5	133	277	3819	16.07	-0.71	-7.13
126	SLD 6	130	262	3818	16.15	-0.72	-6.06
126	SLD 7	-26	-85	3954	43.67	0.42	-3.25
126	SLD 8	-29	-99	3952	43.74	0.41	-2.18
126	SLD 9	-70	242	3808	13.9	-1.58	-6.51
126	SLD 10	-74	227	3806	13.98	-1.59	-5.44
126	SLD 11	-229	-120	3942	41.49	-0.45	-2.63
126	SLD 12	-232	-134	3940	41.57	-0.46	-1.56
126	SLD 13	-363	75	3841	21.02	-2.19	-4.43



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
126	SLD 14	-366	61	3839	21.1	-2.2	-3.37
126	SLD 15	-410	-33	3881	29.3	-1.85	-3.26
126	SLD 16	-414	-48	3879	29.38	-1.86	-2.21
126	SLV 1	777	344	3880	27.49	2.32	-9.21
126	SLV 2	770	311	3876	27.66	2.29	-6.82
126	SLV 3	669	94	3973	46.61	3.09	-6.53
126	SLV 4	661	61	3969	46.78	3.07	-4.14
126	SLV 5	365	544	3741	-0.65	-0.89	-10.72
126	SLV 6	358	511	3737	-0.48	-0.91	-8.29
126	SLV 7	4	-290	4050	63.11	1.71	-1.79
126	SLV 8	-3	-323	4046	63.28	1.69	0.63
126	SLV 9	-96	465	3714	-5.64	-2.85	-9.32
126	SLV 10	-103	432	3710	-5.46	-2.88	-6.89
126	SLV 11	-457	-368	4023	58.12	-0.26	-0.4
126	SLV 12	-465	-401	4019	58.29	-0.28	2.03
126	SLV 13	-761	81	3791	10.86	-4.24	-4.55
126	SLV 14	-768	49	3787	11.03	-4.26	-2.16
126	SLV 15	-869	-169	3883	29.99	-3.46	-1.87
126	SLV 16	-876	-201	3879	30.16	-3.48	0.52
126	CRTFP Ux+	0	0	0	0	0	0
126	CRTFP Ux-	0	0	0	0	0	0
126	CRTFP Uy+	0	0	0	0	0	0
126	CRTFP Uy-	0	0	0	0	0	0
127	SLU 1	-45	42	3454	25.65	-0.21	-3.73
127	SLU 2	-45	42	3454	25.65	-0.21	-3.73
127	SLU 3	-45	42	3454	25.65	-0.21	-3.73
127	SLU 4	-45	42	3454	25.65	-0.21	-3.73
127	SLU 5	-45	42	3454	25.65	-0.21	-3.73
127	SLU 6	-45	42	3454	25.65	-0.21	-3.73
127	SLU 7	-45	42	3454	25.65	-0.21	-3.73
127	SLU 8	-45	42	3454	25.65	-0.21	-3.73
127	SLU 9	-45	42	3454	25.65	-0.21	-3.73
127	SLU 10	-52	54	4349	31.1	-0.26	-4.64
127	SLU 11	-52	54	4349	31.1	-0.26	-4.64
127	SLU 12	-52	54	4349	31.1	-0.26	-4.64
127	SLU 13	-52	54	4349	31.1	-0.26	-4.64
127	SLU 14	-52	54	4349	31.1	-0.26	-4.64
127	SLU 15	-52	54	4349	31.1	-0.26	-4.64
127	SLU 16	-52	54	4349	31.1	-0.26	-4.64
127	SLU 17	-52	54	4349	31.1	-0.26	-4.64
127	SLU 18	-56	59	4733	33.44	-0.28	-5.03
127	SLU 19	-56	59	4733	33.44	-0.28	-5.03
127	SLU 20	-56	59	4733	33.44	-0.28	-5.03
127	SLU 21	-56	59	4733	33.44	-0.28	-5.03
127	SLU 22	-50	51	4090	29.32	-0.22	-4.39
127	SLU 23	-50	51	4090	29.32	-0.22	-4.39
127	SLU 24	-50	51	4090	29.32	-0.22	-4.39
127	SLU 25	-50	51	4090	29.32	-0.22	-4.39
127	SLU 26	-50	51	4090	29.32	-0.22	-4.39
127	SLU 27	-50	51	4090	29.32	-0.22	-4.39
127	SLU 28	-50	51	4090	29.32	-0.22	-4.39
127	SLU 29	-50	51	4090	29.32	-0.22	-4.39
127	SLU 30	-50	51	4090	29.32	-0.22	-4.39
127	SLU 31	-58	63	4986	34.77	-0.27	-5.3
127	SLU 32	-58	63	4986	34.77	-0.27	-5.3
127	SLU 33	-58	63	4986	34.77	-0.27	-5.3
127	SLU 34	-58	63	4986	34.77	-0.27	-5.3
127	SLU 35	-58	63	4986	34.77	-0.27	-5.3
127	SLU 36	-58	63	4986	34.77	-0.27	-5.3
127	SLU 37	-58	63	4986	34.77	-0.27	-5.3
127	SLU 38	-58	63	4986	34.77	-0.27	-5.3
127	SLU 39	-61	68	5370	37.11	-0.29	-5.69
127	SLU 40	-61	68	5370	37.11	-0.29	-5.69
127	SLU 41	-61	68	5370	37.11	-0.29	-5.69
127	SLU 42	-61	68	5370	37.11	-0.29	-5.69
127	SLU 43	-56	52	4271	32.09	-0.27	-4.62
127	SLU 44	-56	52	4271	32.09	-0.27	-4.62
127	SLU 45	-56	52	4271	32.09	-0.27	-4.62
127	SLU 46	-56	52	4271	32.09	-0.27	-4.62
127	SLU 47	-56	52	4271	32.09	-0.27	-4.62
127	SLU 48	-56	52	4271	32.09	-0.27	-4.62
127	SLU 49	-56	52	4271	32.09	-0.27	-4.62
127	SLU 50	-56	52	4271	32.09	-0.27	-4.62
127	SLU 51	-56	52	4271	32.09	-0.27	-4.62
127	SLU 52	-64	64	5167	37.54	-0.32	-5.53
127	SLU 53	-64	64	5167	37.54	-0.32	-5.53
127	SLU 54	-64	64	5167	37.54	-0.32	-5.53
127	SLU 55	-64	64	5167	37.54	-0.32	-5.53
127	SLU 56	-64	64	5167	37.54	-0.32	-5.53
127	SLU 57	-64	64	5167	37.54	-0.32	-5.53
127	SLU 58	-64	64	5167	37.54	-0.32	-5.53
127	SLU 59	-64	64	5167	37.54	-0.32	-5.53
127	SLU 60	-67	69	5551	39.87	-0.34	-5.92
127	SLU 61	-67	69	5551	39.87	-0.34	-5.92
127	SLU 62	-67	69	5551	39.87	-0.34	-5.92
127	SLU 63	-67	69	5551	39.87	-0.34	-5.92
127	SLU 64	-62	61	4908	35.76	-0.28	-5.28
127	SLU 65	-62	61	4908	35.76	-0.28	-5.28
127	SLU 66	-62	61	4908	35.76	-0.28	-5.28



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
127	SLU 67	-62	61	4908	35.76	-0.28	-5.28
127	SLU 68	-62	61	4908	35.76	-0.28	-5.28
127	SLU 69	-62	61	4908	35.76	-0.28	-5.28
127	SLU 70	-62	61	4908	35.76	-0.28	-5.28
127	SLU 71	-62	61	4908	35.76	-0.28	-5.28
127	SLU 72	-62	61	4908	35.76	-0.28	-5.28
127	SLU 73	-69	73	5804	41.21	-0.33	-6.19
127	SLU 74	-69	73	5804	41.21	-0.33	-6.19
127	SLU 75	-69	73	5804	41.21	-0.33	-6.19
127	SLU 76	-69	73	5804	41.21	-0.33	-6.19
127	SLU 77	-69	73	5804	41.21	-0.33	-6.19
127	SLU 78	-69	73	5804	41.21	-0.33	-6.19
127	SLU 79	-69	73	5804	41.21	-0.33	-6.19
127	SLU 80	-69	73	5804	41.21	-0.33	-6.19
127	SLU 81	-73	78	6188	43.54	-0.35	-6.58
127	SLU 82	-73	78	6188	43.54	-0.35	-6.58
127	SLU 83	-73	78	6188	43.54	-0.35	-6.58
127	SLU 84	-73	78	6188	43.54	-0.35	-6.58
127	SLE RA 1	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 2	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 3	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 4	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 5	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 6	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 7	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 8	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 9	-46	45	3635	26.7	-0.21	-3.92
127	SLE RA 10	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 11	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 12	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 13	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 14	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 15	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 16	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 17	-51	53	4233	30.33	-0.25	-4.53
127	SLE RA 18	-54	56	4489	31.89	-0.26	-4.78
127	SLE RA 19	-54	56	4489	31.89	-0.26	-4.78
127	SLE RA 20	-54	56	4489	31.89	-0.26	-4.78
127	SLE RA 21	-54	56	4489	31.89	-0.26	-4.78
127	SLE FR 1	-46	45	3635	26.7	-0.21	-3.92
127	SLE FR 2	-46	45	3635	26.7	-0.21	-3.92
127	SLE FR 3	-46	45	3635	26.7	-0.21	-3.92
127	SLE FR 4	-48	48	3891	28.26	-0.23	-4.18
127	SLE FR 5	-48	48	3891	28.26	-0.23	-4.18
127	SLE FR 6	-50	50	4062	29.29	-0.24	-4.35
127	SLE QP 1	-46	45	3635	26.7	-0.21	-3.92
127	SLE QP 2	-48	48	3891	28.26	-0.23	-4.18
127	SLD 1	315	158	3845	27.68	0.64	-5.74
127	SLD 2	312	149	3843	27.75	0.63	-4.69
127	SLD 3	268	54	3877	35.93	0.92	-5.13
127	SLD 4	264	46	3876	36	0.91	-4.08
127	SLD 5	134	241	3828	15.55	-0.4	-5.94
127	SLD 6	131	233	3827	15.62	-0.41	-4.88
127	SLD 7	-25	-104	3937	43.04	0.56	-3.91
127	SLD 8	-28	-113	3936	43.11	0.55	-2.85
127	SLD 9	-69	209	3847	13.4	-1	-5.5
127	SLD 10	-72	201	3845	13.47	-1.01	-4.44
127	SLD 11	-228	-136	3956	40.89	-0.04	-3.48
127	SLD 12	-231	-145	3955	40.96	-0.05	-2.42
127	SLD 13	-361	51	3907	20.51	-1.36	-4.28
127	SLD 14	-365	42	3905	20.58	-1.37	-3.23
127	SLD 15	-409	-53	3940	28.76	-1.08	-3.67
127	SLD 16	-412	-62	3938	28.83	-1.09	-2.62
127	SLV 1	778	299	3785	26.88	1.73	-7.72
127	SLV 2	770	280	3781	27.03	1.71	-5.35
127	SLV 3	669	60	3860	45.93	2.39	-6.33
127	SLV 4	662	41	3857	46.08	2.37	-3.96
127	SLV 5	366	493	3746	-1.11	-0.63	-8.21
127	SLV 6	359	473	3743	-0.95	-0.65	-5.8
127	SLV 7	5	-304	3998	62.4	1.56	-3.55
127	SLV 8	-2	-324	3994	62.56	1.54	-1.14
127	SLV 9	-95	420	3788	-6.05	-1.99	-7.21
127	SLV 10	-102	400	3785	-5.89	-2.01	-4.81
127	SLV 11	-456	-377	4040	57.46	0.2	-2.55
127	SLV 12	-463	-397	4037	57.62	0.18	-0.15
127	SLV 13	-759	56	3926	10.43	-2.82	-4.4
127	SLV 14	-766	36	3922	10.58	-2.84	-2.03
127	SLV 15	-867	-183	4001	29.48	-2.16	-3
127	SLV 16	-875	-203	3998	29.64	-2.18	-0.63
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	-72	27	5924	38.59	-864.57	-4.19
128	SLU 2	-72	27	5924	38.59	-864.57	-4.19
128	SLU 3	-72	27	5924	38.59	-864.57	-4.19
128	SLU 4	-72	27	5924	38.59	-864.57	-4.19
128	SLU 5	-72	27	5924	38.59	-864.57	-4.19
128	SLU 6	-72	27	5924	38.59	-864.57	-4.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
128	SLU 7	-72	27	5924	38.59	-864.57	-4.19
128	SLU 8	-72	27	5924	38.59	-864.57	-4.19
128	SLU 9	-72	27	5924	38.59	-864.57	-4.19
128	SLU 10	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 11	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 12	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 13	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 14	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 15	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 16	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 17	-87	36	7455	46.78	-1087.49	-4.78
128	SLU 18	-93	40	8112	50.29	-1183.03	-5.03
128	SLU 19	-93	40	8112	50.29	-1183.03	-5.03
128	SLU 20	-93	40	8112	50.29	-1183.03	-5.03
128	SLU 21	-93	40	8112	50.29	-1183.03	-5.03
128	SLU 22	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 23	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 24	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 25	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 26	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 27	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 28	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 29	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 30	-83	34	7010	44.08	-1022.63	-4.63
128	SLU 31	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 32	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 33	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 34	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 35	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 36	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 37	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 38	-97	43	8542	52.27	-1245.54	-5.21
128	SLU 39	-104	47	9198	55.78	-1341.08	-5.46
128	SLU 40	-104	47	9198	55.78	-1341.08	-5.46
128	SLU 41	-104	47	9198	55.78	-1341.08	-5.46
128	SLU 42	-104	47	9198	55.78	-1341.08	-5.46
128	SLU 43	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 44	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 45	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 46	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 47	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 48	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 49	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 50	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 51	-89	33	7328	48.29	-1069.76	-5.3
128	SLU 52	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 53	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 54	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 55	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 56	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 57	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 58	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 59	-104	42	8860	56.47	-1292.67	-5.88
128	SLU 60	-111	46	9516	59.98	-1388.21	-6.14
128	SLU 61	-111	46	9516	59.98	-1388.21	-6.14
128	SLU 62	-111	46	9516	59.98	-1388.21	-6.14
128	SLU 63	-111	46	9516	59.98	-1388.21	-6.14
128	SLU 64	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 65	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 66	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 67	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 68	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 69	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 70	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 71	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 72	-100	40	8415	53.78	-1227.81	-5.73
128	SLU 73	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 74	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 75	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 76	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 77	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 78	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 79	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 80	-115	49	9946	61.96	-1450.73	-6.32
128	SLU 81	-122	53	10603	65.47	-1546.26	-6.57
128	SLU 82	-122	53	10603	65.47	-1546.26	-6.57
128	SLU 83	-122	53	10603	65.47	-1546.26	-6.57
128	SLU 84	-122	53	10603	65.47	-1546.26	-6.57
128	SLE RA 1	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 2	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 3	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 4	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 5	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 6	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 7	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 8	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 9	-75	29	6234	40.16	-909.73	-4.31
128	SLE RA 10	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 11	-85	35	7255	45.62	-1058.34	-4.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
128	SLE RA 12	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 13	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 14	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 15	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 16	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 17	-85	35	7255	45.62	-1058.34	-4.71
128	SLE RA 18	-89	38	7693	47.96	-1122.03	-4.87
128	SLE RA 19	-89	38	7693	47.96	-1122.03	-4.87
128	SLE RA 20	-89	38	7693	47.96	-1122.03	-4.87
128	SLE RA 21	-89	38	7693	47.96	-1122.03	-4.87
128	SLE FR 1	-75	29	6234	40.16	-909.73	-4.31
128	SLE FR 2	-75	29	6234	40.16	-909.73	-4.31
128	SLE FR 3	-75	29	6234	40.16	-909.73	-4.31
128	SLE FR 4	-79	32	6672	42.5	-973.42	-4.48
128	SLE FR 5	-79	32	6672	42.5	-973.42	-4.48
128	SLE FR 6	-82	33	6963	44.06	-1015.88	-4.59
128	SLE QP 1	-75	29	6234	40.16	-909.73	-4.31
128	SLE QP 2	-79	32	6672	42.5	-973.42	-4.48
128	SLD 1	542	208	6558	41.54	-955.34	19.99
128	SLD 2	536	206	6556	41.62	-955.09	22.14
128	SLD 3	460	32	6600	54.5	-960.63	-5.97
128	SLD 4	455	31	6598	54.58	-960.37	-3.82
128	SLD 5	232	351	6574	22.52	-960.08	41.45
128	SLD 6	227	349	6572	22.6	-959.82	43.64
128	SLD 7	-38	-233	6715	65.73	-977.68	-45.06
128	SLD 8	-44	-235	6713	65.81	-977.43	-42.88
128	SLD 9	-114	298	6630	19.19	-969.42	33.91
128	SLD 10	-120	296	6628	19.27	-969.16	36.1
128	SLD 11	-385	-286	6771	62.39	-987.02	-52.6
128	SLD 12	-391	-287	6769	62.47	-986.76	-50.42
128	SLD 13	-613	33	6745	30.42	-986.47	-5.15
128	SLD 14	-619	31	6743	30.5	-986.22	-3
128	SLD 15	-694	-143	6787	43.38	-991.76	-31.1
128	SLD 16	-700	-144	6785	43.46	-991.5	-28.95
128	SLV 1	1331	435	6412	40.19	-932.25	51.65
128	SLV 2	1318	431	6408	40.37	-931.67	56.53
128	SLV 3	1146	31	6510	70.14	-944.48	-8.19
128	SLV 4	1133	27	6505	70.32	-943.9	-3.31
128	SLV 5	629	767	6448	-3.68	-942.73	101.37
128	SLV 6	616	763	6443	-3.5	-942.15	106.32
128	SLV 7	13	-580	6772	96.15	-983.49	-98.1
128	SLV 8	0	-584	6768	96.33	-982.9	-93.14
128	SLV 9	-158	647	6575	-11.34	-963.94	84.18
128	SLV 10	-171	643	6571	-11.16	-963.36	89.13
128	SLV 11	-774	-699	6900	88.5	-1004.7	-115.29
128	SLV 12	-787	-703	6895	88.68	-1004.11	-110.33
128	SLV 13	-1291	36	6838	14.68	-1002.95	-5.65
128	SLV 14	-1304	32	6833	14.86	-1002.37	-0.77
128	SLV 15	-1476	-368	6935	44.63	-1015.17	-65.49
128	SLV 16	-1489	-372	6931	44.81	-1014.59	-60.61
128	CRTFP Ux+	0	0	0	0	0	0
128	CRTFP Ux-	0	0	0	0	0	0
128	CRTFP Uy+	0	0	0	0	0	0
128	CRTFP Uy-	0	0	0	0	0	0
129	SLU 1	-65	-27	6021	31.81	873.08	-3.54
129	SLU 2	-65	-27	6021	31.81	873.08	-3.54
129	SLU 3	-65	-27	6021	31.81	873.08	-3.54
129	SLU 4	-65	-27	6021	31.81	873.08	-3.54
129	SLU 5	-65	-27	6021	31.81	873.08	-3.54
129	SLU 6	-65	-27	6021	31.81	873.08	-3.54
129	SLU 7	-65	-27	6021	31.81	873.08	-3.54
129	SLU 8	-65	-27	6021	31.81	873.08	-3.54
129	SLU 9	-65	-27	6021	31.81	873.08	-3.54
129	SLU 10	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 11	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 12	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 13	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 14	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 15	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 16	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 17	-82	-30	7562	38.51	1097.67	-4.81
129	SLU 18	-89	-31	8222	41.38	1193.92	-5.35
129	SLU 19	-89	-31	8222	41.38	1193.92	-5.35
129	SLU 20	-89	-31	8222	41.38	1193.92	-5.35
129	SLU 21	-89	-31	8222	41.38	1193.92	-5.35
129	SLU 22	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 23	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 24	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 25	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 26	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 27	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 28	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 29	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 30	-77	-29	7113	36.22	1032.3	-4.45
129	SLU 31	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 32	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 33	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 34	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 35	-94	-33	8654	42.92	1256.89	-5.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
129	SLU 36	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 37	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 38	-94	-33	8654	42.92	1256.89	-5.72
129	SLU 39	-101	-34	9315	45.79	1353.14	-6.27
129	SLU 40	-101	-34	9315	45.79	1353.14	-6.27
129	SLU 41	-101	-34	9315	45.79	1353.14	-6.27
129	SLU 42	-101	-34	9315	45.79	1353.14	-6.27
129	SLU 43	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 44	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 45	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 46	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 47	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 48	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 49	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 50	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 51	-80	-34	7453	39.85	1080.42	-4.29
129	SLU 52	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 53	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 54	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 55	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 56	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 57	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 58	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 59	-97	-37	8994	46.55	1305.01	-5.56
129	SLU 60	-104	-39	9654	49.42	1401.26	-6.1
129	SLU 61	-104	-39	9654	49.42	1401.26	-6.1
129	SLU 62	-104	-39	9654	49.42	1401.26	-6.1
129	SLU 63	-104	-39	9654	49.42	1401.26	-6.1
129	SLU 64	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 65	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 66	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 67	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 68	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 69	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 70	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 71	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 72	-92	-36	8545	44.25	1239.63	-5.2
129	SLU 73	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 74	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 75	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 76	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 77	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 78	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 79	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 80	-109	-40	10086	50.95	1464.22	-6.47
129	SLU 81	-116	-41	10747	53.82	1560.48	-7.02
129	SLU 82	-116	-41	10747	53.82	1560.48	-7.02
129	SLU 83	-116	-41	10747	53.82	1560.48	-7.02
129	SLU 84	-116	-41	10747	53.82	1560.48	-7.02
129	SLE RA 1	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 2	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 3	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 4	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 5	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 6	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 7	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 8	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 9	-68	-27	6333	33.07	918.57	-3.8
129	SLE RA 10	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 11	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 12	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 13	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 14	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 15	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 16	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 17	-80	-30	7360	37.54	1068.3	-4.65
129	SLE RA 18	-84	-31	7801	39.45	1132.47	-5.01
129	SLE RA 19	-84	-31	7801	39.45	1132.47	-5.01
129	SLE RA 20	-84	-31	7801	39.45	1132.47	-5.01
129	SLE RA 21	-84	-31	7801	39.45	1132.47	-5.01
129	SLE FR 1	-68	-27	6333	33.07	918.57	-3.8
129	SLE FR 2	-68	-27	6333	33.07	918.57	-3.8
129	SLE FR 3	-68	-27	6333	33.07	918.57	-3.8
129	SLE FR 4	-73	-28	6773	34.99	982.74	-4.16
129	SLE FR 5	-73	-28	6773	34.99	982.74	-4.16
129	SLE FR 6	-76	-29	7067	36.26	1025.52	-4.41
129	SLE QP 1	-68	-27	6333	33.07	918.57	-3.8
129	SLE QP 2	-73	-28	6773	34.99	982.74	-4.16
129	SLD 1	544	148	6636	33.87	964.55	-28.82
129	SLD 2	539	163	6635	33.84	964.31	-28.52
129	SLD 3	463	-38	6666	46.73	969.43	-4.27
129	SLD 4	458	-23	6664	46.7	969.19	-3.97
129	SLD 5	237	301	6688	15.16	969.97	-48.9
129	SLD 6	231	316	6687	15.13	969.72	-48.6
129	SLD 7	-33	-318	6786	58.03	986.23	32.94
129	SLD 8	-38	-303	6785	57.99	985.99	33.23
129	SLD 9	-108	247	6762	11.98	979.49	-41.56
129	SLD 10	-114	262	6761	11.95	979.25	-41.26
129	SLD 11	-377	-373	6860	54.85	995.76	40.28



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
129	SLD 12	-383	-358	6858	54.81	995.51	40.57
129	SLD 13	-604	-33	6883	23.28	996.29	-4.35
129	SLD 14	-610	-19	6881	23.24	996.05	-4.06
129	SLD 15	-685	-219	6912	36.14	1001.17	20.2
129	SLD 16	-691	-205	6910	36.1	1000.93	20.49
129	SLV 1	1329	376	6461	32.32	941.31	-60.67
129	SLV 2	1316	409	6458	32.24	940.76	-60.01
129	SLV 3	1145	-52	6529	62.03	952.63	-4.06
129	SLV 4	1132	-19	6526	61.95	952.08	-3.4
129	SLV 5	631	731	6577	-10.84	953.34	-107.21
129	SLV 6	618	765	6574	-10.92	952.78	-106.54
129	SLV 7	18	-697	6805	88.18	991.07	81.49
129	SLV 8	5	-664	6801	88.1	990.51	82.17
129	SLV 9	-151	607	6745	-18.13	974.97	-90.49
129	SLV 10	-164	641	6742	-18.21	974.41	-89.82
129	SLV 11	-764	-821	6973	80.89	1012.69	98.21
129	SLV 12	-777	-788	6969	80.81	1012.14	98.89
129	SLV 13	-1279	-37	7021	8.02	1013.4	-4.93
129	SLV 14	-1291	-4	7017	7.94	1012.85	-4.27
129	SLV 15	-1463	-466	7089	37.73	1024.72	51.68
129	SLV 16	-1475	-433	7086	37.65	1024.17	52.34
129	CRTFP Ux+	0	0	0	0	0	0
129	CRTFP Ux-	0	0	0	0	0	0
129	CRTFP Uy+	0	0	0	0	0	0
129	CRTFP Uy-	0	0	0	0	0	0
130	SLU 1	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 2	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 3	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 4	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 5	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 6	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 7	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 8	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 9	-35	-38	3597	18.95	-3.02	-2.98
130	SLU 10	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 11	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 12	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 13	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 14	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 15	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 16	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 17	-46	-45	4508	22.93	-3.48	-3.69
130	SLU 18	-50	-48	4898	24.63	-3.68	-3.99
130	SLU 19	-50	-48	4898	24.63	-3.68	-3.99
130	SLU 20	-50	-48	4898	24.63	-3.68	-3.99
130	SLU 21	-50	-48	4898	24.63	-3.68	-3.99
130	SLU 22	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 23	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 24	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 25	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 26	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 27	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 28	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 29	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 30	-42	-43	4243	21.55	-3.35	-3.49
130	SLU 31	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 32	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 33	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 34	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 35	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 36	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 37	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 38	-53	-51	5153	25.52	-3.81	-4.2
130	SLU 39	-58	-54	5543	27.23	-4.01	-4.5
130	SLU 40	-58	-54	5543	27.23	-4.01	-4.5
130	SLU 41	-58	-54	5543	27.23	-4.01	-4.5
130	SLU 42	-58	-54	5543	27.23	-4.01	-4.5
130	SLU 43	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 44	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 45	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 46	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 47	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 48	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 49	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 50	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 51	-43	-48	4455	23.74	-3.82	-3.7
130	SLU 52	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 53	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 54	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 55	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 56	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 57	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 58	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 59	-54	-55	5366	27.72	-4.28	-4.41
130	SLU 60	-58	-58	5756	29.42	-4.47	-4.71
130	SLU 61	-58	-58	5756	29.42	-4.47	-4.71
130	SLU 62	-58	-58	5756	29.42	-4.47	-4.71
130	SLU 63	-58	-58	5756	29.42	-4.47	-4.71
130	SLU 64	-50	-53	5101	26.34	-4.15	-4.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
130	SLU 65	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 66	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 67	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 68	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 69	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 70	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 71	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 72	-50	-53	5101	26.34	-4.15	-4.21
130	SLU 73	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 74	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 75	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 76	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 77	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 78	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 79	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 80	-61	-60	6011	30.32	-4.61	-4.92
130	SLU 81	-66	-63	6401	32.02	-4.8	-5.22
130	SLU 82	-66	-63	6401	32.02	-4.8	-5.22
130	SLU 83	-66	-63	6401	32.02	-4.8	-5.22
130	SLU 84	-66	-63	6401	32.02	-4.8	-5.22
130	SLE RA 1	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 2	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 3	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 4	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 5	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 6	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 7	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 8	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 9	-37	-40	3782	19.69	-3.12	-3.13
130	SLE RA 10	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 11	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 12	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 13	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 14	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 15	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 16	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 17	-44	-44	4388	22.34	-3.42	-3.6
130	SLE RA 18	-47	-47	4649	23.48	-3.55	-3.8
130	SLE RA 19	-47	-47	4649	23.48	-3.55	-3.8
130	SLE RA 20	-47	-47	4649	23.48	-3.55	-3.8
130	SLE RA 21	-47	-47	4649	23.48	-3.55	-3.8
130	SLE FR 1	-37	-40	3782	19.69	-3.12	-3.13
130	SLE FR 2	-37	-40	3782	19.69	-3.12	-3.13
130	SLE FR 3	-37	-40	3782	19.69	-3.12	-3.13
130	SLE FR 4	-40	-42	4042	20.83	-3.25	-3.33
130	SLE FR 5	-40	-42	4042	20.83	-3.25	-3.33
130	SLE FR 6	-42	-43	4215	21.58	-3.34	-3.46
130	SLE QP 1	-37	-40	3782	19.69	-3.12	-3.13
130	SLE QP 2	-40	-42	4042	20.83	-3.25	-3.33
130	SLD 1	317	67	3934	20.11	-2.33	-3.87
130	SLD 2	314	83	3934	20.07	-2.33	-2.77
130	SLD 3	271	-52	3950	28.2	-2.08	-5.77
130	SLD 4	267	-35	3950	28.16	-2.09	-4.68
130	SLD 5	139	165	3985	8.35	-3.35	-0.99
130	SLD 6	136	182	3985	8.31	-3.35	0.11
130	SLD 7	-17	-231	4039	35.32	-2.52	-7.34
130	SLD 8	-20	-214	4038	35.28	-2.52	-6.23
130	SLD 9	-60	131	4045	6.37	-3.97	-0.43
130	SLD 10	-64	147	4045	6.33	-3.98	0.68
130	SLD 11	-216	-265	4099	33.34	-3.14	-6.77
130	SLD 12	-220	-249	4098	33.3	-3.15	-5.67
130	SLD 13	-348	-48	4134	13.49	-4.41	-1.98
130	SLD 14	-351	-32	4133	13.45	-4.42	-0.89
130	SLD 15	-394	-167	4150	21.58	-4.16	-3.89
130	SLD 16	-398	-150	4149	21.54	-4.17	-2.79
130	SLV 1	772	208	3797	19.11	-1.16	-4.53
130	SLV 2	764	245	3796	19.02	-1.17	-2.05
130	SLV 3	665	-66	3834	37.8	-0.59	-8.91
130	SLV 4	658	-29	3833	37.71	-0.6	-6.43
130	SLV 5	368	435	3912	-8	-3.48	2.07
130	SLV 6	360	473	3911	-8.09	-3.5	4.58
130	SLV 7	13	-478	4037	54.3	-1.58	-12.53
130	SLV 8	5	-440	4036	54.2	-1.59	-10.02
130	SLV 9	-85	357	4048	-12.55	-4.9	3.36
130	SLV 10	-93	394	4047	-12.64	-4.92	5.87
130	SLV 11	-440	-556	4173	49.74	-3	-11.24
130	SLV 12	-448	-519	4172	49.65	-3.02	-8.73
130	SLV 13	-738	-54	4250	3.94	-5.9	-0.23
130	SLV 14	-746	-17	4249	3.85	-5.91	2.25
130	SLV 15	-845	-328	4288	22.63	-5.33	-4.61
130	SLV 16	-852	-291	4287	22.54	-5.34	-2.13
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	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 2	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 3	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 4	-33	-54	3690	18.65	-3.13	-2.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
131	SLU 5	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 6	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 7	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 8	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 9	-33	-54	3690	18.65	-3.13	-2.82
131	SLU 10	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 11	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 12	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 13	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 14	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 15	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 16	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 17	-45	-65	4613	22.56	-3.5	-3.48
131	SLU 18	-50	-69	5009	24.24	-3.66	-3.77
131	SLU 19	-50	-69	5009	24.24	-3.66	-3.77
131	SLU 20	-50	-69	5009	24.24	-3.66	-3.77
131	SLU 21	-50	-69	5009	24.24	-3.66	-3.77
131	SLU 22	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 23	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 24	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 25	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 26	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 27	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 28	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 29	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 30	-41	-62	4345	21.2	-3.4	-3.3
131	SLU 31	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 32	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 33	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 34	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 35	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 36	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 37	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 38	-53	-73	5268	25.11	-3.77	-3.96
131	SLU 39	-58	-77	5663	26.78	-3.93	-4.25
131	SLU 40	-58	-77	5663	26.78	-3.93	-4.25
131	SLU 41	-58	-77	5663	26.78	-3.93	-4.25
131	SLU 42	-58	-77	5663	26.78	-3.93	-4.25
131	SLU 43	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 44	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 45	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 46	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 47	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 48	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 49	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 50	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 51	-40	-67	4573	23.37	-3.97	-3.5
131	SLU 52	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 53	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 54	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 55	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 56	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 57	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 58	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 59	-52	-78	5496	27.28	-4.34	-4.16
131	SLU 60	-57	-83	5892	28.96	-4.5	-4.45
131	SLU 61	-57	-83	5892	28.96	-4.5	-4.45
131	SLU 62	-57	-83	5892	28.96	-4.5	-4.45
131	SLU 63	-57	-83	5892	28.96	-4.5	-4.45
131	SLU 64	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 65	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 66	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 67	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 68	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 69	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 70	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 71	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 72	-48	-75	5228	25.92	-4.24	-3.98
131	SLU 73	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 74	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 75	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 76	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 77	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 78	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 79	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 80	-60	-86	6150	29.83	-4.62	-4.64
131	SLU 81	-65	-91	6546	31.5	-4.78	-4.93
131	SLU 82	-65	-91	6546	31.5	-4.78	-4.93
131	SLU 83	-65	-91	6546	31.5	-4.78	-4.93
131	SLU 84	-65	-91	6546	31.5	-4.78	-4.93
131	SLE RA 1	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 2	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 3	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 4	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 5	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 6	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 7	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 8	-35	-56	3877	19.37	-3.2	-2.96
131	SLE RA 9	-35	-56	3877	19.37	-3.2	-2.96



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
131	SLE RA 10	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 11	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 12	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 13	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 14	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 15	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 16	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 17	-43	-63	4493	21.98	-3.45	-3.4
131	SLE RA 18	-47	-66	4756	23.1	-3.56	-3.59
131	SLE RA 19	-47	-66	4756	23.1	-3.56	-3.59
131	SLE RA 20	-47	-66	4756	23.1	-3.56	-3.59
131	SLE RA 21	-47	-66	4756	23.1	-3.56	-3.59
131	SLE FR 1	-35	-56	3877	19.37	-3.2	-2.96
131	SLE FR 2	-35	-56	3877	19.37	-3.2	-2.96
131	SLE FR 3	-35	-56	3877	19.37	-3.2	-2.96
131	SLE FR 4	-39	-59	4141	20.49	-3.31	-3.15
131	SLE FR 5	-39	-59	4141	20.49	-3.31	-3.15
131	SLE FR 6	-41	-61	4317	21.24	-3.38	-3.27
131	SLE QP 1	-35	-56	3877	19.37	-3.2	-2.96
131	SLE QP 2	-39	-59	4141	20.49	-3.31	-3.15
131	SLD 1	318	58	3993	19.78	-1.98	-3.69
131	SLD 2	315	80	3993	19.73	-1.98	-2.57
131	SLD 3	272	-72	4014	27.89	-1.68	-6.07
131	SLD 4	268	-50	4013	27.84	-1.69	-4.94
131	SLD 5	140	166	4066	7.99	-3.36	-0.11
131	SLD 6	137	188	4065	7.94	-3.37	1.04
131	SLD 7	-15	-269	4134	35.04	-2.37	-8.03
131	SLD 8	-19	-246	4134	34.99	-2.38	-6.89
131	SLD 9	-59	128	4148	5.99	-4.25	0.6
131	SLD 10	-62	151	4148	5.95	-4.25	1.74
131	SLD 11	-215	-307	4217	33.05	-3.26	-7.33
131	SLD 12	-218	-284	4216	33	-3.26	-6.19
131	SLD 13	-346	-68	4269	13.14	-4.94	-1.35
131	SLD 14	-349	-46	4268	13.09	-4.94	-0.22
131	SLD 15	-393	-198	4289	21.26	-4.64	-3.73
131	SLD 16	-396	-176	4289	21.21	-4.65	-2.6
131	SLV 1	772	210	3804	18.78	-0.28	-4.37
131	SLV 2	765	260	3804	18.68	-0.3	-1.81
131	SLV 3	666	-91	3852	37.53	0.4	-9.84
131	SLV 4	659	-40	3851	37.42	0.38	-7.28
131	SLV 5	369	459	3968	-8.41	-3.43	3.87
131	SLV 6	361	511	3967	-8.52	-3.45	6.47
131	SLV 7	14	-542	4127	54.07	-1.16	-14.37
131	SLV 8	6	-491	4126	53.96	-1.18	-11.77
131	SLV 9	-84	373	4156	-12.98	-5.44	5.48
131	SLV 10	-91	424	4155	-13.08	-5.46	8.08
131	SLV 11	-439	-629	4315	49.51	-3.18	-12.76
131	SLV 12	-446	-577	4314	49.4	-3.2	-10.16
131	SLV 13	-736	-78	4431	3.57	-7.01	0.99
131	SLV 14	-744	-27	4430	3.46	-7.02	3.55
131	SLV 15	-843	-378	4479	22.31	-6.33	-4.48
131	SLV 16	-850	-328	4478	22.2	-6.34	-1.93
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	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 2	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 3	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 4	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 5	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 6	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 7	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 8	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 9	-32	-68	3783	18.38	-3.04	-2.64
132	SLU 10	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 11	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 12	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 13	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 14	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 15	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 16	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 17	-44	-83	4715	22.23	-3.26	-3.26
132	SLU 18	-49	-89	5115	23.88	-3.35	-3.53
132	SLU 19	-49	-89	5115	23.88	-3.35	-3.53
132	SLU 20	-49	-89	5115	23.88	-3.35	-3.53
132	SLU 21	-49	-89	5115	23.88	-3.35	-3.53
132	SLU 22	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 23	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 24	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 25	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 26	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 27	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 28	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 29	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 30	-40	-79	4445	20.88	-3.21	-3.09
132	SLU 31	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 32	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 33	-53	-93	5376	24.73	-3.43	-3.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
132	SLU 34	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 35	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 36	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 37	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 38	-53	-93	5376	24.73	-3.43	-3.71
132	SLU 39	-58	-99	5776	26.38	-3.53	-3.97
132	SLU 40	-58	-99	5776	26.38	-3.53	-3.97
132	SLU 41	-58	-99	5776	26.38	-3.53	-3.97
132	SLU 42	-58	-99	5776	26.38	-3.53	-3.97
132	SLU 43	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 44	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 45	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 46	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 47	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 48	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 49	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 50	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 51	-38	-85	4692	23.03	-3.89	-3.28
132	SLU 52	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 53	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 54	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 55	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 56	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 57	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 58	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 59	-50	-100	5624	26.88	-4.11	-3.9
132	SLU 60	-56	-106	6023	28.53	-4.21	-4.16
132	SLU 61	-56	-106	6023	28.53	-4.21	-4.16
132	SLU 62	-56	-106	6023	28.53	-4.21	-4.16
132	SLU 63	-56	-106	6023	28.53	-4.21	-4.16
132	SLU 64	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 65	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 66	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 67	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 68	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 69	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 70	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 71	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 72	-47	-96	5353	25.54	-4.06	-3.73
132	SLU 73	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 74	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 75	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 76	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 77	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 78	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 79	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 80	-59	-110	6285	29.39	-4.28	-4.35
132	SLU 81	-64	-116	6684	31.04	-4.38	-4.61
132	SLU 82	-64	-116	6684	31.04	-4.38	-4.61
132	SLU 83	-64	-116	6684	31.04	-4.38	-4.61
132	SLU 84	-64	-116	6684	31.04	-4.38	-4.61
132	SLE RA 1	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 2	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 3	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 4	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 5	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 6	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 7	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 8	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 9	-34	-71	3972	19.09	-3.09	-2.77
132	SLE RA 10	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 11	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 12	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 13	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 14	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 15	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 16	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 17	-42	-81	4594	21.66	-3.24	-3.18
132	SLE RA 18	-46	-85	4860	22.76	-3.3	-3.36
132	SLE RA 19	-46	-85	4860	22.76	-3.3	-3.36
132	SLE RA 20	-46	-85	4860	22.76	-3.3	-3.36
132	SLE RA 21	-46	-85	4860	22.76	-3.3	-3.36
132	SLE FR 1	-34	-71	3972	19.09	-3.09	-2.77
132	SLE FR 2	-34	-71	3972	19.09	-3.09	-2.77
132	SLE FR 3	-34	-71	3972	19.09	-3.09	-2.77
132	SLE FR 4	-38	-75	4239	20.19	-3.15	-2.95
132	SLE FR 5	-38	-75	4239	20.19	-3.15	-2.95
132	SLE FR 6	-40	-78	4416	20.93	-3.19	-3.06
132	SLE QP 1	-34	-71	3972	19.09	-3.09	-2.77
132	SLE QP 2	-38	-75	4239	20.19	-3.15	-2.95
132	SLD 1	319	52	4037	19.48	-1.53	-3.51
132	SLD 2	316	81	4037	19.43	-1.54	-2.34
132	SLD 3	273	-92	4066	27.63	-1.2	-6.3
132	SLD 4	269	-64	4066	27.58	-1.21	-5.13
132	SLD 5	142	172	4135	7.64	-3.17	0.7
132	SLD 6	138	201	4135	7.58	-3.17	1.88
132	SLD 7	-14	-310	4230	34.8	-2.06	-8.59
132	SLD 8	-18	-281	4230	34.75	-2.07	-7.41
132	SLD 9	-58	130	4248	5.64	-4.23	1.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
132	SLD 10	-61	159	4247	5.58	-4.24	2.7
132	SLD 11	-213	-351	4342	32.8	-3.13	-7.77
132	SLD 12	-217	-323	4342	32.75	-3.14	-6.59
132	SLD 13	-344	-87	4412	12.81	-5.09	-0.76
132	SLD 14	-348	-59	4411	12.76	-5.1	0.4
132	SLD 15	-391	-232	4440	20.96	-4.76	-3.55
132	SLD 16	-394	-203	4440	20.91	-4.77	-2.38
132	SLV 1	773	218	3781	18.49	0.52	-4.2
132	SLV 2	765	282	3781	18.37	0.51	-1.55
132	SLV 3	666	-115	3846	37.31	1.28	-10.61
132	SLV 4	659	-50	3846	37.19	1.26	-7.97
132	SLV 5	370	494	4002	-8.82	-3.19	5.46
132	SLV 6	362	559	4002	-8.94	-3.21	8.14
132	SLV 7	15	-615	4220	53.92	-0.66	-15.92
132	SLV 8	8	-549	4220	53.79	-0.68	-13.23
132	SLV 9	-83	399	4257	-13.41	5.62	7.34
132	SLV 10	-90	464	4257	-13.53	-5.64	10.03
132	SLV 11	-437	-710	4475	49.33	-3.09	-14.04
132	SLV 12	-445	-645	4475	49.2	-3.11	-11.35
132	SLV 13	-734	-100	4631	3.2	-7.57	2.08
132	SLV 14	-742	-36	4631	3.07	-7.59	4.72
132	SLV 15	-841	-433	4696	22.02	-6.81	-4.34
132	SLV 16	-848	-369	4696	21.89	-6.83	-1.69
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	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 2	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 3	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 4	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 5	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 6	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 7	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 8	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 9	-30	-82	3873	18.14	-2.92	-2.44
133	SLU 10	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 11	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 12	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 13	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 14	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 15	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 16	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 17	-43	-100	4809	21.93	-2.97	-3.01
133	SLU 18	-49	-107	5210	23.56	-2.99	-3.26
133	SLU 19	-49	-107	5210	23.56	-2.99	-3.26
133	SLU 20	-49	-107	5210	23.56	-2.99	-3.26
133	SLU 21	-49	-107	5210	23.56	-2.99	-3.26
133	SLU 22	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 23	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 24	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 25	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 26	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 27	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 28	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 29	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 30	-39	-95	4538	20.6	-2.97	-2.85
133	SLU 31	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 32	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 33	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 34	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 35	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 36	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 37	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 38	-52	-112	5473	24.4	-3.02	-3.43
133	SLU 39	-58	-120	5875	26.02	-3.05	-3.67
133	SLU 40	-58	-120	5875	26.02	-3.05	-3.67
133	SLU 41	-58	-120	5875	26.02	-3.05	-3.67
133	SLU 42	-58	-120	5875	26.02	-3.05	-3.67
133	SLU 43	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 44	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 45	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 46	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 47	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 48	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 49	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 50	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 51	-36	-102	4807	22.73	-3.77	-3.03
133	SLU 52	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 53	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 54	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 55	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 56	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 57	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 58	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 59	-49	-120	5743	26.53	-3.82	-3.6
133	SLU 60	-55	-127	6144	28.16	-3.85	-3.85
133	SLU 61	-55	-127	6144	28.16	-3.85	-3.85
133	SLU 62	-55	-127	6144	28.16	-3.85	-3.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
133	SLU 63	-55	-127	6144	28.16	-3.85	-3.85
133	SLU 64	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 65	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 66	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 67	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 68	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 69	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 70	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 71	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 72	-45	-115	5472	25.2	-3.83	-3.44
133	SLU 73	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 74	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 75	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 76	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 77	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 78	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 79	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 80	-58	-133	6408	28.99	-3.88	-4.02
133	SLU 81	-64	-140	6809	30.62	-3.9	-4.26
133	SLU 82	-64	-140	6809	30.62	-3.9	-4.26
133	SLU 83	-64	-140	6809	30.62	-3.9	-4.26
133	SLU 84	-64	-140	6809	30.62	-3.9	-4.26
133	SLE RA 1	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 2	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 3	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 4	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 5	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 6	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 7	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 8	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 9	-33	-86	4063	18.84	-2.93	-2.56
133	SLE RA 10	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 11	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 12	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 13	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 14	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 15	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 16	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 17	-41	-97	4687	21.37	-2.97	-2.94
133	SLE RA 18	-45	-102	4954	22.46	-2.98	-3.1
133	SLE RA 19	-45	-102	4954	22.46	-2.98	-3.1
133	SLE RA 20	-45	-102	4954	22.46	-2.98	-3.1
133	SLE RA 21	-45	-102	4954	22.46	-2.98	-3.1
133	SLE FR 1	-33	-86	4063	18.84	-2.93	-2.56
133	SLE FR 2	-33	-86	4063	18.84	-2.93	-2.56
133	SLE FR 3	-33	-86	4063	18.84	-2.93	-2.56
133	SLE FR 4	-36	-91	4330	19.93	-2.95	-2.72
133	SLE FR 5	-36	-91	4330	19.93	-2.95	-2.72
133	SLE FR 6	-39	-94	4509	20.65	-2.96	-2.83
133	SLE QP 1	-33	-86	4063	18.84	-2.93	-2.56
133	SLE QP 2	-36	-91	4330	19.93	-2.95	-2.72
133	SLD 1	320	50	4068	19.22	-1.15	-3.3
133	SLD 2	317	84	4068	19.16	-1.16	-2.1
133	SLD 3	273	-111	4106	27.41	-0.8	-6.41
133	SLD 4	270	-76	4106	27.35	-0.81	-5.21
133	SLD 5	143	182	4194	7.31	-2.94	1.4
133	SLD 6	139	217	4194	7.25	-2.95	2.62
133	SLD 7	-13	-352	4320	34.62	-1.77	-8.98
133	SLD 8	-16	-317	4320	34.56	-1.78	-7.76
133	SLD 9	-56	136	4340	5.29	-4.12	2.32
133	SLD 10	-60	171	4340	5.23	-4.13	3.54
133	SLD 11	-212	-399	4466	32.6	-2.95	-8.06
133	SLD 12	-215	-364	4466	32.54	-2.95	-6.84
133	SLD 13	-343	-105	4555	12.5	-5.08	-0.23
133	SLD 14	-346	-71	4555	12.44	-5.09	0.97
133	SLD 15	-389	-266	4593	20.69	-4.73	-3.35
133	SLD 16	-393	-231	4593	20.63	-4.74	-2.14
133	SLV 1	773	231	3734	18.24	1.12	-4
133	SLV 2	766	310	3734	18.1	1.1	-1.27
133	SLV 3	667	-138	3820	37.15	1.92	-11.16
133	SLV 4	659	-59	3821	37.02	1.91	-8.44
133	SLV 5	370	538	4019	-9.22	-2.94	6.78
133	SLV 6	363	618	4020	-9.36	-2.96	9.55
133	SLV 7	16	-693	4309	53.83	-0.26	-17.09
133	SLV 8	9	-613	4309	53.69	-0.28	-14.32
133	SLV 9	-81	432	4351	-13.84	-5.62	8.88
133	SLV 10	-89	512	4352	-13.98	-5.64	11.65
133	SLV 11	-435	-799	4641	49.21	-2.93	-14.99
133	SLV 12	-443	-719	4641	49.07	-2.95	-12.22
133	SLV 13	-732	-122	4840	2.83	-7.8	2.99
133	SLV 14	-739	-43	4840	2.7	-7.82	5.72
133	SLV 15	-838	-492	4927	21.75	-7	-4.17
133	SLV 16	-846	-413	4927	21.61	-7.02	-1.44
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	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 2	-29	-95	3960	17.93	-2.89	-2.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
134	SLU 3	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 4	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 5	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 6	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 7	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 8	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 9	-29	-95	3960	17.93	-2.89	-2.2
134	SLU 10	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 11	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 12	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 13	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 14	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 15	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 16	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 17	-42	-115	4895	21.68	-2.8	-2.72
134	SLU 18	-48	-124	5296	23.28	-2.76	-2.95
134	SLU 19	-48	-124	5296	23.28	-2.76	-2.95
134	SLU 20	-48	-124	5296	23.28	-2.76	-2.95
134	SLU 21	-48	-124	5296	23.28	-2.76	-2.95
134	SLU 22	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 23	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 24	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 25	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 26	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 27	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 28	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 29	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 30	-38	-109	4625	20.35	-2.85	-2.58
134	SLU 31	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 32	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 33	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 34	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 35	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 36	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 37	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 38	-52	-130	5560	24.1	-2.76	-3.1
134	SLU 39	-57	-139	5961	25.71	-2.72	-3.32
134	SLU 40	-57	-139	5961	25.71	-2.72	-3.32
134	SLU 41	-57	-139	5961	25.71	-2.72	-3.32
134	SLU 42	-57	-139	5961	25.71	-2.72	-3.32
134	SLU 43	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 44	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 45	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 46	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 47	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 48	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 49	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 50	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 51	-34	-118	4920	22.47	-3.77	-2.74
134	SLU 52	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 53	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 54	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 55	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 56	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 57	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 58	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 59	-48	-138	5855	26.22	-3.67	-3.26
134	SLU 60	-53	-147	6256	27.83	-3.64	-3.48
134	SLU 61	-53	-147	6256	27.83	-3.64	-3.48
134	SLU 62	-53	-147	6256	27.83	-3.64	-3.48
134	SLU 63	-53	-147	6256	27.83	-3.64	-3.48
134	SLU 64	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 65	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 66	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 67	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 68	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 69	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 70	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 71	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 72	-43	-133	5585	24.9	-3.73	-3.11
134	SLU 73	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 74	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 75	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 76	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 77	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 78	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 79	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 80	-57	-153	6520	28.65	-3.64	-3.63
134	SLU 81	-63	-162	6921	30.25	-3.6	-3.86
134	SLU 82	-63	-162	6921	30.25	-3.6	-3.86
134	SLU 83	-63	-162	6921	30.25	-3.6	-3.86
134	SLU 84	-63	-162	6921	30.25	-3.6	-3.86
134	SLE RA 1	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 2	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 3	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 4	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 5	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 6	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 7	-31	-99	4150	18.62	-2.88	-2.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
134	SLE RA 8	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 9	-31	-99	4150	18.62	-2.88	-2.31
134	SLE RA 10	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 11	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 12	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 13	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 14	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 15	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 16	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 17	-40	-113	4773	21.12	-2.81	-2.66
134	SLE RA 18	-44	-118	5041	22.19	-2.79	-2.81
134	SLE RA 19	-44	-118	5041	22.19	-2.79	-2.81
134	SLE RA 20	-44	-118	5041	22.19	-2.79	-2.81
134	SLE RA 21	-44	-118	5041	22.19	-2.79	-2.81
134	SLE FR 1	-31	-99	4150	18.62	-2.88	-2.31
134	SLE FR 2	-31	-99	4150	18.62	-2.88	-2.31
134	SLE FR 3	-31	-99	4150	18.62	-2.88	-2.31
134	SLE FR 4	-35	-105	4417	19.69	-2.85	-2.46
134	SLE FR 5	-35	-105	4417	19.69	-2.85	-2.46
134	SLE FR 6	-38	-109	4595	20.4	-2.83	-2.56
134	SLE QP 1	-31	-99	4150	18.62	-2.88	-2.31
134	SLE QP 2	-35	-105	4417	19.69	-2.85	-2.46
134	SLD 1	321	50	4137	18.99	-0.95	-3.05
134	SLD 2	317	91	4137	18.92	-0.96	-1.81
134	SLD 3	274	-128	4089	27.24	-0.58	-6.38
134	SLD 4	271	-87	4089	27.17	-0.59	-5.14
134	SLD 5	143	197	4406	7	-2.83	1.98
134	SLD 6	140	238	4406	6.93	-2.84	3.23
134	SLD 7	-12	-396	4245	34.48	-1.62	-9.13
134	SLD 8	-15	-354	4246	34.41	-1.62	-7.88
134	SLD 9	-55	145	4588	4.97	-4.07	2.96
134	SLD 10	-58	187	4589	4.9	-4.08	4.21
134	SLD 11	-210	-448	4428	32.45	-2.86	-8.15
134	SLD 12	-214	-406	4428	32.38	-2.87	-6.9
134	SLD 13	-341	-122	4745	12.21	-5.11	0.23
134	SLD 14	-344	-81	4746	12.14	-5.11	1.46
134	SLD 15	-388	-300	4697	20.46	-4.74	-3.11
134	SLD 16	-391	-259	4698	20.39	-4.75	-1.87
134	SLV 1	773	250	3781	18.02	1.47	-3.76
134	SLV 2	765	343	3782	17.87	1.45	-0.96
134	SLV 3	667	-160	3670	37.05	2.3	-11.43
134	SLV 4	659	-66	3671	36.9	2.28	-8.63
134	SLV 5	371	589	4393	-9.61	-2.81	7.78
134	SLV 6	363	685	4394	-9.77	-2.83	10.62
134	SLV 7	17	-776	4025	53.81	-0.04	-17.78
134	SLV 8	10	-681	4026	53.66	-0.06	-14.93
134	SLV 9	-80	472	4808	-14.28	-5.64	10.02
134	SLV 10	-88	567	4809	-14.43	-5.66	12.86
134	SLV 11	-433	-894	4440	49.15	-2.87	-15.54
134	SLV 12	-441	-799	4441	48.99	-2.89	-12.69
134	SLV 13	-730	-143	5163	2.48	-7.98	3.71
134	SLV 14	-737	-49	5164	2.33	-8	6.51
134	SLV 15	-836	-553	5053	21.51	-7.15	-3.96
134	SLV 16	-843	-459	5054	21.36	-7.16	-1.16
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	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 2	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 3	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 4	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 5	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 6	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 7	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 8	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 9	-27	-106	4049	17.74	-3.07	-1.92
135	SLU 10	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 11	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 12	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 13	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 14	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 15	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 16	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 17	-41	-129	4980	21.45	-2.91	-2.38
135	SLU 18	-47	-139	5379	23.04	-2.83	-2.58
135	SLU 19	-47	-139	5379	23.04	-2.83	-2.58
135	SLU 20	-47	-139	5379	23.04	-2.83	-2.58
135	SLU 21	-47	-139	5379	23.04	-2.83	-2.58
135	SLU 22	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 23	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 24	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 25	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 26	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 27	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 28	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 29	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 30	-37	-123	4712	20.13	-2.98	-2.25
135	SLU 31	-51	-146	5643	23.84	-2.82	-2.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
135	SLU 32	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 33	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 34	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 35	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 36	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 37	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 38	-51	-146	5643	23.84	-2.82	-2.71
135	SLU 39	-57	-156	6042	25.43	-2.74	-2.91
135	SLU 40	-57	-156	6042	25.43	-2.74	-2.91
135	SLU 41	-57	-156	6042	25.43	-2.74	-2.91
135	SLU 42	-57	-156	6042	25.43	-2.74	-2.91
135	SLU 43	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 44	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 45	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 46	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 47	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 48	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 49	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 50	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 51	-32	-132	5037	22.25	-4.03	-2.38
135	SLU 52	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 53	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 54	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 55	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 56	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 57	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 58	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 59	-46	-155	5968	25.96	-3.86	-2.84
135	SLU 60	-52	-165	6367	27.54	-3.79	-3.04
135	SLU 61	-52	-165	6367	27.54	-3.79	-3.04
135	SLU 62	-52	-165	6367	27.54	-3.79	-3.04
135	SLU 63	-52	-165	6367	27.54	-3.79	-3.04
135	SLU 64	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 65	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 66	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 67	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 68	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 69	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 70	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 71	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 72	-41	-148	5699	24.64	-3.94	-2.71
135	SLU 73	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 74	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 75	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 76	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 77	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 78	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 79	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 80	-56	-172	6630	28.35	-3.77	-3.17
135	SLU 81	-62	-182	7030	29.93	-3.7	-3.37
135	SLU 82	-62	-182	7030	29.93	-3.7	-3.37
135	SLU 83	-62	-182	7030	29.93	-3.7	-3.37
135	SLU 84	-62	-182	7030	29.93	-3.7	-3.37
135	SLE RA 1	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 2	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 3	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 4	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 5	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 6	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 7	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 8	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 9	-30	-111	4238	18.43	-3.05	-2.01
135	SLE RA 10	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 11	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 12	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 13	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 14	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 15	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 16	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 17	-39	-126	4859	20.9	-2.94	-2.32
135	SLE RA 18	-43	-133	5125	21.96	-2.89	-2.45
135	SLE RA 19	-43	-133	5125	21.96	-2.89	-2.45
135	SLE RA 20	-43	-133	5125	21.96	-2.89	-2.45
135	SLE RA 21	-43	-133	5125	21.96	-2.89	-2.45
135	SLE FR 1	-30	-111	4238	18.43	-3.05	-2.01
135	SLE FR 2	-30	-111	4238	18.43	-3.05	-2.01
135	SLE FR 3	-30	-111	4238	18.43	-3.05	-2.01
135	SLE FR 4	-34	-117	4504	19.49	-3	-2.15
135	SLE FR 5	-34	-117	4504	19.49	-3	-2.15
135	SLE FR 6	-37	-122	4682	20.19	-2.97	-2.23
135	SLE OP 1	-30	-111	4238	18.43	-3.05	-2.01
135	SLE OP 2	-34	-117	4504	19.49	-3	-2.15
135	SLD 1	321	52	4165	18.8	-1	-2.73
135	SLD 2	318	100	4166	18.72	-1.01	-1.48
135	SLD 3	275	-144	4106	27.1	-0.63	-6.16
135	SLD 4	271	-96	4107	27.03	-0.64	-4.9
135	SLD 5	144	214	4492	6.71	-2.97	2.42
135	SLD 6	141	263	4493	6.64	-2.97	3.69
135	SLD 7	-11	-440	4295	34.39	-1.72	-8.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
135	SLD 8	-14	-391	4296	34.32	-1.73	-7.71
135	SLD 9	-54	157	4713	4.66	-4.27	3.42
135	SLD 10	-57	206	4714	4.58	-4.28	4.69
135	SLD 11	-209	-497	4516	32.34	-3.03	-7.98
135	SLD 12	-212	-448	4517	32.26	-3.03	-6.71
135	SLD 13	-339	-138	4902	11.95	-5.36	0.61
135	SLD 14	-342	-90	4903	11.87	-5.37	1.86
135	SLD 15	-386	-334	4843	20.25	-4.99	-2.81
135	SLD 16	-389	-286	4844	20.18	-5	-1.56
135	SLV 1	773	271	3735	17.84	1.53	-3.45
135	SLV 2	765	380	3736	17.67	1.51	-0.6
135	SLV 3	667	-181	3600	37	2.39	-11.32
135	SLV 4	659	-72	3601	36.84	2.37	-8.47
135	SLV 5	371	646	4478	-10.01	-2.93	8.38
135	SLV 6	364	756	4480	-10.18	-2.95	11.27
135	SLV 7	18	-861	4028	53.87	-0.08	-17.86
135	SLV 8	11	-750	4029	53.7	-0.1	-14.96
135	SLV 9	-79	516	4980	-14.72	-5.9	10.67
135	SLV 10	-86	626	4981	-14.89	-5.92	13.56
135	SLV 11	-431	-991	4529	49.15	-3.05	-15.57
135	SLV 12	-439	-880	4531	48.98	-3.07	-12.68
135	SLV 13	-727	-162	5408	2.14	-8.37	4.18
135	SLV 14	-734	-53	5409	1.97	-8.39	7.03
135	SLV 15	-833	-614	5273	21.3	-7.51	-3.69
135	SLV 16	-840	-505	5274	21.13	-7.53	-0.84
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	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 2	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 3	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 4	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 5	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 6	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 7	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 8	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 9	-26	-115	4149	17.59	-3.65	-1.58
136	SLU 10	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 11	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 12	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 13	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 14	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 15	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 16	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 17	-40	-141	5076	21.26	-3.52	-1.96
136	SLU 18	-46	-152	5473	22.84	-3.46	-2.13
136	SLU 19	-46	-152	5473	22.84	-3.46	-2.13
136	SLU 20	-46	-152	5473	22.84	-3.46	-2.13
136	SLU 21	-46	-152	5473	22.84	-3.46	-2.13
136	SLU 22	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 23	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 24	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 25	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 26	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 27	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 28	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 29	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 30	-35	-134	4809	19.95	-3.58	-1.85
136	SLU 31	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 32	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 33	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 34	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 35	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 36	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 37	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 38	-50	-159	5736	23.62	-3.46	-2.24
136	SLU 39	-56	-170	6133	25.2	-3.4	-2.41
136	SLU 40	-56	-170	6133	25.2	-3.4	-2.41
136	SLU 41	-56	-170	6133	25.2	-3.4	-2.41
136	SLU 42	-56	-170	6133	25.2	-3.4	-2.41
136	SLU 43	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 44	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 45	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 46	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 47	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 48	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 49	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 50	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 51	-30	-143	5168	22.06	-4.76	-1.95
136	SLU 52	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 53	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 54	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 55	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 56	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 57	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 58	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 59	-44	-169	6094	25.73	-4.63	-2.34
136	SLU 60	-51	-180	6491	27.3	-4.58	-2.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
136	SLU 61	-51	-180	6491	27.3	-4.58	-2.51
136	SLU 62	-51	-180	6491	27.3	-4.58	-2.51
136	SLU 63	-51	-180	6491	27.3	-4.58	-2.51
136	SLU 64	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 65	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 66	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 67	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 68	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 69	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 70	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 71	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 72	-40	-162	5828	24.42	-4.7	-2.23
136	SLU 73	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 74	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 75	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 76	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 77	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 78	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 79	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 80	-54	-187	6754	28.09	-4.57	-2.62
136	SLU 81	-60	-198	7151	29.66	-4.51	-2.79
136	SLU 82	-60	-198	7151	29.66	-4.51	-2.79
136	SLU 83	-60	-198	7151	29.66	-4.51	-2.79
136	SLU 84	-60	-198	7151	29.66	-4.51	-2.79
136	SLE RA 1	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 2	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 3	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 4	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 5	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 6	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 7	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 8	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 9	-28	-120	4338	18.27	-3.63	-1.65
136	SLE RA 10	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 11	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 12	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 13	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 14	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 15	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 16	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 17	-38	-138	4955	20.71	-3.54	-1.91
136	SLE RA 18	-42	-145	5220	21.76	-3.51	-2.03
136	SLE RA 19	-42	-145	5220	21.76	-3.51	-2.03
136	SLE RA 20	-42	-145	5220	21.76	-3.51	-2.03
136	SLE RA 21	-42	-145	5220	21.76	-3.51	-2.03
136	SLE FR 1	-28	-120	4338	18.27	-3.63	-1.65
136	SLE FR 2	-28	-120	4338	18.27	-3.63	-1.65
136	SLE FR 3	-28	-120	4338	18.27	-3.63	-1.65
136	SLE FR 4	-33	-128	4603	19.31	-3.59	-1.77
136	SLE FR 5	-33	-128	4603	19.31	-3.59	-1.77
136	SLE FR 6	-35	-133	4779	20.01	-3.57	-1.84
136	SLE QP 1	-28	-120	4338	18.27	-3.63	-1.65
136	SLE QP 2	-33	-128	4603	19.31	-3.59	-1.77
136	SLD 1	322	56	4202	18.64	-1.47	-2.35
136	SLD 2	319	111	4202	18.55	-1.47	-1.09
136	SLD 3	275	-159	4131	27.01	-1.08	-5.7
136	SLD 4	272	-104	4132	26.93	-1.08	-4.44
136	SLD 5	145	233	4589	6.44	-3.54	2.7
136	SLD 6	142	289	4589	6.36	-3.55	3.98
136	SLD 7	-9	-482	4354	34.35	-2.24	-8.48
136	SLD 8	-13	-427	4355	34.27	-2.25	-7.21
136	SLD 9	-52	171	4850	4.36	-4.93	3.68
136	SLD 10	-56	227	4851	4.28	-4.94	4.95
136	SLD 11	-207	-545	4616	32.27	-3.63	-7.51
136	SLD 12	-210	-489	4617	32.19	-3.64	-6.23
136	SLD 13	-337	-152	5073	11.7	-6.1	0.91
136	SLD 14	-340	-97	5074	11.62	-6.11	2.17
136	SLD 15	-384	-366	5003	20.07	-5.71	-2.44
136	SLD 16	-387	-312	5004	19.99	-5.71	-1.18
136	SLV 1	772	294	3693	17.69	1.23	-3.05
136	SLV 2	765	419	3695	17.51	1.21	-0.2
136	SLV 3	667	-200	3532	37.01	2.12	-10.77
136	SLV 4	659	-76	3534	36.83	2.1	-7.92
136	SLV 5	372	704	4573	-10.41	-3.5	8.53
136	SLV 6	364	831	4575	-10.59	-3.51	11.43
136	SLV 7	20	-944	4036	53.99	-0.51	-17.2
136	SLV 8	12	-818	4038	53.8	-0.53	-14.3
136	SLV 9	-77	562	5167	-15.17	-6.65	10.76
136	SLV 10	-85	688	5169	-15.36	-6.67	13.66
136	SLV 11	-429	-1086	4630	49.22	-3.67	-14.96
136	SLV 12	-437	-960	4632	49.04	-3.69	-12.06
136	SLV 13	-724	-180	5672	1.8	-9.29	4.38
136	SLV 14	-732	-56	5674	1.62	-9.3	7.24
136	SLV 15	-830	-674	5510	21.12	-8.39	-3.33
136	SLV 16	-837	-550	5512	20.94	-8.41	-0.48
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



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
137	SLU 1	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 2	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 3	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 4	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 5	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 6	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 7	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 8	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 9	-24	-123	4275	17.47	-4.83	-1.15
137	SLU 10	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 11	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 12	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 13	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 14	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 15	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 16	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 17	-39	-150	5201	21.11	-4.92	-1.46
137	SLU 18	-45	-162	5597	22.67	-4.95	-1.59
137	SLU 19	-45	-162	5597	22.67	-4.95	-1.59
137	SLU 20	-45	-162	5597	22.67	-4.95	-1.59
137	SLU 21	-45	-162	5597	22.67	-4.95	-1.59
137	SLU 22	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 23	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 24	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 25	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 26	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 27	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 28	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 29	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 30	-34	-143	4936	19.8	-4.92	-1.36
137	SLU 31	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 32	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 33	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 34	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 35	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 36	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 37	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 38	-49	-170	5861	23.44	-5.01	-1.67
137	SLU 39	-55	-182	6258	25	-5.05	-1.8
137	SLU 40	-55	-182	6258	25	-5.05	-1.8
137	SLU 41	-55	-182	6258	25	-5.05	-1.8
137	SLU 42	-55	-182	6258	25	-5.05	-1.8
137	SLU 43	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 44	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 45	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 46	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 47	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 48	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 49	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 50	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 51	-28	-153	5331	21.91	-6.24	-1.43
137	SLU 52	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 53	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 54	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 55	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 56	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 57	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 58	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 59	-43	-180	6257	25.55	-6.33	-1.73
137	SLU 60	-49	-192	6653	27.11	-6.37	-1.86
137	SLU 61	-49	-192	6653	27.11	-6.37	-1.86
137	SLU 62	-49	-192	6653	27.11	-6.37	-1.86
137	SLU 63	-49	-192	6653	27.11	-6.37	-1.86
137	SLU 64	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 65	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 66	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 67	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 68	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 69	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 70	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 71	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 72	-38	-173	5992	24.24	-6.34	-1.64
137	SLU 73	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 74	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 75	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 76	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 77	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 78	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 79	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 80	-53	-200	6917	27.88	-6.43	-1.94
137	SLU 81	-59	-212	7314	29.44	-6.47	-2.07
137	SLU 82	-59	-212	7314	29.44	-6.47	-2.07
137	SLU 83	-59	-212	7314	29.44	-6.47	-2.07
137	SLU 84	-59	-212	7314	29.44	-6.47	-2.07
137	SLE RA 1	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 2	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 3	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 4	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 5	-27	-128	4464	18.13	-4.86	-1.21



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
137	SLE RA 6	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 7	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 8	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 9	-27	-128	4464	18.13	-4.86	-1.21
137	SLE RA 10	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 11	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 12	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 13	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 14	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 15	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 16	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 17	-37	-147	5081	20.56	-4.91	-1.42
137	SLE RA 18	-41	-154	5345	21.6	-4.94	-1.5
137	SLE RA 19	-41	-154	5345	21.6	-4.94	-1.5
137	SLE RA 20	-41	-154	5345	21.6	-4.94	-1.5
137	SLE RA 21	-41	-154	5345	21.6	-4.94	-1.5
137	SLE FR 1	-27	-128	4464	18.13	-4.86	-1.21
137	SLE FR 2	-27	-128	4464	18.13	-4.86	-1.21
137	SLE FR 3	-27	-128	4464	18.13	-4.86	-1.21
137	SLE FR 4	-31	-136	4728	19.17	-4.88	-1.3
137	SLE FR 5	-31	-136	4728	19.17	-4.88	-1.3
137	SLE FR 6	-34	-141	4905	19.87	-4.9	-1.36
137	SLE QP 1	-27	-128	4464	18.13	-4.86	-1.21
137	SLE QP 2	-31	-136	4728	19.17	-4.88	-1.3
137	SLD 1	322	-163	4261	18.51	-2.56	-1.86
137	SLD 2	319	-102	4262	18.42	-2.56	-0.62
137	SLD 3	276	-396	4178	26.96	-2.13	-4.97
137	SLD 4	273	-334	4179	26.87	-2.14	-3.73
137	SLD 5	146	186	4713	6.18	-4.82	2.8
137	SLD 6	143	249	4714	6.09	-4.83	4.05
137	SLD 7	-8	-588	4438	34.36	-3.41	-7.55
137	SLD 8	-11	-526	4439	34.27	-3.42	-6.29
137	SLD 9	-51	254	5018	4.08	-6.34	3.69
137	SLD 10	-54	316	5019	3.99	-6.35	4.95
137	SLD 11	-205	-521	4743	32.25	-4.93	-6.65
137	SLD 12	-209	-459	4744	32.16	-4.94	-5.4
137	SLD 13	-335	62	5277	11.48	-7.62	1.13
137	SLD 14	-338	123	5278	11.39	-7.63	2.37
137	SLD 15	-381	-171	5195	19.93	-7.2	-1.97
137	SLD 16	-385	-109	5196	19.84	-7.2	-0.74
137	SLV 1	772	-195	3667	17.58	0.39	-2.55
137	SLV 2	764	-55	3670	17.38	0.37	0.26
137	SLV 3	666	-730	3478	37.08	1.36	-9.69
137	SLV 4	659	-590	3481	36.88	1.34	-6.88
137	SLV 5	372	608	4695	-10.81	-4.76	8.15
137	SLV 6	364	750	4698	-11.01	-4.77	11
137	SLV 7	21	-1176	4066	54.19	-1.54	-15.65
137	SLV 8	13	-1034	4069	53.99	-1.56	-12.8
137	SLV 9	-76	762	5388	-15.64	-8.2	10.2
137	SLV 10	-83	904	5390	-15.84	-8.22	13.05
137	SLV 11	-427	-1022	4759	49.36	-4.99	-13.6
137	SLV 12	-434	-880	4761	49.16	-5.01	-10.75
137	SLV 13	-721	318	5976	1.47	-11.1	4.28
137	SLV 14	-729	458	5978	1.27	-11.12	7.09
137	SLV 15	-827	-217	5787	20.97	-10.14	-2.86
137	SLV 16	-834	-77	5789	20.77	-10.15	-0.05
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	-20	-110	3824	15.07	102.4	2.51
138	SLU 2	-20	-110	3824	15.07	102.4	2.51
138	SLU 3	-20	-110	3824	15.07	102.4	2.51
138	SLU 4	-20	-110	3824	15.07	102.4	2.51
138	SLU 5	-20	-110	3824	15.07	102.4	2.51
138	SLU 6	-20	-110	3824	15.07	102.4	2.51
138	SLU 7	-20	-110	3824	15.07	102.4	2.51
138	SLU 8	-20	-110	3824	15.07	102.4	2.51
138	SLU 9	-20	-110	3824	15.07	102.4	2.51
138	SLU 10	-32	-135	4628	18.2	124.52	3.04
138	SLU 11	-32	-135	4628	18.2	124.52	3.04
138	SLU 12	-32	-135	4628	18.2	124.52	3.04
138	SLU 13	-32	-135	4628	18.2	124.52	3.04
138	SLU 14	-32	-135	4628	18.2	124.52	3.04
138	SLU 15	-32	-135	4628	18.2	124.52	3.04
138	SLU 16	-32	-135	4628	18.2	124.52	3.04
138	SLU 17	-32	-135	4628	18.2	124.52	3.04
138	SLU 18	-38	-145	4973	19.55	134	3.26
138	SLU 19	-38	-145	4973	19.55	134	3.26
138	SLU 20	-38	-145	4973	19.55	134	3.26
138	SLU 21	-38	-145	4973	19.55	134	3.26
138	SLU 22	-28	-128	4399	17.07	118.19	2.9
138	SLU 23	-28	-128	4399	17.07	118.19	2.9
138	SLU 24	-28	-128	4399	17.07	118.19	2.9
138	SLU 25	-28	-128	4399	17.07	118.19	2.9
138	SLU 26	-28	-128	4399	17.07	118.19	2.9
138	SLU 27	-28	-128	4399	17.07	118.19	2.9
138	SLU 28	-28	-128	4399	17.07	118.19	2.9
138	SLU 29	-28	-128	4399	17.07	118.19	2.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
138	SLU 30	-28	-128	4399	17.07	118.19	2.9
138	SLU 31	-41	-153	5203	20.21	140.31	3.42
138	SLU 32	-41	-153	5203	20.21	140.31	3.42
138	SLU 33	-41	-153	5203	20.21	140.31	3.42
138	SLU 34	-41	-153	5203	20.21	140.31	3.42
138	SLU 35	-41	-153	5203	20.21	140.31	3.42
138	SLU 36	-41	-153	5203	20.21	140.31	3.42
138	SLU 37	-41	-153	5203	20.21	140.31	3.42
138	SLU 38	-41	-153	5203	20.21	140.31	3.42
138	SLU 39	-46	-163	5548	21.55	149.79	3.64
138	SLU 40	-46	-163	5548	21.55	149.79	3.64
138	SLU 41	-46	-163	5548	21.55	149.79	3.64
138	SLU 42	-46	-163	5548	21.55	149.79	3.64
138	SLU 43	-23	-137	4774	18.9	127.71	3.13
138	SLU 44	-23	-137	4774	18.9	127.71	3.13
138	SLU 45	-23	-137	4774	18.9	127.71	3.13
138	SLU 46	-23	-137	4774	18.9	127.71	3.13
138	SLU 47	-23	-137	4774	18.9	127.71	3.13
138	SLU 48	-23	-137	4774	18.9	127.71	3.13
138	SLU 49	-23	-137	4774	18.9	127.71	3.13
138	SLU 50	-23	-137	4774	18.9	127.71	3.13
138	SLU 51	-23	-137	4774	18.9	127.71	3.13
138	SLU 52	-36	-162	5578	22.04	149.83	3.66
138	SLU 53	-36	-162	5578	22.04	149.83	3.66
138	SLU 54	-36	-162	5578	22.04	149.83	3.66
138	SLU 55	-36	-162	5578	22.04	149.83	3.66
138	SLU 56	-36	-162	5578	22.04	149.83	3.66
138	SLU 57	-36	-162	5578	22.04	149.83	3.66
138	SLU 58	-36	-162	5578	22.04	149.83	3.66
138	SLU 59	-36	-162	5578	22.04	149.83	3.66
138	SLU 60	-41	-172	5923	23.38	159.31	3.88
138	SLU 61	-41	-172	5923	23.38	159.31	3.88
138	SLU 62	-41	-172	5923	23.38	159.31	3.88
138	SLU 63	-41	-172	5923	23.38	159.31	3.88
138	SLU 64	-31	-155	5349	20.9	143.5	3.52
138	SLU 65	-31	-155	5349	20.9	143.5	3.52
138	SLU 66	-31	-155	5349	20.9	143.5	3.52
138	SLU 67	-31	-155	5349	20.9	143.5	3.52
138	SLU 68	-31	-155	5349	20.9	143.5	3.52
138	SLU 69	-31	-155	5349	20.9	143.5	3.52
138	SLU 70	-31	-155	5349	20.9	143.5	3.52
138	SLU 71	-31	-155	5349	20.9	143.5	3.52
138	SLU 72	-31	-155	5349	20.9	143.5	3.52
138	SLU 73	-44	-179	6153	24.04	165.62	4.04
138	SLU 74	-44	-179	6153	24.04	165.62	4.04
138	SLU 75	-44	-179	6153	24.04	165.62	4.04
138	SLU 76	-44	-179	6153	24.04	165.62	4.04
138	SLU 77	-44	-179	6153	24.04	165.62	4.04
138	SLU 78	-44	-179	6153	24.04	165.62	4.04
138	SLU 79	-44	-179	6153	24.04	165.62	4.04
138	SLU 80	-44	-179	6153	24.04	165.62	4.04
138	SLU 81	-49	-190	6498	25.39	175.1	4.27
138	SLU 82	-49	-190	6498	25.39	175.1	4.27
138	SLU 83	-49	-190	6498	25.39	175.1	4.27
138	SLU 84	-49	-190	6498	25.39	175.1	4.27
138	SLE RA 1	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 2	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 3	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 4	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 5	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 6	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 7	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 8	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 9	-22	-115	3988	15.64	106.91	2.62
138	SLE RA 10	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 11	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 12	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 13	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 14	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 15	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 16	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 17	-31	-132	4524	17.73	121.66	2.97
138	SLE RA 18	-34	-139	4754	18.63	127.98	3.12
138	SLE RA 19	-34	-139	4754	18.63	127.98	3.12
138	SLE RA 20	-34	-139	4754	18.63	127.98	3.12
138	SLE RA 21	-34	-139	4754	18.63	127.98	3.12
138	SLE FR 1	-22	-115	3988	15.64	106.91	2.62
138	SLE FR 2	-22	-115	3988	15.64	106.91	2.62
138	SLE FR 3	-22	-115	3988	15.64	106.91	2.62
138	SLE FR 4	-26	-122	4218	16.54	113.23	2.77
138	SLE FR 5	-26	-122	4218	16.54	113.23	2.77
138	SLE FR 6	-28	-127	4371	17.13	117.45	2.87
138	SLE QP 1	-22	-115	3988	15.64	106.91	2.62
138	SLE QP 2	-26	-122	4218	16.54	113.23	2.77
138	SLD 1	278	-148	3755	15.96	101.99	-0.65
138	SLD 2	275	-89	3757	15.88	102.02	-1.3
138	SLD 3	238	-361	3674	23.36	100.01	3.1
138	SLD 4	235	-302	3675	23.28	100.04	2.45
138	SLD 5	127	173	4203	5.17	112.86	-3.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
138	SLD 6	124	232	4204	5.09	112.88	-4.37
138	SLD 7	-6	-538	3930	29.84	106.25	8.79
138	SLD 8	-9	-479	3931	29.76	106.28	8.13
138	SLD 9	-43	234	4504	3.32	120.19	-2.59
138	SLD 10	-46	294	4506	3.23	120.21	-3.25
138	SLD 11	-176	-476	4232	27.99	113.58	9.92
138	SLD 12	-178	-417	4233	27.9	113.61	9.26
138	SLD 13	-287	58	4761	9.79	126.42	3.09
138	SLD 14	-290	117	4762	9.71	126.45	2.44
138	SLD 15	-327	-155	4679	17.19	124.44	6.84
138	SLD 16	-330	-97	4680	17.11	124.47	6.19
138	SLV 1	664	-178	3168	15.17	87.73	-5.08
138	SLV 2	658	-45	3171	14.98	87.79	-6.56
138	SLV 3	574	-669	2981	32.24	83.2	3.57
138	SLV 4	568	-536	2984	32.05	83.26	2.09
138	SLV 5	321	558	4186	-9.7	112.44	-12.17
138	SLV 6	314	693	4189	-9.89	112.5	-13.67
138	SLV 7	19	-1078	3562	47.2	97.32	16.65
138	SLV 8	12	-943	3565	47.01	97.38	15.16
138	SLV 9	-64	699	4871	-13.94	129.08	-9.61
138	SLV 10	-71	834	4874	-14.13	129.15	-11.11
138	SLV 11	-366	-937	4247	42.96	113.96	19.21
138	SLV 12	-373	-803	4250	42.77	114.02	17.72
138	SLV 13	-619	292	5452	1.02	143.21	3.45
138	SLV 14	-626	424	5455	0.83	143.27	1.98
138	SLV 15	-710	-199	5265	18.09	138.67	12.1
138	SLV 16	-716	-66	5267	17.9	138.73	10.62
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
140	SLU 1	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 2	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 3	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 4	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 5	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 6	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 7	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 8	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 9	-30	-172	6026	-7.7	1378.73	41.69
140	SLU 10	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 11	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 12	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 13	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 14	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 15	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 16	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 17	-49	-211	7277	-9.32	1671.55	51.04
140	SLU 18	-58	-227	7813	-10.01	1797.04	55.04
140	SLU 19	-58	-227	7813	-10.01	1797.04	55.04
140	SLU 20	-58	-227	7813	-10.01	1797.04	55.04
140	SLU 21	-58	-227	7813	-10.01	1797.04	55.04
140	SLU 22	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 23	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 24	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 25	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 26	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 27	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 28	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 29	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 30	-43	-200	6921	-9.06	1587.82	48.44
140	SLU 31	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 32	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 33	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 34	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 35	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 36	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 37	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 38	-62	-239	8172	-10.68	1880.64	57.79
140	SLU 39	-71	-256	8708	-11.37	2006.13	61.79
140	SLU 40	-71	-256	8708	-11.37	2006.13	61.79
140	SLU 41	-71	-256	8708	-11.37	2006.13	61.79
140	SLU 42	-71	-256	8708	-11.37	2006.13	61.79
140	SLU 43	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 44	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 45	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 46	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 47	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 48	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 49	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 50	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 51	-34	-214	7527	-9.55	1720.67	51.88
140	SLU 52	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 53	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 54	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 55	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 56	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 57	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 58	-54	-253	8778	-11.17	2013.48	61.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
140	SLU 59	-54	-253	8778	-11.17	2013.48	61.23
140	SLU 60	-62	-269	9314	-11.86	2138.97	65.23
140	SLU 61	-62	-269	9314	-11.86	2138.97	65.23
140	SLU 62	-62	-269	9314	-11.86	2138.97	65.23
140	SLU 63	-62	-269	9314	-11.86	2138.97	65.23
140	SLU 64	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 65	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 66	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 67	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 68	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 69	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 70	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 71	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 72	-47	-242	8422	-10.91	1929.76	58.63
140	SLU 73	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 74	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 75	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 76	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 77	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 78	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 79	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 80	-67	-281	9673	-12.52	2222.57	67.98
140	SLU 81	-75	-297	10209	-13.22	2348.06	71.99
140	SLU 82	-75	-297	10209	-13.22	2348.06	71.99
140	SLU 83	-75	-297	10209	-13.22	2348.06	71.99
140	SLU 84	-75	-297	10209	-13.22	2348.06	71.99
140	SLE RA 1	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 2	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 3	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 4	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 5	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 6	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 7	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 8	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 9	-34	-180	6282	-8.09	1438.47	43.62
140	SLE RA 10	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 11	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 12	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 13	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 14	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 15	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 16	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 17	-46	-206	7116	-9.17	1633.68	49.85
140	SLE RA 18	-52	-217	7473	-9.63	1717.34	52.52
140	SLE RA 19	-52	-217	7473	-9.63	1717.34	52.52
140	SLE RA 20	-52	-217	7473	-9.63	1717.34	52.52
140	SLE RA 21	-52	-217	7473	-9.63	1717.34	52.52
140	SLE FR 1	-34	-180	6282	-8.09	1438.47	43.62
140	SLE FR 2	-34	-180	6282	-8.09	1438.47	43.62
140	SLE FR 3	-34	-180	6282	-8.09	1438.47	43.62
140	SLE FR 4	-39	-191	6639	-8.55	1522.14	46.29
140	SLE FR 5	-39	-191	6639	-8.55	1522.14	46.29
140	SLE FR 6	-43	-198	6877	-8.86	1577.91	48.07
140	SLE QP 1	-34	-180	6282	-8.09	1438.47	43.62
140	SLE QP 2	-39	-191	6639	-8.55	1522.14	46.29
140	SLD 1	429	-232	5876	-7.61	1362.8	55.36
140	SLD 2	425	-138	5878	-7.69	1363.19	33.43
140	SLD 3	368	-570	5741	-1.05	1334.63	135.94
140	SLD 4	363	-476	5743	-1.13	1335.02	114.01
140	SLD 5	196	276	6614	-18.2	1516.93	-65.36
140	SLD 6	191	371	6616	-18.28	1517.32	-87.61
140	SLD 7	-8	-851	6164	3.68	1423.01	203.23
140	SLD 8	-13	-756	6166	3.6	1423.41	180.98
140	SLD 9	-65	374	7112	-20.71	1620.86	-88.4
140	SLD 10	-70	469	7114	-20.79	1621.26	-110.65
140	SLD 11	-270	-753	6662	1.17	1526.95	180.19
140	SLD 12	-274	-658	6664	1.09	1527.34	157.94
140	SLD 13	-442	94	7535	-15.98	1709.25	-21.43
140	SLD 14	-446	188	7537	-16.05	1709.64	-43.36
140	SLD 15	-503	-244	7400	-9.41	1681.08	59.15
140	SLD 16	-507	-150	7402	-9.49	1681.47	37.22
140	SLV 1	1024	-281	4909	-6.48	1160.6	66.01
140	SLV 2	1014	-67	4913	-6.66	1161.48	16.27
140	SLV 3	884	-1059	4599	8.65	1096.1	251.56
140	SLV 4	875	-846	4604	8.47	1096.99	201.81
140	SLV 5	495	886	6587	-30.82	1511.18	-211.41
140	SLV 6	485	1103	6592	-31	1512.08	-261.92
140	SLV 7	30	-1708	5557	19.62	1296.18	407.07
140	SLV 8	20	-1492	5561	19.44	1297.08	356.57
140	SLV 9	-98	1110	7717	-36.55	1747.19	-263.99
140	SLV 10	-108	1326	7721	-36.73	1748.09	-314.49
140	SLV 11	-563	-1485	6687	13.89	1532.19	354.5
140	SLV 12	-573	-1268	6691	13.71	1533.09	303.99
140	SLV 13	-953	464	8674	-25.58	1947.28	-109.23
140	SLV 14	-963	677	8679	-25.76	1948.17	-158.98
140	SLV 15	-1092	-315	8365	-10.45	1882.79	76.31
140	SLV 16	-1102	-101	8370	-10.62	1883.67	26.57
140	CRTFP Ux+	0	0	0	0	0.01	0
140	CRTFP Ux-	0	0	0	0	-0.01	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
140	CRTFP Uy+	0	0	0	0	0	0.01
140	CRTFP Uy-	0	0	0	0	0	-0.01
165	SLU 1	-12	-64	2273	41.62	679.97	22.65
165	SLU 2	-12	-64	2273	41.62	679.97	22.65
165	SLU 3	-12	-64	2273	41.62	679.97	22.65
165	SLU 4	-12	-64	2273	41.62	679.97	22.65
165	SLU 5	-12	-64	2273	41.62	679.97	22.65
165	SLU 6	-12	-64	2273	41.62	679.97	22.65
165	SLU 7	-12	-64	2273	41.62	679.97	22.65
165	SLU 8	-12	-64	2273	41.62	679.97	22.65
165	SLU 9	-12	-64	2273	41.62	679.97	22.65
165	SLU 10	-19	-79	2746	50.22	825.35	27.9
165	SLU 11	-19	-79	2746	50.22	825.35	27.9
165	SLU 12	-19	-79	2746	50.22	825.35	27.9
165	SLU 13	-19	-79	2746	50.22	825.35	27.9
165	SLU 14	-19	-79	2746	50.22	825.35	27.9
165	SLU 15	-19	-79	2746	50.22	825.35	27.9
165	SLU 16	-19	-79	2746	50.22	825.35	27.9
165	SLU 17	-19	-79	2746	50.22	825.35	27.9
165	SLU 18	-22	-85	2949	53.9	887.66	30.15
165	SLU 19	-22	-85	2949	53.9	887.66	30.15
165	SLU 20	-22	-85	2949	53.9	887.66	30.15
165	SLU 21	-22	-85	2949	53.9	887.66	30.15
165	SLU 22	-17	-75	2611	47.75	783.68	26.43
165	SLU 23	-17	-75	2611	47.75	783.68	26.43
165	SLU 24	-17	-75	2611	47.75	783.68	26.43
165	SLU 25	-17	-75	2611	47.75	783.68	26.43
165	SLU 26	-17	-75	2611	47.75	783.68	26.43
165	SLU 27	-17	-75	2611	47.75	783.68	26.43
165	SLU 28	-17	-75	2611	47.75	783.68	26.43
165	SLU 29	-17	-75	2611	47.75	783.68	26.43
165	SLU 30	-17	-75	2611	47.75	783.68	26.43
165	SLU 31	-24	-89	3085	56.35	929.07	31.68
165	SLU 32	-24	-89	3085	56.35	929.07	31.68
165	SLU 33	-24	-89	3085	56.35	929.07	31.68
165	SLU 34	-24	-89	3085	56.35	929.07	31.68
165	SLU 35	-24	-89	3085	56.35	929.07	31.68
165	SLU 36	-24	-89	3085	56.35	929.07	31.68
165	SLU 37	-24	-89	3085	56.35	929.07	31.68
165	SLU 38	-24	-89	3085	56.35	929.07	31.68
165	SLU 39	-27	-95	3288	60.03	991.38	33.92
165	SLU 40	-27	-95	3288	60.03	991.38	33.92
165	SLU 41	-27	-95	3288	60.03	991.38	33.92
165	SLU 42	-27	-95	3288	60.03	991.38	33.92
165	SLU 43	-14	-80	2839	52	848.4	28.15
165	SLU 44	-14	-80	2839	52	848.4	28.15
165	SLU 45	-14	-80	2839	52	848.4	28.15
165	SLU 46	-14	-80	2839	52	848.4	28.15
165	SLU 47	-14	-80	2839	52	848.4	28.15
165	SLU 48	-14	-80	2839	52	848.4	28.15
165	SLU 49	-14	-80	2839	52	848.4	28.15
165	SLU 50	-14	-80	2839	52	848.4	28.15
165	SLU 51	-14	-80	2839	52	848.4	28.15
165	SLU 52	-21	-94	3312	60.6	993.78	33.4
165	SLU 53	-21	-94	3312	60.6	993.78	33.4
165	SLU 54	-21	-94	3312	60.6	993.78	33.4
165	SLU 55	-21	-94	3312	60.6	993.78	33.4
165	SLU 56	-21	-94	3312	60.6	993.78	33.4
165	SLU 57	-21	-94	3312	60.6	993.78	33.4
165	SLU 58	-21	-94	3312	60.6	993.78	33.4
165	SLU 59	-21	-94	3312	60.6	993.78	33.4
165	SLU 60	-24	-100	3515	64.29	1056.09	35.65
165	SLU 61	-24	-100	3515	64.29	1056.09	35.65
165	SLU 62	-24	-100	3515	64.29	1056.09	35.65
165	SLU 63	-24	-100	3515	64.29	1056.09	35.65
165	SLU 64	-19	-90	3177	58.13	952.11	31.93
165	SLU 65	-19	-90	3177	58.13	952.11	31.93
165	SLU 66	-19	-90	3177	58.13	952.11	31.93
165	SLU 67	-19	-90	3177	58.13	952.11	31.93
165	SLU 68	-19	-90	3177	58.13	952.11	31.93
165	SLU 69	-19	-90	3177	58.13	952.11	31.93
165	SLU 70	-19	-90	3177	58.13	952.11	31.93
165	SLU 71	-19	-90	3177	58.13	952.11	31.93
165	SLU 72	-19	-90	3177	58.13	952.11	31.93
165	SLU 73	-26	-105	3651	66.73	1097.5	37.18
165	SLU 74	-26	-105	3651	66.73	1097.5	37.18
165	SLU 75	-26	-105	3651	66.73	1097.5	37.18
165	SLU 76	-26	-105	3651	66.73	1097.5	37.18
165	SLU 77	-26	-105	3651	66.73	1097.5	37.18
165	SLU 78	-26	-105	3651	66.73	1097.5	37.18
165	SLU 79	-26	-105	3651	66.73	1097.5	37.18
165	SLU 80	-26	-105	3651	66.73	1097.5	37.18
165	SLU 81	-29	-111	3854	70.41	1159.81	39.42
165	SLU 82	-29	-111	3854	70.41	1159.81	39.42
165	SLU 83	-29	-111	3854	70.41	1159.81	39.42
165	SLU 84	-29	-111	3854	70.41	1159.81	39.42
165	SLE RA 1	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 2	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 3	-13	-67	2369	43.37	709.6	23.73



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
165	SLE RA 4	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 5	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 6	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 7	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 8	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 9	-13	-67	2369	43.37	709.6	23.73
165	SLE RA 10	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 11	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 12	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 13	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 14	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 15	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 16	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 17	-18	-77	2685	49.1	806.52	27.23
165	SLE RA 18	-20	-81	2821	51.56	848.06	28.73
165	SLE RA 19	-20	-81	2821	51.56	848.06	28.73
165	SLE RA 20	-20	-81	2821	51.56	848.06	28.73
165	SLE RA 21	-20	-81	2821	51.56	848.06	28.73
165	SLE FR 1	-13	-67	2369	43.37	709.6	23.73
165	SLE FR 2	-13	-67	2369	43.37	709.6	23.73
165	SLE FR 3	-13	-67	2369	43.37	709.6	23.73
165	SLE FR 4	-15	-71	2505	45.83	751.14	25.23
165	SLE FR 5	-15	-71	2505	45.83	751.14	25.23
165	SLE FR 6	-17	-74	2595	47.46	778.83	26.23
165	SLE QP 1	-13	-67	2369	43.37	709.6	23.73
165	SLE QP 2	-15	-71	2505	45.83	751.14	25.23
165	SLD 1	141	-87	2182	40.09	676.68	-13.9
165	SLD 2	137	-51	2183	40.1	676.94	-26.09
165	SLD 3	166	-215	2226	40.81	663.38	30.75
165	SLD 4	162	-180	2226	40.82	663.64	18.56
165	SLD 5	-4	106	2342	43.02	748.88	-49.87
165	SLD 6	-9	142	2343	43.02	749.14	-62.24
165	SLD 7	79	-321	2487	45.41	704.55	98.96
165	SLD 8	74	-286	2487	45.41	704.81	86.59
165	SLD 9	-104	143	2522	46.24	797.47	-36.13
165	SLD 10	-109	179	2523	46.25	797.73	-48.5
165	SLD 11	-21	-284	2667	48.63	753.14	112.7
165	SLD 12	-26	-249	2667	48.64	753.4	100.33
165	SLD 13	-192	37	2783	50.84	838.64	31.9
165	SLD 14	-197	73	2784	50.84	838.9	19.71
165	SLD 15	-167	-91	2827	51.55	825.34	76.55
165	SLD 16	-172	-56	2827	51.56	825.6	64.36
165	SLV 1	340	-105	1773	32.8	582.16	-64.54
165	SLV 2	330	-25	1774	32.82	582.75	-92.21
165	SLV 3	397	-400	1872	34.44	551.71	38.27
165	SLV 4	387	-320	1873	34.46	552.3	10.6
165	SLV 5	9	338	2134	39.43	746.42	-147.74
165	SLV 6	-2	420	2136	39.44	747.02	-175.82
165	SLV 7	198	-647	2465	44.89	644.92	194.97
165	SLV 8	188	-565	2466	44.9	645.51	166.88
165	SLV 9	-218	423	2544	46.75	856.76	-116.42
165	SLV 10	-229	504	2545	46.76	857.36	-144.51
165	SLV 11	-29	-562	2874	52.21	755.26	226.28
165	SLV 12	-40	-481	2875	52.22	755.86	198.19
165	SLV 13	-417	178	3137	57.2	949.98	39.85
165	SLV 14	-428	258	3138	57.21	950.57	12.19
165	SLV 15	-360	-118	3236	58.84	919.53	142.66
165	SLV 16	-371	-38	3237	58.85	920.12	115
165	CRTFP Ux+	0	0	0	0	0	0
165	CRTFP Ux-	0	0	0	0	0	0
165	CRTFP Uy+	0	0	0	0	0	0
165	CRTFP Uy-	0	0	0	0	0	0
166	SLU 1	-19	113	1526	28.63	-324.33	28.55
166	SLU 2	-19	113	1526	28.63	-324.33	28.55
166	SLU 3	-19	113	1526	28.63	-324.33	28.55
166	SLU 4	-19	113	1526	28.63	-324.33	28.55
166	SLU 5	-19	113	1526	28.63	-324.33	28.55
166	SLU 6	-19	113	1526	28.63	-324.33	28.55
166	SLU 7	-19	113	1526	28.63	-324.33	28.55
166	SLU 8	-19	113	1526	28.63	-324.33	28.55
166	SLU 9	-19	113	1526	28.63	-324.33	28.55
166	SLU 10	-18	142	1841	34.46	-394.07	35.79
166	SLU 11	-18	142	1841	34.46	-394.07	35.79
166	SLU 12	-18	142	1841	34.46	-394.07	35.79
166	SLU 13	-18	142	1841	34.46	-394.07	35.79
166	SLU 14	-18	142	1841	34.46	-394.07	35.79
166	SLU 15	-18	142	1841	34.46	-394.07	35.79
166	SLU 16	-18	142	1841	34.46	-394.07	35.79
166	SLU 17	-18	142	1841	34.46	-394.07	35.79
166	SLU 18	-18	155	1976	36.95	-423.96	38.89
166	SLU 19	-18	155	1976	36.95	-423.96	38.89
166	SLU 20	-18	155	1976	36.95	-423.96	38.89
166	SLU 21	-18	155	1976	36.95	-423.96	38.89
166	SLU 22	-19	134	1758	32.92	-375.42	33.79
166	SLU 23	-19	134	1758	32.92	-375.42	33.79
166	SLU 24	-19	134	1758	32.92	-375.42	33.79
166	SLU 25	-19	134	1758	32.92	-375.42	33.79
166	SLU 26	-19	134	1758	32.92	-375.42	33.79
166	SLU 27	-19	134	1758	32.92	-375.42	33.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
166	SLU 28	-19	134	1758	32.92	-375.42	33.79
166	SLU 29	-19	134	1758	32.92	-375.42	33.79
166	SLU 30	-19	134	1758	32.92	-375.42	33.79
166	SLU 31	-18	163	2073	38.74	-445.16	41.03
166	SLU 32	-18	163	2073	38.74	-445.16	41.03
166	SLU 33	-18	163	2073	38.74	-445.16	41.03
166	SLU 34	-18	163	2073	38.74	-445.16	41.03
166	SLU 35	-18	163	2073	38.74	-445.16	41.03
166	SLU 36	-18	163	2073	38.74	-445.16	41.03
166	SLU 37	-18	163	2073	38.74	-445.16	41.03
166	SLU 38	-18	163	2073	38.74	-445.16	41.03
166	SLU 39	-18	176	2208	41.23	-475.05	44.14
166	SLU 40	-18	176	2208	41.23	-475.05	44.14
166	SLU 41	-18	176	2208	41.23	-475.05	44.14
166	SLU 42	-18	176	2208	41.23	-475.05	44.14
166	SLU 43	-25	140	1905	35.76	-404.11	35.31
166	SLU 44	-25	140	1905	35.76	-404.11	35.31
166	SLU 45	-25	140	1905	35.76	-404.11	35.31
166	SLU 46	-25	140	1905	35.76	-404.11	35.31
166	SLU 47	-25	140	1905	35.76	-404.11	35.31
166	SLU 48	-25	140	1905	35.76	-404.11	35.31
166	SLU 49	-25	140	1905	35.76	-404.11	35.31
166	SLU 50	-25	140	1905	35.76	-404.11	35.31
166	SLU 51	-25	140	1905	35.76	-404.11	35.31
166	SLU 52	-24	169	2219	41.58	-473.85	42.56
166	SLU 53	-24	169	2219	41.58	-473.85	42.56
166	SLU 54	-24	169	2219	41.58	-473.85	42.56
166	SLU 55	-24	169	2219	41.58	-473.85	42.56
166	SLU 56	-24	169	2219	41.58	-473.85	42.56
166	SLU 57	-24	169	2219	41.58	-473.85	42.56
166	SLU 58	-24	169	2219	41.58	-473.85	42.56
166	SLU 59	-24	169	2219	41.58	-473.85	42.56
166	SLU 60	-24	182	2354	44.07	-503.74	45.66
166	SLU 61	-24	182	2354	44.07	-503.74	45.66
166	SLU 62	-24	182	2354	44.07	-503.74	45.66
166	SLU 63	-24	182	2354	44.07	-503.74	45.66
166	SLU 64	-25	161	2137	40.04	-455.21	40.56
166	SLU 65	-25	161	2137	40.04	-455.21	40.56
166	SLU 66	-25	161	2137	40.04	-455.21	40.56
166	SLU 67	-25	161	2137	40.04	-455.21	40.56
166	SLU 68	-25	161	2137	40.04	-455.21	40.56
166	SLU 69	-25	161	2137	40.04	-455.21	40.56
166	SLU 70	-25	161	2137	40.04	-455.21	40.56
166	SLU 71	-25	161	2137	40.04	-455.21	40.56
166	SLU 72	-25	161	2137	40.04	-455.21	40.56
166	SLU 73	-24	190	2451	45.86	-524.94	47.8
166	SLU 74	-24	190	2451	45.86	-524.94	47.8
166	SLU 75	-24	190	2451	45.86	-524.94	47.8
166	SLU 76	-24	190	2451	45.86	-524.94	47.8
166	SLU 77	-24	190	2451	45.86	-524.94	47.8
166	SLU 78	-24	190	2451	45.86	-524.94	47.8
166	SLU 79	-24	190	2451	45.86	-524.94	47.8
166	SLU 80	-24	190	2451	45.86	-524.94	47.8
166	SLU 81	-24	203	2586	48.36	-554.83	50.9
166	SLU 82	-24	203	2586	48.36	-554.83	50.9
166	SLU 83	-24	203	2586	48.36	-554.83	50.9
166	SLU 84	-24	203	2586	48.36	-554.83	50.9
166	SLE RA 1	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 2	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 3	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 4	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 5	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 6	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 7	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 8	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 9	-19	119	1593	29.86	-338.93	30.05
166	SLE RA 10	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 11	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 12	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 13	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 14	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 15	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 16	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 17	-18	139	1802	33.74	-385.42	34.87
166	SLE RA 18	-18	147	1892	35.4	-405.35	36.94
166	SLE RA 19	-18	147	1892	35.4	-405.35	36.94
166	SLE RA 20	-18	147	1892	35.4	-405.35	36.94
166	SLE RA 21	-18	147	1892	35.4	-405.35	36.94
166	SLE FR 1	-19	119	1593	29.86	-338.93	30.05
166	SLE FR 2	-19	119	1593	29.86	-338.93	30.05
166	SLE FR 3	-19	119	1593	29.86	-338.93	30.05
166	SLE FR 4	-19	128	1682	31.52	-358.85	32.12
166	SLE FR 5	-19	128	1682	31.52	-358.85	32.12
166	SLE FR 6	-19	133	1742	32.63	-372.14	33.49
166	SLE QP 1	-19	119	1593	29.86	-338.93	30.05
166	SLE QP 2	-19	128	1682	31.52	-358.85	32.12
166	SLD 1	156	266	1887	35.07	-398.06	64.33
166	SLD 2	152	236	1886	35.05	-397.7	56.95
166	SLD 3	133	159	1965	36.8	-410.84	37.87



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
166	SLD 4	129	129	1964	36.77	-410.49	30.49
166	SLD 5	69	341	1626	29.98	-351.36	84.55
166	SLD 6	65	311	1625	29.96	-351	77.06
166	SLD 7	-6	-13	1886	35.72	-393.96	-3.66
166	SLD 8	-10	-44	1884	35.7	-393.6	-11.15
166	SLD 9	-27	299	1481	27.34	-324.11	75.38
166	SLD 10	-31	269	1479	27.32	-323.75	67.89
166	SLD 11	-103	-55	1740	33.08	-366.71	-12.83
166	SLD 12	-107	-86	1739	33.06	-366.35	-20.32
166	SLD 13	-167	126	1401	26.27	-307.22	33.74
166	SLD 14	-171	96	1400	26.25	-306.87	26.36
166	SLD 15	-189	19	1479	27.99	-320	7.28
166	SLD 16	-193	-11	1478	27.97	-319.65	-0.1
166	SLV 1	378	443	2147	39.57	-447.75	105.75
166	SLV 2	369	375	2143	39.52	-446.95	89.01
166	SLV 3	327	198	2326	43.53	-477.08	44.81
166	SLV 4	317	130	2322	43.48	-476.27	28.07
166	SLV 5	182	618	1552	27.95	-341.33	152.62
166	SLV 6	172	549	1548	27.9	-340.51	135.62
166	SLV 7	10	-198	2148	41.14	-439.09	-50.51
166	SLV 8	1	-268	2144	41.09	-438.28	-67.51
166	SLV 9	-38	523	1221	21.95	-279.43	131.74
166	SLV 10	-48	453	1217	21.9	-278.62	114.74
166	SLV 11	-210	-294	1817	35.14	-377.2	-71.39
166	SLV 12	-219	-363	1813	35.09	-376.38	-88.39
166	SLV 13	-355	125	1043	19.56	-241.43	36.16
166	SLV 14	-364	57	1039	19.52	-240.63	19.42
166	SLV 15	-406	-120	1222	23.52	-270.76	-24.78
166	SLV 16	-415	-188	1218	23.47	-269.96	-41.52
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
169	SLU 1	-15	-69	2471	-1.87	682.94	24.27
169	SLU 2	-15	-69	2471	-1.87	682.94	24.27
169	SLU 3	-15	-69	2471	-1.87	682.94	24.27
169	SLU 4	-15	-69	2471	-1.87	682.94	24.27
169	SLU 5	-15	-69	2471	-1.87	682.94	24.27
169	SLU 6	-15	-69	2471	-1.87	682.94	24.27
169	SLU 7	-15	-69	2471	-1.87	682.94	24.27
169	SLU 8	-15	-69	2471	-1.87	682.94	24.27
169	SLU 9	-15	-69	2471	-1.87	682.94	24.27
169	SLU 10	-23	-85	2982	-2.43	827.57	29.85
169	SLU 11	-23	-85	2982	-2.43	827.57	29.85
169	SLU 12	-23	-85	2982	-2.43	827.57	29.85
169	SLU 13	-23	-85	2982	-2.43	827.57	29.85
169	SLU 14	-23	-85	2982	-2.43	827.57	29.85
169	SLU 15	-23	-85	2982	-2.43	827.57	29.85
169	SLU 16	-23	-85	2982	-2.43	827.57	29.85
169	SLU 17	-23	-85	2982	-2.43	827.57	29.85
169	SLU 18	-26	-92	3201	-2.67	889.56	32.24
169	SLU 19	-26	-92	3201	-2.67	889.56	32.24
169	SLU 20	-26	-92	3201	-2.67	889.56	32.24
169	SLU 21	-26	-92	3201	-2.67	889.56	32.24
169	SLU 22	-21	-81	2835	-2.28	786.06	28.29
169	SLU 23	-21	-81	2835	-2.28	786.06	28.29
169	SLU 24	-21	-81	2835	-2.28	786.06	28.29
169	SLU 25	-21	-81	2835	-2.28	786.06	28.29
169	SLU 26	-21	-81	2835	-2.28	786.06	28.29
169	SLU 27	-21	-81	2835	-2.28	786.06	28.29
169	SLU 28	-21	-81	2835	-2.28	786.06	28.29
169	SLU 29	-21	-81	2835	-2.28	786.06	28.29
169	SLU 30	-21	-81	2835	-2.28	786.06	28.29
169	SLU 31	-28	-97	3346	-2.84	930.69	33.87
169	SLU 32	-28	-97	3346	-2.84	930.69	33.87
169	SLU 33	-28	-97	3346	-2.84	930.69	33.87
169	SLU 34	-28	-97	3346	-2.84	930.69	33.87
169	SLU 35	-28	-97	3346	-2.84	930.69	33.87
169	SLU 36	-28	-97	3346	-2.84	930.69	33.87
169	SLU 37	-28	-97	3346	-2.84	930.69	33.87
169	SLU 38	-28	-97	3346	-2.84	930.69	33.87
169	SLU 39	-32	-103	3565	-3.08	992.68	36.26
169	SLU 40	-32	-103	3565	-3.08	992.68	36.26
169	SLU 41	-32	-103	3565	-3.08	992.68	36.26
169	SLU 42	-32	-103	3565	-3.08	992.68	36.26
169	SLU 43	-18	-86	3087	-2.29	852.47	30.17
169	SLU 44	-18	-86	3087	-2.29	852.47	30.17
169	SLU 45	-18	-86	3087	-2.29	852.47	30.17
169	SLU 46	-18	-86	3087	-2.29	852.47	30.17
169	SLU 47	-18	-86	3087	-2.29	852.47	30.17
169	SLU 48	-18	-86	3087	-2.29	852.47	30.17
169	SLU 49	-18	-86	3087	-2.29	852.47	30.17
169	SLU 50	-18	-86	3087	-2.29	852.47	30.17
169	SLU 51	-18	-86	3087	-2.29	852.47	30.17
169	SLU 52	-26	-102	3598	-2.85	997.1	35.75
169	SLU 53	-26	-102	3598	-2.85	997.1	35.75
169	SLU 54	-26	-102	3598	-2.85	997.1	35.75
169	SLU 55	-26	-102	3598	-2.85	997.1	35.75
169	SLU 56	-26	-102	3598	-2.85	997.1	35.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	SLU 57	-26	-102	3598	-2.85	997.1	35.75
169	SLU 58	-26	-102	3598	-2.85	997.1	35.75
169	SLU 59	-26	-102	3598	-2.85	997.1	35.75
169	SLU 60	-29	-109	3817	-3.09	1059.09	38.14
169	SLU 61	-29	-109	3817	-3.09	1059.09	38.14
169	SLU 62	-29	-109	3817	-3.09	1059.09	38.14
169	SLU 63	-29	-109	3817	-3.09	1059.09	38.14
169	SLU 64	-23	-97	3452	-2.7	955.59	34.19
169	SLU 65	-23	-97	3452	-2.7	955.59	34.19
169	SLU 66	-23	-97	3452	-2.7	955.59	34.19
169	SLU 67	-23	-97	3452	-2.7	955.59	34.19
169	SLU 68	-23	-97	3452	-2.7	955.59	34.19
169	SLU 69	-23	-97	3452	-2.7	955.59	34.19
169	SLU 70	-23	-97	3452	-2.7	955.59	34.19
169	SLU 71	-23	-97	3452	-2.7	955.59	34.19
169	SLU 72	-23	-97	3452	-2.7	955.59	34.19
169	SLU 73	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 74	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 75	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 76	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 77	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 78	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 79	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 80	-31	-113	3962	-3.26	1100.22	39.77
169	SLU 81	-35	-120	4181	-3.5	1162.21	42.16
169	SLU 82	-35	-120	4181	-3.5	1162.21	42.16
169	SLU 83	-35	-120	4181	-3.5	1162.21	42.16
169	SLU 84	-35	-120	4181	-3.5	1162.21	42.16
169	SLE RA 1	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 2	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 3	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 4	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 5	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 6	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 7	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 8	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 9	-17	-72	2575	-1.99	712.41	25.42
169	SLE RA 10	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 11	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 12	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 13	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 14	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 15	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 16	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 17	-22	-83	2916	-2.36	808.83	29.14
169	SLE RA 18	-24	-88	3061	-2.52	850.15	30.73
169	SLE RA 19	-24	-88	3061	-2.52	850.15	30.73
169	SLE RA 20	-24	-88	3061	-2.52	850.15	30.73
169	SLE RA 21	-24	-88	3061	-2.52	850.15	30.73
169	SLE FR 1	-17	-72	2575	-1.99	712.41	25.42
169	SLE FR 2	-17	-72	2575	-1.99	712.41	25.42
169	SLE FR 3	-17	-72	2575	-1.99	712.41	25.42
169	SLE FR 4	-19	-77	2721	-2.15	753.73	27.01
169	SLE FR 5	-19	-77	2721	-2.15	753.73	27.01
169	SLE FR 6	-20	-80	2818	-2.26	781.28	28.07
169	SLE QP 1	-17	-72	2575	-1.99	712.41	25.42
169	SLE QP 2	-19	-77	2721	-2.15	753.73	27.01
169	SLD 1	155	-94	2378	-1.89	680.02	32.91
169	SLD 2	147	-55	2379	-1.9	680.37	19.32
169	SLD 3	184	-236	2421	-1.42	666.75	82.6
169	SLD 4	176	-197	2422	-1.43	667.09	69.01
169	SLD 5	-8	120	2553	-2.78	751.62	-41.72
169	SLD 6	-16	159	2553	-2.78	751.97	-55.51
169	SLD 7	89	-354	2696	-1.22	707.38	123.91
169	SLD 8	80	-315	2697	-1.23	707.73	110.12
169	SLD 9	-118	161	2745	-3.07	799.72	-56.1
169	SLD 10	-127	200	2746	-3.08	800.08	-69.88
169	SLD 11	-22	-313	2889	-1.51	755.49	109.54
169	SLD 12	-30	-274	2889	-1.52	755.84	95.75
169	SLD 13	-214	43	3020	-2.87	840.36	-14.99
169	SLD 14	-222	82	3020	-2.87	840.71	-28.58
169	SLD 15	-185	-99	3063	-2.4	827.09	34.7
169	SLD 16	-193	-60	3064	-2.41	827.44	21.11
169	SLV 1	377	-114	1943	-1.57	586.45	39.87
169	SLV 2	358	-25	1944	-1.58	587.24	9.04
169	SLV 3	442	-441	2041	-0.49	556.06	154.29
169	SLV 4	424	-353	2042	-0.5	556.85	123.46
169	SLV 5	6	377	2338	-3.6	749.35	-131.64
169	SLV 6	-12	467	2339	-3.61	750.15	-162.94
169	SLV 7	226	-715	2666	-0.02	648.06	249.75
169	SLV 8	207	-625	2667	-0.03	648.86	218.46
169	SLV 9	-245	471	2775	-4.27	858.6	-164.44
169	SLV 10	-264	561	2776	-4.28	859.4	-195.73
169	SLV 11	-26	-621	3103	-0.68	757.31	216.96
169	SLV 12	-44	-531	3104	-0.7	758.11	185.67
169	SLV 13	-462	199	3400	-3.79	950.61	-69.44
169	SLV 14	-480	288	3401	-3.81	951.4	-100.26
169	SLV 15	-396	-129	3498	-2.72	920.22	44.98
169	SLV 16	-414	-40	3499	-2.73	921.01	14.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	CRTFP Ux+	0	0	0	0	0	0
169	CRTFP Ux-	0	0	0	0	0	0
169	CRTFP Uy+	0	0	0	0	0	0
169	CRTFP Uy-	0	0	0	0	0	0
170	SLU 1	-19	124	1673	-0.27	-311.2	31.02
170	SLU 2	-19	124	1673	-0.27	-311.2	31.02
170	SLU 3	-19	124	1673	-0.27	-311.2	31.02
170	SLU 4	-19	124	1673	-0.27	-311.2	31.02
170	SLU 5	-19	124	1673	-0.27	-311.2	31.02
170	SLU 6	-19	124	1673	-0.27	-311.2	31.02
170	SLU 7	-19	124	1673	-0.27	-311.2	31.02
170	SLU 8	-19	124	1673	-0.27	-311.2	31.02
170	SLU 9	-19	124	1673	-0.27	-311.2	31.02
170	SLU 10	-18	156	2014	-0.49	-377.3	38.99
170	SLU 11	-18	156	2014	-0.49	-377.3	38.99
170	SLU 12	-18	156	2014	-0.49	-377.3	38.99
170	SLU 13	-18	156	2014	-0.49	-377.3	38.99
170	SLU 14	-18	156	2014	-0.49	-377.3	38.99
170	SLU 15	-18	156	2014	-0.49	-377.3	38.99
170	SLU 16	-18	156	2014	-0.49	-377.3	38.99
170	SLU 17	-18	156	2014	-0.49	-377.3	38.99
170	SLU 18	-18	170	2160	-0.58	-405.63	42.4
170	SLU 19	-18	170	2160	-0.58	-405.63	42.4
170	SLU 20	-18	170	2160	-0.58	-405.63	42.4
170	SLU 21	-18	170	2160	-0.58	-405.63	42.4
170	SLU 22	-18	147	1924	-0.45	-359.52	36.78
170	SLU 23	-18	147	1924	-0.45	-359.52	36.78
170	SLU 24	-18	147	1924	-0.45	-359.52	36.78
170	SLU 25	-18	147	1924	-0.45	-359.52	36.78
170	SLU 26	-18	147	1924	-0.45	-359.52	36.78
170	SLU 27	-18	147	1924	-0.45	-359.52	36.78
170	SLU 28	-18	147	1924	-0.45	-359.52	36.78
170	SLU 29	-18	147	1924	-0.45	-359.52	36.78
170	SLU 30	-18	147	1924	-0.45	-359.52	36.78
170	SLU 31	-18	179	2265	-0.67	-425.62	44.74
170	SLU 32	-18	179	2265	-0.67	-425.62	44.74
170	SLU 33	-18	179	2265	-0.67	-425.62	44.74
170	SLU 34	-18	179	2265	-0.67	-425.62	44.74
170	SLU 35	-18	179	2265	-0.67	-425.62	44.74
170	SLU 36	-18	179	2265	-0.67	-425.62	44.74
170	SLU 37	-18	179	2265	-0.67	-425.62	44.74
170	SLU 38	-18	179	2265	-0.67	-425.62	44.74
170	SLU 39	-18	192	2411	-0.76	-453.95	48.15
170	SLU 40	-18	192	2411	-0.76	-453.95	48.15
170	SLU 41	-18	192	2411	-0.76	-453.95	48.15
170	SLU 42	-18	192	2411	-0.76	-453.95	48.15
170	SLU 43	-24	154	2089	-0.29	-387.99	38.36
170	SLU 44	-24	154	2089	-0.29	-387.99	38.36
170	SLU 45	-24	154	2089	-0.29	-387.99	38.36
170	SLU 46	-24	154	2089	-0.29	-387.99	38.36
170	SLU 47	-24	154	2089	-0.29	-387.99	38.36
170	SLU 48	-24	154	2089	-0.29	-387.99	38.36
170	SLU 49	-24	154	2089	-0.29	-387.99	38.36
170	SLU 50	-24	154	2089	-0.29	-387.99	38.36
170	SLU 51	-24	154	2089	-0.29	-387.99	38.36
170	SLU 52	-23	185	2430	-0.51	-454.1	46.32
170	SLU 53	-23	185	2430	-0.51	-454.1	46.32
170	SLU 54	-23	185	2430	-0.51	-454.1	46.32
170	SLU 55	-23	185	2430	-0.51	-454.1	46.32
170	SLU 56	-23	185	2430	-0.51	-454.1	46.32
170	SLU 57	-23	185	2430	-0.51	-454.1	46.32
170	SLU 58	-23	185	2430	-0.51	-454.1	46.32
170	SLU 59	-23	185	2430	-0.51	-454.1	46.32
170	SLU 60	-23	199	2576	-0.6	-482.42	49.73
170	SLU 61	-23	199	2576	-0.6	-482.42	49.73
170	SLU 62	-23	199	2576	-0.6	-482.42	49.73
170	SLU 63	-23	199	2576	-0.6	-482.42	49.73
170	SLU 64	-24	176	2340	-0.46	-436.32	44.11
170	SLU 65	-24	176	2340	-0.46	-436.32	44.11
170	SLU 66	-24	176	2340	-0.46	-436.32	44.11
170	SLU 67	-24	176	2340	-0.46	-436.32	44.11
170	SLU 68	-24	176	2340	-0.46	-436.32	44.11
170	SLU 69	-24	176	2340	-0.46	-436.32	44.11
170	SLU 70	-24	176	2340	-0.46	-436.32	44.11
170	SLU 71	-24	176	2340	-0.46	-436.32	44.11
170	SLU 72	-24	176	2340	-0.46	-436.32	44.11
170	SLU 73	-23	208	2681	-0.69	-502.42	52.07
170	SLU 74	-23	208	2681	-0.69	-502.42	52.07
170	SLU 75	-23	208	2681	-0.69	-502.42	52.07
170	SLU 76	-23	208	2681	-0.69	-502.42	52.07
170	SLU 77	-23	208	2681	-0.69	-502.42	52.07
170	SLU 78	-23	208	2681	-0.69	-502.42	52.07
170	SLU 79	-23	208	2681	-0.69	-502.42	52.07
170	SLU 80	-23	208	2681	-0.69	-502.42	52.07
170	SLU 81	-23	222	2827	-0.78	-530.75	55.49
170	SLU 82	-23	222	2827	-0.78	-530.75	55.49
170	SLU 83	-23	222	2827	-0.78	-530.75	55.49
170	SLU 84	-23	222	2827	-0.78	-530.75	55.49
170	SLE RA 1	-19	131	1745	-0.32	-325.01	32.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLE RA 2	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 3	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 4	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 5	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 6	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 7	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 8	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 9	-19	131	1745	-0.32	-325.01	32.67
170	SLE RA 10	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 11	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 12	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 13	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 14	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 15	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 16	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 17	-18	152	1972	-0.47	-369.08	37.98
170	SLE RA 18	-18	161	2069	-0.53	-387.96	40.25
170	SLE RA 19	-18	161	2069	-0.53	-387.96	40.25
170	SLE RA 20	-18	161	2069	-0.53	-387.96	40.25
170	SLE RA 21	-18	161	2069	-0.53	-387.96	40.25
170	SLE FR 1	-19	131	1745	-0.32	-325.01	32.67
170	SLE FR 2	-19	131	1745	-0.32	-325.01	32.67
170	SLE FR 3	-19	131	1745	-0.32	-325.01	32.67
170	SLE FR 4	-18	140	1842	-0.38	-343.89	34.94
170	SLE FR 5	-18	140	1842	-0.38	-343.89	34.94
170	SLE FR 6	-18	146	1907	-0.42	-356.48	36.46
170	SLE QP 1	-19	131	1745	-0.32	-325.01	32.67
170	SLE QP 2	-18	140	1842	-0.38	-343.89	34.94
170	SLD 1	175	292	2055	-0.96	-381.08	72.85
170	SLD 2	168	258	2054	-0.95	-380.73	64.69
170	SLD 3	150	175	2150	-0.55	-393.05	43.67
170	SLD 4	143	142	2149	-0.54	-392.69	35.51
170	SLD 5	80	374	1762	-1.18	-337.03	93.49
170	SLD 6	73	341	1761	-1.17	-336.67	85.21
170	SLD 7	-4	-15	2079	0.19	-376.92	-3.78
170	SLD 8	-11	-48	2078	0.2	-376.55	-12.06
170	SLD 9	-26	328	1606	-0.96	-311.23	81.95
170	SLD 10	-33	294	1605	-0.95	-310.87	73.67
170	SLD 11	-110	-61	1923	0.41	-351.12	-15.32
170	SLD 12	-117	-95	1922	0.42	-350.76	-23.6
170	SLD 13	-180	138	1535	-0.22	-295.09	34.38
170	SLD 14	-186	105	1534	-0.21	-294.74	26.21
170	SLD 15	-205	21	1631	0.19	-307.06	5.2
170	SLD 16	-212	-12	1629	0.2	-306.7	-2.97
170	SLV 1	421	486	2324	-1.71	-428.23	121.53
170	SLV 2	405	411	2321	-1.68	-427.42	103.01
170	SLV 3	363	218	2543	-0.76	-455.7	54.33
170	SLV 4	348	143	2540	-0.73	-454.89	35.81
170	SLV 5	206	678	1656	-2.23	-327.82	169.45
170	SLV 6	190	602	1653	-2.2	-327	150.65
170	SLV 7	15	-218	2385	0.93	-419.38	-54.53
170	SLV 8	-1	-294	2382	0.96	-418.56	-73.33
170	SLV 9	-36	573	1302	-1.72	-269.23	143.22
170	SLV 10	-52	497	1299	-1.69	-268.41	124.42
170	SLV 11	-226	-322	2031	1.44	-360.78	-80.77
170	SLV 12	-242	-398	2028	1.47	-359.96	-99.57
170	SLV 13	-384	137	1144	-0.03	-232.9	34.07
170	SLV 14	-400	62	1141	0	-232.09	15.55
170	SLV 15	-442	-132	1363	0.92	-260.37	-33.12
170	SLV 16	-457	-207	1360	0.95	-259.56	-51.64
170	CRTFP Ux+	0	0	0	0	0	0
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
173	SLU 1	-19	-68	2408	-2.04	607.03	23.76
173	SLU 2	-19	-68	2408	-2.04	607.03	23.76
173	SLU 3	-19	-68	2408	-2.04	607.03	23.76
173	SLU 4	-19	-68	2408	-2.04	607.03	23.76
173	SLU 5	-19	-68	2408	-2.04	607.03	23.76
173	SLU 6	-19	-68	2408	-2.04	607.03	23.76
173	SLU 7	-19	-68	2408	-2.04	607.03	23.76
173	SLU 8	-19	-68	2408	-2.04	607.03	23.76
173	SLU 9	-19	-68	2408	-2.04	607.03	23.76
173	SLU 10	-26	-83	2899	-2.67	733.07	29.27
173	SLU 11	-26	-83	2899	-2.67	733.07	29.27
173	SLU 12	-26	-83	2899	-2.67	733.07	29.27
173	SLU 13	-26	-83	2899	-2.67	733.07	29.27
173	SLU 14	-26	-83	2899	-2.67	733.07	29.27
173	SLU 15	-26	-83	2899	-2.67	733.07	29.27
173	SLU 16	-26	-83	2899	-2.67	733.07	29.27
173	SLU 17	-26	-83	2899	-2.67	733.07	29.27
173	SLU 18	-30	-90	3110	-2.93	787.09	31.63
173	SLU 19	-30	-90	3110	-2.93	787.09	31.63
173	SLU 20	-30	-90	3110	-2.93	787.09	31.63
173	SLU 21	-30	-90	3110	-2.93	787.09	31.63
173	SLU 22	-24	-79	2758	-2.5	696.82	27.72
173	SLU 23	-24	-79	2758	-2.5	696.82	27.72
173	SLU 24	-24	-79	2758	-2.5	696.82	27.72
173	SLU 25	-24	-79	2758	-2.5	696.82	27.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLU 26	-24	-79	2758	-2.5	696.82	27.72
173	SLU 27	-24	-79	2758	-2.5	696.82	27.72
173	SLU 28	-24	-79	2758	-2.5	696.82	27.72
173	SLU 29	-24	-79	2758	-2.5	696.82	27.72
173	SLU 30	-24	-79	2758	-2.5	696.82	27.72
173	SLU 31	-32	-95	3250	-3.12	822.87	33.23
173	SLU 32	-32	-95	3250	-3.12	822.87	33.23
173	SLU 33	-32	-95	3250	-3.12	822.87	33.23
173	SLU 34	-32	-95	3250	-3.12	822.87	33.23
173	SLU 35	-32	-95	3250	-3.12	822.87	33.23
173	SLU 36	-32	-95	3250	-3.12	822.87	33.23
173	SLU 37	-32	-95	3250	-3.12	822.87	33.23
173	SLU 38	-32	-95	3250	-3.12	822.87	33.23
173	SLU 39	-35	-101	3460	-3.39	876.89	35.59
173	SLU 40	-35	-101	3460	-3.39	876.89	35.59
173	SLU 41	-35	-101	3460	-3.39	876.89	35.59
173	SLU 42	-35	-101	3460	-3.39	876.89	35.59
173	SLU 43	-22	-84	3010	-2.49	758.35	29.53
173	SLU 44	-22	-84	3010	-2.49	758.35	29.53
173	SLU 45	-22	-84	3010	-2.49	758.35	29.53
173	SLU 46	-22	-84	3010	-2.49	758.35	29.53
173	SLU 47	-22	-84	3010	-2.49	758.35	29.53
173	SLU 48	-22	-84	3010	-2.49	758.35	29.53
173	SLU 49	-22	-84	3010	-2.49	758.35	29.53
173	SLU 50	-22	-84	3010	-2.49	758.35	29.53
173	SLU 51	-22	-84	3010	-2.49	758.35	29.53
173	SLU 52	-30	-100	3502	-3.12	884.39	35.04
173	SLU 53	-30	-100	3502	-3.12	884.39	35.04
173	SLU 54	-30	-100	3502	-3.12	884.39	35.04
173	SLU 55	-30	-100	3502	-3.12	884.39	35.04
173	SLU 56	-30	-100	3502	-3.12	884.39	35.04
173	SLU 57	-30	-100	3502	-3.12	884.39	35.04
173	SLU 58	-30	-100	3502	-3.12	884.39	35.04
173	SLU 59	-30	-100	3502	-3.12	884.39	35.04
173	SLU 60	-33	-106	3712	-3.39	938.41	37.4
173	SLU 61	-33	-106	3712	-3.39	938.41	37.4
173	SLU 62	-33	-106	3712	-3.39	938.41	37.4
173	SLU 63	-33	-106	3712	-3.39	938.41	37.4
173	SLU 64	-28	-95	3360	-2.95	848.14	33.49
173	SLU 65	-28	-95	3360	-2.95	848.14	33.49
173	SLU 66	-28	-95	3360	-2.95	848.14	33.49
173	SLU 67	-28	-95	3360	-2.95	848.14	33.49
173	SLU 68	-28	-95	3360	-2.95	848.14	33.49
173	SLU 69	-28	-95	3360	-2.95	848.14	33.49
173	SLU 70	-28	-95	3360	-2.95	848.14	33.49
173	SLU 71	-28	-95	3360	-2.95	848.14	33.49
173	SLU 72	-28	-95	3360	-2.95	848.14	33.49
173	SLU 73	-36	-111	3852	-3.58	974.19	39
173	SLU 74	-36	-111	3852	-3.58	974.19	39
173	SLU 75	-36	-111	3852	-3.58	974.19	39
173	SLU 76	-36	-111	3852	-3.58	974.19	39
173	SLU 77	-36	-111	3852	-3.58	974.19	39
173	SLU 78	-36	-111	3852	-3.58	974.19	39
173	SLU 79	-36	-111	3852	-3.58	974.19	39
173	SLU 80	-36	-111	3852	-3.58	974.19	39
173	SLU 81	-39	-118	4063	-3.85	1028.21	41.36
173	SLU 82	-39	-118	4063	-3.85	1028.21	41.36
173	SLU 83	-39	-118	4063	-3.85	1028.21	41.36
173	SLU 84	-39	-118	4063	-3.85	1028.21	41.36
173	SLE RA 1	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 2	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 3	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 4	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 5	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 6	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 7	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 8	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 9	-20	-71	2508	-2.17	632.68	24.89
173	SLE RA 10	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 11	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 12	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 13	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 14	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 15	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 16	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 17	-25	-81	2836	-2.59	716.71	28.56
173	SLE RA 18	-28	-86	2976	-2.77	752.73	30.14
173	SLE RA 19	-28	-86	2976	-2.77	752.73	30.14
173	SLE RA 20	-28	-86	2976	-2.77	752.73	30.14
173	SLE RA 21	-28	-86	2976	-2.77	752.73	30.14
173	SLE FR 1	-20	-71	2508	-2.17	632.68	24.89
173	SLE FR 2	-20	-71	2508	-2.17	632.68	24.89
173	SLE FR 3	-20	-71	2508	-2.17	632.68	24.89
173	SLE FR 4	-22	-75	2648	-2.35	668.69	26.47
173	SLE FR 5	-22	-75	2648	-2.35	668.69	26.47
173	SLE FR 6	-24	-78	2742	-2.47	692.7	27.52
173	SLE QP 1	-20	-71	2508	-2.17	632.68	24.89
173	SLE QP 2	-22	-75	2648	-2.35	668.69	26.47
173	SLD 1	154	-92	2321	-2.07	604.89	32.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLD 2	143	-53	2321	-2.08	605.25	18.76
173	SLD 3	184	-235	2363	-1.56	593.8	82.16
173	SLD 4	173	-195	2364	-1.57	594.17	68.56
173	SLD 5	-11	122	2486	-3.03	666.24	-42.43
173	SLD 6	-22	161	2486	-3.04	666.61	-56.23
173	SLD 7	89	-353	2627	-1.34	629.28	123.56
173	SLD 8	78	-313	2627	-1.35	629.65	109.76
173	SLD 9	-122	163	2670	-3.35	707.74	-56.83
173	SLD 10	-133	202	2670	-3.36	708.11	-70.62
173	SLD 11	-23	-312	2810	-1.66	670.78	109.16
173	SLD 12	-34	-272	2810	-1.67	671.15	95.36
173	SLD 13	-217	45	2933	-3.13	743.22	-15.63
173	SLD 14	-228	84	2933	-3.13	743.59	-29.23
173	SLD 15	-187	-97	2975	-2.62	732.14	34.17
173	SLD 16	-198	-58	2975	-2.63	732.5	20.57
173	SLV 1	377	-112	1905	-1.72	523.87	39.31
173	SLV 2	352	-23	1906	-1.74	524.7	8.46
173	SLV 3	445	-440	2002	-0.56	498.49	153.98
173	SLV 4	420	-351	2002	-0.57	499.32	123.13
173	SLV 5	3	379	2279	-3.93	663.45	-132.56
173	SLV 6	-23	469	2279	-3.94	664.29	-163.88
173	SLV 7	231	-714	2600	-0.04	578.84	249.66
173	SLV 8	205	-624	2601	-0.05	579.68	218.34
173	SLV 9	-250	473	2696	-4.65	757.71	-165.41
173	SLV 10	-275	563	2696	-4.66	758.55	-196.73
173	SLV 11	-22	-620	3017	-0.76	673.1	216.81
173	SLV 12	-48	-530	3018	-0.77	673.94	185.49
173	SLV 13	-465	201	3294	-4.13	838.07	-70.19
173	SLV 14	-490	290	3295	-4.14	838.9	-101.04
173	SLV 15	-397	-127	3391	-2.96	812.69	44.47
173	SLV 16	-422	-38	3391	-2.98	813.52	13.62
173	CRTFP Ux+	0	0	0	0	0	0
173	CRTFP Ux-	0	0	0	0	0	0
173	CRTFP Uy+	0	0	0	0	0	0
173	CRTFP Uy-	0	0	0	0	0	0
174	SLU 1	-20	124	1665	-0.2	-267.28	31.1
174	SLU 2	-20	124	1665	-0.2	-267.28	31.1
174	SLU 3	-20	124	1665	-0.2	-267.28	31.1
174	SLU 4	-20	124	1665	-0.2	-267.28	31.1
174	SLU 5	-20	124	1665	-0.2	-267.28	31.1
174	SLU 6	-20	124	1665	-0.2	-267.28	31.1
174	SLU 7	-20	124	1665	-0.2	-267.28	31.1
174	SLU 8	-20	124	1665	-0.2	-267.28	31.1
174	SLU 9	-20	124	1665	-0.2	-267.28	31.1
174	SLU 10	-20	156	1999	-0.42	-322.35	39.06
174	SLU 11	-20	156	1999	-0.42	-322.35	39.06
174	SLU 12	-20	156	1999	-0.42	-322.35	39.06
174	SLU 13	-20	156	1999	-0.42	-322.35	39.06
174	SLU 14	-20	156	1999	-0.42	-322.35	39.06
174	SLU 15	-20	156	1999	-0.42	-322.35	39.06
174	SLU 16	-20	156	1999	-0.42	-322.35	39.06
174	SLU 17	-20	156	1999	-0.42	-322.35	39.06
174	SLU 18	-20	169	2142	-0.52	-345.95	42.47
174	SLU 19	-20	169	2142	-0.52	-345.95	42.47
174	SLU 20	-20	169	2142	-0.52	-345.95	42.47
174	SLU 21	-20	169	2142	-0.52	-345.95	42.47
174	SLU 22	-21	147	1911	-0.38	-307.44	36.85
174	SLU 23	-21	147	1911	-0.38	-307.44	36.85
174	SLU 24	-21	147	1911	-0.38	-307.44	36.85
174	SLU 25	-21	147	1911	-0.38	-307.44	36.85
174	SLU 26	-21	147	1911	-0.38	-307.44	36.85
174	SLU 27	-21	147	1911	-0.38	-307.44	36.85
174	SLU 28	-21	147	1911	-0.38	-307.44	36.85
174	SLU 29	-21	147	1911	-0.38	-307.44	36.85
174	SLU 30	-21	147	1911	-0.38	-307.44	36.85
174	SLU 31	-21	178	2245	-0.61	-362.51	44.81
174	SLU 32	-21	178	2245	-0.61	-362.51	44.81
174	SLU 33	-21	178	2245	-0.61	-362.51	44.81
174	SLU 34	-21	178	2245	-0.61	-362.51	44.81
174	SLU 35	-21	178	2245	-0.61	-362.51	44.81
174	SLU 36	-21	178	2245	-0.61	-362.51	44.81
174	SLU 37	-21	178	2245	-0.61	-362.51	44.81
174	SLU 38	-21	178	2245	-0.61	-362.51	44.81
174	SLU 39	-21	192	2388	-0.7	-386.1	48.22
174	SLU 40	-21	192	2388	-0.7	-386.1	48.22
174	SLU 41	-21	192	2388	-0.7	-386.1	48.22
174	SLU 42	-21	192	2388	-0.7	-386.1	48.22
174	SLU 43	-26	153	2080	-0.19	-333.7	38.45
174	SLU 44	-26	153	2080	-0.19	-333.7	38.45
174	SLU 45	-26	153	2080	-0.19	-333.7	38.45
174	SLU 46	-26	153	2080	-0.19	-333.7	38.45
174	SLU 47	-26	153	2080	-0.19	-333.7	38.45
174	SLU 48	-26	153	2080	-0.19	-333.7	38.45
174	SLU 49	-26	153	2080	-0.19	-333.7	38.45
174	SLU 50	-26	153	2080	-0.19	-333.7	38.45
174	SLU 51	-26	153	2080	-0.19	-333.7	38.45
174	SLU 52	-26	185	2414	-0.42	-388.77	46.42
174	SLU 53	-26	185	2414	-0.42	-388.77	46.42
174	SLU 54	-26	185	2414	-0.42	-388.77	46.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 55	-26	185	2414	-0.42	-388.77	46.42
174	SLU 56	-26	185	2414	-0.42	-388.77	46.42
174	SLU 57	-26	185	2414	-0.42	-388.77	46.42
174	SLU 58	-26	185	2414	-0.42	-388.77	46.42
174	SLU 59	-26	185	2414	-0.42	-388.77	46.42
174	SLU 60	-26	199	2558	-0.52	-412.36	49.83
174	SLU 61	-26	199	2558	-0.52	-412.36	49.83
174	SLU 62	-26	199	2558	-0.52	-412.36	49.83
174	SLU 63	-26	199	2558	-0.52	-412.36	49.83
174	SLU 64	-26	176	2326	-0.38	-373.86	44.21
174	SLU 65	-26	176	2326	-0.38	-373.86	44.21
174	SLU 66	-26	176	2326	-0.38	-373.86	44.21
174	SLU 67	-26	176	2326	-0.38	-373.86	44.21
174	SLU 68	-26	176	2326	-0.38	-373.86	44.21
174	SLU 69	-26	176	2326	-0.38	-373.86	44.21
174	SLU 70	-26	176	2326	-0.38	-373.86	44.21
174	SLU 71	-26	176	2326	-0.38	-373.86	44.21
174	SLU 72	-26	176	2326	-0.38	-373.86	44.21
174	SLU 73	-27	208	2660	-0.6	-428.92	52.17
174	SLU 74	-27	208	2660	-0.6	-428.92	52.17
174	SLU 75	-27	208	2660	-0.6	-428.92	52.17
174	SLU 76	-27	208	2660	-0.6	-428.92	52.17
174	SLU 77	-27	208	2660	-0.6	-428.92	52.17
174	SLU 78	-27	208	2660	-0.6	-428.92	52.17
174	SLU 79	-27	208	2660	-0.6	-428.92	52.17
174	SLU 80	-27	208	2660	-0.6	-428.92	52.17
174	SLU 81	-27	221	2803	-0.7	-452.52	55.58
174	SLU 82	-27	221	2803	-0.7	-452.52	55.58
174	SLU 83	-27	221	2803	-0.7	-452.52	55.58
174	SLU 84	-27	221	2803	-0.7	-452.52	55.58
174	SLE RA 1	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 2	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 3	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 4	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 5	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 6	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 7	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 8	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 9	-20	131	1735	-0.25	-278.76	32.74
174	SLE RA 10	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 11	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 12	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 13	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 14	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 15	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 16	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 17	-20	152	1958	-0.4	-315.47	38.05
174	SLE RA 18	-20	161	2053	-0.47	-331.2	40.32
174	SLE RA 19	-20	161	2053	-0.47	-331.2	40.32
174	SLE RA 20	-20	161	2053	-0.47	-331.2	40.32
174	SLE RA 21	-20	161	2053	-0.47	-331.2	40.32
174	SLE FR 1	-20	131	1735	-0.25	-278.76	32.74
174	SLE FR 2	-20	131	1735	-0.25	-278.76	32.74
174	SLE FR 3	-20	131	1735	-0.25	-278.76	32.74
174	SLE FR 4	-20	140	1831	-0.31	-294.49	35.01
174	SLE FR 5	-20	140	1831	-0.31	-294.49	35.01
174	SLE FR 6	-20	146	1894	-0.36	-304.98	36.53
174	SLE QP 1	-20	131	1735	-0.25	-278.76	32.74
174	SLE QP 2	-20	140	1831	-0.31	-294.49	35.01
174	SLD 1	173	291	2029	-0.94	-324.89	73.01
174	SLD 2	164	258	2028	-0.93	-324.58	64.85
174	SLD 3	148	175	2135	-0.48	-335.1	43.75
174	SLD 4	139	142	2134	-0.47	-334.79	35.59
174	SLD 5	79	374	1729	-1.2	-288.24	93.71
174	SLD 6	70	340	1728	-1.18	-287.92	85.43
174	SLD 7	-4	-15	2084	0.32	-322.27	-3.83
174	SLD 8	-14	-49	2083	0.34	-321.95	-12.11
174	SLD 9	-26	328	1579	-0.97	-267.03	82.14
174	SLD 10	-36	294	1578	-0.95	-266.71	73.86
174	SLD 11	-110	-61	1933	0.56	-301.06	-15.4
174	SLD 12	-120	-95	1932	0.57	-300.74	-23.68
174	SLD 13	-179	137	1527	-0.16	-254.19	34.44
174	SLD 14	-188	104	1526	-0.14	-253.88	26.28
174	SLD 15	-204	21	1633	0.3	-264.4	5.18
174	SLD 16	-214	-12	1632	0.31	-264.09	-2.98
174	SLV 1	419	486	2280	-1.74	-363.43	121.79
174	SLV 2	397	411	2277	-1.71	-362.72	103.29
174	SLV 3	362	217	2524	-0.69	-386.88	54.41
174	SLV 4	340	143	2522	-0.66	-386.17	35.91
174	SLV 5	206	678	1595	-2.35	-279.86	169.86
174	SLV 6	184	602	1593	-2.32	-279.14	151.07
174	SLV 7	15	-218	2410	1.16	-358.02	-54.74
174	SLV 8	-6	-294	2408	1.19	-357.3	-73.53
174	SLV 9	-34	573	1253	-1.82	-231.68	143.55
174	SLV 10	-56	497	1251	-1.78	-230.96	124.77
174	SLV 11	-224	-323	2068	1.69	-309.84	-81.04
174	SLV 12	-246	-399	2066	1.72	-309.12	-99.83
174	SLV 13	-381	136	1139	0.03	-202.81	34.12
174	SLV 14	-402	62	1137	0.06	-202.1	15.62



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
174	SLV 15	-438	-132	1384	1.08	-226.26	-33.26
174	SLV 16	-459	-207	1382	1.11	-225.55	-51.76
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
177	SLU 1	-23	-66	2349	-1.59	537.59	23.31
177	SLU 2	-23	-66	2349	-1.59	537.59	23.31
177	SLU 3	-23	-66	2349	-1.59	537.59	23.31
177	SLU 4	-23	-66	2349	-1.59	537.59	23.31
177	SLU 5	-23	-66	2349	-1.59	537.59	23.31
177	SLU 6	-23	-66	2349	-1.59	537.59	23.31
177	SLU 7	-23	-66	2349	-1.59	537.59	23.31
177	SLU 8	-23	-66	2349	-1.59	537.59	23.31
177	SLU 9	-23	-66	2349	-1.59	537.59	23.31
177	SLU 10	-31	-82	2822	-2.13	646.02	28.74
177	SLU 11	-31	-82	2822	-2.13	646.02	28.74
177	SLU 12	-31	-82	2822	-2.13	646.02	28.74
177	SLU 13	-31	-82	2822	-2.13	646.02	28.74
177	SLU 14	-31	-82	2822	-2.13	646.02	28.74
177	SLU 15	-31	-82	2822	-2.13	646.02	28.74
177	SLU 16	-31	-82	2822	-2.13	646.02	28.74
177	SLU 17	-31	-82	2822	-2.13	646.02	28.74
177	SLU 18	-34	-88	3025	-2.35	692.49	31.07
177	SLU 19	-34	-88	3025	-2.35	692.49	31.07
177	SLU 20	-34	-88	3025	-2.35	692.49	31.07
177	SLU 21	-34	-88	3025	-2.35	692.49	31.07
177	SLU 22	-28	-77	2686	-1.98	614.76	27.21
177	SLU 23	-28	-77	2686	-1.98	614.76	27.21
177	SLU 24	-28	-77	2686	-1.98	614.76	27.21
177	SLU 25	-28	-77	2686	-1.98	614.76	27.21
177	SLU 26	-28	-77	2686	-1.98	614.76	27.21
177	SLU 27	-28	-77	2686	-1.98	614.76	27.21
177	SLU 28	-28	-77	2686	-1.98	614.76	27.21
177	SLU 29	-28	-77	2686	-1.98	614.76	27.21
177	SLU 30	-28	-77	2686	-1.98	614.76	27.21
177	SLU 31	-36	-93	3159	-2.52	723.19	32.65
177	SLU 32	-36	-93	3159	-2.52	723.19	32.65
177	SLU 33	-36	-93	3159	-2.52	723.19	32.65
177	SLU 34	-36	-93	3159	-2.52	723.19	32.65
177	SLU 35	-36	-93	3159	-2.52	723.19	32.65
177	SLU 36	-36	-93	3159	-2.52	723.19	32.65
177	SLU 37	-36	-93	3159	-2.52	723.19	32.65
177	SLU 38	-36	-93	3159	-2.52	723.19	32.65
177	SLU 39	-40	-99	3362	-2.75	769.66	34.98
177	SLU 40	-40	-99	3362	-2.75	769.66	34.98
177	SLU 41	-40	-99	3362	-2.75	769.66	34.98
177	SLU 42	-40	-99	3362	-2.75	769.66	34.98
177	SLU 43	-28	-82	2939	-1.93	672.41	28.96
177	SLU 44	-28	-82	2939	-1.93	672.41	28.96
177	SLU 45	-28	-82	2939	-1.93	672.41	28.96
177	SLU 46	-28	-82	2939	-1.93	672.41	28.96
177	SLU 47	-28	-82	2939	-1.93	672.41	28.96
177	SLU 48	-28	-82	2939	-1.93	672.41	28.96
177	SLU 49	-28	-82	2939	-1.93	672.41	28.96
177	SLU 50	-28	-82	2939	-1.93	672.41	28.96
177	SLU 51	-28	-82	2939	-1.93	672.41	28.96
177	SLU 52	-36	-98	3412	-2.47	780.84	34.4
177	SLU 53	-36	-98	3412	-2.47	780.84	34.4
177	SLU 54	-36	-98	3412	-2.47	780.84	34.4
177	SLU 55	-36	-98	3412	-2.47	780.84	34.4
177	SLU 56	-36	-98	3412	-2.47	780.84	34.4
177	SLU 57	-36	-98	3412	-2.47	780.84	34.4
177	SLU 58	-36	-98	3412	-2.47	780.84	34.4
177	SLU 59	-36	-98	3412	-2.47	780.84	34.4
177	SLU 60	-39	-104	3615	-2.7	827.31	36.73
177	SLU 61	-39	-104	3615	-2.7	827.31	36.73
177	SLU 62	-39	-104	3615	-2.7	827.31	36.73
177	SLU 63	-39	-104	3615	-2.7	827.31	36.73
177	SLU 64	-33	-93	3275	-2.33	749.58	32.87
177	SLU 65	-33	-93	3275	-2.33	749.58	32.87
177	SLU 66	-33	-93	3275	-2.33	749.58	32.87
177	SLU 67	-33	-93	3275	-2.33	749.58	32.87
177	SLU 68	-33	-93	3275	-2.33	749.58	32.87
177	SLU 69	-33	-93	3275	-2.33	749.58	32.87
177	SLU 70	-33	-93	3275	-2.33	749.58	32.87
177	SLU 71	-33	-93	3275	-2.33	749.58	32.87
177	SLU 72	-33	-93	3275	-2.33	749.58	32.87
177	SLU 73	-41	-109	3748	-2.86	858.01	38.3
177	SLU 74	-41	-109	3748	-2.86	858.01	38.3
177	SLU 75	-41	-109	3748	-2.86	858.01	38.3
177	SLU 76	-41	-109	3748	-2.86	858.01	38.3
177	SLU 77	-41	-109	3748	-2.86	858.01	38.3
177	SLU 78	-41	-109	3748	-2.86	858.01	38.3
177	SLU 79	-41	-109	3748	-2.86	858.01	38.3
177	SLU 80	-41	-109	3748	-2.86	858.01	38.3
177	SLU 81	-45	-115	3951	-3.09	904.48	40.63
177	SLU 82	-45	-115	3951	-3.09	904.48	40.63
177	SLU 83	-45	-115	3951	-3.09	904.48	40.63



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
177	SLU 84	-45	-115	3951	-3.09	904.48	40.63
177	SLE RA 1	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 2	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 3	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 4	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 5	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 6	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 7	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 8	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 9	-24	-69	2446	-1.7	559.64	24.42
177	SLE RA 10	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 11	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 12	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 13	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 14	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 15	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 16	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 17	-30	-80	2761	-2.06	631.93	28.05
177	SLE RA 18	-32	-84	2896	-2.21	662.91	29.6
177	SLE RA 19	-32	-84	2896	-2.21	662.91	29.6
177	SLE RA 20	-32	-84	2896	-2.21	662.91	29.6
177	SLE RA 21	-32	-84	2896	-2.21	662.91	29.6
177	SLE FR 1	-24	-69	2446	-1.7	559.64	24.42
177	SLE FR 2	-24	-69	2446	-1.7	559.64	24.42
177	SLE FR 3	-24	-69	2446	-1.7	559.64	24.42
177	SLE FR 4	-27	-74	2581	-1.86	590.62	25.98
177	SLE FR 5	-27	-74	2581	-1.86	590.62	25.98
177	SLE FR 6	-28	-77	2671	-1.96	611.27	27.01
177	SLE QP 1	-24	-69	2446	-1.7	559.64	24.42
177	SLE QP 2	-27	-74	2581	-1.86	590.62	25.98
177	SLD 1	152	-91	2265	-1.64	527.55	31.87
177	SLD 2	138	-52	2265	-1.65	527.87	18.27
177	SLD 3	183	-233	2313	-1.1	536.01	81.74
177	SLD 4	169	-194	2313	-1.1	536.33	68.14
177	SLD 5	-14	123	2414	-2.62	558.77	-43.02
177	SLD 6	-29	163	2414	-2.63	559.09	-56.82
177	SLD 7	88	-352	2572	-0.79	586.94	123.19
177	SLD 8	73	-312	2572	-0.8	587.26	109.39
177	SLD 9	-127	164	2589	-2.91	593.98	-57.44
177	SLD 10	-141	204	2589	-2.92	594.3	-71.24
177	SLD 11	-25	-311	2747	-1.08	622.15	108.78
177	SLD 12	-39	-271	2747	-1.09	622.47	94.98
177	SLD 13	-222	46	2849	-2.61	644.91	-16.18
177	SLD 14	-237	86	2849	-2.62	645.23	-29.78
177	SLD 15	-192	-96	2896	-2.06	653.37	33.68
177	SLD 16	-206	-57	2896	-2.07	653.69	20.08
177	SLV 1	380	-111	1864	-1.38	447.31	38.82
177	SLV 2	348	-22	1864	-1.39	448.03	7.96
177	SLV 3	450	-439	1973	-0.12	466.64	153.65
177	SLV 4	418	-350	1973	-0.13	467.36	122.79
177	SLV 5	1	381	2201	-3.62	518.05	-133.29
177	SLV 6	-32	471	2201	-3.64	518.78	-164.61
177	SLV 7	234	-713	2563	0.58	582.48	249.46
177	SLV 8	201	-623	2563	0.57	583.22	218.14
177	SLV 9	-255	475	2598	-4.28	598.02	-166.18
177	SLV 10	-287	565	2598	-4.3	598.76	-197.51
177	SLV 11	-22	-619	2960	-0.08	662.46	216.57
177	SLV 12	-54	-529	2960	-0.09	663.19	185.24
177	SLV 13	-471	202	3188	-3.58	713.88	-70.84
177	SLV 14	-503	291	3189	-3.59	714.6	-101.69
177	SLV 15	-401	-126	3297	-2.32	733.21	43.99
177	SLV 16	-433	-37	3297	-2.33	733.93	13.13
177	CRTFP Ux+	0	0	0	0	0	0
177	CRTFP Ux-	0	0	0	0	0	0
177	CRTFP Uy+	0	0	0	0	0	0
177	CRTFP Uy-	0	0	0	0	0	0
178	SLU 1	-24	124	1666	0.34	-231.93	31.11
178	SLU 2	-24	124	1666	0.34	-231.93	31.11
178	SLU 3	-24	124	1666	0.34	-231.93	31.11
178	SLU 4	-24	124	1666	0.34	-231.93	31.11
178	SLU 5	-24	124	1666	0.34	-231.93	31.11
178	SLU 6	-24	124	1666	0.34	-231.93	31.11
178	SLU 7	-24	124	1666	0.34	-231.93	31.11
178	SLU 8	-24	124	1666	0.34	-231.93	31.11
178	SLU 9	-24	124	1666	0.34	-231.93	31.11
178	SLU 10	-26	155	1995	0.23	-277.49	39.07
178	SLU 11	-26	155	1995	0.23	-277.49	39.07
178	SLU 12	-26	155	1995	0.23	-277.49	39.07
178	SLU 13	-26	155	1995	0.23	-277.49	39.07
178	SLU 14	-26	155	1995	0.23	-277.49	39.07
178	SLU 15	-26	155	1995	0.23	-277.49	39.07
178	SLU 16	-26	155	1995	0.23	-277.49	39.07
178	SLU 17	-26	155	1995	0.23	-277.49	39.07
178	SLU 18	-27	169	2136	0.19	-297.02	42.48
178	SLU 19	-27	169	2136	0.19	-297.02	42.48
178	SLU 20	-27	169	2136	0.19	-297.02	42.48
178	SLU 21	-27	169	2136	0.19	-297.02	42.48
178	SLU 22	-26	147	1908	0.24	-265.07	36.86
178	SLU 23	-26	147	1908	0.24	-265.07	36.86



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
178	SLU 24	-26	147	1908	0.24	-265.07	36.86
178	SLU 25	-26	147	1908	0.24	-265.07	36.86
178	SLU 26	-26	147	1908	0.24	-265.07	36.86
178	SLU 27	-26	147	1908	0.24	-265.07	36.86
178	SLU 28	-26	147	1908	0.24	-265.07	36.86
178	SLU 29	-26	147	1908	0.24	-265.07	36.86
178	SLU 30	-26	147	1908	0.24	-265.07	36.86
178	SLU 31	-28	178	2237	0.14	-310.63	44.81
178	SLU 32	-28	178	2237	0.14	-310.63	44.81
178	SLU 33	-28	178	2237	0.14	-310.63	44.81
178	SLU 34	-28	178	2237	0.14	-310.63	44.81
178	SLU 35	-28	178	2237	0.14	-310.63	44.81
178	SLU 36	-28	178	2237	0.14	-310.63	44.81
178	SLU 37	-28	178	2237	0.14	-310.63	44.81
178	SLU 38	-28	178	2237	0.14	-310.63	44.81
178	SLU 39	-29	192	2378	0.09	-330.16	48.22
178	SLU 40	-29	192	2378	0.09	-330.16	48.22
178	SLU 41	-29	192	2378	0.09	-330.16	48.22
178	SLU 42	-29	192	2378	0.09	-330.16	48.22
178	SLU 43	-31	153	2083	0.47	-290.15	38.48
178	SLU 44	-31	153	2083	0.47	-290.15	38.48
178	SLU 45	-31	153	2083	0.47	-290.15	38.48
178	SLU 46	-31	153	2083	0.47	-290.15	38.48
178	SLU 47	-31	153	2083	0.47	-290.15	38.48
178	SLU 48	-31	153	2083	0.47	-290.15	38.48
178	SLU 49	-31	153	2083	0.47	-290.15	38.48
178	SLU 50	-31	153	2083	0.47	-290.15	38.48
178	SLU 51	-31	153	2083	0.47	-290.15	38.48
178	SLU 52	-33	185	2412	0.37	-335.71	46.43
178	SLU 53	-33	185	2412	0.37	-335.71	46.43
178	SLU 54	-33	185	2412	0.37	-335.71	46.43
178	SLU 55	-33	185	2412	0.37	-335.71	46.43
178	SLU 56	-33	185	2412	0.37	-335.71	46.43
178	SLU 57	-33	185	2412	0.37	-335.71	46.43
178	SLU 58	-33	185	2412	0.37	-335.71	46.43
178	SLU 59	-33	185	2412	0.37	-335.71	46.43
178	SLU 60	-34	198	2553	0.32	-355.24	49.84
178	SLU 61	-34	198	2553	0.32	-355.24	49.84
178	SLU 62	-34	198	2553	0.32	-355.24	49.84
178	SLU 63	-34	198	2553	0.32	-355.24	49.84
178	SLU 64	-33	176	2325	0.38	-323.28	44.22
178	SLU 65	-33	176	2325	0.38	-323.28	44.22
178	SLU 66	-33	176	2325	0.38	-323.28	44.22
178	SLU 67	-33	176	2325	0.38	-323.28	44.22
178	SLU 68	-33	176	2325	0.38	-323.28	44.22
178	SLU 69	-33	176	2325	0.38	-323.28	44.22
178	SLU 70	-33	176	2325	0.38	-323.28	44.22
178	SLU 71	-33	176	2325	0.38	-323.28	44.22
178	SLU 72	-33	176	2325	0.38	-323.28	44.22
178	SLU 73	-35	207	2654	0.27	-368.85	52.18
178	SLU 74	-35	207	2654	0.27	-368.85	52.18
178	SLU 75	-35	207	2654	0.27	-368.85	52.18
178	SLU 76	-35	207	2654	0.27	-368.85	52.18
178	SLU 77	-35	207	2654	0.27	-368.85	52.18
178	SLU 78	-35	207	2654	0.27	-368.85	52.18
178	SLU 79	-35	207	2654	0.27	-368.85	52.18
178	SLU 80	-35	207	2654	0.27	-368.85	52.18
178	SLU 81	-36	221	2795	0.23	-388.37	55.59
178	SLU 82	-36	221	2795	0.23	-388.37	55.59
178	SLU 83	-36	221	2795	0.23	-388.37	55.59
178	SLU 84	-36	221	2795	0.23	-388.37	55.59
178	SLE RA 1	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 2	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 3	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 4	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 5	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 6	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 7	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 8	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 9	-25	130	1735	0.31	-241.4	32.76
178	SLE RA 10	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 11	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 12	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 13	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 14	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 15	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 16	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 17	-26	151	1955	0.24	-271.77	38.06
178	SLE RA 18	-27	160	2049	0.21	-284.79	40.33
178	SLE RA 19	-27	160	2049	0.21	-284.79	40.33
178	SLE RA 20	-27	160	2049	0.21	-284.79	40.33
178	SLE RA 21	-27	160	2049	0.21	-284.79	40.33
178	SLE FR 1	-25	130	1735	0.31	-241.4	32.76
178	SLE FR 2	-25	130	1735	0.31	-241.4	32.76
178	SLE FR 3	-25	130	1735	0.31	-241.4	32.76
178	SLE FR 4	-25	139	1829	0.28	-254.42	35.03
178	SLE FR 5	-25	139	1829	0.28	-254.42	35.03
178	SLE FR 6	-26	145	1892	0.26	-263.09	36.54
178	SLE QP 1	-25	130	1735	0.31	-241.4	32.76



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
178	SLE QP 2	-25	139	1829	0.28	-254.42	35.03
178	SLD 1	169	291	2013	-0.33	-278.46	73.01
178	SLD 2	157	258	2013	-0.31	-278.2	64.87
178	SLD 3	143	174	2133	0.2	-287.81	43.71
178	SLD 4	131	141	2132	0.22	-287.55	35.57
178	SLD 5	76	373	1704	-0.71	-247.54	93.77
178	SLD 6	63	340	1703	-0.69	-247.28	85.51
178	SLD 7	-9	-15	2102	1.05	-278.7	-3.89
178	SLD 8	-21	-49	2101	1.07	-278.45	-12.15
178	SLD 9	-29	327	1557	-0.5	-230.38	82.21
178	SLD 10	-42	294	1557	-0.49	-230.13	73.95
178	SLD 11	-114	-61	1955	1.25	-261.55	-15.45
178	SLD 12	-126	-95	1955	1.27	-261.29	-23.71
178	SLD 13	-182	137	1526	0.35	-221.28	34.48
178	SLD 14	-194	104	1526	0.36	-221.02	26.34
178	SLD 15	-207	21	1646	0.88	-230.63	5.19
178	SLD 16	-219	-12	1645	0.89	-230.37	-2.96
178	SLV 1	416	486	2246	-1.11	-308.94	121.78
178	SLV 2	388	411	2245	-1.08	-308.36	103.31
178	SLV 3	358	217	2521	0.1	-330.44	54.32
178	SLV 4	330	142	2520	0.14	-329.86	35.85
178	SLV 5	204	677	1538	-1.99	-238.37	169.98
178	SLV 6	176	601	1537	-1.96	-237.79	151.23
178	SLV 7	12	-218	2454	2.06	-310.03	-54.9
178	SLV 8	-16	-294	2453	2.09	-309.45	-73.65
178	SLV 9	-34	572	1206	-1.53	-199.38	143.7
178	SLV 10	-63	496	1205	-1.49	-198.8	124.95
178	SLV 11	-227	-323	2122	2.52	-271.04	-81.17
178	SLV 12	-255	-399	2120	2.56	-270.46	-99.92
178	SLV 13	-380	136	1139	0.43	-178.97	34.2
178	SLV 14	-408	61	1138	0.46	-178.39	15.74
178	SLV 15	-438	-132	1414	1.64	-200.47	-33.26
178	SLV 16	-466	-207	1412	1.68	-199.89	-51.73
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	-28	-65	2312	-0.7	484.31	22.9
181	SLU 2	-28	-65	2312	-0.7	484.31	22.9
181	SLU 3	-28	-65	2312	-0.7	484.31	22.9
181	SLU 4	-28	-65	2312	-0.7	484.31	22.9
181	SLU 5	-28	-65	2312	-0.7	484.31	22.9
181	SLU 6	-28	-65	2312	-0.7	484.31	22.9
181	SLU 7	-28	-65	2312	-0.7	484.31	22.9
181	SLU 8	-28	-65	2312	-0.7	484.31	22.9
181	SLU 9	-28	-65	2312	-0.7	484.31	22.9
181	SLU 10	-36	-80	2772	-1.04	578.59	28.27
181	SLU 11	-36	-80	2772	-1.04	578.59	28.27
181	SLU 12	-36	-80	2772	-1.04	578.59	28.27
181	SLU 13	-36	-80	2772	-1.04	578.59	28.27
181	SLU 14	-36	-80	2772	-1.04	578.59	28.27
181	SLU 15	-36	-80	2772	-1.04	578.59	28.27
181	SLU 16	-36	-80	2772	-1.04	578.59	28.27
181	SLU 17	-36	-80	2772	-1.04	578.59	28.27
181	SLU 18	-40	-87	2968	-1.18	618.99	30.57
181	SLU 19	-40	-87	2968	-1.18	618.99	30.57
181	SLU 20	-40	-87	2968	-1.18	618.99	30.57
181	SLU 21	-40	-87	2968	-1.18	618.99	30.57
181	SLU 22	-34	-76	2639	-0.95	551.31	26.75
181	SLU 23	-34	-76	2639	-0.95	551.31	26.75
181	SLU 24	-34	-76	2639	-0.95	551.31	26.75
181	SLU 25	-34	-76	2639	-0.95	551.31	26.75
181	SLU 26	-34	-76	2639	-0.95	551.31	26.75
181	SLU 27	-34	-76	2639	-0.95	551.31	26.75
181	SLU 28	-34	-76	2639	-0.95	551.31	26.75
181	SLU 29	-34	-76	2639	-0.95	551.31	26.75
181	SLU 30	-34	-76	2639	-0.95	551.31	26.75
181	SLU 31	-42	-91	3098	-1.29	645.59	32.12
181	SLU 32	-42	-91	3098	-1.29	645.59	32.12
181	SLU 33	-42	-91	3098	-1.29	645.59	32.12
181	SLU 34	-42	-91	3098	-1.29	645.59	32.12
181	SLU 35	-42	-91	3098	-1.29	645.59	32.12
181	SLU 36	-42	-91	3098	-1.29	645.59	32.12
181	SLU 37	-42	-91	3098	-1.29	645.59	32.12
181	SLU 38	-42	-91	3098	-1.29	645.59	32.12
181	SLU 39	-46	-98	3295	-1.43	686	34.42
181	SLU 40	-46	-98	3295	-1.43	686	34.42
181	SLU 41	-46	-98	3295	-1.43	686	34.42
181	SLU 42	-46	-98	3295	-1.43	686	34.42
181	SLU 43	-35	-81	2894	-0.83	606.62	28.45
181	SLU 44	-35	-81	2894	-0.83	606.62	28.45
181	SLU 45	-35	-81	2894	-0.83	606.62	28.45
181	SLU 46	-35	-81	2894	-0.83	606.62	28.45
181	SLU 47	-35	-81	2894	-0.83	606.62	28.45
181	SLU 48	-35	-81	2894	-0.83	606.62	28.45
181	SLU 49	-35	-81	2894	-0.83	606.62	28.45
181	SLU 50	-35	-81	2894	-0.83	606.62	28.45
181	SLU 51	-35	-81	2894	-0.83	606.62	28.45
181	SLU 52	-43	-96	3353	-1.16	700.9	33.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLU 53	-43	-96	3353	-1.16	700.9	33.82
181	SLU 54	-43	-96	3353	-1.16	700.9	33.82
181	SLU 55	-43	-96	3353	-1.16	700.9	33.82
181	SLU 56	-43	-96	3353	-1.16	700.9	33.82
181	SLU 57	-43	-96	3353	-1.16	700.9	33.82
181	SLU 58	-43	-96	3353	-1.16	700.9	33.82
181	SLU 59	-43	-96	3353	-1.16	700.9	33.82
181	SLU 60	-46	-102	3550	-1.3	741.31	36.12
181	SLU 61	-46	-102	3550	-1.3	741.31	36.12
181	SLU 62	-46	-102	3550	-1.3	741.31	36.12
181	SLU 63	-46	-102	3550	-1.3	741.31	36.12
181	SLU 64	-40	-92	3221	-1.08	673.63	32.3
181	SLU 65	-40	-92	3221	-1.08	673.63	32.3
181	SLU 66	-40	-92	3221	-1.08	673.63	32.3
181	SLU 67	-40	-92	3221	-1.08	673.63	32.3
181	SLU 68	-40	-92	3221	-1.08	673.63	32.3
181	SLU 69	-40	-92	3221	-1.08	673.63	32.3
181	SLU 70	-40	-92	3221	-1.08	673.63	32.3
181	SLU 71	-40	-92	3221	-1.08	673.63	32.3
181	SLU 72	-40	-92	3221	-1.08	673.63	32.3
181	SLU 73	-49	-107	3680	-1.41	767.91	37.67
181	SLU 74	-49	-107	3680	-1.41	767.91	37.67
181	SLU 75	-49	-107	3680	-1.41	767.91	37.67
181	SLU 76	-49	-107	3680	-1.41	767.91	37.67
181	SLU 77	-49	-107	3680	-1.41	767.91	37.67
181	SLU 78	-49	-107	3680	-1.41	767.91	37.67
181	SLU 79	-49	-107	3680	-1.41	767.91	37.67
181	SLU 80	-49	-107	3680	-1.41	767.91	37.67
181	SLU 81	-52	-113	3877	-1.55	808.32	39.97
181	SLU 82	-52	-113	3877	-1.55	808.32	39.97
181	SLU 83	-52	-113	3877	-1.55	808.32	39.97
181	SLU 84	-52	-113	3877	-1.55	808.32	39.97
181	SLE RA 1	-30	-68	2406	-0.78	503.45	24
181	SLE RA 2	-30	-68	2406	-0.78	503.45	24
181	SLE RA 3	-30	-68	2406	-0.78	503.45	24
181	SLE RA 4	-30	-68	2406	-0.78	503.45	24
181	SLE RA 5	-30	-68	2406	-0.78	503.45	24
181	SLE RA 6	-30	-68	2406	-0.78	503.45	24
181	SLE RA 7	-30	-68	2406	-0.78	503.45	24
181	SLE RA 8	-30	-68	2406	-0.78	503.45	24
181	SLE RA 9	-30	-68	2406	-0.78	503.45	24
181	SLE RA 10	-35	-78	2712	-1	566.3	27.58
181	SLE RA 11	-35	-78	2712	-1	566.3	27.58
181	SLE RA 12	-35	-78	2712	-1	566.3	27.58
181	SLE RA 13	-35	-78	2712	-1	566.3	27.58
181	SLE RA 14	-35	-78	2712	-1	566.3	27.58
181	SLE RA 15	-35	-78	2712	-1	566.3	27.58
181	SLE RA 16	-35	-78	2712	-1	566.3	27.58
181	SLE RA 17	-35	-78	2712	-1	566.3	27.58
181	SLE RA 18	-38	-83	2843	-1.09	593.24	29.11
181	SLE RA 19	-38	-83	2843	-1.09	593.24	29.11
181	SLE RA 20	-38	-83	2843	-1.09	593.24	29.11
181	SLE RA 21	-38	-83	2843	-1.09	593.24	29.11
181	SLE FR 1	-30	-68	2406	-0.78	503.45	24
181	SLE FR 2	-30	-68	2406	-0.78	503.45	24
181	SLE FR 3	-30	-68	2406	-0.78	503.45	24
181	SLE FR 4	-32	-72	2537	-0.87	530.39	25.53
181	SLE FR 5	-32	-72	2537	-0.87	530.39	25.53
181	SLE FR 6	-34	-75	2624	-0.93	548.35	26.56
181	SLE QP 1	-30	-68	2406	-0.78	503.45	24
181	SLE QP 2	-32	-72	2537	-0.87	530.39	25.53
181	SLD 1	152	-89	2227	-0.77	476.88	31.43
181	SLD 2	135	-50	2227	-0.78	477.07	17.83
181	SLD 3	183	-232	2286	-0.18	483.31	81.33
181	SLD 4	166	-193	2285	-0.18	483.5	67.73
181	SLD 5	-18	125	2355	-1.74	504.52	-43.51
181	SLD 6	-36	164	2355	-1.75	504.72	-57.3
181	SLD 7	86	-350	2550	0.24	525.94	122.8
181	SLD 8	68	-311	2550	0.24	526.13	109
181	SLD 9	-133	166	2524	-1.98	534.64	-57.93
181	SLD 10	-150	206	2524	-1.98	534.84	-71.73
181	SLD 11	-29	-309	2718	0.01	556.06	108.37
181	SLD 12	-46	-270	2718	0	556.25	94.57
181	SLD 13	-230	48	2788	-1.56	577.28	-16.66
181	SLD 14	-247	87	2788	-1.56	577.47	-30.26
181	SLD 15	-199	-95	2847	-0.96	583.7	33.24
181	SLD 16	-216	-56	2847	-0.97	583.9	19.63
181	SLV 1	385	-109	1833	-0.66	408.81	38.38
181	SLV 2	346	-20	1833	-0.67	409.24	7.53
181	SLV 3	457	-437	1967	0.71	423.49	153.27
181	SLV 4	418	-349	1967	0.7	423.93	122.42
181	SLV 5	-1	383	2122	-2.88	471.49	-133.83
181	SLV 6	-41	473	2122	-2.9	471.93	-165.15
181	SLV 7	237	-712	2570	1.69	520.43	249.14
181	SLV 8	197	-621	2570	1.68	520.88	217.82
181	SLV 9	-261	477	2504	-3.42	539.9	-166.75
181	SLV 10	-301	567	2504	-3.43	540.34	-198.07
181	SLV 11	-24	-618	2952	1.15	588.85	216.22
181	SLV 12	-63	-527	2952	1.14	589.29	184.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLV 13	-482	204	3107	-2.44	636.85	-71.35
181	SLV 14	-521	293	3106	-2.45	637.29	-102.2
181	SLV 15	-411	-124	3241	-1.07	651.53	43.54
181	SLV 16	-450	-36	3241	-1.08	651.97	12.68
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	-30	123	1688	1.2	-210.69	31.08
182	SLU 2	-30	123	1688	1.2	-210.69	31.08
182	SLU 3	-30	123	1688	1.2	-210.69	31.08
182	SLU 4	-30	123	1688	1.2	-210.69	31.08
182	SLU 5	-30	123	1688	1.2	-210.69	31.08
182	SLU 6	-30	123	1688	1.2	-210.69	31.08
182	SLU 7	-30	123	1688	1.2	-210.69	31.08
182	SLU 8	-30	123	1688	1.2	-210.69	31.08
182	SLU 9	-30	123	1688	1.2	-210.69	31.08
182	SLU 10	-34	155	2017	1.3	-249.8	39.02
182	SLU 11	-34	155	2017	1.3	-249.8	39.02
182	SLU 12	-34	155	2017	1.3	-249.8	39.02
182	SLU 13	-34	155	2017	1.3	-249.8	39.02
182	SLU 14	-34	155	2017	1.3	-249.8	39.02
182	SLU 15	-34	155	2017	1.3	-249.8	39.02
182	SLU 16	-34	155	2017	1.3	-249.8	39.02
182	SLU 17	-34	155	2017	1.3	-249.8	39.02
182	SLU 18	-36	168	2158	1.34	-266.56	42.42
182	SLU 19	-36	168	2158	1.34	-266.56	42.42
182	SLU 20	-36	168	2158	1.34	-266.56	42.42
182	SLU 21	-36	168	2158	1.34	-266.56	42.42
182	SLU 22	-34	146	1929	1.25	-239.06	36.81
182	SLU 23	-34	146	1929	1.25	-239.06	36.81
182	SLU 24	-34	146	1929	1.25	-239.06	36.81
182	SLU 25	-34	146	1929	1.25	-239.06	36.81
182	SLU 26	-34	146	1929	1.25	-239.06	36.81
182	SLU 27	-34	146	1929	1.25	-239.06	36.81
182	SLU 28	-34	146	1929	1.25	-239.06	36.81
182	SLU 29	-34	146	1929	1.25	-239.06	36.81
182	SLU 30	-34	146	1929	1.25	-239.06	36.81
182	SLU 31	-38	178	2257	1.36	-278.16	44.75
182	SLU 32	-38	178	2257	1.36	-278.16	44.75
182	SLU 33	-38	178	2257	1.36	-278.16	44.75
182	SLU 34	-38	178	2257	1.36	-278.16	44.75
182	SLU 35	-38	178	2257	1.36	-278.16	44.75
182	SLU 36	-38	178	2257	1.36	-278.16	44.75
182	SLU 37	-38	178	2257	1.36	-278.16	44.75
182	SLU 38	-38	178	2257	1.36	-278.16	44.75
182	SLU 39	-40	191	2398	1.4	-294.92	48.15
182	SLU 40	-40	191	2398	1.4	-294.92	48.15
182	SLU 41	-40	191	2398	1.4	-294.92	48.15
182	SLU 42	-40	191	2398	1.4	-294.92	48.15
182	SLU 43	-38	153	2112	1.54	-264.18	38.44
182	SLU 44	-38	153	2112	1.54	-264.18	38.44
182	SLU 45	-38	153	2112	1.54	-264.18	38.44
182	SLU 46	-38	153	2112	1.54	-264.18	38.44
182	SLU 47	-38	153	2112	1.54	-264.18	38.44
182	SLU 48	-38	153	2112	1.54	-264.18	38.44
182	SLU 49	-38	153	2112	1.54	-264.18	38.44
182	SLU 50	-38	153	2112	1.54	-264.18	38.44
182	SLU 51	-38	153	2112	1.54	-264.18	38.44
182	SLU 52	-42	184	2441	1.64	-303.29	46.37
182	SLU 53	-42	184	2441	1.64	-303.29	46.37
182	SLU 54	-42	184	2441	1.64	-303.29	46.37
182	SLU 55	-42	184	2441	1.64	-303.29	46.37
182	SLU 56	-42	184	2441	1.64	-303.29	46.37
182	SLU 57	-42	184	2441	1.64	-303.29	46.37
182	SLU 58	-42	184	2441	1.64	-303.29	46.37
182	SLU 59	-42	184	2441	1.64	-303.29	46.37
182	SLU 60	-44	198	2581	1.68	-320.04	49.78
182	SLU 61	-44	198	2581	1.68	-320.04	49.78
182	SLU 62	-44	198	2581	1.68	-320.04	49.78
182	SLU 63	-44	198	2581	1.68	-320.04	49.78
182	SLU 64	-41	175	2352	1.6	-292.54	44.17
182	SLU 65	-41	175	2352	1.6	-292.54	44.17
182	SLU 66	-41	175	2352	1.6	-292.54	44.17
182	SLU 67	-41	175	2352	1.6	-292.54	44.17
182	SLU 68	-41	175	2352	1.6	-292.54	44.17
182	SLU 69	-41	175	2352	1.6	-292.54	44.17
182	SLU 70	-41	175	2352	1.6	-292.54	44.17
182	SLU 71	-41	175	2352	1.6	-292.54	44.17
182	SLU 72	-41	175	2352	1.6	-292.54	44.17
182	SLU 73	-46	207	2681	1.7	-331.65	52.1
182	SLU 74	-46	207	2681	1.7	-331.65	52.1
182	SLU 75	-46	207	2681	1.7	-331.65	52.1
182	SLU 76	-46	207	2681	1.7	-331.65	52.1
182	SLU 77	-46	207	2681	1.7	-331.65	52.1
182	SLU 78	-46	207	2681	1.7	-331.65	52.1
182	SLU 79	-46	207	2681	1.7	-331.65	52.1
182	SLU 80	-46	207	2681	1.7	-331.65	52.1
182	SLU 81	-48	220	2822	1.74	-348.41	55.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLU 82	-48	220	2822	1.74	-348.41	55.51
182	SLU 83	-48	220	2822	1.74	-348.41	55.51
182	SLU 84	-48	220	2822	1.74	-348.41	55.51
182	SLE RA 1	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 2	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 3	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 4	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 5	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 6	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 7	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 8	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 9	-31	130	1757	1.21	-218.8	32.72
182	SLE RA 10	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 11	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 12	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 13	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 14	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 15	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 16	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 17	-34	151	1976	1.28	-244.87	38.01
182	SLE RA 18	-35	160	2070	1.31	-256.04	40.27
182	SLE RA 19	-35	160	2070	1.31	-256.04	40.27
182	SLE RA 20	-35	160	2070	1.31	-256.04	40.27
182	SLE RA 21	-35	160	2070	1.31	-256.04	40.27
182	SLE FR 1	-31	130	1757	1.21	-218.8	32.72
182	SLE FR 2	-31	130	1757	1.21	-218.8	32.72
182	SLE FR 3	-31	130	1757	1.21	-218.8	32.72
182	SLE FR 4	-32	139	1851	1.24	-229.97	34.98
182	SLE FR 5	-32	139	1851	1.24	-229.97	34.98
182	SLE FR 6	-33	145	1913	1.26	-237.42	36.5
182	SLE QP 1	-31	130	1757	1.21	-218.8	32.72
182	SLE QP 2	-32	139	1851	1.24	-229.97	34.98
182	SLD 1	165	290	2023	1.21	-249.02	72.88
182	SLD 2	150	257	2023	1.23	-248.83	64.76
182	SLD 3	138	174	2158	1.83	-258.94	43.6
182	SLD 4	123	141	2158	1.85	-258.75	35.47
182	SLD 5	73	373	1697	0.29	-220.7	93.67
182	SLD 6	57	339	1697	0.3	-220.52	85.43
182	SLD 7	-16	-15	2148	2.36	-253.77	-3.95
182	SLD 8	-32	-49	2148	2.37	-253.59	-12.19
182	SLD 9	-33	327	1553	0.12	-206.36	82.15
182	SLD 10	-49	293	1553	0.13	-206.17	73.91
182	SLD 11	-122	-61	2004	2.18	-239.43	-15.46
182	SLD 12	-137	-95	2004	2.2	-239.24	-23.7
182	SLD 13	-188	137	1543	0.64	-201.19	34.49
182	SLD 14	-203	104	1543	0.65	-201.01	26.37
182	SLD 15	-214	20	1678	1.26	-211.11	5.21
182	SLD 16	-230	-13	1678	1.27	-210.93	-2.91
182	SLV 1	416	485	2241	1.17	-273.16	121.54
182	SLV 2	381	410	2241	1.2	-272.74	103.12
182	SLV 3	355	217	2552	2.6	-295.99	54.11
182	SLV 4	320	142	2552	2.63	-295.57	35.68
182	SLV 5	207	676	1496	-0.96	-208.46	169.82
182	SLV 6	171	600	1496	-0.93	-208.03	151.11
182	SLV 7	4	-218	2533	3.81	-284.55	-54.97
182	SLV 8	-31	-294	2533	3.84	-284.12	-73.67
182	SLV 9	-33	571	1169	-1.35	-175.82	143.64
182	SLV 10	-69	495	1168	-1.32	-175.4	124.94
182	SLV 11	-236	-322	2205	3.41	-251.91	-81.14
182	SLV 12	-271	-398	2205	3.45	-251.49	-99.85
182	SLV 13	-385	136	1149	-0.14	-164.38	34.28
182	SLV 14	-420	61	1149	-0.11	-163.96	15.86
182	SLV 15	-445	-132	1460	1.29	-187.2	-33.15
182	SLV 16	-480	-207	1460	1.32	-186.78	-51.57
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	-34	-64	2308	0.49	454.66	22.54
185	SLU 2	-34	-64	2308	0.49	454.66	22.54
185	SLU 3	-34	-64	2308	0.49	454.66	22.54
185	SLU 4	-34	-64	2308	0.49	454.66	22.54
185	SLU 5	-34	-64	2308	0.49	454.66	22.54
185	SLU 6	-34	-64	2308	0.49	454.66	22.54
185	SLU 7	-34	-64	2308	0.49	454.66	22.54
185	SLU 8	-34	-64	2308	0.49	454.66	22.54
185	SLU 9	-34	-64	2308	0.49	454.66	22.54
185	SLU 10	-43	-79	2761	0.43	540.06	27.84
185	SLU 11	-43	-79	2761	0.43	540.06	27.84
185	SLU 12	-43	-79	2761	0.43	540.06	27.84
185	SLU 13	-43	-79	2761	0.43	540.06	27.84
185	SLU 14	-43	-79	2761	0.43	540.06	27.84
185	SLU 15	-43	-79	2761	0.43	540.06	27.84
185	SLU 16	-43	-79	2761	0.43	540.06	27.84
185	SLU 17	-43	-79	2761	0.43	540.06	27.84
185	SLU 18	-47	-85	2955	0.41	576.66	30.12
185	SLU 19	-47	-85	2955	0.41	576.66	30.12
185	SLU 20	-47	-85	2955	0.41	576.66	30.12
185	SLU 21	-47	-85	2955	0.41	576.66	30.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLU 22	-41	-75	2630	0.44	515.28	26.35
185	SLU 23	-41	-75	2630	0.44	515.28	26.35
185	SLU 24	-41	-75	2630	0.44	515.28	26.35
185	SLU 25	-41	-75	2630	0.44	515.28	26.35
185	SLU 26	-41	-75	2630	0.44	515.28	26.35
185	SLU 27	-41	-75	2630	0.44	515.28	26.35
185	SLU 28	-41	-75	2630	0.44	515.28	26.35
185	SLU 29	-41	-75	2630	0.44	515.28	26.35
185	SLU 30	-41	-75	2630	0.44	515.28	26.35
185	SLU 31	-50	-90	3083	0.38	600.68	31.65
185	SLU 32	-50	-90	3083	0.38	600.68	31.65
185	SLU 33	-50	-90	3083	0.38	600.68	31.65
185	SLU 34	-50	-90	3083	0.38	600.68	31.65
185	SLU 35	-50	-90	3083	0.38	600.68	31.65
185	SLU 36	-50	-90	3083	0.38	600.68	31.65
185	SLU 37	-50	-90	3083	0.38	600.68	31.65
185	SLU 38	-50	-90	3083	0.38	600.68	31.65
185	SLU 39	-53	-96	3277	0.35	637.28	33.92
185	SLU 40	-53	-96	3277	0.35	637.28	33.92
185	SLU 41	-53	-96	3277	0.35	637.28	33.92
185	SLU 42	-53	-96	3277	0.35	637.28	33.92
185	SLU 43	-43	-79	2891	0.65	570.28	28
185	SLU 44	-43	-79	2891	0.65	570.28	28
185	SLU 45	-43	-79	2891	0.65	570.28	28
185	SLU 46	-43	-79	2891	0.65	570.28	28
185	SLU 47	-43	-79	2891	0.65	570.28	28
185	SLU 48	-43	-79	2891	0.65	570.28	28
185	SLU 49	-43	-79	2891	0.65	570.28	28
185	SLU 50	-43	-79	2891	0.65	570.28	28
185	SLU 51	-43	-79	2891	0.65	570.28	28
185	SLU 52	-51	-94	3344	0.59	655.68	33.3
185	SLU 53	-51	-94	3344	0.59	655.68	33.3
185	SLU 54	-51	-94	3344	0.59	655.68	33.3
185	SLU 55	-51	-94	3344	0.59	655.68	33.3
185	SLU 56	-51	-94	3344	0.59	655.68	33.3
185	SLU 57	-51	-94	3344	0.59	655.68	33.3
185	SLU 58	-51	-94	3344	0.59	655.68	33.3
185	SLU 59	-51	-94	3344	0.59	655.68	33.3
185	SLU 60	-55	-101	3538	0.57	692.28	35.57
185	SLU 61	-55	-101	3538	0.57	692.28	35.57
185	SLU 62	-55	-101	3538	0.57	692.28	35.57
185	SLU 63	-55	-101	3538	0.57	692.28	35.57
185	SLU 64	-49	-90	3212	0.6	630.89	31.8
185	SLU 65	-49	-90	3212	0.6	630.89	31.8
185	SLU 66	-49	-90	3212	0.6	630.89	31.8
185	SLU 67	-49	-90	3212	0.6	630.89	31.8
185	SLU 68	-49	-90	3212	0.6	630.89	31.8
185	SLU 69	-49	-90	3212	0.6	630.89	31.8
185	SLU 70	-49	-90	3212	0.6	630.89	31.8
185	SLU 71	-49	-90	3212	0.6	630.89	31.8
185	SLU 72	-49	-90	3212	0.6	630.89	31.8
185	SLU 73	-58	-105	3665	0.54	716.29	37.11
185	SLU 74	-58	-105	3665	0.54	716.29	37.11
185	SLU 75	-58	-105	3665	0.54	716.29	37.11
185	SLU 76	-58	-105	3665	0.54	716.29	37.11
185	SLU 77	-58	-105	3665	0.54	716.29	37.11
185	SLU 78	-58	-105	3665	0.54	716.29	37.11
185	SLU 79	-58	-105	3665	0.54	716.29	37.11
185	SLU 80	-58	-105	3665	0.54	716.29	37.11
185	SLU 81	-61	-112	3859	0.52	752.89	39.38
185	SLU 82	-61	-112	3859	0.52	752.89	39.38
185	SLU 83	-61	-112	3859	0.52	752.89	39.38
185	SLU 84	-61	-112	3859	0.52	752.89	39.38
185	SLE RA 1	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 2	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 3	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 4	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 5	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 6	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 7	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 8	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 9	-36	-67	2400	0.47	471.98	23.63
185	SLE RA 10	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 11	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 12	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 13	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 14	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 15	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 16	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 17	-42	-77	2702	0.43	528.91	27.16
185	SLE RA 18	-45	-81	2832	0.42	553.31	28.68
185	SLE RA 19	-45	-81	2832	0.42	553.31	28.68
185	SLE RA 20	-45	-81	2832	0.42	553.31	28.68
185	SLE RA 21	-45	-81	2832	0.42	553.31	28.68
185	SLE FR 1	-36	-67	2400	0.47	471.98	23.63
185	SLE FR 2	-36	-67	2400	0.47	471.98	23.63
185	SLE FR 3	-36	-67	2400	0.47	471.98	23.63
185	SLE FR 4	-39	-71	2530	0.46	496.38	25.14
185	SLE FR 5	-39	-71	2530	0.46	496.38	25.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLE FR 6	-40	-74	2616	0.45	512.65	26.15
185	SLE QP 1	-36	-67	2400	0.47	471.98	23.63
185	SLE QP 2	-39	-71	2530	0.46	496.38	25.14
185	SLD 1	152	-88	2218	0.44	447.54	31.05
185	SLD 2	131	-49	2218	0.43	447.56	17.45
185	SLD 3	184	-231	2292	1.09	455.5	80.92
185	SLD 4	163	-191	2292	1.09	455.52	67.33
185	SLD 5	-23	126	2324	-0.54	469.64	-43.87
185	SLD 6	-44	166	2324	-0.55	469.67	-57.66
185	SLD 7	84	-349	2571	1.65	496.18	122.37
185	SLD 8	63	-309	2571	1.64	496.21	108.59
185	SLD 9	-140	167	2489	-0.73	496.55	-58.3
185	SLD 10	-161	207	2488	-0.73	496.58	-72.09
185	SLD 11	-34	-308	2736	1.46	523.09	107.95
185	SLD 12	-55	-268	2736	1.46	523.12	94.16
185	SLD 13	-241	49	2767	-0.18	537.24	-17.04
185	SLD 14	-261	88	2767	-0.18	537.26	-30.63
185	SLD 15	-209	-94	2841	0.48	545.2	32.83
185	SLD 16	-229	-54	2841	0.47	545.22	19.24
185	SLV 1	394	-108	1822	0.41	385.36	38
185	SLV 2	347	-19	1821	0.4	385.42	7.17
185	SLV 3	466	-436	1992	1.92	403.62	152.85
185	SLV 4	420	-347	1992	1.91	403.68	122.02
185	SLV 5	-3	384	2059	-1.84	435.35	-134.16
185	SLV 6	-50	474	2058	-1.86	435.42	-165.46
185	SLV 7	240	-710	2628	3.19	496.23	248.67
185	SLV 8	193	-620	2627	3.18	496.29	217.37
185	SLV 9	-270	478	2432	-2.27	496.47	-167.08
185	SLV 10	-318	568	2432	-2.28	496.53	-198.38
185	SLV 11	-27	-616	3001	2.77	557.34	215.75
185	SLV 12	-74	-526	3001	2.76	557.41	184.45
185	SLV 13	-497	205	3068	-1	589.08	-71.73
185	SLV 14	-544	294	3067	-1.01	589.14	-102.56
185	SLV 15	-424	-123	3238	0.51	607.34	43.12
185	SLV 16	-471	-35	3238	0.5	607.4	12.29
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
186	SLU 1	-36	123	1738	2.31	-208.11	30.99
186	SLU 2	-36	123	1738	2.31	-208.11	30.99
186	SLU 3	-36	123	1738	2.31	-208.11	30.99
186	SLU 4	-36	123	1738	2.31	-208.11	30.99
186	SLU 5	-36	123	1738	2.31	-208.11	30.99
186	SLU 6	-36	123	1738	2.31	-208.11	30.99
186	SLU 7	-36	123	1738	2.31	-208.11	30.99
186	SLU 8	-36	123	1738	2.31	-208.11	30.99
186	SLU 9	-36	123	1738	2.31	-208.11	30.99
186	SLU 10	-43	154	2074	2.68	-244.97	38.9
186	SLU 11	-43	154	2074	2.68	-244.97	38.9
186	SLU 12	-43	154	2074	2.68	-244.97	38.9
186	SLU 13	-43	154	2074	2.68	-244.97	38.9
186	SLU 14	-43	154	2074	2.68	-244.97	38.9
186	SLU 15	-43	154	2074	2.68	-244.97	38.9
186	SLU 16	-43	154	2074	2.68	-244.97	38.9
186	SLU 17	-43	154	2074	2.68	-244.97	38.9
186	SLU 18	-46	168	2217	2.84	-260.76	42.29
186	SLU 19	-46	168	2217	2.84	-260.76	42.29
186	SLU 20	-46	168	2217	2.84	-260.76	42.29
186	SLU 21	-46	168	2217	2.84	-260.76	42.29
186	SLU 22	-42	146	1983	2.56	-234.79	36.7
186	SLU 23	-42	146	1983	2.56	-234.79	36.7
186	SLU 24	-42	146	1983	2.56	-234.79	36.7
186	SLU 25	-42	146	1983	2.56	-234.79	36.7
186	SLU 26	-42	146	1983	2.56	-234.79	36.7
186	SLU 27	-42	146	1983	2.56	-234.79	36.7
186	SLU 28	-42	146	1983	2.56	-234.79	36.7
186	SLU 29	-42	146	1983	2.56	-234.79	36.7
186	SLU 30	-42	146	1983	2.56	-234.79	36.7
186	SLU 31	-48	177	2319	2.93	-271.65	44.61
186	SLU 32	-48	177	2319	2.93	-271.65	44.61
186	SLU 33	-48	177	2319	2.93	-271.65	44.61
186	SLU 34	-48	177	2319	2.93	-271.65	44.61
186	SLU 35	-48	177	2319	2.93	-271.65	44.61
186	SLU 36	-48	177	2319	2.93	-271.65	44.61
186	SLU 37	-48	177	2319	2.93	-271.65	44.61
186	SLU 38	-48	177	2319	2.93	-271.65	44.61
186	SLU 39	-51	191	2462	3.09	-287.44	48
186	SLU 40	-51	191	2462	3.09	-287.44	48
186	SLU 41	-51	191	2462	3.09	-287.44	48
186	SLU 42	-51	191	2462	3.09	-287.44	48
186	SLU 43	-46	152	2176	2.92	-261.4	38.33
186	SLU 44	-46	152	2176	2.92	-261.4	38.33
186	SLU 45	-46	152	2176	2.92	-261.4	38.33
186	SLU 46	-46	152	2176	2.92	-261.4	38.33
186	SLU 47	-46	152	2176	2.92	-261.4	38.33
186	SLU 48	-46	152	2176	2.92	-261.4	38.33
186	SLU 49	-46	152	2176	2.92	-261.4	38.33
186	SLU 50	-46	152	2176	2.92	-261.4	38.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLU 51	-46	152	2176	2.92	-261.4	38.33
186	SLU 52	-52	184	2511	3.29	-298.26	46.24
186	SLU 53	-52	184	2511	3.29	-298.26	46.24
186	SLU 54	-52	184	2511	3.29	-298.26	46.24
186	SLU 55	-52	184	2511	3.29	-298.26	46.24
186	SLU 56	-52	184	2511	3.29	-298.26	46.24
186	SLU 57	-52	184	2511	3.29	-298.26	46.24
186	SLU 58	-52	184	2511	3.29	-298.26	46.24
186	SLU 59	-52	184	2511	3.29	-298.26	46.24
186	SLU 60	-55	197	2655	3.44	-314.05	49.63
186	SLU 61	-55	197	2655	3.44	-314.05	49.63
186	SLU 62	-55	197	2655	3.44	-314.05	49.63
186	SLU 63	-55	197	2655	3.44	-314.05	49.63
186	SLU 64	-51	175	2421	3.17	-288.08	44.04
186	SLU 65	-51	175	2421	3.17	-288.08	44.04
186	SLU 66	-51	175	2421	3.17	-288.08	44.04
186	SLU 67	-51	175	2421	3.17	-288.08	44.04
186	SLU 68	-51	175	2421	3.17	-288.08	44.04
186	SLU 69	-51	175	2421	3.17	-288.08	44.04
186	SLU 70	-51	175	2421	3.17	-288.08	44.04
186	SLU 71	-51	175	2421	3.17	-288.08	44.04
186	SLU 72	-51	175	2421	3.17	-288.08	44.04
186	SLU 73	-57	206	2756	3.54	-324.93	51.95
186	SLU 74	-57	206	2756	3.54	-324.93	51.95
186	SLU 75	-57	206	2756	3.54	-324.93	51.95
186	SLU 76	-57	206	2756	3.54	-324.93	51.95
186	SLU 77	-57	206	2756	3.54	-324.93	51.95
186	SLU 78	-57	206	2756	3.54	-324.93	51.95
186	SLU 79	-57	206	2756	3.54	-324.93	51.95
186	SLU 80	-57	206	2756	3.54	-324.93	51.95
186	SLU 81	-60	220	2900	3.7	-340.73	55.34
186	SLU 82	-60	220	2900	3.7	-340.73	55.34
186	SLU 83	-60	220	2900	3.7	-340.73	55.34
186	SLU 84	-60	220	2900	3.7	-340.73	55.34
186	SLE RA 1	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 2	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 3	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 4	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 5	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 6	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 7	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 8	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 9	-38	130	1808	2.38	-215.73	32.62
186	SLE RA 10	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 11	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 12	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 13	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 14	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 15	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 16	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 17	-42	150	2032	2.63	-240.31	37.9
186	SLE RA 18	-44	159	2128	2.73	-250.84	40.15
186	SLE RA 19	-44	159	2128	2.73	-250.84	40.15
186	SLE RA 20	-44	159	2128	2.73	-250.84	40.15
186	SLE RA 21	-44	159	2128	2.73	-250.84	40.15
186	SLE FR 1	-38	130	1808	2.38	-215.73	32.62
186	SLE FR 2	-38	130	1808	2.38	-215.73	32.62
186	SLE FR 3	-38	130	1808	2.38	-215.73	32.62
186	SLE FR 4	-40	139	1904	2.49	-226.26	34.88
186	SLE FR 5	-40	139	1904	2.49	-226.26	34.88
186	SLE FR 6	-41	144	1968	2.56	-233.29	36.39
186	SLE QP 1	-38	130	1808	2.38	-215.73	32.62
186	SLE QP 2	-40	139	1904	2.49	-226.26	34.88
186	SLD 1	135	290	2069	2.45	-242.31	72.64
186	SLD 2	116	257	2069	2.46	-242.2	64.54
186	SLD 3	164	174	2223	3.19	-254.72	43.41
186	SLD 4	145	141	2223	3.2	-254.62	35.31
186	SLD 5	-25	372	1719	1.35	-212.28	93.43
186	SLD 6	-44	338	1720	1.37	-212.17	85.21
186	SLD 7	72	-15	2233	3.81	-253.67	-3.99
186	SLD 8	53	-49	2234	3.83	-253.57	-12.21
186	SLD 9	-133	326	1574	1.15	-198.96	81.98
186	SLD 10	-152	292	1574	1.16	-198.86	73.76
186	SLD 11	-36	-61	2088	3.61	-240.36	-15.45
186	SLD 12	-55	-95	2088	3.63	-240.25	-23.66
186	SLD 13	-225	136	1585	1.78	-197.91	34.46
186	SLD 14	-244	103	1585	1.79	-197.81	26.36
186	SLD 15	-196	20	1739	2.51	-210.33	5.23
186	SLD 16	-215	-13	1739	2.53	-210.22	-2.87
186	SLV 1	357	484	2277	2.39	-262.62	121.12
186	SLV 2	314	409	2278	2.42	-262.38	102.74
186	SLV 3	424	216	2632	4.09	-291.2	53.81
186	SLV 4	381	142	2632	4.12	-290.95	35.44
186	SLV 5	-6	675	1477	-0.13	-193.91	169.4
186	SLV 6	-50	599	1478	-0.1	-193.67	150.75
186	SLV 7	215	-217	2660	5.54	-289.17	-54.94
186	SLV 8	172	-293	2661	5.57	-288.93	-73.59
186	SLV 9	-252	570	1147	-0.59	-163.6	143.36
186	SLV 10	-295	494	1148	-0.56	-163.36	124.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
186	SLV 11	-30	-322	2330	5.07	-258.86	-80.98
186	SLV 12	-73	-398	2331	5.11	-258.62	-99.63
186	SLV 13	-460	135	1175	0.85	-161.58	34.32
186	SLV 14	-503	61	1176	0.89	-161.33	15.95
186	SLV 15	-394	-132	1530	2.55	-190.15	-32.98
186	SLV 16	-437	-207	1531	2.59	-189.91	-51.35
186	CRTFP Ux+	0	0	0	0	0	0
186	CRTFP Ux-	0	0	0	0	0	0
186	CRTFP Uy+	0	0	0	0	0	0
186	CRTFP Uy-	0	0	0	0	0	0
189	SLU 1	-41	-63	2346	1.89	455.17	22.24
189	SLU 2	-41	-63	2346	1.89	455.17	22.24
189	SLU 3	-41	-63	2346	1.89	455.17	22.24
189	SLU 4	-41	-63	2346	1.89	455.17	22.24
189	SLU 5	-41	-63	2346	1.89	455.17	22.24
189	SLU 6	-41	-63	2346	1.89	455.17	22.24
189	SLU 7	-41	-63	2346	1.89	455.17	22.24
189	SLU 8	-41	-63	2346	1.89	455.17	22.24
189	SLU 9	-41	-63	2346	1.89	455.17	22.24
189	SLU 10	-51	-78	2802	2.16	538.45	27.48
189	SLU 11	-51	-78	2802	2.16	538.45	27.48
189	SLU 12	-51	-78	2802	2.16	538.45	27.48
189	SLU 13	-51	-78	2802	2.16	538.45	27.48
189	SLU 14	-51	-78	2802	2.16	538.45	27.48
189	SLU 15	-51	-78	2802	2.16	538.45	27.48
189	SLU 16	-51	-78	2802	2.16	538.45	27.48
189	SLU 17	-51	-78	2802	2.16	538.45	27.48
189	SLU 18	-55	-84	2997	2.28	574.14	29.73
189	SLU 19	-55	-84	2997	2.28	574.14	29.73
189	SLU 20	-55	-84	2997	2.28	574.14	29.73
189	SLU 21	-55	-84	2997	2.28	574.14	29.73
189	SLU 22	-48	-74	2669	2.07	514.21	26
189	SLU 23	-48	-74	2669	2.07	514.21	26
189	SLU 24	-48	-74	2669	2.07	514.21	26
189	SLU 25	-48	-74	2669	2.07	514.21	26
189	SLU 26	-48	-74	2669	2.07	514.21	26
189	SLU 27	-48	-74	2669	2.07	514.21	26
189	SLU 28	-48	-74	2669	2.07	514.21	26
189	SLU 29	-48	-74	2669	2.07	514.21	26
189	SLU 30	-48	-74	2669	2.07	514.21	26
189	SLU 31	-58	-88	3125	2.34	597.49	31.25
189	SLU 32	-58	-88	3125	2.34	597.49	31.25
189	SLU 33	-58	-88	3125	2.34	597.49	31.25
189	SLU 34	-58	-88	3125	2.34	597.49	31.25
189	SLU 35	-58	-88	3125	2.34	597.49	31.25
189	SLU 36	-58	-88	3125	2.34	597.49	31.25
189	SLU 37	-58	-88	3125	2.34	597.49	31.25
189	SLU 38	-58	-88	3125	2.34	597.49	31.25
189	SLU 39	-62	-95	3321	2.46	633.18	33.49
189	SLU 40	-62	-95	3321	2.46	633.18	33.49
189	SLU 41	-62	-95	3321	2.46	633.18	33.49
189	SLU 42	-62	-95	3321	2.46	633.18	33.49
189	SLU 43	-51	-78	2938	2.4	571.48	27.62
189	SLU 44	-51	-78	2938	2.4	571.48	27.62
189	SLU 45	-51	-78	2938	2.4	571.48	27.62
189	SLU 46	-51	-78	2938	2.4	571.48	27.62
189	SLU 47	-51	-78	2938	2.4	571.48	27.62
189	SLU 48	-51	-78	2938	2.4	571.48	27.62
189	SLU 49	-51	-78	2938	2.4	571.48	27.62
189	SLU 50	-51	-78	2938	2.4	571.48	27.62
189	SLU 51	-51	-78	2938	2.4	571.48	27.62
189	SLU 52	-61	-93	3394	2.67	654.76	32.87
189	SLU 53	-61	-93	3394	2.67	654.76	32.87
189	SLU 54	-61	-93	3394	2.67	654.76	32.87
189	SLU 55	-61	-93	3394	2.67	654.76	32.87
189	SLU 56	-61	-93	3394	2.67	654.76	32.87
189	SLU 57	-61	-93	3394	2.67	654.76	32.87
189	SLU 58	-61	-93	3394	2.67	654.76	32.87
189	SLU 59	-61	-93	3394	2.67	654.76	32.87
189	SLU 60	-65	-99	3590	2.78	690.45	35.11
189	SLU 61	-65	-99	3590	2.78	690.45	35.11
189	SLU 62	-65	-99	3590	2.78	690.45	35.11
189	SLU 63	-65	-99	3590	2.78	690.45	35.11
189	SLU 64	-58	-89	3262	2.58	630.52	31.38
189	SLU 65	-58	-89	3262	2.58	630.52	31.38
189	SLU 66	-58	-89	3262	2.58	630.52	31.38
189	SLU 67	-58	-89	3262	2.58	630.52	31.38
189	SLU 68	-58	-89	3262	2.58	630.52	31.38
189	SLU 69	-58	-89	3262	2.58	630.52	31.38
189	SLU 70	-58	-89	3262	2.58	630.52	31.38
189	SLU 71	-58	-89	3262	2.58	630.52	31.38
189	SLU 72	-58	-89	3262	2.58	630.52	31.38
189	SLU 73	-68	-104	3718	2.85	713.8	36.63
189	SLU 74	-68	-104	3718	2.85	713.8	36.63
189	SLU 75	-68	-104	3718	2.85	713.8	36.63
189	SLU 76	-68	-104	3718	2.85	713.8	36.63
189	SLU 77	-68	-104	3718	2.85	713.8	36.63
189	SLU 78	-68	-104	3718	2.85	713.8	36.63
189	SLU 79	-68	-104	3718	2.85	713.8	36.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLU 80	-68	-104	3718	2.85	713.8	36.63
189	SLU 81	-72	-110	3914	2.96	749.49	38.88
189	SLU 82	-72	-110	3914	2.96	749.49	38.88
189	SLU 83	-72	-110	3914	2.96	749.49	38.88
189	SLU 84	-72	-110	3914	2.96	749.49	38.88
189	SLE RA 1	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 2	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 3	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 4	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 5	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 6	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 7	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 8	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 9	-43	-66	2438	1.94	472.04	23.31
189	SLE RA 10	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 11	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 12	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 13	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 14	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 15	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 16	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 17	-50	-76	2742	2.12	527.56	26.81
189	SLE RA 18	-52	-80	2872	2.2	551.35	28.31
189	SLE RA 19	-52	-80	2872	2.2	551.35	28.31
189	SLE RA 20	-52	-80	2872	2.2	551.35	28.31
189	SLE RA 21	-52	-80	2872	2.2	551.35	28.31
189	SLE FR 1	-43	-66	2438	1.94	472.04	23.31
189	SLE FR 2	-43	-66	2438	1.94	472.04	23.31
189	SLE FR 3	-43	-66	2438	1.94	472.04	23.31
189	SLE FR 4	-46	-70	2568	2.02	495.83	24.81
189	SLE FR 5	-46	-70	2568	2.02	495.83	24.81
189	SLE FR 6	-48	-73	2655	2.07	511.7	25.81
189	SLE QP 1	-43	-66	2438	1.94	472.04	23.31
189	SLE QP 2	-46	-70	2568	2.02	495.83	24.81
189	SLD 1	152	-87	2247	1.98	445.7	30.71
189	SLD 2	128	-48	2247	1.97	445.58	17.14
189	SLD 3	185	-229	2341	2.71	459.07	80.53
189	SLD 4	161	-190	2340	2.7	458.95	66.95
189	SLD 5	-28	127	2330	0.9	460.55	-44.12
189	SLD 6	-52	166	2329	0.89	460.43	-57.9
189	SLD 7	82	-348	2642	3.34	505.13	121.93
189	SLD 8	58	-308	2642	3.33	505.01	108.16
189	SLD 9	-150	168	2495	0.71	486.66	-58.53
189	SLD 10	-174	207	2494	0.7	486.53	-72.31
189	SLD 11	-40	-307	2807	3.15	531.24	107.52
189	SLD 12	-64	-267	2807	3.14	531.12	93.74
189	SLD 13	-253	50	2796	1.34	532.72	-17.33
189	SLD 14	-277	89	2796	1.33	532.59	-30.91
189	SLD 15	-220	-93	2890	2.07	546.09	32.49
189	SLD 16	-244	-53	2890	2.06	545.97	18.91
189	SLV 1	404	-107	1838	1.92	381.8	37.67
189	SLV 2	350	-18	1837	1.9	381.53	6.87
189	SLV 3	480	-435	2054	3.6	412.54	152.39
189	SLV 4	425	-346	2053	3.59	412.27	121.59
189	SLV 5	-5	384	2022	-0.56	415.1	-134.3
189	SLV 6	-61	474	2021	-0.57	414.82	-165.57
189	SLV 7	245	-708	2742	5.05	517.57	248.08
189	SLV 8	190	-618	2741	5.04	517.29	216.82
189	SLV 9	-282	478	2396	-1	474.38	-167.19
189	SLV 10	-337	568	2395	-1.01	474.1	-198.46
189	SLV 11	-31	-615	3115	4.62	576.85	215.2
189	SLV 12	-86	-525	3115	4.6	576.57	183.93
189	SLV 13	-517	205	3084	0.45	579.4	-71.96
189	SLV 14	-572	294	3083	0.44	579.12	-102.76
189	SLV 15	-442	-122	3300	2.14	610.14	42.76
189	SLV 16	-496	-34	3299	2.13	609.86	11.96
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
190	SLU 1	-42	123	1824	3.64	-228.02	30.85
190	SLU 2	-42	123	1824	3.64	-228.02	30.85
190	SLU 3	-42	123	1824	3.64	-228.02	30.85
190	SLU 4	-42	123	1824	3.64	-228.02	30.85
190	SLU 5	-42	123	1824	3.64	-228.02	30.85
190	SLU 6	-42	123	1824	3.64	-228.02	30.85
190	SLU 7	-42	123	1824	3.64	-228.02	30.85
190	SLU 8	-42	123	1824	3.64	-228.02	30.85
190	SLU 9	-42	123	1824	3.64	-228.02	30.85
190	SLU 10	-51	154	2174	4.32	-267.71	38.72
190	SLU 11	-51	154	2174	4.32	-267.71	38.72
190	SLU 12	-51	154	2174	4.32	-267.71	38.72
190	SLU 13	-51	154	2174	4.32	-267.71	38.72
190	SLU 14	-51	154	2174	4.32	-267.71	38.72
190	SLU 15	-51	154	2174	4.32	-267.71	38.72
190	SLU 16	-51	154	2174	4.32	-267.71	38.72
190	SLU 17	-51	154	2174	4.32	-267.71	38.72
190	SLU 18	-54	167	2324	4.61	-284.73	42.09
190	SLU 19	-54	167	2324	4.61	-284.73	42.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLU 20	-54	167	2324	4.61	-284.73	42.09
190	SLU 21	-54	167	2324	4.61	-284.73	42.09
190	SLU 22	-49	145	2079	4.12	-256.74	36.53
190	SLU 23	-49	145	2079	4.12	-256.74	36.53
190	SLU 24	-49	145	2079	4.12	-256.74	36.53
190	SLU 25	-49	145	2079	4.12	-256.74	36.53
190	SLU 26	-49	145	2079	4.12	-256.74	36.53
190	SLU 27	-49	145	2079	4.12	-256.74	36.53
190	SLU 28	-49	145	2079	4.12	-256.74	36.53
190	SLU 29	-49	145	2079	4.12	-256.74	36.53
190	SLU 30	-49	145	2079	4.12	-256.74	36.53
190	SLU 31	-57	177	2430	4.8	-296.44	44.4
190	SLU 32	-57	177	2430	4.8	-296.44	44.4
190	SLU 33	-57	177	2430	4.8	-296.44	44.4
190	SLU 34	-57	177	2430	4.8	-296.44	44.4
190	SLU 35	-57	177	2430	4.8	-296.44	44.4
190	SLU 36	-57	177	2430	4.8	-296.44	44.4
190	SLU 37	-57	177	2430	4.8	-296.44	44.4
190	SLU 38	-57	177	2430	4.8	-296.44	44.4
190	SLU 39	-60	190	2580	5.09	-313.45	47.77
190	SLU 40	-60	190	2580	5.09	-313.45	47.77
190	SLU 41	-60	190	2580	5.09	-313.45	47.77
190	SLU 42	-60	190	2580	5.09	-313.45	47.77
190	SLU 43	-53	152	2283	4.56	-286.57	38.16
190	SLU 44	-53	152	2283	4.56	-286.57	38.16
190	SLU 45	-53	152	2283	4.56	-286.57	38.16
190	SLU 46	-53	152	2283	4.56	-286.57	38.16
190	SLU 47	-53	152	2283	4.56	-286.57	38.16
190	SLU 48	-53	152	2283	4.56	-286.57	38.16
190	SLU 49	-53	152	2283	4.56	-286.57	38.16
190	SLU 50	-53	152	2283	4.56	-286.57	38.16
190	SLU 51	-53	152	2283	4.56	-286.57	38.16
190	SLU 52	-61	183	2634	5.25	-326.27	46.03
190	SLU 53	-61	183	2634	5.25	-326.27	46.03
190	SLU 54	-61	183	2634	5.25	-326.27	46.03
190	SLU 55	-61	183	2634	5.25	-326.27	46.03
190	SLU 56	-61	183	2634	5.25	-326.27	46.03
190	SLU 57	-61	183	2634	5.25	-326.27	46.03
190	SLU 58	-61	183	2634	5.25	-326.27	46.03
190	SLU 59	-61	183	2634	5.25	-326.27	46.03
190	SLU 60	-65	196	2784	5.54	-343.29	49.4
190	SLU 61	-65	196	2784	5.54	-343.29	49.4
190	SLU 62	-65	196	2784	5.54	-343.29	49.4
190	SLU 63	-65	196	2784	5.54	-343.29	49.4
190	SLU 64	-59	174	2539	5.04	-315.3	43.84
190	SLU 65	-59	174	2539	5.04	-315.3	43.84
190	SLU 66	-59	174	2539	5.04	-315.3	43.84
190	SLU 67	-59	174	2539	5.04	-315.3	43.84
190	SLU 68	-59	174	2539	5.04	-315.3	43.84
190	SLU 69	-59	174	2539	5.04	-315.3	43.84
190	SLU 70	-59	174	2539	5.04	-315.3	43.84
190	SLU 71	-59	174	2539	5.04	-315.3	43.84
190	SLU 72	-59	174	2539	5.04	-315.3	43.84
190	SLU 73	-68	206	2889	5.73	-354.99	51.71
190	SLU 74	-68	206	2889	5.73	-354.99	51.71
190	SLU 75	-68	206	2889	5.73	-354.99	51.71
190	SLU 76	-68	206	2889	5.73	-354.99	51.71
190	SLU 77	-68	206	2889	5.73	-354.99	51.71
190	SLU 78	-68	206	2889	5.73	-354.99	51.71
190	SLU 79	-68	206	2889	5.73	-354.99	51.71
190	SLU 80	-68	206	2889	5.73	-354.99	51.71
190	SLU 81	-71	219	3039	6.02	-372.01	55.08
190	SLU 82	-71	219	3039	6.02	-372.01	55.08
190	SLU 83	-71	219	3039	6.02	-372.01	55.08
190	SLU 84	-71	219	3039	6.02	-372.01	55.08
190	SLE RA 1	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 2	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 3	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 4	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 5	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 6	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 7	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 8	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 9	-44	129	1897	3.78	-236.22	32.47
190	SLE RA 10	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 11	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 12	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 13	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 14	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 15	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 16	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 17	-50	150	2130	4.23	-262.69	37.72
190	SLE RA 18	-52	159	2231	4.42	-274.03	39.97
190	SLE RA 19	-52	159	2231	4.42	-274.03	39.97
190	SLE RA 20	-52	159	2231	4.42	-274.03	39.97
190	SLE RA 21	-52	159	2231	4.42	-274.03	39.97
190	SLE FR 1	-44	129	1897	3.78	-236.22	32.47
190	SLE FR 2	-44	129	1897	3.78	-236.22	32.47
190	SLE FR 3	-44	129	1897	3.78	-236.22	32.47



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLE FR 4	-47	138	1997	3.97	-247.57	34.72
190	SLE FR 5	-47	138	1997	3.97	-247.57	34.72
190	SLE FR 6	-48	144	2064	4.1	-255.13	36.22
190	SLE QP 1	-44	129	1897	3.78	-236.22	32.47
190	SLE QP 2	-47	138	1997	3.97	-247.57	34.72
190	SLD 1	135	289	2159	4.02	-262.99	72.29
190	SLD 2	112	256	2159	4.03	-262.98	64.22
190	SLD 3	168	173	2336	4.9	-280.27	43.17
190	SLD 4	145	140	2336	4.91	-280.25	35.1
190	SLD 5	-33	371	1776	2.65	-225.99	93.04
190	SLD 6	-56	338	1777	2.66	-225.98	84.85
190	SLD 7	75	-15	2367	5.58	-283.59	-4.02
190	SLD 8	52	-49	2368	5.59	-283.57	-12.21
190	SLD 9	-145	325	1626	2.35	-211.56	81.66
190	SLD 10	-168	292	1627	2.36	-211.54	73.47
190	SLD 11	-37	-61	2217	5.28	-269.15	-15.4
190	SLD 12	-60	-95	2217	5.29	-269.14	-23.6
190	SLD 13	-238	136	1657	3.03	-214.88	34.35
190	SLD 14	-261	103	1658	3.04	-214.86	26.27
190	SLD 15	-206	20	1834	3.91	-232.16	5.23
190	SLD 16	-229	-13	1835	3.92	-232.14	-2.85
190	SLV 1	366	483	2362	4.08	-282.48	120.54
190	SLV 2	315	408	2364	4.11	-282.44	102.22
190	SLV 3	440	216	2770	6.1	-322.24	53.48
190	SLV 4	389	141	2772	6.13	-322.2	35.16
190	SLV 5	-17	673	1487	0.92	-197.75	168.72
190	SLV 6	-69	597	1489	0.95	-197.72	150.12
190	SLV 7	230	-217	2847	7.67	-330.28	-54.8
190	SLV 8	178	-292	2848	7.7	-330.25	-73.4
190	SLV 9	-271	569	1145	0.24	-164.89	142.84
190	SLV 10	-323	493	1147	0.27	-164.85	124.25
190	SLV 11	-24	-321	2505	6.99	-297.42	-80.68
190	SLV 12	-77	-397	2506	7.02	-297.38	-99.27
190	SLV 13	-482	135	1222	1.8	-172.93	34.28
190	SLV 14	-533	60	1223	1.84	-172.89	15.97
190	SLV 15	-408	-132	1630	3.83	-212.69	-32.77
190	SLV 16	-459	-207	1631	3.86	-212.65	-51.09
190	CRTFP Ux+	0	0	0	0	0	0
190	CRTFP Ux-	0	0	0	0	0	0
190	CRTFP Uy+	0	0	0	0	0	0
190	CRTFP Uy-	0	0	0	0	0	0
193	SLU 1	-48	-62	2429	3.43	490.38	21.99
193	SLU 2	-48	-62	2429	3.43	490.38	21.99
193	SLU 3	-48	-62	2429	3.43	490.38	21.99
193	SLU 4	-48	-62	2429	3.43	490.38	21.99
193	SLU 5	-48	-62	2429	3.43	490.38	21.99
193	SLU 6	-48	-62	2429	3.43	490.38	21.99
193	SLU 7	-48	-62	2429	3.43	490.38	21.99
193	SLU 8	-48	-62	2429	3.43	490.38	21.99
193	SLU 9	-48	-62	2429	3.43	490.38	21.99
193	SLU 10	-59	-77	2900	4.06	579.28	27.19
193	SLU 11	-59	-77	2900	4.06	579.28	27.19
193	SLU 12	-59	-77	2900	4.06	579.28	27.19
193	SLU 13	-59	-77	2900	4.06	579.28	27.19
193	SLU 14	-59	-77	2900	4.06	579.28	27.19
193	SLU 15	-59	-77	2900	4.06	579.28	27.19
193	SLU 16	-59	-77	2900	4.06	579.28	27.19
193	SLU 17	-59	-77	2900	4.06	579.28	27.19
193	SLU 18	-63	-83	3101	4.33	617.38	29.41
193	SLU 19	-63	-83	3101	4.33	617.38	29.41
193	SLU 20	-63	-83	3101	4.33	617.38	29.41
193	SLU 21	-63	-83	3101	4.33	617.38	29.41
193	SLU 22	-56	-73	2762	3.87	553.37	25.72
193	SLU 23	-56	-73	2762	3.87	553.37	25.72
193	SLU 24	-56	-73	2762	3.87	553.37	25.72
193	SLU 25	-56	-73	2762	3.87	553.37	25.72
193	SLU 26	-56	-73	2762	3.87	553.37	25.72
193	SLU 27	-56	-73	2762	3.87	553.37	25.72
193	SLU 28	-56	-73	2762	3.87	553.37	25.72
193	SLU 29	-56	-73	2762	3.87	553.37	25.72
193	SLU 30	-56	-73	2762	3.87	553.37	25.72
193	SLU 31	-67	-88	3233	4.49	642.26	30.91
193	SLU 32	-67	-88	3233	4.49	642.26	30.91
193	SLU 33	-67	-88	3233	4.49	642.26	30.91
193	SLU 34	-67	-88	3233	4.49	642.26	30.91
193	SLU 35	-67	-88	3233	4.49	642.26	30.91
193	SLU 36	-67	-88	3233	4.49	642.26	30.91
193	SLU 37	-67	-88	3233	4.49	642.26	30.91
193	SLU 38	-67	-88	3233	4.49	642.26	30.91
193	SLU 39	-71	-94	3434	4.76	680.36	33.14
193	SLU 40	-71	-94	3434	4.76	680.36	33.14
193	SLU 41	-71	-94	3434	4.76	680.36	33.14
193	SLU 42	-71	-94	3434	4.76	680.36	33.14
193	SLU 43	-60	-77	3044	4.31	615.91	27.31
193	SLU 44	-60	-77	3044	4.31	615.91	27.31
193	SLU 45	-60	-77	3044	4.31	615.91	27.31
193	SLU 46	-60	-77	3044	4.31	615.91	27.31
193	SLU 47	-60	-77	3044	4.31	615.91	27.31
193	SLU 48	-60	-77	3044	4.31	615.91	27.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLU 49	-60	-77	3044	4.31	615.91	27.31
193	SLU 50	-60	-77	3044	4.31	615.91	27.31
193	SLU 51	-60	-77	3044	4.31	615.91	27.31
193	SLU 52	-71	-92	3514	4.94	704.8	32.51
193	SLU 53	-71	-92	3514	4.94	704.8	32.51
193	SLU 54	-71	-92	3514	4.94	704.8	32.51
193	SLU 55	-71	-92	3514	4.94	704.8	32.51
193	SLU 56	-71	-92	3514	4.94	704.8	32.51
193	SLU 57	-71	-92	3514	4.94	704.8	32.51
193	SLU 58	-71	-92	3514	4.94	704.8	32.51
193	SLU 59	-71	-92	3514	4.94	704.8	32.51
193	SLU 60	-75	-98	3716	5.21	742.9	34.73
193	SLU 61	-75	-98	3716	5.21	742.9	34.73
193	SLU 62	-75	-98	3716	5.21	742.9	34.73
193	SLU 63	-75	-98	3716	5.21	742.9	34.73
193	SLU 64	-68	-88	3377	4.75	678.89	31.04
193	SLU 65	-68	-88	3377	4.75	678.89	31.04
193	SLU 66	-68	-88	3377	4.75	678.89	31.04
193	SLU 67	-68	-88	3377	4.75	678.89	31.04
193	SLU 68	-68	-88	3377	4.75	678.89	31.04
193	SLU 69	-68	-88	3377	4.75	678.89	31.04
193	SLU 70	-68	-88	3377	4.75	678.89	31.04
193	SLU 71	-68	-88	3377	4.75	678.89	31.04
193	SLU 72	-68	-88	3377	4.75	678.89	31.04
193	SLU 73	-78	-103	3847	5.37	767.78	36.23
193	SLU 74	-78	-103	3847	5.37	767.78	36.23
193	SLU 75	-78	-103	3847	5.37	767.78	36.23
193	SLU 76	-78	-103	3847	5.37	767.78	36.23
193	SLU 77	-78	-103	3847	5.37	767.78	36.23
193	SLU 78	-78	-103	3847	5.37	767.78	36.23
193	SLU 79	-78	-103	3847	5.37	767.78	36.23
193	SLU 80	-78	-103	3847	5.37	767.78	36.23
193	SLU 81	-83	-109	4049	5.64	805.88	38.46
193	SLU 82	-83	-109	4049	5.64	805.88	38.46
193	SLU 83	-83	-109	4049	5.64	805.88	38.46
193	SLU 84	-83	-109	4049	5.64	805.88	38.46
193	SLE RA 1	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 2	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 3	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 4	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 5	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 6	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 7	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 8	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 9	-51	-65	2524	3.56	508.38	23.06
193	SLE RA 10	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 11	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 12	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 13	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 14	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 15	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 16	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 17	-58	-75	2838	3.97	567.64	26.52
193	SLE RA 18	-61	-79	2972	4.15	593.04	28
193	SLE RA 19	-61	-79	2972	4.15	593.04	28
193	SLE RA 20	-61	-79	2972	4.15	593.04	28
193	SLE RA 21	-61	-79	2972	4.15	593.04	28
193	SLE FR 1	-51	-65	2524	3.56	508.38	23.06
193	SLE FR 2	-51	-65	2524	3.56	508.38	23.06
193	SLE FR 3	-51	-65	2524	3.56	508.38	23.06
193	SLE FR 4	-54	-69	2659	3.73	533.78	24.54
193	SLE FR 5	-54	-69	2659	3.73	533.78	24.54
193	SLE FR 6	-56	-72	2748	3.85	550.71	25.53
193	SLE QP 1	-51	-65	2524	3.56	508.38	23.06
193	SLE QP 2	-54	-69	2659	3.73	533.78	24.54
193	SLD 1	154	-86	2319	2.88	476.53	30.44
193	SLD 2	126	-47	2318	2.87	476.3	16.88
193	SLD 3	189	-228	2436	3.7	497.69	80.16
193	SLD 4	161	-189	2435	3.69	497.46	66.6
193	SLD 5	-34	127	2380	2.23	484.59	-44.26
193	SLD 6	-62	167	2379	2.23	484.36	-58.01
193	SLD 7	81	-347	2769	4.97	555.13	121.48
193	SLD 8	53	-307	2769	4.97	554.9	107.72
193	SLD 9	-160	168	2549	2.5	512.66	-58.64
193	SLD 10	-188	208	2548	2.5	512.43	-72.4
193	SLD 11	-45	-306	2938	5.24	583.2	107.09
193	SLD 12	-74	-266	2938	5.24	582.97	93.33
193	SLD 13	-268	50	2882	3.78	570.09	-17.52
193	SLD 14	-296	89	2882	3.77	569.87	-31.08
193	SLD 15	-233	-92	2999	4.6	591.25	32.2
193	SLD 16	-261	-53	2999	4.59	591.03	18.64
193	SLV 1	418	-106	1886	1.77	403.51	37.38
193	SLV 2	355	-17	1885	1.76	402.99	6.62
193	SLV 3	496	-433	2155	3.67	452.16	151.88
193	SLV 4	434	-345	2154	3.65	451.65	121.12
193	SLV 5	-9	384	2019	0.28	421.09	-134.26
193	SLV 6	-73	474	2018	0.27	420.57	-165.49
193	SLV 7	253	-707	2916	6.59	583.27	247.39
193	SLV 8	189	-617	2915	6.57	582.75	216.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLV 9	-296	478	2403	0.9	484.81	-167.09
193	SLV 10	-360	568	2401	0.88	484.29	-198.32
193	SLV 11	-34	-613	3300	7.2	646.99	214.57
193	SLV 12	-98	-523	3298	7.19	646.47	183.34
193	SLV 13	-541	206	3164	3.82	615.91	-72.04
193	SLV 14	-604	294	3162	3.8	615.39	-102.8
193	SLV 15	-462	-122	3433	5.71	664.56	42.45
193	SLV 16	-525	-33	3432	5.7	664.05	11.69
193	CRTFP Ux+	0	0	0	0	0	0
193	CRTFP Ux-	0	0	0	0	0	0
193	CRTFP Uy+	0	0	0	0	0	0
193	CRTFP Uy-	0	0	0	0	0	0
194	SLU 1	-47	122	1950	5.16	-274.24	30.66
194	SLU 2	-47	122	1950	5.16	-274.24	30.66
194	SLU 3	-47	122	1950	5.16	-274.24	30.66
194	SLU 4	-47	122	1950	5.16	-274.24	30.66
194	SLU 5	-47	122	1950	5.16	-274.24	30.66
194	SLU 6	-47	122	1950	5.16	-274.24	30.66
194	SLU 7	-47	122	1950	5.16	-274.24	30.66
194	SLU 8	-47	122	1950	5.16	-274.24	30.66
194	SLU 9	-47	122	1950	5.16	-274.24	30.66
194	SLU 10	-56	153	2326	6.19	-322.72	38.48
194	SLU 11	-56	153	2326	6.19	-322.72	38.48
194	SLU 12	-56	153	2326	6.19	-322.72	38.48
194	SLU 13	-56	153	2326	6.19	-322.72	38.48
194	SLU 14	-56	153	2326	6.19	-322.72	38.48
194	SLU 15	-56	153	2326	6.19	-322.72	38.48
194	SLU 16	-56	153	2326	6.19	-322.72	38.48
194	SLU 17	-56	153	2326	6.19	-322.72	38.48
194	SLU 18	-60	167	2486	6.63	-343.5	41.83
194	SLU 19	-60	167	2486	6.63	-343.5	41.83
194	SLU 20	-60	167	2486	6.63	-343.5	41.83
194	SLU 21	-60	167	2486	6.63	-343.5	41.83
194	SLU 22	-54	145	2223	5.89	-309.34	36.3
194	SLU 23	-54	145	2223	5.89	-309.34	36.3
194	SLU 24	-54	145	2223	5.89	-309.34	36.3
194	SLU 25	-54	145	2223	5.89	-309.34	36.3
194	SLU 26	-54	145	2223	5.89	-309.34	36.3
194	SLU 27	-54	145	2223	5.89	-309.34	36.3
194	SLU 28	-54	145	2223	5.89	-309.34	36.3
194	SLU 29	-54	145	2223	5.89	-309.34	36.3
194	SLU 30	-54	145	2223	5.89	-309.34	36.3
194	SLU 31	-63	176	2599	6.93	-357.83	44.12
194	SLU 32	-63	176	2599	6.93	-357.83	44.12
194	SLU 33	-63	176	2599	6.93	-357.83	44.12
194	SLU 34	-63	176	2599	6.93	-357.83	44.12
194	SLU 35	-63	176	2599	6.93	-357.83	44.12
194	SLU 36	-63	176	2599	6.93	-357.83	44.12
194	SLU 37	-63	176	2599	6.93	-357.83	44.12
194	SLU 38	-63	176	2599	6.93	-357.83	44.12
194	SLU 39	-67	189	2760	7.37	-378.61	47.47
194	SLU 40	-67	189	2760	7.37	-378.61	47.47
194	SLU 41	-67	189	2760	7.37	-378.61	47.47
194	SLU 42	-67	189	2760	7.37	-378.61	47.47
194	SLU 43	-59	151	2442	6.45	-344.47	37.92
194	SLU 44	-59	151	2442	6.45	-344.47	37.92
194	SLU 45	-59	151	2442	6.45	-344.47	37.92
194	SLU 46	-59	151	2442	6.45	-344.47	37.92
194	SLU 47	-59	151	2442	6.45	-344.47	37.92
194	SLU 48	-59	151	2442	6.45	-344.47	37.92
194	SLU 49	-59	151	2442	6.45	-344.47	37.92
194	SLU 50	-59	151	2442	6.45	-344.47	37.92
194	SLU 51	-59	151	2442	6.45	-344.47	37.92
194	SLU 52	-68	182	2817	7.49	-392.96	45.74
194	SLU 53	-68	182	2817	7.49	-392.96	45.74
194	SLU 54	-68	182	2817	7.49	-392.96	45.74
194	SLU 55	-68	182	2817	7.49	-392.96	45.74
194	SLU 56	-68	182	2817	7.49	-392.96	45.74
194	SLU 57	-68	182	2817	7.49	-392.96	45.74
194	SLU 58	-68	182	2817	7.49	-392.96	45.74
194	SLU 59	-68	182	2817	7.49	-392.96	45.74
194	SLU 60	-72	196	2978	7.93	-413.74	49.09
194	SLU 61	-72	196	2978	7.93	-413.74	49.09
194	SLU 62	-72	196	2978	7.93	-413.74	49.09
194	SLU 63	-72	196	2978	7.93	-413.74	49.09
194	SLU 64	-66	174	2715	7.19	-379.58	43.56
194	SLU 65	-66	174	2715	7.19	-379.58	43.56
194	SLU 66	-66	174	2715	7.19	-379.58	43.56
194	SLU 67	-66	174	2715	7.19	-379.58	43.56
194	SLU 68	-66	174	2715	7.19	-379.58	43.56
194	SLU 69	-66	174	2715	7.19	-379.58	43.56
194	SLU 70	-66	174	2715	7.19	-379.58	43.56
194	SLU 71	-66	174	2715	7.19	-379.58	43.56
194	SLU 72	-66	174	2715	7.19	-379.58	43.56
194	SLU 73	-75	205	3090	8.22	-428.06	51.38
194	SLU 74	-75	205	3090	8.22	-428.06	51.38
194	SLU 75	-75	205	3090	8.22	-428.06	51.38
194	SLU 76	-75	205	3090	8.22	-428.06	51.38
194	SLU 77	-75	205	3090	8.22	-428.06	51.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLU 78	-75	205	3090	8.22	-428.06	51.38
194	SLU 79	-75	205	3090	8.22	-428.06	51.38
194	SLU 80	-75	205	3090	8.22	-428.06	51.38
194	SLU 81	-79	218	3251	8.67	-448.84	54.73
194	SLU 82	-79	218	3251	8.67	-448.84	54.73
194	SLU 83	-79	218	3251	8.67	-448.84	54.73
194	SLU 84	-79	218	3251	8.67	-448.84	54.73
194	SLE RA 1	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 2	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 3	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 4	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 5	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 6	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 7	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 8	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 9	-49	129	2028	5.37	-284.27	32.27
194	SLE RA 10	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 11	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 12	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 13	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 14	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 15	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 16	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 17	-55	149	2279	6.06	-316.59	37.48
194	SLE RA 18	-58	158	2386	6.35	-330.45	39.72
194	SLE RA 19	-58	158	2386	6.35	-330.45	39.72
194	SLE RA 20	-58	158	2386	6.35	-330.45	39.72
194	SLE RA 21	-58	158	2386	6.35	-330.45	39.72
194	SLE FR 1	-49	129	2028	5.37	-284.27	32.27
194	SLE FR 2	-49	129	2028	5.37	-284.27	32.27
194	SLE FR 3	-49	129	2028	5.37	-284.27	32.27
194	SLE FR 4	-52	137	2136	5.66	-298.12	34.5
194	SLE FR 5	-52	137	2136	5.66	-298.12	34.5
194	SLE FR 6	-53	143	2207	5.86	-307.36	35.99
194	SLE QP 1	-49	129	2028	5.37	-284.27	32.27
194	SLE QP 2	-52	137	2136	5.66	-298.12	34.5
194	SLD 1	140	288	2299	5.85	-315.57	71.87
194	SLD 2	113	255	2300	5.86	-315.66	63.81
194	SLD 3	176	173	2504	6.9	-340.55	42.9
194	SLD 4	149	140	2505	6.91	-340.64	34.85
194	SLD 5	-38	370	1874	4.13	-265.43	92.52
194	SLD 6	-66	336	1875	4.14	-265.52	84.35
194	SLD 7	80	-15	2556	7.61	-348.71	-4.03
194	SLD 8	53	-49	2557	7.63	-348.8	-12.2
194	SLD 9	-156	324	1714	3.7	-247.44	81.21
194	SLD 10	-183	290	1715	3.71	-247.53	73.04
194	SLD 11	-38	-61	2396	7.19	-330.72	-15.35
194	SLD 12	-65	-95	2397	7.2	-330.81	-23.52
194	SLD 13	-252	135	1766	4.42	-255.6	34.16
194	SLD 14	-279	102	1767	4.43	-255.69	26.1
194	SLD 15	-216	20	1971	5.46	-280.58	5.19
194	SLD 16	-244	-13	1972	5.48	-280.68	-2.86
194	SLV 1	384	481	2505	6.08	-337.55	119.85
194	SLV 2	322	407	2507	6.11	-337.76	101.58
194	SLV 3	465	215	2976	8.49	-395.03	53.15
194	SLV 4	404	141	2979	8.52	-395.25	34.88
194	SLV 5	-22	671	1531	2.13	-222.68	167.8
194	SLV 6	-84	595	1533	2.16	-222.9	149.26
194	SLV 7	248	-216	3102	10.15	-414.3	-54.54
194	SLV 8	186	-292	3104	10.18	-414.52	-73.08
194	SLV 9	-289	567	1167	1.15	-181.72	142.08
194	SLV 10	-352	491	1170	1.18	-181.94	123.54
194	SLV 11	-19	-320	2738	9.17	-373.34	-80.25
194	SLV 12	-81	-396	2740	9.2	-373.56	-98.8
194	SLV 13	-507	134	1293	2.81	-200.99	34.12
194	SLV 14	-568	60	1295	2.84	-201.21	15.85
194	SLV 15	-426	-132	1764	5.22	-258.48	-32.58
194	SLV 16	-487	-206	1766	5.25	-258.7	-50.85
194	CRTFP Ux+	0	0	0	0	0	0
194	CRTFP Ux-	0	0	0	0	0	0
194	CRTFP Uy+	0	0	0	0	0	0
194	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	-55	-62	2563	5.04	563.94	21.8
197	SLU 2	-55	-62	2563	5.04	563.94	21.8
197	SLU 3	-55	-62	2563	5.04	563.94	21.8
197	SLU 4	-55	-62	2563	5.04	563.94	21.8
197	SLU 5	-55	-62	2563	5.04	563.94	21.8
197	SLU 6	-55	-62	2563	5.04	563.94	21.8
197	SLU 7	-55	-62	2563	5.04	563.94	21.8
197	SLU 8	-55	-62	2563	5.04	563.94	21.8
197	SLU 9	-55	-62	2563	5.04	563.94	21.8
197	SLU 10	-67	-76	3059	6.03	666.99	26.95
197	SLU 11	-67	-76	3059	6.03	666.99	26.95
197	SLU 12	-67	-76	3059	6.03	666.99	26.95
197	SLU 13	-67	-76	3059	6.03	666.99	26.95
197	SLU 14	-67	-76	3059	6.03	666.99	26.95
197	SLU 15	-67	-76	3059	6.03	666.99	26.95
197	SLU 16	-67	-76	3059	6.03	666.99	26.95
197	SLU 17	-67	-76	3059	6.03	666.99	26.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 18	-72	-83	3271	6.46	711.15	29.16
197	SLU 19	-72	-83	3271	6.46	711.15	29.16
197	SLU 20	-72	-83	3271	6.46	711.15	29.16
197	SLU 21	-72	-83	3271	6.46	711.15	29.16
197	SLU 22	-64	-72	2914	5.74	636.92	25.49
197	SLU 23	-64	-72	2914	5.74	636.92	25.49
197	SLU 24	-64	-72	2914	5.74	636.92	25.49
197	SLU 25	-64	-72	2914	5.74	636.92	25.49
197	SLU 26	-64	-72	2914	5.74	636.92	25.49
197	SLU 27	-64	-72	2914	5.74	636.92	25.49
197	SLU 28	-64	-72	2914	5.74	636.92	25.49
197	SLU 29	-64	-72	2914	5.74	636.92	25.49
197	SLU 30	-64	-72	2914	5.74	636.92	25.49
197	SLU 31	-75	-87	3410	6.73	739.97	30.64
197	SLU 32	-75	-87	3410	6.73	739.97	30.64
197	SLU 33	-75	-87	3410	6.73	739.97	30.64
197	SLU 34	-75	-87	3410	6.73	739.97	30.64
197	SLU 35	-75	-87	3410	6.73	739.97	30.64
197	SLU 36	-75	-87	3410	6.73	739.97	30.64
197	SLU 37	-75	-87	3410	6.73	739.97	30.64
197	SLU 38	-75	-87	3410	6.73	739.97	30.64
197	SLU 39	-80	-93	3622	7.16	784.14	32.85
197	SLU 40	-80	-93	3622	7.16	784.14	32.85
197	SLU 41	-80	-93	3622	7.16	784.14	32.85
197	SLU 42	-80	-93	3622	7.16	784.14	32.85
197	SLU 43	-69	-77	3211	6.31	708.1	27.07
197	SLU 44	-69	-77	3211	6.31	708.1	27.07
197	SLU 45	-69	-77	3211	6.31	708.1	27.07
197	SLU 46	-69	-77	3211	6.31	708.1	27.07
197	SLU 47	-69	-77	3211	6.31	708.1	27.07
197	SLU 48	-69	-77	3211	6.31	708.1	27.07
197	SLU 49	-69	-77	3211	6.31	708.1	27.07
197	SLU 50	-69	-77	3211	6.31	708.1	27.07
197	SLU 51	-69	-77	3211	6.31	708.1	27.07
197	SLU 52	-80	-91	3707	7.31	811.15	32.22
197	SLU 53	-80	-91	3707	7.31	811.15	32.22
197	SLU 54	-80	-91	3707	7.31	811.15	32.22
197	SLU 55	-80	-91	3707	7.31	811.15	32.22
197	SLU 56	-80	-91	3707	7.31	811.15	32.22
197	SLU 57	-80	-91	3707	7.31	811.15	32.22
197	SLU 58	-80	-91	3707	7.31	811.15	32.22
197	SLU 59	-80	-91	3707	7.31	811.15	32.22
197	SLU 60	-85	-98	3919	7.73	855.31	34.43
197	SLU 61	-85	-98	3919	7.73	855.31	34.43
197	SLU 62	-85	-98	3919	7.73	855.31	34.43
197	SLU 63	-85	-98	3919	7.73	855.31	34.43
197	SLU 64	-77	-87	3562	7.01	781.08	30.76
197	SLU 65	-77	-87	3562	7.01	781.08	30.76
197	SLU 66	-77	-87	3562	7.01	781.08	30.76
197	SLU 67	-77	-87	3562	7.01	781.08	30.76
197	SLU 68	-77	-87	3562	7.01	781.08	30.76
197	SLU 69	-77	-87	3562	7.01	781.08	30.76
197	SLU 70	-77	-87	3562	7.01	781.08	30.76
197	SLU 71	-77	-87	3562	7.01	781.08	30.76
197	SLU 72	-77	-87	3562	7.01	781.08	30.76
197	SLU 73	-89	-102	4058	8.01	884.13	35.92
197	SLU 74	-89	-102	4058	8.01	884.13	35.92
197	SLU 75	-89	-102	4058	8.01	884.13	35.92
197	SLU 76	-89	-102	4058	8.01	884.13	35.92
197	SLU 77	-89	-102	4058	8.01	884.13	35.92
197	SLU 78	-89	-102	4058	8.01	884.13	35.92
197	SLU 79	-89	-102	4058	8.01	884.13	35.92
197	SLU 80	-89	-102	4058	8.01	884.13	35.92
197	SLU 81	-94	-108	4270	8.43	928.3	38.13
197	SLU 82	-94	-108	4270	8.43	928.3	38.13
197	SLU 83	-94	-108	4270	8.43	928.3	38.13
197	SLU 84	-94	-108	4270	8.43	928.3	38.13
197	SLE RA 1	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 2	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 3	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 4	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 5	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 6	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 7	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 8	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 9	-58	-65	2663	5.24	584.79	22.85
197	SLE RA 10	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 11	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 12	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 13	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 14	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 15	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 16	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 17	-65	-74	2994	5.9	653.49	26.29
197	SLE RA 18	-69	-79	3135	6.19	682.93	27.76
197	SLE RA 19	-69	-79	3135	6.19	682.93	27.76
197	SLE RA 20	-69	-79	3135	6.19	682.93	27.76
197	SLE RA 21	-69	-79	3135	6.19	682.93	27.76
197	SLE FR 1	-58	-65	2663	5.24	584.79	22.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLE FR 2	-58	-65	2663	5.24	584.79	22.85
197	SLE FR 3	-58	-65	2663	5.24	584.79	22.85
197	SLE FR 4	-61	-69	2805	5.52	614.23	24.33
197	SLE FR 5	-61	-69	2805	5.52	614.23	24.33
197	SLE FR 6	-63	-72	2899	5.71	633.86	25.31
197	SLE QP 1	-58	-65	2663	5.24	584.79	22.85
197	SLE QP 2	-61	-69	2805	5.52	614.23	24.33
197	SLD 1	157	-86	2438	4.44	543.85	30.21
197	SLD 2	125	-47	2437	4.43	543.56	16.67
197	SLD 3	193	-227	2581	5.36	574.93	79.8
197	SLD 4	162	-188	2580	5.35	574.64	66.26
197	SLD 5	-40	127	2477	3.8	546.07	-44.28
197	SLD 6	-72	167	2476	3.79	545.78	-58.02
197	SLD 7	82	-346	2956	6.88	649.69	121.02
197	SLD 8	50	-306	2955	6.87	649.4	107.28
197	SLD 9	-172	168	2654	4.18	579.07	-58.63
197	SLD 10	-204	208	2653	4.17	578.78	-72.36
197	SLD 11	-50	-305	3133	7.26	682.69	106.67
197	SLD 12	-82	-265	3132	7.25	682.39	92.93
197	SLD 13	-283	51	3029	5.7	653.82	-17.61
197	SLD 14	-315	90	3028	5.69	653.54	-31.15
197	SLD 15	-247	-91	3173	6.62	684.91	31.98
197	SLD 16	-278	-52	3172	6.61	684.62	18.44
197	SLV 1	433	-105	1969	3.04	454.02	37.14
197	SLV 2	361	-17	1968	3.02	453.37	6.43
197	SLV 3	516	-432	2300	5.16	525.49	151.34
197	SLV 4	444	-343	2298	5.14	524.84	120.62
197	SLV 5	-14	384	2053	1.56	458	-134.04
197	SLV 6	-86	474	2051	1.54	457.34	-165.22
197	SLV 7	264	-705	3155	8.64	696.25	246.61
197	SLV 8	192	-615	3153	8.63	695.58	215.42
197	SLV 9	-313	477	2456	2.42	532.88	-166.77
197	SLV 10	-386	567	2454	2.4	532.22	-197.96
197	SLV 11	-35	-612	3558	9.5	771.13	213.87
197	SLV 12	-108	-522	3556	9.49	770.47	182.69
197	SLV 13	-566	206	3311	5.9	703.63	-71.97
197	SLV 14	-638	294	3309	5.89	702.97	-102.69
197	SLV 15	-483	-121	3642	8.03	775.1	42.22
197	SLV 16	-555	-33	3640	8.01	774.45	11.51
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
198	SLU 1	-49	122	2123	6.82	-350.39	30.4
198	SLU 2	-49	122	2123	6.82	-350.39	30.4
198	SLU 3	-49	122	2123	6.82	-350.39	30.4
198	SLU 4	-49	122	2123	6.82	-350.39	30.4
198	SLU 5	-49	122	2123	6.82	-350.39	30.4
198	SLU 6	-49	122	2123	6.82	-350.39	30.4
198	SLU 7	-49	122	2123	6.82	-350.39	30.4
198	SLU 8	-49	122	2123	6.82	-350.39	30.4
198	SLU 9	-49	122	2123	6.82	-350.39	30.4
198	SLU 10	-58	153	2534	8.23	-414.36	38.16
198	SLU 11	-58	153	2534	8.23	-414.36	38.16
198	SLU 12	-58	153	2534	8.23	-414.36	38.16
198	SLU 13	-58	153	2534	8.23	-414.36	38.16
198	SLU 14	-58	153	2534	8.23	-414.36	38.16
198	SLU 15	-58	153	2534	8.23	-414.36	38.16
198	SLU 16	-58	153	2534	8.23	-414.36	38.16
198	SLU 17	-58	153	2534	8.23	-414.36	38.16
198	SLU 18	-62	166	2710	8.83	-441.78	41.49
198	SLU 19	-62	166	2710	8.83	-441.78	41.49
198	SLU 20	-62	166	2710	8.83	-441.78	41.49
198	SLU 21	-62	166	2710	8.83	-441.78	41.49
198	SLU 22	-56	144	2422	7.83	-396.74	36
198	SLU 23	-56	144	2422	7.83	-396.74	36
198	SLU 24	-56	144	2422	7.83	-396.74	36
198	SLU 25	-56	144	2422	7.83	-396.74	36
198	SLU 26	-56	144	2422	7.83	-396.74	36
198	SLU 27	-56	144	2422	7.83	-396.74	36
198	SLU 28	-56	144	2422	7.83	-396.74	36
198	SLU 29	-56	144	2422	7.83	-396.74	36
198	SLU 30	-56	144	2422	7.83	-396.74	36
198	SLU 31	-66	175	2832	9.24	-460.72	43.76
198	SLU 32	-66	175	2832	9.24	-460.72	43.76
198	SLU 33	-66	175	2832	9.24	-460.72	43.76
198	SLU 34	-66	175	2832	9.24	-460.72	43.76
198	SLU 35	-66	175	2832	9.24	-460.72	43.76
198	SLU 36	-66	175	2832	9.24	-460.72	43.76
198	SLU 37	-66	175	2832	9.24	-460.72	43.76
198	SLU 38	-66	175	2832	9.24	-460.72	43.76
198	SLU 39	-70	188	3008	9.84	-488.13	47.08
198	SLU 40	-70	188	3008	9.84	-488.13	47.08
198	SLU 41	-70	188	3008	9.84	-488.13	47.08
198	SLU 42	-70	188	3008	9.84	-488.13	47.08
198	SLU 43	-61	150	2658	8.51	-439.61	37.6
198	SLU 44	-61	150	2658	8.51	-439.61	37.6
198	SLU 45	-61	150	2658	8.51	-439.61	37.6
198	SLU 46	-61	150	2658	8.51	-439.61	37.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLU 47	-61	150	2658	8.51	-439.61	37.6
198	SLU 48	-61	150	2658	8.51	-439.61	37.6
198	SLU 49	-61	150	2658	8.51	-439.61	37.6
198	SLU 50	-61	150	2658	8.51	-439.61	37.6
198	SLU 51	-61	150	2658	8.51	-439.61	37.6
198	SLU 52	-70	181	3068	9.92	-503.58	45.36
198	SLU 53	-70	181	3068	9.92	-503.58	45.36
198	SLU 54	-70	181	3068	9.92	-503.58	45.36
198	SLU 55	-70	181	3068	9.92	-503.58	45.36
198	SLU 56	-70	181	3068	9.92	-503.58	45.36
198	SLU 57	-70	181	3068	9.92	-503.58	45.36
198	SLU 58	-70	181	3068	9.92	-503.58	45.36
198	SLU 59	-70	181	3068	9.92	-503.58	45.36
198	SLU 60	-75	195	3244	10.53	-531	48.69
198	SLU 61	-75	195	3244	10.53	-531	48.69
198	SLU 62	-75	195	3244	10.53	-531	48.69
198	SLU 63	-75	195	3244	10.53	-531	48.69
198	SLU 64	-68	173	2956	9.53	-485.96	43.2
198	SLU 65	-68	173	2956	9.53	-485.96	43.2
198	SLU 66	-68	173	2956	9.53	-485.96	43.2
198	SLU 67	-68	173	2956	9.53	-485.96	43.2
198	SLU 68	-68	173	2956	9.53	-485.96	43.2
198	SLU 69	-68	173	2956	9.53	-485.96	43.2
198	SLU 70	-68	173	2956	9.53	-485.96	43.2
198	SLU 71	-68	173	2956	9.53	-485.96	43.2
198	SLU 72	-68	173	2956	9.53	-485.96	43.2
198	SLU 73	-78	204	3367	10.94	-549.94	50.96
198	SLU 74	-78	204	3367	10.94	-549.94	50.96
198	SLU 75	-78	204	3367	10.94	-549.94	50.96
198	SLU 76	-78	204	3367	10.94	-549.94	50.96
198	SLU 77	-78	204	3367	10.94	-549.94	50.96
198	SLU 78	-78	204	3367	10.94	-549.94	50.96
198	SLU 79	-78	204	3367	10.94	-549.94	50.96
198	SLU 80	-78	204	3367	10.94	-549.94	50.96
198	SLU 81	-82	217	3543	11.54	-577.36	54.28
198	SLU 82	-82	217	3543	11.54	-577.36	54.28
198	SLU 83	-82	217	3543	11.54	-577.36	54.28
198	SLU 84	-82	217	3543	11.54	-577.36	54.28
198	SLE RA 1	-51	128	2208	7.1	-363.63	32
198	SLE RA 2	-51	128	2208	7.1	-363.63	32
198	SLE RA 3	-51	128	2208	7.1	-363.63	32
198	SLE RA 4	-51	128	2208	7.1	-363.63	32
198	SLE RA 5	-51	128	2208	7.1	-363.63	32
198	SLE RA 6	-51	128	2208	7.1	-363.63	32
198	SLE RA 7	-51	128	2208	7.1	-363.63	32
198	SLE RA 8	-51	128	2208	7.1	-363.63	32
198	SLE RA 9	-51	128	2208	7.1	-363.63	32
198	SLE RA 10	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 11	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 12	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 13	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 14	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 15	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 16	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 17	-57	149	2482	8.05	-406.28	37.17
198	SLE RA 18	-60	158	2599	8.45	-424.56	39.39
198	SLE RA 19	-60	158	2599	8.45	-424.56	39.39
198	SLE RA 20	-60	158	2599	8.45	-424.56	39.39
198	SLE RA 21	-60	158	2599	8.45	-424.56	39.39
198	SLE FR 1	-51	128	2208	7.1	-363.63	32
198	SLE FR 2	-51	128	2208	7.1	-363.63	32
198	SLE FR 3	-51	128	2208	7.1	-363.63	32
198	SLE FR 4	-54	137	2326	7.51	-381.91	34.22
198	SLE FR 5	-54	137	2326	7.51	-381.91	34.22
198	SLE FR 6	-55	143	2404	7.78	-394.09	35.69
198	SLE QP 1	-51	128	2208	7.1	-363.63	32
198	SLE QP 2	-54	137	2326	7.51	-381.91	34.22
198	SLD 1	151	287	2496	7.84	-404.12	71.38
198	SLD 2	119	254	2497	7.86	-404.35	63.34
198	SLD 3	188	172	2733	9.07	-440.2	42.61
198	SLD 4	157	139	2735	9.09	-440.43	34.58
198	SLD 5	-38	368	2016	5.74	-333.76	91.86
198	SLD 6	-70	335	2018	5.75	-333.99	83.7
198	SLD 7	87	-15	2808	9.84	-454.04	-4.01
198	SLD 8	55	-49	2809	9.85	-454.28	-12.17
198	SLD 9	-162	322	1842	5.16	-309.54	80.6
198	SLD 10	-194	289	1844	5.18	-309.77	72.45
198	SLD 11	-37	-61	2634	9.27	-429.82	-15.27
198	SLD 12	-70	-95	2635	9.28	-430.06	-23.42
198	SLD 13	-264	135	1917	5.93	-323.38	33.85
198	SLD 14	-295	102	1918	5.94	-323.61	25.82
198	SLD 15	-226	19	2154	7.16	-359.47	5.09
198	SLD 16	-258	-13	2156	7.17	-359.7	-2.94
198	SLV 1	410	480	2710	8.26	-432.04	119.09
198	SLV 2	339	406	2713	8.29	-432.57	100.86
198	SLV 3	496	215	3256	11.09	-515.06	52.86
198	SLV 4	424	141	3260	11.12	-515.59	34.63
198	SLV 5	-18	669	1611	3.43	-270.84	166.65
198	SLV 6	-91	593	1614	3.46	-271.37	148.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLV 7	266	-215	3433	12.87	-547.59	-54.12
198	SLV 8	194	-291	3436	12.9	-548.12	-72.62
198	SLV 9	-301	564	1215	2.12	-215.69	141.06
198	SLV 10	-374	489	1219	2.15	-216.23	122.55
198	SLV 11	-16	-319	3037	11.56	-492.44	-79.71
198	SLV 12	-89	-395	3041	11.59	-492.98	-98.21
198	SLV 13	-531	133	1392	3.89	-248.23	33.8
198	SLV 14	-603	59	1395	3.93	-248.75	15.57
198	SLV 15	-446	-132	1938	6.72	-331.25	-32.43
198	SLV 16	-518	-206	1942	6.76	-331.78	-50.66
198	CRTFP Ux+	0	0	0	0	0	0
198	CRTFP Ux-	0	0	0	0	0	0
198	CRTFP Uy+	0	0	0	0	0	0
198	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	-61	-61	2747	6.62	677.46	21.65
201	SLU 2	-61	-61	2747	6.62	677.46	21.65
201	SLU 3	-61	-61	2747	6.62	677.46	21.65
201	SLU 4	-61	-61	2747	6.62	677.46	21.65
201	SLU 5	-61	-61	2747	6.62	677.46	21.65
201	SLU 6	-61	-61	2747	6.62	677.46	21.65
201	SLU 7	-61	-61	2747	6.62	677.46	21.65
201	SLU 8	-61	-61	2747	6.62	677.46	21.65
201	SLU 9	-61	-61	2747	6.62	677.46	21.65
201	SLU 10	-74	-76	3280	7.98	803.53	26.77
201	SLU 11	-74	-76	3280	7.98	803.53	26.77
201	SLU 12	-74	-76	3280	7.98	803.53	26.77
201	SLU 13	-74	-76	3280	7.98	803.53	26.77
201	SLU 14	-74	-76	3280	7.98	803.53	26.77
201	SLU 15	-74	-76	3280	7.98	803.53	26.77
201	SLU 16	-74	-76	3280	7.98	803.53	26.77
201	SLU 17	-74	-76	3280	7.98	803.53	26.77
201	SLU 18	-79	-82	3508	8.55	857.56	28.96
201	SLU 19	-79	-82	3508	8.55	857.56	28.96
201	SLU 20	-79	-82	3508	8.55	857.56	28.96
201	SLU 21	-79	-82	3508	8.55	857.56	28.96
201	SLU 22	-71	-72	3124	7.57	766.73	25.31
201	SLU 23	-71	-72	3124	7.57	766.73	25.31
201	SLU 24	-71	-72	3124	7.57	766.73	25.31
201	SLU 25	-71	-72	3124	7.57	766.73	25.31
201	SLU 26	-71	-72	3124	7.57	766.73	25.31
201	SLU 27	-71	-72	3124	7.57	766.73	25.31
201	SLU 28	-71	-72	3124	7.57	766.73	25.31
201	SLU 29	-71	-72	3124	7.57	766.73	25.31
201	SLU 30	-71	-72	3124	7.57	766.73	25.31
201	SLU 31	-83	-86	3657	8.93	892.81	30.43
201	SLU 32	-83	-86	3657	8.93	892.81	30.43
201	SLU 33	-83	-86	3657	8.93	892.81	30.43
201	SLU 34	-83	-86	3657	8.93	892.81	30.43
201	SLU 35	-83	-86	3657	8.93	892.81	30.43
201	SLU 36	-83	-86	3657	8.93	892.81	30.43
201	SLU 37	-83	-86	3657	8.93	892.81	30.43
201	SLU 38	-83	-86	3657	8.93	892.81	30.43
201	SLU 39	-89	-93	3885	9.51	946.84	32.63
201	SLU 40	-89	-93	3885	9.51	946.84	32.63
201	SLU 41	-89	-93	3885	9.51	946.84	32.63
201	SLU 42	-89	-93	3885	9.51	946.84	32.63
201	SLU 43	-76	-76	3441	8.28	850.08	26.88
201	SLU 44	-76	-76	3441	8.28	850.08	26.88
201	SLU 45	-76	-76	3441	8.28	850.08	26.88
201	SLU 46	-76	-76	3441	8.28	850.08	26.88
201	SLU 47	-76	-76	3441	8.28	850.08	26.88
201	SLU 48	-76	-76	3441	8.28	850.08	26.88
201	SLU 49	-76	-76	3441	8.28	850.08	26.88
201	SLU 50	-76	-76	3441	8.28	850.08	26.88
201	SLU 51	-76	-76	3441	8.28	850.08	26.88
201	SLU 52	-89	-91	3974	9.64	976.16	32
201	SLU 53	-89	-91	3974	9.64	976.16	32
201	SLU 54	-89	-91	3974	9.64	976.16	32
201	SLU 55	-89	-91	3974	9.64	976.16	32
201	SLU 56	-89	-91	3974	9.64	976.16	32
201	SLU 57	-89	-91	3974	9.64	976.16	32
201	SLU 58	-89	-91	3974	9.64	976.16	32
201	SLU 59	-89	-91	3974	9.64	976.16	32
201	SLU 60	-94	-97	4203	10.22	1030.19	34.2
201	SLU 61	-94	-97	4203	10.22	1030.19	34.2
201	SLU 62	-94	-97	4203	10.22	1030.19	34.2
201	SLU 63	-94	-97	4203	10.22	1030.19	34.2
201	SLU 64	-86	-87	3818	9.24	939.36	30.55
201	SLU 65	-86	-87	3818	9.24	939.36	30.55
201	SLU 66	-86	-87	3818	9.24	939.36	30.55
201	SLU 67	-86	-87	3818	9.24	939.36	30.55
201	SLU 68	-86	-87	3818	9.24	939.36	30.55
201	SLU 69	-86	-87	3818	9.24	939.36	30.55
201	SLU 70	-86	-87	3818	9.24	939.36	30.55
201	SLU 71	-86	-87	3818	9.24	939.36	30.55
201	SLU 72	-86	-87	3818	9.24	939.36	30.55
201	SLU 73	-98	-101	4351	10.59	1065.43	35.67
201	SLU 74	-98	-101	4351	10.59	1065.43	35.67
201	SLU 75	-98	-101	4351	10.59	1065.43	35.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLU 76	-98	-101	4351	10.59	1065.43	35.67
201	SLU 77	-98	-101	4351	10.59	1065.43	35.67
201	SLU 78	-98	-101	4351	10.59	1065.43	35.67
201	SLU 79	-98	-101	4351	10.59	1065.43	35.67
201	SLU 80	-98	-101	4351	10.59	1065.43	35.67
201	SLU 81	-104	-107	4580	11.17	1119.47	37.86
201	SLU 82	-104	-107	4580	11.17	1119.47	37.86
201	SLU 83	-104	-107	4580	11.17	1119.47	37.86
201	SLU 84	-104	-107	4580	11.17	1119.47	37.86
201	SLE RA 1	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 2	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 3	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 4	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 5	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 6	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 7	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 8	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 9	-64	-64	2854	6.89	702.96	22.69
201	SLE RA 10	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 11	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 12	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 13	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 14	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 15	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 16	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 17	-72	-74	3210	7.8	787.01	26.11
201	SLE RA 18	-76	-78	3362	8.18	823.03	27.57
201	SLE RA 19	-76	-78	3362	8.18	823.03	27.57
201	SLE RA 20	-76	-78	3362	8.18	823.03	27.57
201	SLE RA 21	-76	-78	3362	8.18	823.03	27.57
201	SLE FR 1	-64	-64	2854	6.89	702.96	22.69
201	SLE FR 2	-64	-64	2854	6.89	702.96	22.69
201	SLE FR 3	-64	-64	2854	6.89	702.96	22.69
201	SLE FR 4	-67	-68	3007	7.28	738.99	24.16
201	SLE FR 5	-67	-68	3007	7.28	738.99	24.16
201	SLE FR 6	-70	-71	3108	7.54	763	25.13
201	SLE QP 1	-64	-64	2854	6.89	702.96	22.69
201	SLE QP 2	-67	-68	3007	7.28	738.99	24.16
201	SLD 1	160	-85	2603	5.95	649.2	30.02
201	SLD 2	124	-46	2602	5.94	648.86	16.5
201	SLD 3	199	-227	2777	6.98	692.64	79.45
201	SLD 4	164	-188	2776	6.97	692.3	65.93
201	SLD 5	-46	127	2622	5.32	646.29	-44.22
201	SLD 6	-82	167	2621	5.31	645.94	-57.94
201	SLD 7	85	-345	3202	8.76	791.09	120.55
201	SLD 8	49	-305	3201	8.75	790.74	106.83
201	SLD 9	-184	168	2812	5.82	687.23	-58.51
201	SLD 10	-220	208	2811	5.81	686.88	-72.23
201	SLD 11	-52	-304	3392	9.25	832.03	106.26
201	SLD 12	-88	-264	3391	9.24	831.68	92.54
201	SLD 13	-298	51	3237	7.59	785.67	-17.61
201	SLD 14	-334	90	3236	7.58	785.33	-31.14
201	SLD 15	-259	-91	3411	8.62	829.11	31.82
201	SLD 16	-295	-52	3410	8.61	828.77	18.3
201	SLV 1	448	-105	2089	4.25	534.59	36.93
201	SLV 2	367	-16	2087	4.22	533.81	6.25
201	SLV 3	539	-431	2489	6.61	634.47	150.76
201	SLV 4	457	-342	2487	6.59	633.7	120.08
201	SLV 5	-20	384	2125	2.79	526.45	-133.69
201	SLV 6	-103	473	2123	2.76	525.67	-164.83
201	SLV 7	280	-703	3459	10.68	859.4	245.75
201	SLV 8	198	-613	3457	10.66	858.62	214.61
201	SLV 9	-332	477	2556	3.9	619.36	-166.3
201	SLV 10	-415	566	2554	3.88	618.57	-197.44
201	SLV 11	-32	-610	3891	11.8	952.3	213.14
201	SLV 12	-114	-520	3888	11.78	951.52	182
201	SLV 13	-592	205	3526	7.97	844.27	-71.77
201	SLV 14	-673	294	3524	7.95	843.5	-102.44
201	SLV 15	-502	-121	3927	10.34	944.16	42.06
201	SLV 16	-583	-32	3924	10.32	943.38	11.39
201	CRTFP Ux+	0	0	0	0	0	0
201	CRTFP Ux-	0	0	0	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
202	SLU 1	-41	105	2020	-50.9	-392.78	25.01
202	SLU 2	-41	105	2020	-50.9	-392.78	25.01
202	SLU 3	-41	105	2020	-50.9	-392.78	25.01
202	SLU 4	-41	105	2020	-50.9	-392.78	25.01
202	SLU 5	-41	105	2020	-50.9	-392.78	25.01
202	SLU 6	-41	105	2020	-50.9	-392.78	25.01
202	SLU 7	-41	105	2020	-50.9	-392.78	25.01
202	SLU 8	-41	105	2020	-50.9	-392.78	25.01
202	SLU 9	-41	105	2020	-50.9	-392.78	25.01
202	SLU 10	-49	132	2413	-60.73	-466.86	31.48
202	SLU 11	-49	132	2413	-60.73	-466.86	31.48
202	SLU 12	-49	132	2413	-60.73	-466.86	31.48
202	SLU 13	-49	132	2413	-60.73	-466.86	31.48
202	SLU 14	-49	132	2413	-60.73	-466.86	31.48
202	SLU 15	-49	132	2413	-60.73	-466.86	31.48



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLU 16	-49	132	2413	-60.73	-466.86	31.48
202	SLU 17	-49	132	2413	-60.73	-466.86	31.48
202	SLU 18	-52	143	2582	-64.94	-498.61	34.25
202	SLU 19	-52	143	2582	-64.94	-498.61	34.25
202	SLU 20	-52	143	2582	-64.94	-498.61	34.25
202	SLU 21	-52	143	2582	-64.94	-498.61	34.25
202	SLU 22	-47	124	2306	-58.04	-446.47	29.67
202	SLU 23	-47	124	2306	-58.04	-446.47	29.67
202	SLU 24	-47	124	2306	-58.04	-446.47	29.67
202	SLU 25	-47	124	2306	-58.04	-446.47	29.67
202	SLU 26	-47	124	2306	-58.04	-446.47	29.67
202	SLU 27	-47	124	2306	-58.04	-446.47	29.67
202	SLU 28	-47	124	2306	-58.04	-446.47	29.67
202	SLU 29	-47	124	2306	-58.04	-446.47	29.67
202	SLU 30	-47	124	2306	-58.04	-446.47	29.67
202	SLU 31	-54	151	2699	-67.87	-520.55	36.14
202	SLU 32	-54	151	2699	-67.87	-520.55	36.14
202	SLU 33	-54	151	2699	-67.87	-520.55	36.14
202	SLU 34	-54	151	2699	-67.87	-520.55	36.14
202	SLU 35	-54	151	2699	-67.87	-520.55	36.14
202	SLU 36	-54	151	2699	-67.87	-520.55	36.14
202	SLU 37	-54	151	2699	-67.87	-520.55	36.14
202	SLU 38	-54	151	2699	-67.87	-520.55	36.14
202	SLU 39	-58	163	2868	-72.08	-552.3	38.91
202	SLU 40	-58	163	2868	-72.08	-552.3	38.91
202	SLU 41	-58	163	2868	-72.08	-552.3	38.91
202	SLU 42	-58	163	2868	-72.08	-552.3	38.91
202	SLU 43	-51	130	2528	-63.73	-492.21	30.92
202	SLU 44	-51	130	2528	-63.73	-492.21	30.92
202	SLU 45	-51	130	2528	-63.73	-492.21	30.92
202	SLU 46	-51	130	2528	-63.73	-492.21	30.92
202	SLU 47	-51	130	2528	-63.73	-492.21	30.92
202	SLU 48	-51	130	2528	-63.73	-492.21	30.92
202	SLU 49	-51	130	2528	-63.73	-492.21	30.92
202	SLU 50	-51	130	2528	-63.73	-492.21	30.92
202	SLU 51	-51	130	2528	-63.73	-492.21	30.92
202	SLU 52	-59	157	2922	-73.55	-566.29	37.39
202	SLU 53	-59	157	2922	-73.55	-566.29	37.39
202	SLU 54	-59	157	2922	-73.55	-566.29	37.39
202	SLU 55	-59	157	2922	-73.55	-566.29	37.39
202	SLU 56	-59	157	2922	-73.55	-566.29	37.39
202	SLU 57	-59	157	2922	-73.55	-566.29	37.39
202	SLU 58	-59	157	2922	-73.55	-566.29	37.39
202	SLU 59	-59	157	2922	-73.55	-566.29	37.39
202	SLU 60	-62	168	3090	-77.76	-598.04	40.16
202	SLU 61	-62	168	3090	-77.76	-598.04	40.16
202	SLU 62	-62	168	3090	-77.76	-598.04	40.16
202	SLU 63	-62	168	3090	-77.76	-598.04	40.16
202	SLU 64	-57	149	2814	-70.87	-545.9	35.58
202	SLU 65	-57	149	2814	-70.87	-545.9	35.58
202	SLU 66	-57	149	2814	-70.87	-545.9	35.58
202	SLU 67	-57	149	2814	-70.87	-545.9	35.58
202	SLU 68	-57	149	2814	-70.87	-545.9	35.58
202	SLU 69	-57	149	2814	-70.87	-545.9	35.58
202	SLU 70	-57	149	2814	-70.87	-545.9	35.58
202	SLU 71	-57	149	2814	-70.87	-545.9	35.58
202	SLU 72	-57	149	2814	-70.87	-545.9	35.58
202	SLU 73	-65	176	3207	-80.69	-619.98	42.05
202	SLU 74	-65	176	3207	-80.69	-619.98	42.05
202	SLU 75	-65	176	3207	-80.69	-619.98	42.05
202	SLU 76	-65	176	3207	-80.69	-619.98	42.05
202	SLU 77	-65	176	3207	-80.69	-619.98	42.05
202	SLU 78	-65	176	3207	-80.69	-619.98	42.05
202	SLU 79	-65	176	3207	-80.69	-619.98	42.05
202	SLU 80	-65	176	3207	-80.69	-619.98	42.05
202	SLU 81	-68	188	3376	-84.9	-651.73	44.82
202	SLU 82	-68	188	3376	-84.9	-651.73	44.82
202	SLU 83	-68	188	3376	-84.9	-651.73	44.82
202	SLU 84	-68	188	3376	-84.9	-651.73	44.82
202	SLE RA 1	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 2	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 3	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 4	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 5	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 6	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 7	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 8	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 9	-43	111	2102	-52.94	-408.12	26.34
202	SLE RA 10	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 11	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 12	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 13	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 14	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 15	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 16	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 17	-48	128	2364	-59.49	-457.51	30.66
202	SLE RA 18	-50	136	2476	-62.3	-478.67	32.5
202	SLE RA 19	-50	136	2476	-62.3	-478.67	32.5
202	SLE RA 20	-50	136	2476	-62.3	-478.67	32.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLE RA 21	-50	136	2476	-62.3	-478.67	32.5
202	SLE FR 1	-43	111	2102	-52.94	-408.12	26.34
202	SLE FR 2	-43	111	2102	-52.94	-408.12	26.34
202	SLE FR 3	-43	111	2102	-52.94	-408.12	26.34
202	SLE FR 4	-45	118	2214	-55.75	-429.29	28.19
202	SLE FR 5	-45	118	2214	-55.75	-429.29	28.19
202	SLE FR 6	-46	123	2289	-57.62	-443.4	29.42
202	SLE QP 1	-43	111	2102	-52.94	-408.12	26.34
202	SLE QP 2	-45	118	2214	-55.75	-429.29	28.19
202	SLD 1	144	248	2371	-59.83	-454.68	64.8
202	SLD 2	113	220	2372	-59.86	-455.01	56.93
202	SLD 3	176	149	2607	-65.52	-498.29	40.42
202	SLD 4	145	120	2609	-65.55	-498.62	32.55
202	SLD 5	-26	318	1901	-48.33	-370.65	78.97
202	SLD 6	-58	289	1903	-48.36	-370.99	70.98
202	SLD 7	82	-13	2691	-67.3	-516.01	-2.31
202	SLD 8	50	-42	2692	-67.34	-516.34	-10.29
202	SLD 9	-140	279	1736	-44.17	-342.23	66.68
202	SLD 10	-172	250	1737	-44.2	-342.57	58.69
202	SLD 11	-32	-53	2525	-63.14	-487.59	-14.6
202	SLD 12	-63	-82	2527	-63.17	-487.93	-22.58
202	SLD 13	-235	116	1819	-45.95	-359.96	23.84
202	SLD 14	-266	88	1821	-45.98	-360.29	15.96
202	SLD 15	-202	17	2056	-51.64	-403.57	-0.55
202	SLD 16	-234	-12	2058	-51.67	-403.9	-8.42
202	SLV 1	384	415	2567	-64.95	-486.57	111.71
202	SLV 2	313	351	2571	-65.03	-487.32	93.85
202	SLV 3	458	186	3112	-78.05	-586.9	55.57
202	SLV 4	387	122	3116	-78.13	-587.65	37.71
202	SLV 5	-3	578	1492	-38.62	-294.03	144.78
202	SLV 6	-75	513	1496	-38.7	-294.8	126.65
202	SLV 7	244	-186	3309	-82.28	-628.47	-42.35
202	SLV 8	172	-252	3313	-82.36	-629.24	-60.49
202	SLV 9	-261	488	1115	-29.14	-229.34	116.87
202	SLV 10	-333	422	1119	-29.22	-230.1	98.74
202	SLV 11	-14	-276	2932	-72.8	-563.78	-70.26
202	SLV 12	-86	-342	2936	-72.89	-564.54	-88.4
202	SLV 13	-477	115	1312	-33.37	-270.92	18.68
202	SLV 14	-547	50	1316	-33.45	-271.67	0.82
202	SLV 15	-402	-114	1857	-46.47	-371.26	-37.46
202	SLV 16	-473	-179	1861	-46.55	-372.01	-55.32
202	CRTFP Ux+	0	0	0	0	0	0
202	CRTFP Ux-	0	0	0	0	0	0
202	CRTFP Uy+	0	0	0	0	0	0
202	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	-56	-52	2533	-65.71	702.92	16.84
205	SLU 2	-56	-52	2533	-65.71	702.92	16.84
205	SLU 3	-56	-52	2533	-65.71	702.92	16.84
205	SLU 4	-56	-52	2533	-65.71	702.92	16.84
205	SLU 5	-56	-52	2533	-65.71	702.92	16.84
205	SLU 6	-56	-52	2533	-65.71	702.92	16.84
205	SLU 7	-56	-52	2533	-65.71	702.92	16.84
205	SLU 8	-56	-52	2533	-65.71	702.92	16.84
205	SLU 9	-56	-52	2533	-65.71	702.92	16.84
205	SLU 10	-67	-65	3026	-78.45	836.39	20.88
205	SLU 11	-67	-65	3026	-78.45	836.39	20.88
205	SLU 12	-67	-65	3026	-78.45	836.39	20.88
205	SLU 13	-67	-65	3026	-78.45	836.39	20.88
205	SLU 14	-67	-65	3026	-78.45	836.39	20.88
205	SLU 15	-67	-65	3026	-78.45	836.39	20.88
205	SLU 16	-67	-65	3026	-78.45	836.39	20.88
205	SLU 17	-67	-65	3026	-78.45	836.39	20.88
205	SLU 18	-72	-70	3238	-83.91	893.59	22.61
205	SLU 19	-72	-70	3238	-83.91	893.59	22.61
205	SLU 20	-72	-70	3238	-83.91	893.59	22.61
205	SLU 21	-72	-70	3238	-83.91	893.59	22.61
205	SLU 22	-65	-61	2882	-74.72	797.41	19.71
205	SLU 23	-65	-61	2882	-74.72	797.41	19.71
205	SLU 24	-65	-61	2882	-74.72	797.41	19.71
205	SLU 25	-65	-61	2882	-74.72	797.41	19.71
205	SLU 26	-65	-61	2882	-74.72	797.41	19.71
205	SLU 27	-65	-61	2882	-74.72	797.41	19.71
205	SLU 28	-65	-61	2882	-74.72	797.41	19.71
205	SLU 29	-65	-61	2882	-74.72	797.41	19.71
205	SLU 30	-65	-61	2882	-74.72	797.41	19.71
205	SLU 31	-76	-74	3375	-87.47	930.88	23.75
205	SLU 32	-76	-74	3375	-87.47	930.88	23.75
205	SLU 33	-76	-74	3375	-87.47	930.88	23.75
205	SLU 34	-76	-74	3375	-87.47	930.88	23.75
205	SLU 35	-76	-74	3375	-87.47	930.88	23.75
205	SLU 36	-76	-74	3375	-87.47	930.88	23.75
205	SLU 37	-76	-74	3375	-87.47	930.88	23.75
205	SLU 38	-76	-74	3375	-87.47	930.88	23.75
205	SLU 39	-81	-79	3587	-92.93	988.08	25.48
205	SLU 40	-81	-79	3587	-92.93	988.08	25.48
205	SLU 41	-81	-79	3587	-92.93	988.08	25.48
205	SLU 42	-81	-79	3587	-92.93	988.08	25.48
205	SLU 43	-70	-65	3173	-82.33	881.4	20.91
205	SLU 44	-70	-65	3173	-82.33	881.4	20.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 45	-70	-65	3173	-82.33	881.4	20.91
205	SLU 46	-70	-65	3173	-82.33	881.4	20.91
205	SLU 47	-70	-65	3173	-82.33	881.4	20.91
205	SLU 48	-70	-65	3173	-82.33	881.4	20.91
205	SLU 49	-70	-65	3173	-82.33	881.4	20.91
205	SLU 50	-70	-65	3173	-82.33	881.4	20.91
205	SLU 51	-70	-65	3173	-82.33	881.4	20.91
205	SLU 52	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 53	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 54	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 55	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 56	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 57	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 58	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 59	-81	-77	3666	-95.07	1014.86	24.95
205	SLU 60	-86	-83	3878	-100.53	1072.06	26.68
205	SLU 61	-86	-83	3878	-100.53	1072.06	26.68
205	SLU 62	-86	-83	3878	-100.53	1072.06	26.68
205	SLU 63	-86	-83	3878	-100.53	1072.06	26.68
205	SLU 64	-78	-74	3522	-91.34	975.89	23.78
205	SLU 65	-78	-74	3522	-91.34	975.89	23.78
205	SLU 66	-78	-74	3522	-91.34	975.89	23.78
205	SLU 67	-78	-74	3522	-91.34	975.89	23.78
205	SLU 68	-78	-74	3522	-91.34	975.89	23.78
205	SLU 69	-78	-74	3522	-91.34	975.89	23.78
205	SLU 70	-78	-74	3522	-91.34	975.89	23.78
205	SLU 71	-78	-74	3522	-91.34	975.89	23.78
205	SLU 72	-78	-74	3522	-91.34	975.89	23.78
205	SLU 73	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 74	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 75	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 76	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 77	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 78	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 79	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 80	-90	-86	4016	-104.09	1109.35	27.82
205	SLU 81	-95	-92	4227	-109.55	1166.55	29.55
205	SLU 82	-95	-92	4227	-109.55	1166.55	29.55
205	SLU 83	-95	-92	4227	-109.55	1166.55	29.55
205	SLU 84	-95	-92	4227	-109.55	1166.55	29.55
205	SLE RA 1	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 2	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 3	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 4	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 5	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 6	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 7	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 8	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 9	-58	-55	2632	-68.28	729.92	17.66
205	SLE RA 10	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 11	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 12	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 13	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 14	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 15	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 16	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 17	-66	-63	2962	-76.78	818.89	20.35
205	SLE RA 18	-69	-67	3103	-80.42	857.03	21.51
205	SLE RA 19	-69	-67	3103	-80.42	857.03	21.51
205	SLE RA 20	-69	-67	3103	-80.42	857.03	21.51
205	SLE RA 21	-69	-67	3103	-80.42	857.03	21.51
205	SLE FR 1	-58	-55	2632	-68.28	729.92	17.66
205	SLE FR 2	-58	-55	2632	-68.28	729.92	17.66
205	SLE FR 3	-58	-55	2632	-68.28	729.92	17.66
205	SLE FR 4	-62	-58	2773	-71.92	768.05	18.81
205	SLE FR 5	-62	-58	2773	-71.92	768.05	18.81
205	SLE FR 6	-64	-61	2867	-74.35	793.47	19.58
205	SLE QP 1	-58	-55	2632	-68.28	729.92	17.66
205	SLE QP 2	-62	-58	2773	-71.92	768.05	18.81
205	SLD 1	140	-73	2394	-62.26	670.65	22.98
205	SLD 2	106	-39	2393	-62.24	670.31	10.44
205	SLD 3	177	-194	2569	-66.46	719.88	65.78
205	SLD 4	143	-160	2568	-66.44	719.54	53.24
205	SLD 5	-45	109	2394	-62.66	664.29	-40.37
205	SLD 6	-80	143	2393	-62.63	663.94	-53.09
205	SLD 7	78	-294	2979	-76.67	828.38	102.3
205	SLD 8	44	-260	2978	-76.64	828.04	89.58
205	SLD 9	-167	144	2569	-67.21	708.06	-51.95
205	SLD 10	-201	177	2568	-67.18	707.72	-64.67
205	SLD 11	-44	-259	3154	-81.21	872.15	90.72
205	SLD 12	-78	-226	3153	-81.19	871.81	78
205	SLD 13	-266	43	2979	-77.41	816.56	-15.61
205	SLD 14	-300	77	2978	-77.39	816.22	-28.15
205	SLD 15	-229	-78	3154	-81.61	865.79	27.19
205	SLD 16	-263	-44	3153	-81.59	865.45	14.65
205	SLV 1	395	-89	1909	-49.93	546.29	27.87
205	SLV 2	318	-14	1906	-49.87	545.53	-0.56
205	SLV 3	480	-368	2313	-59.6	659.49	126.44
205	SLV 4	403	-292	2310	-59.54	658.73	98.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV 5	-25	327	1903	-50.68	530.1	-117.8
205	SLV 6	-104	404	1900	-50.62	529.33	-146.67
205	SLV 7	257	-601	3249	-82.91	907.45	210.77
205	SLV 8	178	-524	3246	-82.85	906.67	181.91
205	SLV 9	-302	407	2301	-61	629.43	-144.28
205	SLV 10	-380	484	2298	-60.94	628.65	-173.14
205	SLV 11	-20	-521	3647	-93.22	1006.77	184.3
205	SLV 12	-98	-444	3644	-93.17	1006	155.43
205	SLV 13	-526	175	3237	-84.31	877.37	-60.38
205	SLV 14	-603	251	3234	-84.25	876.61	-88.81
205	SLV 15	-441	-103	3640	-93.98	990.57	38.19
205	SLV 16	-518	-28	3638	-93.92	989.81	9.76
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	0.01	0
205	CRTFP Uy-	0	0	0	0	-0.01	0
231	SLU 1	-61	164	3337	-735.09	-584.52	14.97
231	SLU 2	-61	164	3337	-735.09	-584.52	14.97
231	SLU 3	-61	164	3337	-735.09	-584.52	14.97
231	SLU 4	-61	164	3337	-735.09	-584.52	14.97
231	SLU 5	-61	164	3337	-735.09	-584.52	14.97
231	SLU 6	-61	164	3337	-735.09	-584.52	14.97
231	SLU 7	-61	164	3337	-735.09	-584.52	14.97
231	SLU 8	-61	164	3337	-735.09	-584.52	14.97
231	SLU 9	-61	164	3337	-735.09	-584.52	14.97
231	SLU 10	-72	206	3990	-877.58	-698.12	19.87
231	SLU 11	-72	206	3990	-877.58	-698.12	19.87
231	SLU 12	-72	206	3990	-877.58	-698.12	19.87
231	SLU 13	-72	206	3990	-877.58	-698.12	19.87
231	SLU 14	-72	206	3990	-877.58	-698.12	19.87
231	SLU 15	-72	206	3990	-877.58	-698.12	19.87
231	SLU 16	-72	206	3990	-877.58	-698.12	19.87
231	SLU 17	-72	206	3990	-877.58	-698.12	19.87
231	SLU 18	-77	224	4270	-938.65	-746.81	21.98
231	SLU 19	-77	224	4270	-938.65	-746.81	21.98
231	SLU 20	-77	224	4270	-938.65	-746.81	21.98
231	SLU 21	-77	224	4270	-938.65	-746.81	21.98
231	SLU 22	-69	195	3811	-838.6	-666.91	18.44
231	SLU 23	-69	195	3811	-838.6	-666.91	18.44
231	SLU 24	-69	195	3811	-838.6	-666.91	18.44
231	SLU 25	-69	195	3811	-838.6	-666.91	18.44
231	SLU 26	-69	195	3811	-838.6	-666.91	18.44
231	SLU 27	-69	195	3811	-838.6	-666.91	18.44
231	SLU 28	-69	195	3811	-838.6	-666.91	18.44
231	SLU 29	-69	195	3811	-838.6	-666.91	18.44
231	SLU 30	-69	195	3811	-838.6	-666.91	18.44
231	SLU 31	-80	237	4464	-981.1	-780.52	23.34
231	SLU 32	-80	237	4464	-981.1	-780.52	23.34
231	SLU 33	-80	237	4464	-981.1	-780.52	23.34
231	SLU 34	-80	237	4464	-981.1	-780.52	23.34
231	SLU 35	-80	237	4464	-981.1	-780.52	23.34
231	SLU 36	-80	237	4464	-981.1	-780.52	23.34
231	SLU 37	-80	237	4464	-981.1	-780.52	23.34
231	SLU 38	-80	237	4464	-981.1	-780.52	23.34
231	SLU 39	-85	255	4744	-1042.17	-829.21	25.44
231	SLU 40	-85	255	4744	-1042.17	-829.21	25.44
231	SLU 41	-85	255	4744	-1042.17	-829.21	25.44
231	SLU 42	-85	255	4744	-1042.17	-829.21	25.44
231	SLU 43	-76	203	4175	-920.12	-731.62	18.27
231	SLU 44	-76	203	4175	-920.12	-731.62	18.27
231	SLU 45	-76	203	4175	-920.12	-731.62	18.27
231	SLU 46	-76	203	4175	-920.12	-731.62	18.27
231	SLU 47	-76	203	4175	-920.12	-731.62	18.27
231	SLU 48	-76	203	4175	-920.12	-731.62	18.27
231	SLU 49	-76	203	4175	-920.12	-731.62	18.27
231	SLU 50	-76	203	4175	-920.12	-731.62	18.27
231	SLU 51	-76	203	4175	-920.12	-731.62	18.27
231	SLU 52	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 53	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 54	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 55	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 56	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 57	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 58	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 59	-87	245	4828	-1062.62	-845.23	23.18
231	SLU 60	-92	263	5108	-1123.69	-893.91	25.28
231	SLU 61	-92	263	5108	-1123.69	-893.91	25.28
231	SLU 62	-92	263	5108	-1123.69	-893.91	25.28
231	SLU 63	-92	263	5108	-1123.69	-893.91	25.28
231	SLU 64	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 65	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 66	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 67	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 68	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 69	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 70	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 71	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 72	-84	233	4649	-1023.64	-814.02	21.74
231	SLU 73	-95	275	5302	-1166.13	-927.62	26.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLU 74	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 75	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 76	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 77	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 78	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 79	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 80	-95	275	5302	-1166.13	-927.62	26.65
231	SLU 81	-100	293	5582	-1227.2	-976.31	28.75
231	SLU 82	-100	293	5582	-1227.2	-976.31	28.75
231	SLU 83	-100	293	5582	-1227.2	-976.31	28.75
231	SLU 84	-100	293	5582	-1227.2	-976.31	28.75
231	SLE RA 1	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 2	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 3	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 4	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 5	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 6	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 7	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 8	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 9	-63	173	3472	-764.66	-608.06	15.96
231	SLE RA 10	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 11	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 12	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 13	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 14	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 15	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 16	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 17	-70	201	3907	-859.66	-683.8	19.23
231	SLE RA 18	-74	213	4094	-900.37	-716.25	20.63
231	SLE RA 19	-74	213	4094	-900.37	-716.25	20.63
231	SLE RA 20	-74	213	4094	-900.37	-716.25	20.63
231	SLE RA 21	-74	213	4094	-900.37	-716.25	20.63
231	SLE FR 1	-63	173	3472	-764.66	-608.06	15.96
231	SLE FR 2	-63	173	3472	-764.66	-608.06	15.96
231	SLE FR 3	-63	173	3472	-764.66	-608.06	15.96
231	SLE FR 4	-66	185	3659	-805.38	-640.52	17.36
231	SLE FR 5	-66	185	3659	-805.38	-640.52	17.36
231	SLE FR 6	-68	193	3783	-832.52	-662.16	18.3
231	SLE QP 1	-63	173	3472	-764.66	-608.06	15.96
231	SLE QP 2	-66	185	3659	-805.38	-640.52	17.36
231	SLD 1	236	390	3917	-864.84	-682.13	129.45
231	SLD 2	185	345	3920	-865.42	-682.64	108.74
231	SLD 3	286	234	4319	-950.46	-750.88	103.45
231	SLD 4	234	189	4322	-951.04	-751.39	82.73
231	SLD 5	-32	499	3126	-693.16	-548.55	97.83
231	SLD 6	-85	453	3129	-693.75	-549.07	76.81
231	SLD 7	133	-21	4465	-978.54	-777.71	11.15
231	SLD 8	81	-66	4468	-979.13	-778.23	-9.87
231	SLD 9	-213	436	2849	-631.62	-502.81	44.59
231	SLD 10	-266	391	2852	-632.21	-503.32	23.58
231	SLD 11	-48	-83	4188	-917.01	-731.97	-42.09
231	SLD 12	-100	-129	4191	-917.59	-732.48	-63.1
231	SLD 13	-367	181	2995	-659.71	-529.65	-48
231	SLD 14	-418	136	2998	-660.29	-530.15	-68.72
231	SLD 15	-317	25	3397	-745.33	-598.39	-74.01
231	SLD 16	-368	-20	3400	-745.91	-598.9	-94.72
231	SLV 1	620	653	4243	-939.59	-734.4	272.12
231	SLV 2	503	551	4249	-940.91	-735.55	225.13
231	SLV 3	733	294	5167	-1136.65	-892.6	212.4
231	SLV 4	616	192	5174	-1137.96	-893.75	165.41
231	SLV 5	9	906	2429	-546.31	-428.33	201.17
231	SLV 6	-109	803	2436	-547.65	-429.5	153.46
231	SLV 7	388	-290	5511	-1203.15	-955.66	2.1
231	SLV 8	269	-394	5517	-1204.48	-956.83	-45.6
231	SLV 9	-401	764	1800	-406.27	-324.2	80.33
231	SLV 10	-520	660	1807	-407.6	-325.37	32.62
231	SLV 11	-23	-433	4881	-1063.11	-851.53	-118.74
231	SLV 12	-142	-536	4888	-1064.44	-852.7	-166.44
231	SLV 13	-749	178	2144	-472.79	-387.29	-130.68
231	SLV 14	-866	76	2150	-474.11	-388.44	-177.67
231	SLV 15	-635	-181	3068	-669.84	-545.49	-190.4
231	SLV 16	-752	-283	3075	-671.16	-546.64	-237.39
231	CRTFP Ux+	0	0	0	0.01	0	0
231	CRTFP Ux-	0	0	0	-0.01	0	0
231	CRTFP Uy+	0	0	0	-0.01	-0.01	0
231	CRTFP Uy-	0	0	0	0.01	0.01	0
233	SLU 1	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 2	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 3	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 4	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 5	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 6	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 7	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 8	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 9	-46	111	2217	-578.89	-58.18	-12.78
233	SLU 10	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 11	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 12	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 13	-54	140	2648	-687.23	-69.39	-14.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLU 14	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 15	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 16	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 17	-54	140	2648	-687.23	-69.39	-14.98
233	SLU 18	-58	152	2833	-733.66	-74.19	-15.93
233	SLU 19	-58	152	2833	-733.66	-74.19	-15.93
233	SLU 20	-58	152	2833	-733.66	-74.19	-15.93
233	SLU 21	-58	152	2833	-733.66	-74.19	-15.93
233	SLU 22	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 23	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 24	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 25	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 26	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 27	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 28	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 29	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 30	-52	132	2530	-657.5	-66.3	-14.46
233	SLU 31	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 32	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 33	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 34	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 35	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 36	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 37	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 38	-60	160	2961	-765.84	-77.51	-16.66
233	SLU 39	-64	173	3145	-812.27	-82.31	-17.61
233	SLU 40	-64	173	3145	-812.27	-82.31	-17.61
233	SLU 41	-64	173	3145	-812.27	-82.31	-17.61
233	SLU 42	-64	173	3145	-812.27	-82.31	-17.61
233	SLU 43	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 44	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 45	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 46	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 47	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 48	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 49	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 50	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 51	-57	138	2775	-725.6	-72.85	-16.04
233	SLU 52	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 53	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 54	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 55	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 56	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 57	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 58	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 59	-66	166	3206	-833.94	-84.05	-18.24
233	SLU 60	-69	179	3391	-880.37	-88.86	-19.19
233	SLU 61	-69	179	3391	-880.37	-88.86	-19.19
233	SLU 62	-69	179	3391	-880.37	-88.86	-19.19
233	SLU 63	-69	179	3391	-880.37	-88.86	-19.19
233	SLU 64	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 65	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 66	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 67	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 68	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 69	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 70	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 71	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 72	-63	158	3088	-804.21	-80.97	-17.72
233	SLU 73	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 74	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 75	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 76	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 77	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 78	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 79	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 80	-72	187	3519	-912.55	-92.18	-19.92
233	SLU 81	-76	199	3703	-958.99	-96.98	-20.87
233	SLU 82	-76	199	3703	-958.99	-96.98	-20.87
233	SLU 83	-76	199	3703	-958.99	-96.98	-20.87
233	SLU 84	-76	199	3703	-958.99	-96.98	-20.87
233	SLE RA 1	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 2	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 3	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 4	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 5	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 6	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 7	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 8	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 9	-47	117	2307	-601.35	-60.5	-13.26
233	SLE RA 10	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 11	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 12	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 13	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 14	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 15	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 16	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 17	-53	136	2594	-673.57	-67.97	-14.73
233	SLE RA 18	-55	144	2717	-704.53	-71.17	-15.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLE RA 19	-55	144	2717	-704.53	-71.17	-15.36
233	SLE RA 20	-55	144	2717	-704.53	-71.17	-15.36
233	SLE RA 21	-55	144	2717	-704.53	-71.17	-15.36
233	SLE FR 1	-47	117	2307	-601.35	-60.5	-13.26
233	SLE FR 2	-47	117	2307	-601.35	-60.5	-13.26
233	SLE FR 3	-47	117	2307	-601.35	-60.5	-13.26
233	SLE FR 4	-50	125	2430	-632.3	-63.7	-13.89
233	SLE FR 5	-50	125	2430	-632.3	-63.7	-13.89
233	SLE FR 6	-51	131	2512	-652.94	-65.84	-14.31
233	SLE QP 1	-47	117	2307	-601.35	-60.5	-13.26
233	SLE QP 2	-50	125	2430	-632.3	-63.7	-13.89
233	SLD 1	163	262	2592	-679.38	-67.49	72.9
233	SLD 2	127	233	2594	-679.8	-67.54	59.85
233	SLD 3	199	157	2850	-743.56	-74.02	61.38
233	SLD 4	163	127	2852	-743.98	-74.06	48.33
233	SLD 5	-28	337	2086	-548.94	-54.93	34.28
233	SLD 6	-64	307	2088	-549.36	-54.97	21.04
233	SLD 7	93	-15	2947	-762.87	-76.68	-4.12
233	SLD 8	56	-45	2949	-763.29	-76.72	-17.36
233	SLD 9	-156	296	1911	-501.31	-50.68	-10.43
233	SLD 10	-192	265	1912	-501.73	-50.73	-23.67
233	SLD 11	-35	-56	2772	-715.25	-72.43	-48.83
233	SLD 12	-71	-86	2774	-715.67	-72.48	-62.07
233	SLD 13	-263	124	2008	-520.63	-53.34	-76.12
233	SLD 14	-299	94	2009	-521.04	-53.39	-89.17
233	SLD 15	-227	18	2266	-584.81	-59.87	-87.64
233	SLD 16	-262	-11	2268	-585.22	-59.91	-100.69
233	SLV 1	433	438	2795	-738.57	-72.25	183.25
233	SLV 2	352	371	2799	-739.51	-72.35	153.65
233	SLV 3	516	195	3390	-886.33	-87.26	156.98
233	SLV 4	434	128	3394	-887.27	-87.37	127.38
233	SLV 5	-2	612	1636	-439.74	-43.46	95.67
233	SLV 6	-84	543	1640	-440.7	-43.56	65.62
233	SLV 7	274	-198	3618	-932.28	-93.51	8.12
233	SLV 8	192	-266	3622	-933.23	-93.61	-21.93
233	SLV 9	-292	517	1237	-331.37	-33.79	-5.86
233	SLV 10	-374	449	1242	-332.33	-33.9	-35.91
233	SLV 11	-16	-292	3219	-823.91	-83.84	-93.4
233	SLV 12	-98	-361	3223	-824.86	-83.95	-123.46
233	SLV 13	-534	123	1466	-377.34	-40.04	-155.17
233	SLV 14	-615	56	1470	-378.27	-40.14	-184.77
233	SLV 15	-451	-120	2060	-525.1	-55.05	-181.43
233	SLV 16	-532	-187	2064	-526.03	-55.16	-211.03
233	CRTFP Ux+	0	0	0	0	0	0
233	CRTFP Ux-	0	0	0	0	0	0
233	CRTFP Uy+	0	0	0	-0.01	0	0
233	CRTFP Uy-	0	0	0	0.01	0	0
234	SLU 1	-54	119	2425	-539.85	4.97	-18.8
234	SLU 2	-54	119	2425	-539.85	4.97	-18.8
234	SLU 3	-54	119	2425	-539.85	4.97	-18.8
234	SLU 4	-54	119	2425	-539.85	4.97	-18.8
234	SLU 5	-54	119	2425	-539.85	4.97	-18.8
234	SLU 6	-54	119	2425	-539.85	4.97	-18.8
234	SLU 7	-54	119	2425	-539.85	4.97	-18.8
234	SLU 8	-54	119	2425	-539.85	4.97	-18.8
234	SLU 9	-54	119	2425	-539.85	4.97	-18.8
234	SLU 10	-64	150	2892	-636.53	6.06	-22.36
234	SLU 11	-64	150	2892	-636.53	6.06	-22.36
234	SLU 12	-64	150	2892	-636.53	6.06	-22.36
234	SLU 13	-64	150	2892	-636.53	6.06	-22.36
234	SLU 14	-64	150	2892	-636.53	6.06	-22.36
234	SLU 15	-64	150	2892	-636.53	6.06	-22.36
234	SLU 16	-64	150	2892	-636.53	6.06	-22.36
234	SLU 17	-64	150	2892	-636.53	6.06	-22.36
234	SLU 18	-68	163	3092	-677.96	6.53	-23.89
234	SLU 19	-68	163	3092	-677.96	6.53	-23.89
234	SLU 20	-68	163	3092	-677.96	6.53	-23.89
234	SLU 21	-68	163	3092	-677.96	6.53	-23.89
234	SLU 22	-61	141	2763	-609.78	5.77	-21.48
234	SLU 23	-61	141	2763	-609.78	5.77	-21.48
234	SLU 24	-61	141	2763	-609.78	5.77	-21.48
234	SLU 25	-61	141	2763	-609.78	5.77	-21.48
234	SLU 26	-61	141	2763	-609.78	5.77	-21.48
234	SLU 27	-61	141	2763	-609.78	5.77	-21.48
234	SLU 28	-61	141	2763	-609.78	5.77	-21.48
234	SLU 29	-61	141	2763	-609.78	5.77	-21.48
234	SLU 30	-61	141	2763	-609.78	5.77	-21.48
234	SLU 31	-71	171	3230	-706.46	6.87	-25.04
234	SLU 32	-71	171	3230	-706.46	6.87	-25.04
234	SLU 33	-71	171	3230	-706.46	6.87	-25.04
234	SLU 34	-71	171	3230	-706.46	6.87	-25.04
234	SLU 35	-71	171	3230	-706.46	6.87	-25.04
234	SLU 36	-71	171	3230	-706.46	6.87	-25.04
234	SLU 37	-71	171	3230	-706.46	6.87	-25.04
234	SLU 38	-71	171	3230	-706.46	6.87	-25.04
234	SLU 39	-75	184	3431	-747.89	7.34	-26.56
234	SLU 40	-75	184	3431	-747.89	7.34	-26.56
234	SLU 41	-75	184	3431	-747.89	7.34	-26.56
234	SLU 42	-75	184	3431	-747.89	7.34	-26.56



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLU 43	-67	147	3036	-677.83	6.18	-23.52
234	SLU 44	-67	147	3036	-677.83	6.18	-23.52
234	SLU 45	-67	147	3036	-677.83	6.18	-23.52
234	SLU 46	-67	147	3036	-677.83	6.18	-23.52
234	SLU 47	-67	147	3036	-677.83	6.18	-23.52
234	SLU 48	-67	147	3036	-677.83	6.18	-23.52
234	SLU 49	-67	147	3036	-677.83	6.18	-23.52
234	SLU 50	-67	147	3036	-677.83	6.18	-23.52
234	SLU 51	-67	147	3036	-677.83	6.18	-23.52
234	SLU 52	-77	178	3503	-774.51	7.28	-27.08
234	SLU 53	-77	178	3503	-774.51	7.28	-27.08
234	SLU 54	-77	178	3503	-774.51	7.28	-27.08
234	SLU 55	-77	178	3503	-774.51	7.28	-27.08
234	SLU 56	-77	178	3503	-774.51	7.28	-27.08
234	SLU 57	-77	178	3503	-774.51	7.28	-27.08
234	SLU 58	-77	178	3503	-774.51	7.28	-27.08
234	SLU 59	-77	178	3503	-774.51	7.28	-27.08
234	SLU 60	-81	191	3703	-815.94	7.74	-28.61
234	SLU 61	-81	191	3703	-815.94	7.74	-28.61
234	SLU 62	-81	191	3703	-815.94	7.74	-28.61
234	SLU 63	-81	191	3703	-815.94	7.74	-28.61
234	SLU 64	-75	169	3375	-747.76	6.99	-26.2
234	SLU 65	-75	169	3375	-747.76	6.99	-26.2
234	SLU 66	-75	169	3375	-747.76	6.99	-26.2
234	SLU 67	-75	169	3375	-747.76	6.99	-26.2
234	SLU 68	-75	169	3375	-747.76	6.99	-26.2
234	SLU 69	-75	169	3375	-747.76	6.99	-26.2
234	SLU 70	-75	169	3375	-747.76	6.99	-26.2
234	SLU 71	-75	169	3375	-747.76	6.99	-26.2
234	SLU 72	-75	169	3375	-747.76	6.99	-26.2
234	SLU 73	-85	199	3842	-844.44	8.08	-29.76
234	SLU 74	-85	199	3842	-844.44	8.08	-29.76
234	SLU 75	-85	199	3842	-844.44	8.08	-29.76
234	SLU 76	-85	199	3842	-844.44	8.08	-29.76
234	SLU 77	-85	199	3842	-844.44	8.08	-29.76
234	SLU 78	-85	199	3842	-844.44	8.08	-29.76
234	SLU 79	-85	199	3842	-844.44	8.08	-29.76
234	SLU 80	-85	199	3842	-844.44	8.08	-29.76
234	SLU 81	-89	212	4042	-885.87	8.55	-31.29
234	SLU 82	-89	212	4042	-885.87	8.55	-31.29
234	SLU 83	-89	212	4042	-885.87	8.55	-31.29
234	SLU 84	-89	212	4042	-885.87	8.55	-31.29
234	SLE RA 1	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 2	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 3	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 4	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 5	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 6	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 7	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 8	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 9	-56	125	2522	-559.83	5.2	-19.57
234	SLE RA 10	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 11	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 12	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 13	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 14	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 15	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 16	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 17	-62	146	2833	-624.28	5.93	-21.94
234	SLE RA 18	-65	154	2966	-651.9	6.24	-22.96
234	SLE RA 19	-65	154	2966	-651.9	6.24	-22.96
234	SLE RA 20	-65	154	2966	-651.9	6.24	-22.96
234	SLE RA 21	-65	154	2966	-651.9	6.24	-22.96
234	SLE FR 1	-56	125	2522	-559.83	5.2	-19.57
234	SLE FR 2	-56	125	2522	-559.83	5.2	-19.57
234	SLE FR 3	-56	125	2522	-559.83	5.2	-19.57
234	SLE FR 4	-59	134	2655	-587.45	5.51	-20.58
234	SLE FR 5	-59	134	2655	-587.45	5.51	-20.58
234	SLE FR 6	-60	140	2744	-605.87	5.72	-21.26
234	SLE QP 1	-56	125	2522	-559.83	5.2	-19.57
234	SLE QP 2	-59	134	2655	-587.45	5.51	-20.58
234	SLD 1	189	277	2812	-629.68	6.58	64.21
234	SLD 2	147	246	2814	-630	6.59	50.01
234	SLD 3	231	165	3083	-686.38	7.55	78.95
234	SLD 4	190	134	3085	-686.71	7.56	64.75
234	SLD 5	-34	357	2290	-514.01	4.36	-12.43
234	SLD 6	-76	327	2292	-514.34	4.37	-26.83
234	SLD 7	107	-16	3194	-703.01	7.59	36.7
234	SLD 8	65	-47	3196	-703.34	7.6	22.3
234	SLD 9	-182	314	2114	-471.56	3.42	-63.47
234	SLD 10	-224	284	2116	-471.89	3.43	-77.87
234	SLD 11	-41	-59	3018	-660.57	6.65	-14.33
234	SLD 12	-84	-90	3020	-660.9	6.66	-28.74
234	SLD 13	-307	133	2225	-488.2	3.46	-105.92
234	SLD 14	-348	103	2227	-488.53	3.47	-120.12
234	SLD 15	-264	21	2496	-544.91	4.43	-91.18
234	SLD 16	-306	-9	2498	-545.23	4.44	-105.38
234	SLV 1	503	460	3009	-682.74	7.93	171.87
234	SLV 2	409	391	3013	-683.48	7.96	139.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLV 3	600	202	3633	-813.34	10.17	205.55
234	SLV 4	505	134	3637	-814.07	10.19	173.35
234	SLV 5	-3	647	1813	-417.7	2.84	-2.41
234	SLV 6	-99	577	1817	-418.45	2.86	-35.11
234	SLV 7	319	-212	3894	-853.03	10.29	109.86
234	SLV 8	223	-282	3898	-853.78	10.31	77.16
234	SLV 9	-340	549	1412	-321.13	0.71	-118.33
234	SLV 10	-436	480	1416	-321.88	0.73	-151.02
234	SLV 11	-18	-310	3493	-756.46	8.16	-6.06
234	SLV 12	-114	-379	3497	-757.21	8.18	-38.75
234	SLV 13	-622	134	1673	-360.83	0.83	-214.52
234	SLV 14	-717	65	1677	-361.57	0.85	-246.72
234	SLV 15	-526	-124	2297	-491.43	3.07	-180.84
234	SLV 16	-620	-192	2301	-492.17	3.09	-213.04
234	CRTFP Ux+	0	0	0	0	0	0
234	CRTFP Ux-	0	0	0	0	0	0
234	CRTFP Uy+	0	0	0	-0.01	0	0
234	CRTFP Uy-	0	0	0	0.01	0	0
235	SLU 1	-54	107	2288	-424.03	3.95	-19.04
235	SLU 2	-54	107	2288	-424.03	3.95	-19.04
235	SLU 3	-54	107	2288	-424.03	3.95	-19.04
235	SLU 4	-54	107	2288	-424.03	3.95	-19.04
235	SLU 5	-54	107	2288	-424.03	3.95	-19.04
235	SLU 6	-54	107	2288	-424.03	3.95	-19.04
235	SLU 7	-54	107	2288	-424.03	3.95	-19.04
235	SLU 8	-54	107	2288	-424.03	3.95	-19.04
235	SLU 9	-54	107	2288	-424.03	3.95	-19.04
235	SLU 10	-64	135	2725	-495.34	4.82	-22.66
235	SLU 11	-64	135	2725	-495.34	4.82	-22.66
235	SLU 12	-64	135	2725	-495.34	4.82	-22.66
235	SLU 13	-64	135	2725	-495.34	4.82	-22.66
235	SLU 14	-64	135	2725	-495.34	4.82	-22.66
235	SLU 15	-64	135	2725	-495.34	4.82	-22.66
235	SLU 16	-64	135	2725	-495.34	4.82	-22.66
235	SLU 17	-64	135	2725	-495.34	4.82	-22.66
235	SLU 18	-69	146	2913	-525.91	5.19	-24.21
235	SLU 19	-69	146	2913	-525.91	5.19	-24.21
235	SLU 20	-69	146	2913	-525.91	5.19	-24.21
235	SLU 21	-69	146	2913	-525.91	5.19	-24.21
235	SLU 22	-62	126	2605	-475.32	4.59	-21.77
235	SLU 23	-62	126	2605	-475.32	4.59	-21.77
235	SLU 24	-62	126	2605	-475.32	4.59	-21.77
235	SLU 25	-62	126	2605	-475.32	4.59	-21.77
235	SLU 26	-62	126	2605	-475.32	4.59	-21.77
235	SLU 27	-62	126	2605	-475.32	4.59	-21.77
235	SLU 28	-62	126	2605	-475.32	4.59	-21.77
235	SLU 29	-62	126	2605	-475.32	4.59	-21.77
235	SLU 30	-62	126	2605	-475.32	4.59	-21.77
235	SLU 31	-72	154	3042	-546.63	5.46	-25.38
235	SLU 32	-72	154	3042	-546.63	5.46	-25.38
235	SLU 33	-72	154	3042	-546.63	5.46	-25.38
235	SLU 34	-72	154	3042	-546.63	5.46	-25.38
235	SLU 35	-72	154	3042	-546.63	5.46	-25.38
235	SLU 36	-72	154	3042	-546.63	5.46	-25.38
235	SLU 37	-72	154	3042	-546.63	5.46	-25.38
235	SLU 38	-72	154	3042	-546.63	5.46	-25.38
235	SLU 39	-76	165	3229	-577.19	5.83	-26.93
235	SLU 40	-76	165	3229	-577.19	5.83	-26.93
235	SLU 41	-76	165	3229	-577.19	5.83	-26.93
235	SLU 42	-76	165	3229	-577.19	5.83	-26.93
235	SLU 43	-68	133	2866	-533.66	4.92	-23.82
235	SLU 44	-68	133	2866	-533.66	4.92	-23.82
235	SLU 45	-68	133	2866	-533.66	4.92	-23.82
235	SLU 46	-68	133	2866	-533.66	4.92	-23.82
235	SLU 47	-68	133	2866	-533.66	4.92	-23.82
235	SLU 48	-68	133	2866	-533.66	4.92	-23.82
235	SLU 49	-68	133	2866	-533.66	4.92	-23.82
235	SLU 50	-68	133	2866	-533.66	4.92	-23.82
235	SLU 51	-68	133	2866	-533.66	4.92	-23.82
235	SLU 52	-78	160	3303	-604.97	5.78	-27.44
235	SLU 53	-78	160	3303	-604.97	5.78	-27.44
235	SLU 54	-78	160	3303	-604.97	5.78	-27.44
235	SLU 55	-78	160	3303	-604.97	5.78	-27.44
235	SLU 56	-78	160	3303	-604.97	5.78	-27.44
235	SLU 57	-78	160	3303	-604.97	5.78	-27.44
235	SLU 58	-78	160	3303	-604.97	5.78	-27.44
235	SLU 59	-78	160	3303	-604.97	5.78	-27.44
235	SLU 60	-82	172	3491	-635.53	6.16	-28.99
235	SLU 61	-82	172	3491	-635.53	6.16	-28.99
235	SLU 62	-82	172	3491	-635.53	6.16	-28.99
235	SLU 63	-82	172	3491	-635.53	6.16	-28.99
235	SLU 64	-75	152	3183	-584.94	5.56	-26.54
235	SLU 65	-75	152	3183	-584.94	5.56	-26.54
235	SLU 66	-75	152	3183	-584.94	5.56	-26.54
235	SLU 67	-75	152	3183	-584.94	5.56	-26.54
235	SLU 68	-75	152	3183	-584.94	5.56	-26.54
235	SLU 69	-75	152	3183	-584.94	5.56	-26.54
235	SLU 70	-75	152	3183	-584.94	5.56	-26.54
235	SLU 71	-75	152	3183	-584.94	5.56	-26.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLU 72	-75	152	3183	-584.94	5.56	-26.54
235	SLU 73	-86	179	3620	-656.25	6.43	-30.16
235	SLU 74	-86	179	3620	-656.25	6.43	-30.16
235	SLU 75	-86	179	3620	-656.25	6.43	-30.16
235	SLU 76	-86	179	3620	-656.25	6.43	-30.16
235	SLU 77	-86	179	3620	-656.25	6.43	-30.16
235	SLU 78	-86	179	3620	-656.25	6.43	-30.16
235	SLU 79	-86	179	3620	-656.25	6.43	-30.16
235	SLU 80	-86	179	3620	-656.25	6.43	-30.16
235	SLU 81	-90	191	3807	-686.82	6.8	-31.71
235	SLU 82	-90	191	3807	-686.82	6.8	-31.71
235	SLU 83	-90	191	3807	-686.82	6.8	-31.71
235	SLU 84	-90	191	3807	-686.82	6.8	-31.71
235	SLE RA 1	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 2	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 3	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 4	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 5	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 6	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 7	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 8	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 9	-56	113	2379	-438.68	4.13	-19.82
235	SLE RA 10	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 11	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 12	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 13	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 14	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 15	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 16	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 17	-63	131	2670	-486.23	4.71	-22.23
235	SLE RA 18	-66	139	2795	-506.6	4.96	-23.26
235	SLE RA 19	-66	139	2795	-506.6	4.96	-23.26
235	SLE RA 20	-66	139	2795	-506.6	4.96	-23.26
235	SLE RA 21	-66	139	2795	-506.6	4.96	-23.26
235	SLE FR 1	-56	113	2379	-438.68	4.13	-19.82
235	SLE FR 2	-56	113	2379	-438.68	4.13	-19.82
235	SLE FR 3	-56	113	2379	-438.68	4.13	-19.82
235	SLE FR 4	-59	120	2504	-459.06	4.38	-20.85
235	SLE FR 5	-59	120	2504	-459.06	4.38	-20.85
235	SLE FR 6	-61	126	2587	-472.64	4.55	-21.54
235	SLE QP 1	-56	113	2379	-438.68	4.13	-19.82
235	SLE QP 2	-59	120	2504	-459.06	4.38	-20.85
235	SLD 1	189	246	2630	-490.25	5.34	64.07
235	SLD 2	147	220	2631	-490.42	5.35	49.85
235	SLD 3	231	146	2874	-531.28	6.18	78.87
235	SLD 4	189	120	2875	-531.45	6.19	64.65
235	SLD 5	-34	319	2171	-406.14	3.4	-12.74
235	SLD 6	-77	292	2173	-406.31	3.41	-27.17
235	SLD 7	107	-14	2984	-542.89	6.19	36.59
235	SLD 8	65	-40	2985	-543.06	6.2	22.16
235	SLD 9	-183	281	2022	-375.06	2.57	-63.87
235	SLD 10	-226	255	2023	-375.23	2.58	-78.3
235	SLD 11	-42	-52	2834	-511.81	5.36	-14.54
235	SLD 12	-84	-78	2836	-511.98	5.37	-28.96
235	SLD 13	-308	121	2132	-386.67	2.58	-106.35
235	SLD 14	-350	95	2133	-386.84	2.58	-120.58
235	SLD 15	-265	21	2376	-427.7	3.41	-91.55
235	SLD 16	-307	-5	2377	-427.87	3.42	-105.78
235	SLV 1	503	407	2788	-529.42	6.55	171.89
235	SLV 2	409	348	2792	-529.8	6.57	139.63
235	SLV 3	600	178	3349	-624	8.48	205.71
235	SLV 4	506	119	3353	-624.38	8.5	173.45
235	SLV 5	-4	576	1737	-336.58	2.1	-2.78
235	SLV 6	-100	516	1741	-336.97	2.12	-35.54
235	SLV 7	319	-189	3606	-651.85	8.53	109.94
235	SLV 8	223	-249	3610	-652.24	8.55	77.19
235	SLV 9	-342	490	1397	-265.88	0.21	-118.9
235	SLV 10	-438	430	1401	-266.27	0.23	-151.65
235	SLV 11	-19	-275	3266	-581.15	6.64	-6.17
235	SLV 12	-115	-335	3270	-581.54	6.66	-38.92
235	SLV 13	-624	122	1654	-293.73	0.26	-215.15
235	SLV 14	-719	63	1658	-294.12	0.28	-247.42
235	SLV 15	-527	-107	2215	-388.32	2.19	-181.34
235	SLV 16	-622	-167	2219	-388.7	2.21	-213.6
235	CRTFP Ux+	0	0	0	0	0	0
235	CRTFP Ux-	0	0	0	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
236	SLU 1	-55	95	2182	-333.07	2.97	-19.28
236	SLU 2	-55	95	2182	-333.07	2.97	-19.28
236	SLU 3	-55	95	2182	-333.07	2.97	-19.28
236	SLU 4	-55	95	2182	-333.07	2.97	-19.28
236	SLU 5	-55	95	2182	-333.07	2.97	-19.28
236	SLU 6	-55	95	2182	-333.07	2.97	-19.28
236	SLU 7	-55	95	2182	-333.07	2.97	-19.28
236	SLU 8	-55	95	2182	-333.07	2.97	-19.28
236	SLU 9	-55	95	2182	-333.07	2.97	-19.28
236	SLU 10	-65	119	2596	-384.56	3.62	-22.95
236	SLU 11	-65	119	2596	-384.56	3.62	-22.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 12	-65	119	2596	-384.56	3.62	-22.95
236	SLU 13	-65	119	2596	-384.56	3.62	-22.95
236	SLU 14	-65	119	2596	-384.56	3.62	-22.95
236	SLU 15	-65	119	2596	-384.56	3.62	-22.95
236	SLU 16	-65	119	2596	-384.56	3.62	-22.95
236	SLU 17	-65	119	2596	-384.56	3.62	-22.95
236	SLU 18	-70	130	2774	-406.63	3.9	-24.52
236	SLU 19	-70	130	2774	-406.63	3.9	-24.52
236	SLU 20	-70	130	2774	-406.63	3.9	-24.52
236	SLU 21	-70	130	2774	-406.63	3.9	-24.52
236	SLU 22	-63	112	2482	-369.74	3.45	-22.05
236	SLU 23	-63	112	2482	-369.74	3.45	-22.05
236	SLU 24	-63	112	2482	-369.74	3.45	-22.05
236	SLU 25	-63	112	2482	-369.74	3.45	-22.05
236	SLU 26	-63	112	2482	-369.74	3.45	-22.05
236	SLU 27	-63	112	2482	-369.74	3.45	-22.05
236	SLU 28	-63	112	2482	-369.74	3.45	-22.05
236	SLU 29	-63	112	2482	-369.74	3.45	-22.05
236	SLU 30	-63	112	2482	-369.74	3.45	-22.05
236	SLU 31	-73	136	2895	-421.24	4.1	-25.72
236	SLU 32	-73	136	2895	-421.24	4.1	-25.72
236	SLU 33	-73	136	2895	-421.24	4.1	-25.72
236	SLU 34	-73	136	2895	-421.24	4.1	-25.72
236	SLU 35	-73	136	2895	-421.24	4.1	-25.72
236	SLU 36	-73	136	2895	-421.24	4.1	-25.72
236	SLU 37	-73	136	2895	-421.24	4.1	-25.72
236	SLU 38	-73	136	2895	-421.24	4.1	-25.72
236	SLU 39	-77	147	3073	-443.31	4.38	-27.29
236	SLU 40	-77	147	3073	-443.31	4.38	-27.29
236	SLU 41	-77	147	3073	-443.31	4.38	-27.29
236	SLU 42	-77	147	3073	-443.31	4.38	-27.29
236	SLU 43	-69	118	2735	-420.42	3.7	-24.12
236	SLU 44	-69	118	2735	-420.42	3.7	-24.12
236	SLU 45	-69	118	2735	-420.42	3.7	-24.12
236	SLU 46	-69	118	2735	-420.42	3.7	-24.12
236	SLU 47	-69	118	2735	-420.42	3.7	-24.12
236	SLU 48	-69	118	2735	-420.42	3.7	-24.12
236	SLU 49	-69	118	2735	-420.42	3.7	-24.12
236	SLU 50	-69	118	2735	-420.42	3.7	-24.12
236	SLU 51	-69	118	2735	-420.42	3.7	-24.12
236	SLU 52	-79	142	3148	-471.91	4.35	-27.79
236	SLU 53	-79	142	3148	-471.91	4.35	-27.79
236	SLU 54	-79	142	3148	-471.91	4.35	-27.79
236	SLU 55	-79	142	3148	-471.91	4.35	-27.79
236	SLU 56	-79	142	3148	-471.91	4.35	-27.79
236	SLU 57	-79	142	3148	-471.91	4.35	-27.79
236	SLU 58	-79	142	3148	-471.91	4.35	-27.79
236	SLU 59	-79	142	3148	-471.91	4.35	-27.79
236	SLU 60	-83	153	3326	-493.98	4.63	-29.36
236	SLU 61	-83	153	3326	-493.98	4.63	-29.36
236	SLU 62	-83	153	3326	-493.98	4.63	-29.36
236	SLU 63	-83	153	3326	-493.98	4.63	-29.36
236	SLU 64	-76	134	3034	-457.09	4.18	-26.89
236	SLU 65	-76	134	3034	-457.09	4.18	-26.89
236	SLU 66	-76	134	3034	-457.09	4.18	-26.89
236	SLU 67	-76	134	3034	-457.09	4.18	-26.89
236	SLU 68	-76	134	3034	-457.09	4.18	-26.89
236	SLU 69	-76	134	3034	-457.09	4.18	-26.89
236	SLU 70	-76	134	3034	-457.09	4.18	-26.89
236	SLU 71	-76	134	3034	-457.09	4.18	-26.89
236	SLU 72	-76	134	3034	-457.09	4.18	-26.89
236	SLU 73	-87	159	3448	-508.58	4.83	-30.56
236	SLU 74	-87	159	3448	-508.58	4.83	-30.56
236	SLU 75	-87	159	3448	-508.58	4.83	-30.56
236	SLU 76	-87	159	3448	-508.58	4.83	-30.56
236	SLU 77	-87	159	3448	-508.58	4.83	-30.56
236	SLU 78	-87	159	3448	-508.58	4.83	-30.56
236	SLU 79	-87	159	3448	-508.58	4.83	-30.56
236	SLU 80	-87	159	3448	-508.58	4.83	-30.56
236	SLU 81	-91	169	3625	-530.65	5.11	-32.13
236	SLU 82	-91	169	3625	-530.65	5.11	-32.13
236	SLU 83	-91	169	3625	-530.65	5.11	-32.13
236	SLU 84	-91	169	3625	-530.65	5.11	-32.13
236	SLE RA 1	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 2	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 3	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 4	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 5	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 6	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 7	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 8	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 9	-57	100	2268	-343.55	3.11	-20.07
236	SLE RA 10	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 11	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 12	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 13	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 14	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 15	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 16	-64	116	2544	-377.88	3.54	-22.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLE RA 17	-64	116	2544	-377.88	3.54	-22.52
236	SLE RA 18	-67	123	2662	-392.59	3.73	-23.57
236	SLE RA 19	-67	123	2662	-392.59	3.73	-23.57
236	SLE RA 20	-67	123	2662	-392.59	3.73	-23.57
236	SLE RA 21	-67	123	2662	-392.59	3.73	-23.57
236	SLE FR 1	-57	100	2268	-343.55	3.11	-20.07
236	SLE FR 2	-57	100	2268	-343.55	3.11	-20.07
236	SLE FR 3	-57	100	2268	-343.55	3.11	-20.07
236	SLE FR 4	-60	107	2386	-358.26	3.29	-21.12
236	SLE FR 5	-60	107	2386	-358.26	3.29	-21.12
236	SLE FR 6	-62	111	2465	-368.07	3.42	-21.82
236	SLE QP 1	-57	100	2268	-343.55	3.11	-20.07
236	SLE QP 2	-60	107	2386	-358.26	3.29	-21.12
236	SLD 1	188	216	2485	-380.62	4.15	63.93
236	SLD 2	146	194	2487	-380.68	4.15	49.68
236	SLD 3	231	128	2706	-409.28	4.85	78.78
236	SLD 4	189	106	2707	-409.34	4.86	64.54
236	SLD 5	-35	280	2081	-321.48	2.48	-13.04
236	SLD 6	-78	258	2083	-321.53	2.49	-27.5
236	SLD 7	107	-12	2816	-417.02	4.82	36.47
236	SLD 8	64	-34	2817	-417.07	4.83	22.01
236	SLD 9	-184	248	1955	-299.45	1.76	-64.25
236	SLD 10	-227	225	1957	-299.5	1.77	-78.71
236	SLD 11	-42	-45	2690	-394.99	4.1	-14.75
236	SLD 12	-85	-67	2691	-395.04	4.11	-29.2
236	SLD 13	-309	107	2065	-307.18	1.73	-106.78
236	SLD 14	-351	85	2067	-307.24	1.74	-121.03
236	SLD 15	-266	19	2286	-335.85	2.43	-91.93
236	SLD 16	-308	-3	2287	-335.9	2.44	-106.18
236	SLV 1	503	356	2610	-408.64	5.22	171.92
236	SLV 2	408	306	2613	-408.76	5.24	139.6
236	SLV 3	600	155	3117	-474.86	6.84	205.86
236	SLV 4	506	105	3120	-474.99	6.85	173.54
236	SLV 5	-5	505	1683	-272.89	1.41	-3.12
236	SLV 6	-101	454	1686	-273.02	1.43	-35.94
236	SLV 7	319	-167	3373	-493.63	6.8	110
236	SLV 8	223	-217	3376	-493.76	6.82	77.19
236	SLV 9	-343	431	1396	-222.76	-0.24	-119.43
236	SLV 10	-440	380	1399	-222.89	-0.22	-152.25
236	SLV 11	-19	-241	3086	-443.5	5.16	-6.31
236	SLV 12	-115	-292	3089	-443.63	5.18	-39.12
236	SLV 13	-626	108	1653	-241.54	-0.27	-215.78
236	SLV 14	-720	58	1656	-241.66	-0.25	-248.1
236	SLV 15	-528	-93	2160	-307.76	1.35	-181.84
236	SLV 16	-623	-143	2162	-307.88	1.37	-214.16
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	-56	83	2105	-264.05	2.1	-19.51
237	SLU 2	-56	83	2105	-264.05	2.1	-19.51
237	SLU 3	-56	83	2105	-264.05	2.1	-19.51
237	SLU 4	-56	83	2105	-264.05	2.1	-19.51
237	SLU 5	-56	83	2105	-264.05	2.1	-19.51
237	SLU 6	-56	83	2105	-264.05	2.1	-19.51
237	SLU 7	-56	83	2105	-264.05	2.1	-19.51
237	SLU 8	-56	83	2105	-264.05	2.1	-19.51
237	SLU 9	-56	83	2105	-264.05	2.1	-19.51
237	SLU 10	-66	104	2502	-300.61	2.56	-23.24
237	SLU 11	-66	104	2502	-300.61	2.56	-23.24
237	SLU 12	-66	104	2502	-300.61	2.56	-23.24
237	SLU 13	-66	104	2502	-300.61	2.56	-23.24
237	SLU 14	-66	104	2502	-300.61	2.56	-23.24
237	SLU 15	-66	104	2502	-300.61	2.56	-23.24
237	SLU 16	-66	104	2502	-300.61	2.56	-23.24
237	SLU 17	-66	104	2502	-300.61	2.56	-23.24
237	SLU 18	-71	114	2672	-316.27	2.75	-24.83
237	SLU 19	-71	114	2672	-316.27	2.75	-24.83
237	SLU 20	-71	114	2672	-316.27	2.75	-24.83
237	SLU 21	-71	114	2672	-316.27	2.75	-24.83
237	SLU 22	-63	97	2392	-289.67	2.44	-22.33
237	SLU 23	-63	97	2392	-289.67	2.44	-22.33
237	SLU 24	-63	97	2392	-289.67	2.44	-22.33
237	SLU 25	-63	97	2392	-289.67	2.44	-22.33
237	SLU 26	-63	97	2392	-289.67	2.44	-22.33
237	SLU 27	-63	97	2392	-289.67	2.44	-22.33
237	SLU 28	-63	97	2392	-289.67	2.44	-22.33
237	SLU 29	-63	97	2392	-289.67	2.44	-22.33
237	SLU 30	-63	97	2392	-289.67	2.44	-22.33
237	SLU 31	-74	118	2789	-326.22	2.9	-26.05
237	SLU 32	-74	118	2789	-326.22	2.9	-26.05
237	SLU 33	-74	118	2789	-326.22	2.9	-26.05
237	SLU 34	-74	118	2789	-326.22	2.9	-26.05
237	SLU 35	-74	118	2789	-326.22	2.9	-26.05
237	SLU 36	-74	118	2789	-326.22	2.9	-26.05
237	SLU 37	-74	118	2789	-326.22	2.9	-26.05
237	SLU 38	-74	118	2789	-326.22	2.9	-26.05
237	SLU 39	-79	128	2959	-341.89	3.1	-27.65
237	SLU 40	-79	128	2959	-341.89	3.1	-27.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLU 41	-79	128	2959	-341.89	3.1	-27.65
237	SLU 42	-79	128	2959	-341.89	3.1	-27.65
237	SLU 43	-69	103	2638	-334.49	2.61	-24.4
237	SLU 44	-69	103	2638	-334.49	2.61	-24.4
237	SLU 45	-69	103	2638	-334.49	2.61	-24.4
237	SLU 46	-69	103	2638	-334.49	2.61	-24.4
237	SLU 47	-69	103	2638	-334.49	2.61	-24.4
237	SLU 48	-69	103	2638	-334.49	2.61	-24.4
237	SLU 49	-69	103	2638	-334.49	2.61	-24.4
237	SLU 50	-69	103	2638	-334.49	2.61	-24.4
237	SLU 51	-69	103	2638	-334.49	2.61	-24.4
237	SLU 52	-80	124	3035	-371.04	3.07	-28.13
237	SLU 53	-80	124	3035	-371.04	3.07	-28.13
237	SLU 54	-80	124	3035	-371.04	3.07	-28.13
237	SLU 55	-80	124	3035	-371.04	3.07	-28.13
237	SLU 56	-80	124	3035	-371.04	3.07	-28.13
237	SLU 57	-80	124	3035	-371.04	3.07	-28.13
237	SLU 58	-80	124	3035	-371.04	3.07	-28.13
237	SLU 59	-80	124	3035	-371.04	3.07	-28.13
237	SLU 60	-85	134	3205	-386.71	3.27	-29.72
237	SLU 61	-85	134	3205	-386.71	3.27	-29.72
237	SLU 62	-85	134	3205	-386.71	3.27	-29.72
237	SLU 63	-85	134	3205	-386.71	3.27	-29.72
237	SLU 64	-77	117	2925	-360.11	2.95	-27.22
237	SLU 65	-77	117	2925	-360.11	2.95	-27.22
237	SLU 66	-77	117	2925	-360.11	2.95	-27.22
237	SLU 67	-77	117	2925	-360.11	2.95	-27.22
237	SLU 68	-77	117	2925	-360.11	2.95	-27.22
237	SLU 69	-77	117	2925	-360.11	2.95	-27.22
237	SLU 70	-77	117	2925	-360.11	2.95	-27.22
237	SLU 71	-77	117	2925	-360.11	2.95	-27.22
237	SLU 72	-77	117	2925	-360.11	2.95	-27.22
237	SLU 73	-88	138	3322	-396.66	3.41	-30.94
237	SLU 74	-88	138	3322	-396.66	3.41	-30.94
237	SLU 75	-88	138	3322	-396.66	3.41	-30.94
237	SLU 76	-88	138	3322	-396.66	3.41	-30.94
237	SLU 77	-88	138	3322	-396.66	3.41	-30.94
237	SLU 78	-88	138	3322	-396.66	3.41	-30.94
237	SLU 79	-88	138	3322	-396.66	3.41	-30.94
237	SLU 80	-88	138	3322	-396.66	3.41	-30.94
237	SLU 81	-92	148	3492	-412.32	3.61	-32.54
237	SLU 82	-92	148	3492	-412.32	3.61	-32.54
237	SLU 83	-92	148	3492	-412.32	3.61	-32.54
237	SLU 84	-92	148	3492	-412.32	3.61	-32.54
237	SLE RA 1	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 2	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 3	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 4	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 5	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 6	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 7	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 8	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 9	-58	87	2187	-271.37	2.2	-20.32
237	SLE RA 10	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 11	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 12	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 13	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 14	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 15	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 16	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 17	-65	101	2452	-295.74	2.5	-22.8
237	SLE RA 18	-68	107	2565	-306.19	2.63	-23.86
237	SLE RA 19	-68	107	2565	-306.19	2.63	-23.86
237	SLE RA 20	-68	107	2565	-306.19	2.63	-23.86
237	SLE RA 21	-68	107	2565	-306.19	2.63	-23.86
237	SLE FR 1	-58	87	2187	-271.37	2.2	-20.32
237	SLE FR 2	-58	87	2187	-271.37	2.2	-20.32
237	SLE FR 3	-58	87	2187	-271.37	2.2	-20.32
237	SLE FR 4	-61	93	2300	-281.82	2.33	-21.38
237	SLE FR 5	-61	93	2300	-281.82	2.33	-21.38
237	SLE FR 6	-63	97	2376	-288.78	2.42	-22.09
237	SLE QP 1	-58	87	2187	-271.37	2.2	-20.32
237	SLE QP 2	-61	93	2300	-281.82	2.33	-21.38
237	SLD 1	188	187	2376	-297.12	3.08	63.81
237	SLD 2	146	169	2377	-297.13	3.09	49.53
237	SLD 3	230	111	2577	-316.53	3.66	78.7
237	SLD 4	188	93	2578	-316.54	3.67	64.42
237	SLD 5	-36	243	2018	-256.98	1.68	-13.31
237	SLD 6	-79	225	2019	-256.98	1.68	-27.8
237	SLD 7	106	-10	2688	-321.66	3.6	36.33
237	SLD 8	64	-29	2689	-321.67	3.61	21.85
237	SLD 9	-185	215	1912	-241.97	1.05	-64.61
237	SLD 10	-228	196	1913	-241.98	1.06	-79.1
237	SLD 11	-43	-39	2582	-306.65	2.97	-14.96
237	SLD 12	-85	-57	2583	-306.66	2.98	-29.45
237	SLD 13	-310	93	2023	-247.1	0.99	-107.19
237	SLD 14	-352	75	2024	-247.11	1	-121.46
237	SLD 15	-267	17	2224	-266.5	1.57	-92.29
237	SLD 16	-309	-1	2225	-266.51	1.57	-106.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLV 1	503	308	2471	-316.2	4.03	171.96
237	SLV 2	408	267	2473	-316.22	4.05	139.58
237	SLV 3	601	133	2933	-361.27	5.36	206
237	SLV 4	506	92	2936	-361.29	5.38	173.61
237	SLV 5	-6	438	1649	-223.77	0.81	-3.42
237	SLV 6	-102	396	1652	-223.78	0.83	-36.29
237	SLV 7	320	-145	3191	-374.01	5.25	110.03
237	SLV 8	223	-187	3193	-374.03	5.27	77.16
237	SLV 9	-345	373	1408	-189.61	-0.61	-119.92
237	SLV 10	-441	331	1410	-189.63	-0.6	-152.8
237	SLV 11	-20	-210	2949	-339.85	3.83	-6.47
237	SLV 12	-116	-252	2951	-339.87	3.84	-39.35
237	SLV 13	-627	94	1665	-202.35	-0.72	-216.37
237	SLV 14	-722	53	1668	-202.37	-0.71	-248.76
237	SLV 15	-530	-81	2128	-247.42	0.61	-182.34
237	SLV 16	-625	-122	2130	-247.44	0.62	-214.72
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
238	SLU 1	-56	71	2052	-213.03	1.37	-19.74
238	SLU 2	-56	71	2052	-213.03	1.37	-19.74
238	SLU 3	-56	71	2052	-213.03	1.37	-19.74
238	SLU 4	-56	71	2052	-213.03	1.37	-19.74
238	SLU 5	-56	71	2052	-213.03	1.37	-19.74
238	SLU 6	-56	71	2052	-213.03	1.37	-19.74
238	SLU 7	-56	71	2052	-213.03	1.37	-19.74
238	SLU 8	-56	71	2052	-213.03	1.37	-19.74
238	SLU 9	-56	71	2052	-213.03	1.37	-19.74
238	SLU 10	-67	89	2438	-238.56	1.67	-23.52
238	SLU 11	-67	89	2438	-238.56	1.67	-23.52
238	SLU 12	-67	89	2438	-238.56	1.67	-23.52
238	SLU 13	-67	89	2438	-238.56	1.67	-23.52
238	SLU 14	-67	89	2438	-238.56	1.67	-23.52
238	SLU 15	-67	89	2438	-238.56	1.67	-23.52
238	SLU 16	-67	89	2438	-238.56	1.67	-23.52
238	SLU 17	-67	89	2438	-238.56	1.67	-23.52
238	SLU 18	-71	97	2603	-249.5	1.79	-25.14
238	SLU 19	-71	97	2603	-249.5	1.79	-25.14
238	SLU 20	-71	97	2603	-249.5	1.79	-25.14
238	SLU 21	-71	97	2603	-249.5	1.79	-25.14
238	SLU 22	-64	82	2330	-230.47	1.59	-22.6
238	SLU 23	-64	82	2330	-230.47	1.59	-22.6
238	SLU 24	-64	82	2330	-230.47	1.59	-22.6
238	SLU 25	-64	82	2330	-230.47	1.59	-22.6
238	SLU 26	-64	82	2330	-230.47	1.59	-22.6
238	SLU 27	-64	82	2330	-230.47	1.59	-22.6
238	SLU 28	-64	82	2330	-230.47	1.59	-22.6
238	SLU 29	-64	82	2330	-230.47	1.59	-22.6
238	SLU 30	-64	82	2330	-230.47	1.59	-22.6
238	SLU 31	-75	101	2716	-256	1.89	-26.38
238	SLU 32	-75	101	2716	-256	1.89	-26.38
238	SLU 33	-75	101	2716	-256	1.89	-26.38
238	SLU 34	-75	101	2716	-256	1.89	-26.38
238	SLU 35	-75	101	2716	-256	1.89	-26.38
238	SLU 36	-75	101	2716	-256	1.89	-26.38
238	SLU 37	-75	101	2716	-256	1.89	-26.38
238	SLU 38	-75	101	2716	-256	1.89	-26.38
238	SLU 39	-80	109	2881	-266.95	2.02	-28
238	SLU 40	-80	109	2881	-266.95	2.02	-28
238	SLU 41	-80	109	2881	-266.95	2.02	-28
238	SLU 42	-80	109	2881	-266.95	2.02	-28
238	SLU 43	-70	88	2573	-270.96	1.7	-24.68
238	SLU 44	-70	88	2573	-270.96	1.7	-24.68
238	SLU 45	-70	88	2573	-270.96	1.7	-24.68
238	SLU 46	-70	88	2573	-270.96	1.7	-24.68
238	SLU 47	-70	88	2573	-270.96	1.7	-24.68
238	SLU 48	-70	88	2573	-270.96	1.7	-24.68
238	SLU 49	-70	88	2573	-270.96	1.7	-24.68
238	SLU 50	-70	88	2573	-270.96	1.7	-24.68
238	SLU 51	-70	88	2573	-270.96	1.7	-24.68
238	SLU 52	-81	107	2958	-296.49	2	-28.46
238	SLU 53	-81	107	2958	-296.49	2	-28.46
238	SLU 54	-81	107	2958	-296.49	2	-28.46
238	SLU 55	-81	107	2958	-296.49	2	-28.46
238	SLU 56	-81	107	2958	-296.49	2	-28.46
238	SLU 57	-81	107	2958	-296.49	2	-28.46
238	SLU 58	-81	107	2958	-296.49	2	-28.46
238	SLU 59	-81	107	2958	-296.49	2	-28.46
238	SLU 60	-86	114	3123	-307.43	2.13	-30.08
238	SLU 61	-86	114	3123	-307.43	2.13	-30.08
238	SLU 62	-86	114	3123	-307.43	2.13	-30.08
238	SLU 63	-86	114	3123	-307.43	2.13	-30.08
238	SLU 64	-78	100	2851	-288.4	1.93	-27.54
238	SLU 65	-78	100	2851	-288.4	1.93	-27.54
238	SLU 66	-78	100	2851	-288.4	1.93	-27.54
238	SLU 67	-78	100	2851	-288.4	1.93	-27.54
238	SLU 68	-78	100	2851	-288.4	1.93	-27.54
238	SLU 69	-78	100	2851	-288.4	1.93	-27.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLU 70	-78	100	2851	-288.4	1.93	-27.54
238	SLU 71	-78	100	2851	-288.4	1.93	-27.54
238	SLU 72	-78	100	2851	-288.4	1.93	-27.54
238	SLU 73	-89	118	3236	-313.93	2.22	-31.32
238	SLU 74	-89	118	3236	-313.93	2.22	-31.32
238	SLU 75	-89	118	3236	-313.93	2.22	-31.32
238	SLU 76	-89	118	3236	-313.93	2.22	-31.32
238	SLU 77	-89	118	3236	-313.93	2.22	-31.32
238	SLU 78	-89	118	3236	-313.93	2.22	-31.32
238	SLU 79	-89	118	3236	-313.93	2.22	-31.32
238	SLU 80	-89	118	3236	-313.93	2.22	-31.32
238	SLU 81	-94	126	3401	-324.87	2.35	-32.94
238	SLU 82	-94	126	3401	-324.87	2.35	-32.94
238	SLU 83	-94	126	3401	-324.87	2.35	-32.94
238	SLU 84	-94	126	3401	-324.87	2.35	-32.94
238	SLE RA 1	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 2	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 3	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 4	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 5	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 6	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 7	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 8	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 9	-59	74	2132	-218.01	1.43	-20.56
238	SLE RA 10	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 11	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 12	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 13	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 14	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 15	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 16	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 17	-66	86	2389	-235.03	1.63	-23.08
238	SLE RA 18	-69	92	2499	-242.33	1.72	-24.16
238	SLE RA 19	-69	92	2499	-242.33	1.72	-24.16
238	SLE RA 20	-69	92	2499	-242.33	1.72	-24.16
238	SLE RA 21	-69	92	2499	-242.33	1.72	-24.16
238	SLE FR 1	-59	74	2132	-218.01	1.43	-20.56
238	SLE FR 2	-59	74	2132	-218.01	1.43	-20.56
238	SLE FR 3	-59	74	2132	-218.01	1.43	-20.56
238	SLE FR 4	-62	79	2242	-225.31	1.52	-21.64
238	SLE FR 5	-62	79	2242	-225.31	1.52	-21.64
238	SLE FR 6	-64	83	2315	-230.17	1.57	-22.36
238	SLE QP 1	-59	74	2132	-218.01	1.43	-20.56
238	SLE QP 2	-62	79	2242	-225.31	1.52	-21.64
238	SLD 1	187	160	2297	-234.95	2.19	63.67
238	SLD 2	145	145	2298	-234.99	2.2	49.37
238	SLD 3	230	95	2482	-247.94	2.66	78.6
238	SLD 4	188	80	2483	-247.97	2.66	64.3
238	SLD 5	-37	209	1977	-208.49	1.01	-13.58
238	SLD 6	-80	194	1978	-208.53	1.01	-28.09
238	SLD 7	106	-10	2595	-251.78	2.57	36.19
238	SLD 8	63	-26	2596	-251.82	2.57	21.68
238	SLD 9	-187	184	1888	-198.8	0.46	-64.96
238	SLD 10	-229	169	1889	-198.83	0.47	-79.47
238	SLD 11	-44	-35	2506	-242.09	2.02	-15.18
238	SLD 12	-86	-50	2507	-242.12	2.03	-29.69
238	SLD 13	-311	79	2000	-202.64	0.37	-107.58
238	SLD 14	-353	64	2001	-202.68	0.38	-121.88
238	SLD 15	-268	13	2186	-215.63	0.84	-92.65
238	SLD 16	-310	-2	2187	-215.66	0.85	-106.95
238	SLV 1	503	264	2366	-246.76	3.04	171.98
238	SLV 2	408	230	2368	-246.84	3.05	139.54
238	SLV 3	601	113	2792	-277.34	4.12	206.1
238	SLV 4	506	79	2794	-277.42	4.13	173.66
238	SLV 5	-7	376	1632	-185.34	0.33	-3.7
238	SLV 6	-103	342	1634	-185.42	0.34	-36.63
238	SLV 7	320	-127	3053	-287.26	3.93	110.03
238	SLV 8	223	-162	3055	-287.34	3.94	77.1
238	SLV 9	-346	320	1429	-163.27	-0.91	-120.37
238	SLV 10	-443	286	1431	-163.35	-0.89	-153.31
238	SLV 11	-20	-183	2850	-265.19	2.69	-6.64
238	SLV 12	-116	-217	2852	-265.27	2.71	-39.58
238	SLV 13	-629	79	1689	-173.2	-1.09	-216.94
238	SLV 14	-724	46	1691	-173.28	-1.08	-249.38
238	SLV 15	-531	-72	2116	-203.77	-0.01	-182.82
238	SLV 16	-626	-105	2118	-203.85	0	-215.26
238	CRTFP Ux+	0	0	0	0	0	0
238	CRTFP Ux-	0	0	0	0	0	0
238	CRTFP Uy+	0	0	0	0	0	0
238	CRTFP Uy-	0	0	0	0	0	0
239	SLU 1	-57	59	2020	-176.01	0.79	-19.97
239	SLU 2	-57	59	2020	-176.01	0.79	-19.97
239	SLU 3	-57	59	2020	-176.01	0.79	-19.97
239	SLU 4	-57	59	2020	-176.01	0.79	-19.97
239	SLU 5	-57	59	2020	-176.01	0.79	-19.97
239	SLU 6	-57	59	2020	-176.01	0.79	-19.97
239	SLU 7	-57	59	2020	-176.01	0.79	-19.97
239	SLU 8	-57	59	2020	-176.01	0.79	-19.97
239	SLU 9	-57	59	2020	-176.01	0.79	-19.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLU 10	-68	74	2398	-193.54	0.96	-23.81
239	SLU 11	-68	74	2398	-193.54	0.96	-23.81
239	SLU 12	-68	74	2398	-193.54	0.96	-23.81
239	SLU 13	-68	74	2398	-193.54	0.96	-23.81
239	SLU 14	-68	74	2398	-193.54	0.96	-23.81
239	SLU 15	-68	74	2398	-193.54	0.96	-23.81
239	SLU 16	-68	74	2398	-193.54	0.96	-23.81
239	SLU 17	-68	74	2398	-193.54	0.96	-23.81
239	SLU 18	-72	81	2560	-201.05	1.03	-25.45
239	SLU 19	-72	81	2560	-201.05	1.03	-25.45
239	SLU 20	-72	81	2560	-201.05	1.03	-25.45
239	SLU 21	-72	81	2560	-201.05	1.03	-25.45
239	SLU 22	-65	68	2292	-187.49	0.92	-22.88
239	SLU 23	-65	68	2292	-187.49	0.92	-22.88
239	SLU 24	-65	68	2292	-187.49	0.92	-22.88
239	SLU 25	-65	68	2292	-187.49	0.92	-22.88
239	SLU 26	-65	68	2292	-187.49	0.92	-22.88
239	SLU 27	-65	68	2292	-187.49	0.92	-22.88
239	SLU 28	-65	68	2292	-187.49	0.92	-22.88
239	SLU 29	-65	68	2292	-187.49	0.92	-22.88
239	SLU 30	-65	68	2292	-187.49	0.92	-22.88
239	SLU 31	-76	84	2670	-205.01	1.09	-26.72
239	SLU 32	-76	84	2670	-205.01	1.09	-26.72
239	SLU 33	-76	84	2670	-205.01	1.09	-26.72
239	SLU 34	-76	84	2670	-205.01	1.09	-26.72
239	SLU 35	-76	84	2670	-205.01	1.09	-26.72
239	SLU 36	-76	84	2670	-205.01	1.09	-26.72
239	SLU 37	-76	84	2670	-205.01	1.09	-26.72
239	SLU 38	-76	84	2670	-205.01	1.09	-26.72
239	SLU 39	-81	90	2832	-212.53	1.16	-28.36
239	SLU 40	-81	90	2832	-212.53	1.16	-28.36
239	SLU 41	-81	90	2832	-212.53	1.16	-28.36
239	SLU 42	-81	90	2832	-212.53	1.16	-28.36
239	SLU 43	-71	73	2532	-224.88	0.98	-24.96
239	SLU 44	-71	73	2532	-224.88	0.98	-24.96
239	SLU 45	-71	73	2532	-224.88	0.98	-24.96
239	SLU 46	-71	73	2532	-224.88	0.98	-24.96
239	SLU 47	-71	73	2532	-224.88	0.98	-24.96
239	SLU 48	-71	73	2532	-224.88	0.98	-24.96
239	SLU 49	-71	73	2532	-224.88	0.98	-24.96
239	SLU 50	-71	73	2532	-224.88	0.98	-24.96
239	SLU 51	-71	73	2532	-224.88	0.98	-24.96
239	SLU 52	-82	89	2910	-242.4	1.15	-28.8
239	SLU 53	-82	89	2910	-242.4	1.15	-28.8
239	SLU 54	-82	89	2910	-242.4	1.15	-28.8
239	SLU 55	-82	89	2910	-242.4	1.15	-28.8
239	SLU 56	-82	89	2910	-242.4	1.15	-28.8
239	SLU 57	-82	89	2910	-242.4	1.15	-28.8
239	SLU 58	-82	89	2910	-242.4	1.15	-28.8
239	SLU 59	-82	89	2910	-242.4	1.15	-28.8
239	SLU 60	-87	96	3072	-249.91	1.22	-30.44
239	SLU 61	-87	96	3072	-249.91	1.22	-30.44
239	SLU 62	-87	96	3072	-249.91	1.22	-30.44
239	SLU 63	-87	96	3072	-249.91	1.22	-30.44
239	SLU 64	-79	83	2805	-236.36	1.11	-27.88
239	SLU 65	-79	83	2805	-236.36	1.11	-27.88
239	SLU 66	-79	83	2805	-236.36	1.11	-27.88
239	SLU 67	-79	83	2805	-236.36	1.11	-27.88
239	SLU 68	-79	83	2805	-236.36	1.11	-27.88
239	SLU 69	-79	83	2805	-236.36	1.11	-27.88
239	SLU 70	-79	83	2805	-236.36	1.11	-27.88
239	SLU 71	-79	83	2805	-236.36	1.11	-27.88
239	SLU 72	-79	83	2805	-236.36	1.11	-27.88
239	SLU 73	-90	98	3183	-253.88	1.28	-31.71
239	SLU 74	-90	98	3183	-253.88	1.28	-31.71
239	SLU 75	-90	98	3183	-253.88	1.28	-31.71
239	SLU 76	-90	98	3183	-253.88	1.28	-31.71
239	SLU 77	-90	98	3183	-253.88	1.28	-31.71
239	SLU 78	-90	98	3183	-253.88	1.28	-31.71
239	SLU 79	-90	98	3183	-253.88	1.28	-31.71
239	SLU 80	-90	98	3183	-253.88	1.28	-31.71
239	SLU 81	-95	105	3345	-261.39	1.36	-33.35
239	SLU 82	-95	105	3345	-261.39	1.36	-33.35
239	SLU 83	-95	105	3345	-261.39	1.36	-33.35
239	SLU 84	-95	105	3345	-261.39	1.36	-33.35
239	SLE RA 1	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 2	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 3	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 4	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 5	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 6	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 7	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 8	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 9	-59	61	2097	-179.29	0.83	-20.8
239	SLE RA 10	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 11	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 12	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 13	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 14	-66	72	2350	-190.97	0.94	-23.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLE RA 15	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 16	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 17	-66	72	2350	-190.97	0.94	-23.36
239	SLE RA 18	-70	76	2458	-195.98	0.99	-24.46
239	SLE RA 19	-70	76	2458	-195.98	0.99	-24.46
239	SLE RA 20	-70	76	2458	-195.98	0.99	-24.46
239	SLE RA 21	-70	76	2458	-195.98	0.99	-24.46
239	SLE FR 1	-59	61	2097	-179.29	0.83	-20.8
239	SLE FR 2	-59	61	2097	-179.29	0.83	-20.8
239	SLE FR 3	-59	61	2097	-179.29	0.83	-20.8
239	SLE FR 4	-62	66	2205	-184.3	0.88	-21.9
239	SLE FR 5	-62	66	2205	-184.3	0.88	-21.9
239	SLE FR 6	-64	69	2278	-187.63	0.91	-22.63
239	SLE QP 1	-59	61	2097	-179.29	0.83	-20.8
239	SLE QP 2	-62	66	2205	-184.3	0.88	-21.9
239	SLD 1	186	135	2243	-189.6	1.49	63.52
239	SLD 2	145	124	2244	-189.7	1.49	49.19
239	SLD 3	229	79	2416	-198.82	1.86	78.48
239	SLD 4	188	67	2417	-198.92	1.87	64.15
239	SLD 5	-38	177	1954	-171.86	0.49	-13.85
239	SLD 6	-81	165	1955	-171.96	0.49	-28.38
239	SLD 7	105	-12	2530	-202.61	1.74	36.02
239	SLD 8	63	-24	2531	-202.71	1.74	21.49
239	SLD 9	-188	156	1880	-165.88	0.01	-65.29
239	SLD 10	-230	144	1881	-165.99	0.01	-79.82
239	SLD 11	-44	-33	2456	-196.63	1.26	-15.42
239	SLD 12	-87	-45	2457	-196.73	1.26	-29.95
239	SLD 13	-312	65	1994	-169.67	-0.11	-107.95
239	SLD 14	-354	53	1995	-169.77	-0.11	-122.28
239	SLD 15	-269	8	2167	-178.89	0.26	-92.99
239	SLD 16	-311	-4	2168	-179	0.27	-107.32
239	SLV 1	502	225	2290	-195.72	2.25	171.97
239	SLV 2	407	198	2291	-195.96	2.26	139.48
239	SLV 3	601	94	2687	-218.05	3.12	206.15
239	SLV 4	506	67	2688	-218.28	3.13	173.66
239	SLV 5	-8	321	1628	-153.79	-0.03	-3.97
239	SLV 6	-105	294	1629	-154.02	-0.02	-36.95
239	SLV 7	320	-114	2952	-228.19	2.86	109.98
239	SLV 8	223	-141	2953	-228.43	2.87	77
239	SLV 9	-348	273	1457	-140.17	-1.12	-120.79
239	SLV 10	-444	246	1459	-140.4	-1.11	-153.78
239	SLV 11	-20	-162	2782	-214.57	1.77	-6.84
239	SLV 12	-117	-189	2783	-214.8	1.78	-39.83
239	SLV 13	-630	64	1722	-150.32	-1.38	-217.46
239	SLV 14	-725	38	1724	-150.55	-1.37	-249.95
239	SLV 15	-532	-66	2120	-172.64	-0.51	-183.27
239	SLV 16	-627	-93	2121	-172.87	-0.5	-215.77
239	CRTFP Ux+	0	0	0	0	0	0
239	CRTFP Ux-	0	0	0	0	0	0
239	CRTFP Uy+	0	0	0	0	0	0
239	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	-58	47	2002	-149.68	0.35	-20.22
240	SLU 2	-58	47	2002	-149.68	0.35	-20.22
240	SLU 3	-58	47	2002	-149.68	0.35	-20.22
240	SLU 4	-58	47	2002	-149.68	0.35	-20.22
240	SLU 5	-58	47	2002	-149.68	0.35	-20.22
240	SLU 6	-58	47	2002	-149.68	0.35	-20.22
240	SLU 7	-58	47	2002	-149.68	0.35	-20.22
240	SLU 8	-58	47	2002	-149.68	0.35	-20.22
240	SLU 9	-58	47	2002	-149.68	0.35	-20.22
240	SLU 10	-69	60	2377	-161.47	0.43	-24.11
240	SLU 11	-69	60	2377	-161.47	0.43	-24.11
240	SLU 12	-69	60	2377	-161.47	0.43	-24.11
240	SLU 13	-69	60	2377	-161.47	0.43	-24.11
240	SLU 14	-69	60	2377	-161.47	0.43	-24.11
240	SLU 15	-69	60	2377	-161.47	0.43	-24.11
240	SLU 16	-69	60	2377	-161.47	0.43	-24.11
240	SLU 17	-69	60	2377	-161.47	0.43	-24.11
240	SLU 18	-73	65	2537	-166.53	0.46	-25.78
240	SLU 19	-73	65	2537	-166.53	0.46	-25.78
240	SLU 20	-73	65	2537	-166.53	0.46	-25.78
240	SLU 21	-73	65	2537	-166.53	0.46	-25.78
240	SLU 22	-66	54	2272	-156.88	0.42	-23.18
240	SLU 23	-66	54	2272	-156.88	0.42	-23.18
240	SLU 24	-66	54	2272	-156.88	0.42	-23.18
240	SLU 25	-66	54	2272	-156.88	0.42	-23.18
240	SLU 26	-66	54	2272	-156.88	0.42	-23.18
240	SLU 27	-66	54	2272	-156.88	0.42	-23.18
240	SLU 28	-66	54	2272	-156.88	0.42	-23.18
240	SLU 29	-66	54	2272	-156.88	0.42	-23.18
240	SLU 30	-66	54	2272	-156.88	0.42	-23.18
240	SLU 31	-77	67	2646	-168.68	0.49	-27.08
240	SLU 32	-77	67	2646	-168.68	0.49	-27.08
240	SLU 33	-77	67	2646	-168.68	0.49	-27.08
240	SLU 34	-77	67	2646	-168.68	0.49	-27.08
240	SLU 35	-77	67	2646	-168.68	0.49	-27.08
240	SLU 36	-77	67	2646	-168.68	0.49	-27.08
240	SLU 37	-77	67	2646	-168.68	0.49	-27.08
240	SLU 38	-77	67	2646	-168.68	0.49	-27.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLU 39	-82	72	2807	-173.73	0.52	-28.75
240	SLU 40	-82	72	2807	-173.73	0.52	-28.75
240	SLU 41	-82	72	2807	-173.73	0.52	-28.75
240	SLU 42	-82	72	2807	-173.73	0.52	-28.75
240	SLU 43	-72	59	2511	-192.11	0.44	-25.26
240	SLU 44	-72	59	2511	-192.11	0.44	-25.26
240	SLU 45	-72	59	2511	-192.11	0.44	-25.26
240	SLU 46	-72	59	2511	-192.11	0.44	-25.26
240	SLU 47	-72	59	2511	-192.11	0.44	-25.26
240	SLU 48	-72	59	2511	-192.11	0.44	-25.26
240	SLU 49	-72	59	2511	-192.11	0.44	-25.26
240	SLU 50	-72	59	2511	-192.11	0.44	-25.26
240	SLU 51	-72	59	2511	-192.11	0.44	-25.26
240	SLU 52	-83	71	2885	-203.9	0.51	-29.16
240	SLU 53	-83	71	2885	-203.9	0.51	-29.16
240	SLU 54	-83	71	2885	-203.9	0.51	-29.16
240	SLU 55	-83	71	2885	-203.9	0.51	-29.16
240	SLU 56	-83	71	2885	-203.9	0.51	-29.16
240	SLU 57	-83	71	2885	-203.9	0.51	-29.16
240	SLU 58	-83	71	2885	-203.9	0.51	-29.16
240	SLU 59	-83	71	2885	-203.9	0.51	-29.16
240	SLU 60	-88	77	3046	-208.96	0.55	-30.83
240	SLU 61	-88	77	3046	-208.96	0.55	-30.83
240	SLU 62	-88	77	3046	-208.96	0.55	-30.83
240	SLU 63	-88	77	3046	-208.96	0.55	-30.83
240	SLU 64	-80	66	2780	-199.31	0.5	-28.23
240	SLU 65	-80	66	2780	-199.31	0.5	-28.23
240	SLU 66	-80	66	2780	-199.31	0.5	-28.23
240	SLU 67	-80	66	2780	-199.31	0.5	-28.23
240	SLU 68	-80	66	2780	-199.31	0.5	-28.23
240	SLU 69	-80	66	2780	-199.31	0.5	-28.23
240	SLU 70	-80	66	2780	-199.31	0.5	-28.23
240	SLU 71	-80	66	2780	-199.31	0.5	-28.23
240	SLU 72	-80	66	2780	-199.31	0.5	-28.23
240	SLU 73	-91	78	3155	-211.11	0.58	-32.13
240	SLU 74	-91	78	3155	-211.11	0.58	-32.13
240	SLU 75	-91	78	3155	-211.11	0.58	-32.13
240	SLU 76	-91	78	3155	-211.11	0.58	-32.13
240	SLU 77	-91	78	3155	-211.11	0.58	-32.13
240	SLU 78	-91	78	3155	-211.11	0.58	-32.13
240	SLU 79	-91	78	3155	-211.11	0.58	-32.13
240	SLU 80	-91	78	3155	-211.11	0.58	-32.13
240	SLU 81	-96	84	3315	-216.17	0.61	-33.8
240	SLU 82	-96	84	3315	-216.17	0.61	-33.8
240	SLU 83	-96	84	3315	-216.17	0.61	-33.8
240	SLU 84	-96	84	3315	-216.17	0.61	-33.8
240	SLE RA 1	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 2	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 3	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 4	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 5	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 6	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 7	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 8	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 9	-60	49	2079	-151.74	0.37	-21.06
240	SLE RA 10	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 11	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 12	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 13	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 14	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 15	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 16	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 17	-67	58	2329	-159.6	0.42	-23.66
240	SLE RA 18	-71	61	2436	-162.97	0.44	-24.77
240	SLE RA 19	-71	61	2436	-162.97	0.44	-24.77
240	SLE RA 20	-71	61	2436	-162.97	0.44	-24.77
240	SLE RA 21	-71	61	2436	-162.97	0.44	-24.77
240	SLE FR 1	-60	49	2079	-151.74	0.37	-21.06
240	SLE FR 2	-60	49	2079	-151.74	0.37	-21.06
240	SLE FR 3	-60	49	2079	-151.74	0.37	-21.06
240	SLE FR 4	-63	53	2186	-155.11	0.39	-22.18
240	SLE FR 5	-63	53	2186	-155.11	0.39	-22.18
240	SLE FR 6	-65	55	2258	-157.35	0.41	-22.92
240	SLE QP 1	-60	49	2079	-151.74	0.37	-21.06
240	SLE QP 2	-63	53	2186	-155.11	0.39	-22.18
240	SLD 1	186	113	2209	-157.57	0.96	63.33
240	SLD 2	144	104	2209	-157.73	0.96	48.99
240	SLD 3	229	63	2371	-165.41	1.26	78.31
240	SLD 4	187	54	2372	-165.57	1.26	63.97
240	SLD 5	-39	149	1946	-143.9	0.11	-14.12
240	SLD 6	-82	140	1946	-144.07	0.11	-28.67
240	SLD 7	105	-17	2489	-170.02	1.11	35.82
240	SLD 8	62	-25	2489	-170.19	1.11	21.27
240	SLD 9	-189	131	1883	-140.03	-0.32	-65.62
240	SLD 10	-231	122	1884	-140.19	-0.32	-80.17
240	SLD 11	-45	-35	2426	-166.14	0.67	-15.68
240	SLD 12	-87	-44	2427	-166.31	0.68	-30.23
240	SLD 13	-313	51	2001	-144.64	-0.48	-108.32
240	SLD 14	-355	42	2001	-144.8	-0.47	-122.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLD 15	-270	1	2164	-152.48	-0.18	-93.34
240	SLD 16	-312	-8	2164	-152.64	-0.17	-107.69
240	SLV 1	502	190	2236	-159.94	1.68	171.9
240	SLV 2	407	170	2237	-160.3	1.68	139.36
240	SLV 3	600	76	2610	-179.41	2.37	206.13
240	SLV 4	505	56	2612	-179.77	2.38	173.6
240	SLV 5	-9	275	1633	-126.9	-0.27	-4.24
240	SLV 6	-106	255	1634	-127.27	-0.27	-37.27
240	SLV 7	320	-107	2881	-191.79	2.03	109.87
240	SLV 8	223	-127	2882	-192.15	2.04	76.84
240	SLV 9	-349	233	1490	-118.06	-1.25	-121.19
240	SLV 10	-446	212	1492	-118.42	-1.25	-154.22
240	SLV 11	-20	-149	2738	-182.94	1.05	-7.08
240	SLV 12	-117	-169	2740	-183.31	1.06	-40.11
240	SLV 13	-632	49	1761	-130.45	-1.59	-217.95
240	SLV 14	-727	30	1762	-130.81	-1.58	-250.49
240	SLV 15	-533	-65	2135	-149.91	-0.9	-183.72
240	SLV 16	-628	-85	2137	-150.27	-0.89	-216.25
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
241	SLU 1	-58	36	1996	-131.65	0.04	-20.48
241	SLU 2	-58	36	1996	-131.65	0.04	-20.48
241	SLU 3	-58	36	1996	-131.65	0.04	-20.48
241	SLU 4	-58	36	1996	-131.65	0.04	-20.48
241	SLU 5	-58	36	1996	-131.65	0.04	-20.48
241	SLU 6	-58	36	1996	-131.65	0.04	-20.48
241	SLU 7	-58	36	1996	-131.65	0.04	-20.48
241	SLU 8	-58	36	1996	-131.65	0.04	-20.48
241	SLU 9	-58	36	1996	-131.65	0.04	-20.48
241	SLU 10	-70	46	2370	-139.51	0.05	-24.44
241	SLU 11	-70	46	2370	-139.51	0.05	-24.44
241	SLU 12	-70	46	2370	-139.51	0.05	-24.44
241	SLU 13	-70	46	2370	-139.51	0.05	-24.44
241	SLU 14	-70	46	2370	-139.51	0.05	-24.44
241	SLU 15	-70	46	2370	-139.51	0.05	-24.44
241	SLU 16	-70	46	2370	-139.51	0.05	-24.44
241	SLU 17	-70	46	2370	-139.51	0.05	-24.44
241	SLU 18	-74	50	2530	-142.88	0.06	-26.14
241	SLU 19	-74	50	2530	-142.88	0.06	-26.14
241	SLU 20	-74	50	2530	-142.88	0.06	-26.14
241	SLU 21	-74	50	2530	-142.88	0.06	-26.14
241	SLU 22	-67	40	2265	-135.92	0.06	-23.5
241	SLU 23	-67	40	2265	-135.92	0.06	-23.5
241	SLU 24	-67	40	2265	-135.92	0.06	-23.5
241	SLU 25	-67	40	2265	-135.92	0.06	-23.5
241	SLU 26	-67	40	2265	-135.92	0.06	-23.5
241	SLU 27	-67	40	2265	-135.92	0.06	-23.5
241	SLU 28	-67	40	2265	-135.92	0.06	-23.5
241	SLU 29	-67	40	2265	-135.92	0.06	-23.5
241	SLU 30	-67	40	2265	-135.92	0.06	-23.5
241	SLU 31	-78	50	2638	-143.78	0.07	-27.47
241	SLU 32	-78	50	2638	-143.78	0.07	-27.47
241	SLU 33	-78	50	2638	-143.78	0.07	-27.47
241	SLU 34	-78	50	2638	-143.78	0.07	-27.47
241	SLU 35	-78	50	2638	-143.78	0.07	-27.47
241	SLU 36	-78	50	2638	-143.78	0.07	-27.47
241	SLU 37	-78	50	2638	-143.78	0.07	-27.47
241	SLU 38	-78	50	2638	-143.78	0.07	-27.47
241	SLU 39	-83	55	2798	-147.15	0.07	-29.16
241	SLU 40	-83	55	2798	-147.15	0.07	-29.16
241	SLU 41	-83	55	2798	-147.15	0.07	-29.16
241	SLU 42	-83	55	2798	-147.15	0.07	-29.16
241	SLU 43	-73	45	2503	-169.68	0.05	-25.59
241	SLU 44	-73	45	2503	-169.68	0.05	-25.59
241	SLU 45	-73	45	2503	-169.68	0.05	-25.59
241	SLU 46	-73	45	2503	-169.68	0.05	-25.59
241	SLU 47	-73	45	2503	-169.68	0.05	-25.59
241	SLU 48	-73	45	2503	-169.68	0.05	-25.59
241	SLU 49	-73	45	2503	-169.68	0.05	-25.59
241	SLU 50	-73	45	2503	-169.68	0.05	-25.59
241	SLU 51	-73	45	2503	-169.68	0.05	-25.59
241	SLU 52	-84	55	2877	-177.54	0.06	-29.55
241	SLU 53	-84	55	2877	-177.54	0.06	-29.55
241	SLU 54	-84	55	2877	-177.54	0.06	-29.55
241	SLU 55	-84	55	2877	-177.54	0.06	-29.55
241	SLU 56	-84	55	2877	-177.54	0.06	-29.55
241	SLU 57	-84	55	2877	-177.54	0.06	-29.55
241	SLU 58	-84	55	2877	-177.54	0.06	-29.55
241	SLU 59	-84	55	2877	-177.54	0.06	-29.55
241	SLU 60	-89	59	3037	-180.91	0.06	-31.25
241	SLU 61	-89	59	3037	-180.91	0.06	-31.25
241	SLU 62	-89	59	3037	-180.91	0.06	-31.25
241	SLU 63	-89	59	3037	-180.91	0.06	-31.25
241	SLU 64	-82	49	2772	-173.95	0.07	-28.61
241	SLU 65	-82	49	2772	-173.95	0.07	-28.61
241	SLU 66	-82	49	2772	-173.95	0.07	-28.61
241	SLU 67	-82	49	2772	-173.95	0.07	-28.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
241	SLU 68	-82	49	2772	-173.95	0.07	-28.61
241	SLU 69	-82	49	2772	-173.95	0.07	-28.61
241	SLU 70	-82	49	2772	-173.95	0.07	-28.61
241	SLU 71	-82	49	2772	-173.95	0.07	-28.61
241	SLU 72	-82	49	2772	-173.95	0.07	-28.61
241	SLU 73	-93	59	3145	-181.81	0.07	-32.57
241	SLU 74	-93	59	3145	-181.81	0.07	-32.57
241	SLU 75	-93	59	3145	-181.81	0.07	-32.57
241	SLU 76	-93	59	3145	-181.81	0.07	-32.57
241	SLU 77	-93	59	3145	-181.81	0.07	-32.57
241	SLU 78	-93	59	3145	-181.81	0.07	-32.57
241	SLU 79	-93	59	3145	-181.81	0.07	-32.57
241	SLU 80	-93	59	3145	-181.81	0.07	-32.57
241	SLU 81	-98	64	3305	-185.18	0.08	-34.27
241	SLU 82	-98	64	3305	-185.18	0.08	-34.27
241	SLU 83	-98	64	3305	-185.18	0.08	-34.27
241	SLU 84	-98	64	3305	-185.18	0.08	-34.27
241	SLE RA 1	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 2	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 3	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 4	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 5	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 6	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 7	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 8	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 9	-61	37	2073	-132.87	0.05	-21.34
241	SLE RA 10	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 11	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 12	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 13	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 14	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 15	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 16	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 17	-68	44	2322	-138.11	0.05	-23.99
241	SLE RA 18	-72	46	2429	-140.36	0.06	-25.12
241	SLE RA 19	-72	46	2429	-140.36	0.06	-25.12
241	SLE RA 20	-72	46	2429	-140.36	0.06	-25.12
241	SLE RA 21	-72	46	2429	-140.36	0.06	-25.12
241	SLE FR 1	-61	37	2073	-132.87	0.05	-21.34
241	SLE FR 2	-61	37	2073	-132.87	0.05	-21.34
241	SLE FR 3	-61	37	2073	-132.87	0.05	-21.34
241	SLE FR 4	-64	40	2180	-135.12	0.05	-22.48
241	SLE FR 5	-64	40	2180	-135.12	0.05	-22.48
241	SLE FR 6	-66	42	2251	-136.61	0.05	-23.23
241	SLE QP 1	-61	37	2073	-132.87	0.05	-21.34
241	SLE QP 2	-64	40	2180	-135.12	0.05	-22.48
241	SLD 1	185	93	2189	-136.36	0.59	63.1
241	SLD 2	143	87	2190	-136.54	0.59	48.75
241	SLD 3	228	48	2344	-144.27	0.83	78.1
241	SLD 4	186	42	2345	-144.45	0.83	63.75
241	SLD 5	-40	125	1947	-123.44	-0.15	-14.42
241	SLD 6	-83	119	1948	-123.61	-0.15	-28.99
241	SLD 7	104	-23	2464	-149.79	0.64	35.58
241	SLD 8	62	-29	2465	-149.97	0.65	21.01
241	SLD 9	-190	109	1895	-120.26	-0.55	-65.96
241	SLD 10	-232	103	1895	-120.44	-0.55	-80.53
241	SLD 11	-45	-40	2412	-146.62	0.25	-15.96
241	SLD 12	-88	-46	2413	-146.8	0.25	-30.53
241	SLD 13	-314	37	2015	-125.79	-0.73	-108.7
241	SLD 14	-356	31	2015	-125.96	-0.73	-123.05
241	SLD 15	-271	-7	2170	-133.69	-0.49	-93.7
241	SLD 16	-313	-13	2171	-133.87	-0.49	-108.05
241	SLV 1	501	161	2200	-137.11	1.28	171.76
241	SLV 2	406	148	2201	-137.5	1.28	139.19
241	SLV 3	600	58	2557	-156.84	1.83	206.04
241	SLV 4	505	45	2558	-157.24	1.83	173.47
241	SLV 5	-11	237	1645	-105.64	-0.41	-4.54
241	SLV 6	-107	223	1646	-106.05	-0.41	-37.61
241	SLV 7	319	-106	2833	-171.42	1.42	109.71
241	SLV 8	223	-120	2835	-171.83	1.42	76.64
241	SLV 9	-351	199	1525	-98.41	-1.32	-121.6
241	SLV 10	-448	185	1526	-98.81	-1.32	-154.66
241	SLV 11	-21	-144	2714	-164.19	0.51	-7.34
241	SLV 12	-118	-158	2715	-164.59	0.51	-40.41
241	SLV 13	-633	35	1802	-112.99	-1.73	-218.42
241	SLV 14	-728	21	1803	-113.39	-1.73	-250.99
241	SLV 15	-534	-68	2158	-132.73	-1.18	-184.14
241	SLV 16	-629	-82	2160	-133.13	-1.18	-216.71
241	CRTFP Ux+	0	0	0	0	0	0
241	CRTFP Ux-	0	0	0	0	0	0
241	CRTFP Uy+	0	0	0	0	0	0
241	CRTFP Uy-	0	0	0	0	0	0
242	SLU 1	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 2	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 3	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 4	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 5	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 6	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 7	-59	25	1998	-120.06	-0.17	-20.76



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
242	SLU 8	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 9	-59	25	1998	-120.06	-0.17	-20.76
242	SLU 10	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 11	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 12	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 13	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 14	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 15	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 16	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 17	-71	32	2372	-125.39	-0.2	-24.8
242	SLU 18	-76	35	2532	-127.67	-0.22	-26.53
242	SLU 19	-76	35	2532	-127.67	-0.22	-26.53
242	SLU 20	-76	35	2532	-127.67	-0.22	-26.53
242	SLU 21	-76	35	2532	-127.67	-0.22	-26.53
242	SLU 22	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 23	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 24	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 25	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 26	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 27	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 28	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 29	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 30	-68	27	2267	-122.46	-0.19	-23.85
242	SLU 31	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 32	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 33	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 34	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 35	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 36	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 37	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 38	-80	35	2641	-127.78	-0.22	-27.88
242	SLU 39	-84	38	2801	-130.07	-0.24	-29.61
242	SLU 40	-84	38	2801	-130.07	-0.24	-29.61
242	SLU 41	-84	38	2801	-130.07	-0.24	-29.61
242	SLU 42	-84	38	2801	-130.07	-0.24	-29.61
242	SLU 43	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 44	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 45	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 46	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 47	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 48	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 49	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 50	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 51	-74	31	2506	-155.26	-0.21	-25.93
242	SLU 52	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 53	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 54	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 55	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 56	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 57	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 58	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 59	-86	38	2880	-160.58	-0.25	-29.97
242	SLU 60	-90	41	3040	-162.87	-0.26	-31.7
242	SLU 61	-90	41	3040	-162.87	-0.26	-31.7
242	SLU 62	-90	41	3040	-162.87	-0.26	-31.7
242	SLU 63	-90	41	3040	-162.87	-0.26	-31.7
242	SLU 64	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 65	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 66	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 67	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 68	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 69	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 70	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 71	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 72	-83	34	2775	-157.65	-0.23	-29.02
242	SLU 73	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 74	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 75	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 76	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 77	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 78	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 79	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 80	-94	41	3148	-162.98	-0.26	-33.05
242	SLU 81	-99	44	3308	-165.26	-0.28	-34.78
242	SLU 82	-99	44	3308	-165.26	-0.28	-34.78
242	SLU 83	-99	44	3308	-165.26	-0.28	-34.78
242	SLU 84	-99	44	3308	-165.26	-0.28	-34.78
242	SLE RA 1	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 2	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 3	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 4	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 5	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 6	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 7	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 8	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 9	-62	25	2075	-120.75	-0.17	-21.64
242	SLE RA 10	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 11	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 12	-69	30	2324	-124.3	-0.2	-24.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
242	SLE RA 13	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 14	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 15	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 16	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 17	-69	30	2324	-124.3	-0.2	-24.33
242	SLE RA 18	-73	32	2431	-125.82	-0.21	-25.49
242	SLE RA 19	-73	32	2431	-125.82	-0.21	-25.49
242	SLE RA 20	-73	32	2431	-125.82	-0.21	-25.49
242	SLE RA 21	-73	32	2431	-125.82	-0.21	-25.49
242	SLE FR 1	-62	25	2075	-120.75	-0.17	-21.64
242	SLE FR 2	-62	25	2075	-120.75	-0.17	-21.64
242	SLE FR 3	-62	25	2075	-120.75	-0.17	-21.64
242	SLE FR 4	-65	28	2182	-122.27	-0.18	-22.8
242	SLE FR 5	-65	28	2182	-122.27	-0.18	-22.8
242	SLE FR 6	-67	29	2253	-123.28	-0.19	-23.57
242	SLE QP 1	-62	25	2075	-120.75	-0.17	-21.64
242	SLE QP 2	-65	28	2182	-122.27	-0.18	-22.8
242	SLD 1	184	76	2181	-123.18	0.35	62.84
242	SLD 2	142	72	2181	-123.33	0.35	48.47
242	SLD 3	227	34	2330	-131.58	0.54	77.85
242	SLD 4	185	31	2331	-131.74	0.54	63.48
242	SLD 5	-41	106	1955	-109.73	-0.31	-14.74
242	SLD 6	-84	102	1956	-109.89	-0.31	-29.32
242	SLD 7	104	-32	2453	-137.76	0.32	35.3
242	SLD 8	61	-35	2453	-137.91	0.32	20.72
242	SLD 9	-191	90	1911	-106.62	-0.69	-66.31
242	SLD 10	-234	87	1911	-106.78	-0.69	-80.89
242	SLD 11	-46	-47	2408	-134.64	-0.06	-16.27
242	SLD 12	-89	-51	2409	-134.8	-0.06	-30.85
242	SLD 13	-316	24	2033	-112.8	-0.91	-109.07
242	SLD 14	-358	21	2034	-112.95	-0.91	-123.44
242	SLD 15	-272	-17	2183	-121.2	-0.72	-94.06
242	SLD 16	-314	-21	2183	-121.36	-0.72	-108.43
242	SLV 1	500	138	2179	-123.49	1.03	171.56
242	SLV 2	405	130	2180	-123.84	1.03	138.97
242	SLV 3	599	42	2521	-144.34	1.46	205.87
242	SLV 4	504	34	2523	-144.7	1.46	173.27
242	SLV 5	-12	208	1661	-90.88	-0.48	-4.86
242	SLV 6	-109	200	1662	-91.24	-0.48	-37.95
242	SLV 7	319	-110	2803	-160.39	0.97	109.48
242	SLV 8	222	-118	2805	-160.75	0.97	76.4
242	SLV 9	-352	173	1559	-83.78	-1.34	-121.99
242	SLV 10	-449	165	1561	-84.14	-1.34	-155.08
242	SLV 11	-21	-145	2702	-153.3	0.12	-7.64
242	SLV 12	-118	-153	2703	-153.66	0.12	-40.73
242	SLV 13	-634	21	1841	-99.84	-1.83	-218.87
242	SLV 14	-730	13	1843	-100.19	-1.83	-251.46
242	SLV 15	-535	-75	2184	-120.69	-1.39	-184.56
242	SLV 16	-630	-83	2185	-121.05	-1.39	-217.16
242	CRTFP Ux+	0	0	0	0	0	0
242	CRTFP Ux-	0	0	0	0	0	0
242	CRTFP Uy+	0	0	0	0	0	0
242	CRTFP Uy-	0	0	0	0	0	0
243	SLU 1	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 2	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 3	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 4	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 5	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 6	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 7	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 8	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 9	-60	14	2006	-113.46	-0.31	-21.06
243	SLU 10	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 11	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 12	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 13	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 14	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 15	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 16	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 17	-72	19	2381	-117.35	-0.37	-25.17
243	SLU 18	-77	21	2542	-119.02	-0.4	-26.93
243	SLU 19	-77	21	2542	-119.02	-0.4	-26.93
243	SLU 20	-77	21	2542	-119.02	-0.4	-26.93
243	SLU 21	-77	21	2542	-119.02	-0.4	-26.93
243	SLU 22	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 23	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 24	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 25	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 26	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 27	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 28	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 29	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 30	-69	15	2275	-114.8	-0.35	-24.21
243	SLU 31	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 32	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 33	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 34	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 35	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 36	-81	20	2651	-118.69	-0.41	-28.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLU 37	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 38	-81	20	2651	-118.69	-0.41	-28.32
243	SLU 39	-86	22	2811	-120.36	-0.44	-30.09
243	SLU 40	-86	22	2811	-120.36	-0.44	-30.09
243	SLU 41	-86	22	2811	-120.36	-0.44	-30.09
243	SLU 42	-86	22	2811	-120.36	-0.44	-30.09
243	SLU 43	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 44	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 45	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 46	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 47	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 48	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 49	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 50	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 51	-75	18	2515	-147.05	-0.39	-26.29
243	SLU 52	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 53	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 54	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 55	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 56	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 57	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 58	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 59	-87	23	2891	-150.94	-0.46	-30.4
243	SLU 60	-92	25	3051	-152.6	-0.48	-32.17
243	SLU 61	-92	25	3051	-152.6	-0.48	-32.17
243	SLU 62	-92	25	3051	-152.6	-0.48	-32.17
243	SLU 63	-92	25	3051	-152.6	-0.48	-32.17
243	SLU 64	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 65	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 66	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 67	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 68	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 69	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 70	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 71	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 72	-84	19	2785	-148.38	-0.43	-29.45
243	SLU 73	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 74	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 75	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 76	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 77	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 78	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 79	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 80	-96	24	3160	-152.27	-0.49	-33.56
243	SLU 81	-101	26	3321	-153.94	-0.52	-35.32
243	SLU 82	-101	26	3321	-153.94	-0.52	-35.32
243	SLU 83	-101	26	3321	-153.94	-0.52	-35.32
243	SLU 84	-101	26	3321	-153.94	-0.52	-35.32
243	SLE RA 1	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 2	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 3	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 4	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 5	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 6	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 7	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 8	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 9	-63	15	2083	-113.85	-0.32	-21.96
243	SLE RA 10	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 11	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 12	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 13	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 14	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 15	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 16	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 17	-71	18	2333	-116.44	-0.36	-24.7
243	SLE RA 18	-74	19	2440	-117.55	-0.38	-25.87
243	SLE RA 19	-74	19	2440	-117.55	-0.38	-25.87
243	SLE RA 20	-74	19	2440	-117.55	-0.38	-25.87
243	SLE RA 21	-74	19	2440	-117.55	-0.38	-25.87
243	SLE FR 1	-63	15	2083	-113.85	-0.32	-21.96
243	SLE FR 2	-63	15	2083	-113.85	-0.32	-21.96
243	SLE FR 3	-63	15	2083	-113.85	-0.32	-21.96
243	SLE FR 4	-66	16	2190	-114.96	-0.34	-23.13
243	SLE FR 5	-66	16	2190	-114.96	-0.34	-23.13
243	SLE FR 6	-68	17	2262	-115.7	-0.35	-23.92
243	SLE QP 1	-63	15	2083	-113.85	-0.32	-21.96
243	SLE QP 2	-66	16	2190	-114.96	-0.34	-23.13
243	SLD 1	183	61	2182	-115.78	0.19	62.53
243	SLD 2	141	60	2182	-115.9	0.19	48.16
243	SLD 3	226	21	2327	-124.62	0.35	77.56
243	SLD 4	184	20	2327	-124.74	0.34	63.18
243	SLD 5	-43	90	1968	-101.76	-0.41	-15.08
243	SLD 6	-85	89	1969	-101.88	-0.41	-29.67
243	SLD 7	103	-42	2450	-131.21	0.1	35
243	SLD 8	60	-43	2451	-131.34	0.09	20.41
243	SLD 9	-192	75	1929	-98.57	-0.78	-66.68
243	SLD 10	-235	74	1930	-98.7	-0.78	-81.26
243	SLD 11	-47	-57	2412	-128.03	-0.27	-16.6
243	SLD 12	-90	-58	2412	-128.16	-0.27	-31.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLD 13	-317	11	2053	-105.17	-1.03	-109.45
243	SLD 14	-359	10	2054	-105.3	-1.03	-123.82
243	SLD 15	-273	-28	2198	-114.01	-0.87	-94.43
243	SLD 16	-315	-29	2198	-114.14	-0.88	-108.8
243	SLV 1	499	120	2171	-115.99	0.87	171.3
243	SLV 2	404	117	2172	-116.27	0.87	138.7
243	SLV 3	599	28	2503	-137.79	1.22	205.63
243	SLV 4	503	25	2504	-138.07	1.22	173.03
243	SLV 5	-14	188	1680	-82.11	-0.5	-5.21
243	SLV 6	-110	185	1681	-82.39	-0.51	-38.31
243	SLV 7	318	-120	2788	-154.76	0.66	109.23
243	SLV 8	222	-122	2789	-155.05	0.65	76.12
243	SLV 9	-354	154	1591	-74.86	-1.34	-122.39
243	SLV 10	-451	151	1593	-75.15	-1.34	-155.49
243	SLV 11	-22	-154	2699	-147.52	-0.17	-7.95
243	SLV 12	-119	-156	2701	-147.81	-0.18	-41.06
243	SLV 13	-636	7	1876	-91.84	-1.9	-219.29
243	SLV 14	-731	4	1877	-92.13	-1.9	-251.9
243	SLV 15	-536	-86	2208	-113.64	-1.55	-184.96
243	SLV 16	-631	-88	2210	-113.92	-1.55	-217.57
243	CRTFP Ux+	0	0	0	0	0	0
243	CRTFP Ux-	0	0	0	0	0	0
243	CRTFP Uy+	0	0	0	0	0	0
243	CRTFP Uy-	0	0	0	0	0	0
244	SLU 1	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 2	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 3	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 4	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 5	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 6	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 7	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 8	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 9	-61	5	2017	-110.73	-0.42	-21.36
244	SLU 10	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 11	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 12	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 13	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 14	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 15	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 16	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 17	-73	7	2395	-114.02	-0.51	-25.55
244	SLU 18	-78	8	2556	-115.42	-0.54	-27.35
244	SLU 19	-78	8	2556	-115.42	-0.54	-27.35
244	SLU 20	-78	8	2556	-115.42	-0.54	-27.35
244	SLU 21	-78	8	2556	-115.42	-0.54	-27.35
244	SLU 22	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 23	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 24	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 25	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 26	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 27	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 28	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 29	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 30	-70	4	2288	-111.63	-0.47	-24.58
244	SLU 31	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 32	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 33	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 34	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 35	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 36	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 37	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 38	-82	6	2665	-114.91	-0.56	-28.77
244	SLU 39	-87	7	2827	-116.31	-0.59	-30.57
244	SLU 40	-87	7	2827	-116.31	-0.59	-30.57
244	SLU 41	-87	7	2827	-116.31	-0.59	-30.57
244	SLU 42	-87	7	2827	-116.31	-0.59	-30.57
244	SLU 43	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 44	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 45	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 46	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 47	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 48	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 49	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 50	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 51	-76	6	2529	-143.65	-0.53	-26.66
244	SLU 52	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 53	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 54	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 55	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 56	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 57	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 58	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 59	-88	9	2907	-146.93	-0.62	-30.85
244	SLU 60	-93	10	3069	-148.34	-0.65	-32.65
244	SLU 61	-93	10	3069	-148.34	-0.65	-32.65
244	SLU 62	-93	10	3069	-148.34	-0.65	-32.65
244	SLU 63	-93	10	3069	-148.34	-0.65	-32.65
244	SLU 64	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 65	-86	6	2800	-144.54	-0.58	-29.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLU 66	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 67	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 68	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 69	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 70	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 71	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 72	-86	6	2800	-144.54	-0.58	-29.88
244	SLU 73	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 74	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 75	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 76	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 77	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 78	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 79	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 80	-98	8	3178	-147.82	-0.67	-34.08
244	SLU 81	-103	9	3340	-149.23	-0.7	-35.87
244	SLU 82	-103	9	3340	-149.23	-0.7	-35.87
244	SLU 83	-103	9	3340	-149.23	-0.7	-35.87
244	SLU 84	-103	9	3340	-149.23	-0.7	-35.87
244	SLE RA 1	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 2	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 3	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 4	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 5	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 6	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 7	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 8	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 9	-64	4	2095	-110.99	-0.44	-22.28
244	SLE RA 10	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 11	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 12	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 13	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 14	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 15	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 16	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 17	-72	6	2346	-113.18	-0.49	-25.07
244	SLE RA 18	-75	7	2454	-114.11	-0.52	-26.27
244	SLE RA 19	-75	7	2454	-114.11	-0.52	-26.27
244	SLE RA 20	-75	7	2454	-114.11	-0.52	-26.27
244	SLE RA 21	-75	7	2454	-114.11	-0.52	-26.27
244	SLE FR 1	-64	4	2095	-110.99	-0.44	-22.28
244	SLE FR 2	-64	4	2095	-110.99	-0.44	-22.28
244	SLE FR 3	-64	4	2095	-110.99	-0.44	-22.28
244	SLE FR 4	-67	5	2202	-111.93	-0.46	-23.48
244	SLE FR 5	-67	5	2202	-111.93	-0.46	-23.48
244	SLE FR 6	-69	6	2274	-112.55	-0.48	-24.28
244	SLE QP 1	-64	4	2095	-110.99	-0.44	-22.28
244	SLE QP 2	-67	5	2202	-111.93	-0.46	-23.48
244	SLD 1	182	50	2192	-112.75	0.08	62.21
244	SLD 2	140	51	2192	-112.84	0.08	47.83
244	SLD 3	225	10	2333	-121.79	0.21	77.24
244	SLD 4	183	11	2334	-121.88	0.2	62.86
244	SLD 5	-44	79	1985	-98.44	-0.48	-15.43
244	SLD 6	-86	80	1985	-98.53	-0.48	-30.02
244	SLD 7	102	-55	2456	-128.56	-0.07	34.67
244	SLD 8	59	-53	2456	-128.65	-0.08	20.08
244	SLD 9	-194	64	1948	-95.2	-0.85	-67.04
244	SLD 10	-236	65	1949	-95.3	-0.85	-81.63
244	SLD 11	-48	-70	2419	-125.32	-0.44	-16.94
244	SLD 12	-91	-68	2420	-125.41	-0.44	-31.52
244	SLD 13	-318	-1	2071	-101.97	-1.13	-109.82
244	SLD 14	-360	1	2072	-102.06	-1.13	-124.19
244	SLD 15	-274	-41	2212	-111.01	-1.01	-94.78
244	SLD 16	-316	-39	2213	-111.1	-1.01	-109.16
244	SLV 1	498	107	2177	-112.99	0.78	171
244	SLV 2	402	110	2179	-113.19	0.77	138.38
244	SLV 3	598	14	2502	-135.21	1.06	205.34
244	SLV 4	502	17	2504	-135.41	1.05	172.73
244	SLV 5	-15	175	1702	-78.47	-0.51	-5.57
244	SLV 6	-112	178	1703	-78.67	-0.52	-38.68
244	SLV 7	318	-134	2784	-152.54	0.42	108.93
244	SLV 8	221	-131	2786	-152.75	0.42	75.82
244	SLV 9	-356	141	1619	-71.1	-1.34	-122.77
244	SLV 10	-452	144	1621	-71.31	-1.34	-155.88
244	SLV 11	-22	-168	2701	-145.18	-0.4	-8.28
244	SLV 12	-119	-165	2703	-145.39	-0.41	-41.39
244	SLV 13	-637	-7	1901	-88.44	-1.98	-219.69
244	SLV 14	-732	-4	1903	-88.64	-1.98	-252.3
244	SLV 15	-537	-100	2226	-110.66	-1.7	-185.34
244	SLV 16	-632	-97	2227	-110.87	-1.7	-217.95
244	CRTFP Ux+	0	0	0	0	0	0
244	CRTFP Ux-	0	0	0	0	0	0
244	CRTFP Uy+	0	0	0	0	0	0
244	CRTFP Uy-	0	0	0	0	0	0
245	SLU 1	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 2	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 3	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 4	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 5	-62	-4	2032	-111.62	-0.54	-21.66



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLU 6	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 7	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 8	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 9	-62	-4	2032	-111.62	-0.54	-21.66
245	SLU 10	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 11	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 12	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 13	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 14	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 15	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 16	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 17	-74	-4	2412	-115.06	-0.64	-25.93
245	SLU 18	-80	-4	2575	-116.53	-0.69	-27.76
245	SLU 19	-80	-4	2575	-116.53	-0.69	-27.76
245	SLU 20	-80	-4	2575	-116.53	-0.69	-27.76
245	SLU 21	-80	-4	2575	-116.53	-0.69	-27.76
245	SLU 22	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 23	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 24	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 25	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 26	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 27	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 28	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 29	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 30	-72	-7	2304	-112.63	-0.61	-24.95
245	SLU 31	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 32	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 33	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 34	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 35	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 36	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 37	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 38	-84	-6	2685	-116.06	-0.71	-29.23
245	SLU 39	-89	-6	2848	-117.54	-0.75	-31.06
245	SLU 40	-89	-6	2848	-117.54	-0.75	-31.06
245	SLU 41	-89	-6	2848	-117.54	-0.75	-31.06
245	SLU 42	-89	-6	2848	-117.54	-0.75	-31.06
245	SLU 43	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 44	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 45	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 46	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 47	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 48	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 49	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 50	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 51	-77	-5	2548	-144.77	-0.68	-27.03
245	SLU 52	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 53	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 54	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 55	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 56	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 57	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 58	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 59	-90	-5	2928	-148.2	-0.78	-31.3
245	SLU 60	-95	-4	3091	-149.67	-0.83	-33.13
245	SLU 61	-95	-4	3091	-149.67	-0.83	-33.13
245	SLU 62	-95	-4	3091	-149.67	-0.83	-33.13
245	SLU 63	-95	-4	3091	-149.67	-0.83	-33.13
245	SLU 64	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 65	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 66	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 67	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 68	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 69	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 70	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 71	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 72	-87	-7	2821	-145.77	-0.75	-30.32
245	SLU 73	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 74	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 75	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 76	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 77	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 78	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 79	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 80	-99	-7	3201	-149.21	-0.85	-34.6
245	SLU 81	-104	-7	3364	-150.68	-0.89	-36.43
245	SLU 82	-104	-7	3364	-150.68	-0.89	-36.43
245	SLU 83	-104	-7	3364	-150.68	-0.89	-36.43
245	SLU 84	-104	-7	3364	-150.68	-0.89	-36.43
245	SLE RA 1	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 2	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 3	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 4	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 5	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 6	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 7	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 8	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 9	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE RA 10	-73	-5	2363	-114.2	-0.63	-25.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLE RA 11	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 12	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 13	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 14	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 15	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 16	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 17	-73	-5	2363	-114.2	-0.63	-25.45
245	SLE RA 18	-76	-5	2472	-115.18	-0.66	-26.67
245	SLE RA 19	-76	-5	2472	-115.18	-0.66	-26.67
245	SLE RA 20	-76	-5	2472	-115.18	-0.66	-26.67
245	SLE RA 21	-76	-5	2472	-115.18	-0.66	-26.67
245	SLE FR 1	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE FR 2	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE FR 3	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE FR 4	-68	-5	2218	-112.89	-0.59	-23.82
245	SLE FR 5	-68	-5	2218	-112.89	-0.59	-23.82
245	SLE FR 6	-71	-5	2291	-113.55	-0.61	-24.64
245	SLE QP 1	-65	-5	2110	-111.91	-0.56	-22.6
245	SLE QP 2	-68	-5	2218	-112.89	-0.59	-23.82
245	SLD 1	181	40	2211	-113.78	-0.02	61.86
245	SLD 2	139	44	2212	-113.83	-0.02	47.48
245	SLD 3	224	-1	2350	-122.76	0.08	76.89
245	SLD 4	182	2	2351	-122.82	0.08	62.52
245	SLD 5	-45	71	2005	-99.51	-0.57	-15.79
245	SLD 6	-88	75	2006	-99.57	-0.57	-30.37
245	SLD 7	101	-69	2469	-129.46	-0.23	34.33
245	SLD 8	58	-65	2469	-129.51	-0.24	19.75
245	SLD 9	-195	55	1968	-96.27	-0.94	-67.39
245	SLD 10	-238	59	1968	-96.32	-0.94	-81.98
245	SLD 11	-49	-85	2431	-126.22	-0.6	-17.28
245	SLD 12	-91	-81	2432	-126.27	-0.61	-31.86
245	SLD 13	-319	-12	2086	-102.96	-1.25	-110.17
245	SLD 14	-361	-8	2087	-103.02	-1.26	-124.54
245	SLD 15	-275	-54	2225	-111.95	-1.15	-95.13
245	SLD 16	-317	-50	2226	-112	-1.15	-109.5
245	SLV 1	496	99	2200	-114.1	0.7	170.64
245	SLV 2	401	108	2202	-114.22	0.69	138.04
245	SLV 3	597	2	2520	-136.2	0.93	205
245	SLV 4	501	11	2521	-136.33	0.92	172.4
245	SLV 5	-17	171	1728	-79.69	-0.55	-5.94
245	SLV 6	-114	179	1729	-79.81	-0.56	-39.04
245	SLV 7	317	-153	2793	-153.37	0.22	108.6
245	SLV 8	221	-145	2794	-153.49	0.21	75.49
245	SLV 9	-357	135	1642	-72.29	-1.39	-123.14
245	SLV 10	-454	143	1644	-72.42	-1.4	-156.24
245	SLV 11	-23	-189	2707	-145.97	-0.62	-8.61
245	SLV 12	-120	-180	2709	-146.1	-0.63	-41.71
245	SLV 13	-638	-20	1916	-89.46	-2.1	-220.04
245	SLV 14	-733	-12	1917	-89.58	-2.1	-252.65
245	SLV 15	-538	-118	2235	-111.56	-1.87	-185.68
245	SLV 16	-633	-109	2237	-111.68	-1.87	-218.29
245	CRTFP Ux+	0	0	0	0	0	0
245	CRTFP Ux-	0	0	0	0	0	0
245	CRTFP Uy+	0	0	0	0	0	0
245	CRTFP Uy-	0	0	0	0	0	0
246	SLU 1	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 2	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 3	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 4	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 5	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 6	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 7	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 8	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 9	-63	-13	2051	-116.64	-0.7	-21.96
246	SLU 10	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 11	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 12	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 13	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 14	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 15	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 16	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 17	-75	-14	2435	-121.1	-0.84	-26.31
246	SLU 18	-81	-15	2599	-123.01	-0.89	-28.17
246	SLU 19	-81	-15	2599	-123.01	-0.89	-28.17
246	SLU 20	-81	-15	2599	-123.01	-0.89	-28.17
246	SLU 21	-81	-15	2599	-123.01	-0.89	-28.17
246	SLU 22	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 23	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 24	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 25	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 26	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 27	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 28	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 29	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 30	-73	-16	2326	-118.39	-0.79	-25.32
246	SLU 31	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 32	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 33	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 34	-85	-18	2710	-122.85	-0.92	-29.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLU 35	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 36	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 37	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 38	-85	-18	2710	-122.85	-0.92	-29.67
246	SLU 39	-90	-19	2874	-124.76	-0.98	-31.53
246	SLU 40	-90	-19	2874	-124.76	-0.98	-31.53
246	SLU 41	-90	-19	2874	-124.76	-0.98	-31.53
246	SLU 42	-90	-19	2874	-124.76	-0.98	-31.53
246	SLU 43	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 44	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 45	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 46	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 47	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 48	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 49	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 50	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 51	-79	-15	2572	-151.03	-0.88	-27.4
246	SLU 52	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 53	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 54	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 55	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 56	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 57	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 58	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 59	-91	-17	2956	-155.49	-1.02	-31.75
246	SLU 60	-96	-18	3120	-157.4	-1.07	-33.61
246	SLU 61	-96	-18	3120	-157.4	-1.07	-33.61
246	SLU 62	-96	-18	3120	-157.4	-1.07	-33.61
246	SLU 63	-96	-18	3120	-157.4	-1.07	-33.61
246	SLU 64	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 65	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 66	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 67	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 68	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 69	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 70	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 71	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 72	-88	-19	2847	-152.78	-0.97	-30.76
246	SLU 73	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 74	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 75	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 76	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 77	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 78	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 79	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 80	-101	-21	3230	-157.24	-1.1	-35.11
246	SLU 81	-106	-21	3395	-159.15	-1.16	-36.97
246	SLU 82	-106	-21	3395	-159.15	-1.16	-36.97
246	SLU 83	-106	-21	3395	-159.15	-1.16	-36.97
246	SLU 84	-106	-21	3395	-159.15	-1.16	-36.97
246	SLE RA 1	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 2	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 3	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 4	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 5	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 6	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 7	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 8	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 9	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE RA 10	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 11	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 12	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 13	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 14	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 15	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 16	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 17	-74	-15	2385	-120.11	-0.82	-25.82
246	SLE RA 18	-78	-15	2495	-121.39	-0.85	-27.06
246	SLE RA 19	-78	-15	2495	-121.39	-0.85	-27.06
246	SLE RA 20	-78	-15	2495	-121.39	-0.85	-27.06
246	SLE RA 21	-78	-15	2495	-121.39	-0.85	-27.06
246	SLE FR 1	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE FR 2	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE FR 3	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE FR 4	-69	-14	2239	-118.41	-0.76	-24.16
246	SLE FR 5	-69	-14	2239	-118.41	-0.76	-24.16
246	SLE FR 6	-72	-15	2312	-119.26	-0.79	-24.99
246	SLE QP 1	-66	-14	2129	-117.14	-0.73	-22.92
246	SLE QP 2	-69	-14	2239	-118.41	-0.76	-24.16
246	SLD 1	179	34	2100	-119.32	-0.08	61.49
246	SLD 2	137	40	2100	-119.33	-0.08	47.12
246	SLD 3	223	-12	2237	-127.98	-0.17	76.53
246	SLD 4	181	-6	2238	-128	-0.17	62.17
246	SLD 5	-46	67	1988	-105.54	-0.42	-16.15
246	SLD 6	-89	74	1988	-105.55	-0.42	-30.73
246	SLD 7	100	-85	2447	-134.42	-0.72	34
246	SLD 8	58	-79	2448	-134.43	-0.73	19.42
246	SLD 9	-196	50	2030	-102.39	-0.8	-67.75
246	SLD 10	-239	57	2030	-102.41	-0.8	-82.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLD 11	-50	-102	2489	-131.28	-1.11	-17.59
246	SLD 12	-92	-96	2490	-131.29	-1.11	-32.17
246	SLD 13	-320	-23	2240	-108.83	-1.36	-110.49
246	SLD 14	-362	-17	2240	-108.85	-1.36	-124.86
246	SLD 15	-276	-69	2378	-117.5	-1.45	-95.45
246	SLD 16	-318	-62	2378	-117.51	-1.45	-109.81
246	SLV 1	495	96	1920	-119.65	0.79	170.24
246	SLV 2	400	110	1922	-119.68	0.79	137.64
246	SLV 3	596	-9	2237	-141.06	0.58	204.62
246	SLV 4	500	5	2239	-141.09	0.58	172.03
246	SLV 5	-19	174	1662	-86.31	0.02	-6.34
246	SLV 6	-115	188	1664	-86.35	0.02	-39.43
246	SLV 7	317	-178	2718	-157.66	-0.68	108.28
246	SLV 8	220	-164	2720	-157.69	-0.68	75.19
246	SLV 9	-359	135	1758	-79.14	-0.85	-123.52
246	SLV 10	-455	149	1760	-79.17	-0.85	-156.6
246	SLV 11	-23	-217	2814	-150.48	-1.55	-8.9
246	SLV 12	-120	-202	2816	-150.51	-1.55	-41.99
246	SLV 13	-639	-33	2239	-95.74	-2.11	-220.35
246	SLV 14	-734	-19	2241	-95.77	-2.11	-252.95
246	SLV 15	-538	-139	2556	-117.15	-2.32	-185.97
246	SLV 16	-634	-125	2558	-117.18	-2.32	-218.56
246	CRTFP Ux+	0	0	0	0	0	0
246	CRTFP Ux-	0	0	0	0	0	0
246	CRTFP Uy+	0	0	0	0	0	0
246	CRTFP Uy-	0	0	0	0	0	0
247	SLU 1	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 2	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 3	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 4	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 5	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 6	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 7	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 8	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 9	-64	-21	2076	-127.42	-0.95	-22.25
247	SLU 10	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 11	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 12	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 13	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 14	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 15	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 16	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 17	-77	-24	2465	-134.14	-1.13	-26.67
247	SLU 18	-82	-26	2631	-137.02	-1.21	-28.57
247	SLU 19	-82	-26	2631	-137.02	-1.21	-28.57
247	SLU 20	-82	-26	2631	-137.02	-1.21	-28.57
247	SLU 21	-82	-26	2631	-137.02	-1.21	-28.57
247	SLU 22	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 23	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 24	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 25	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 26	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 27	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 28	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 29	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 30	-74	-25	2354	-130.81	-1.07	-25.67
247	SLU 31	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 32	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 33	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 34	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 35	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 36	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 37	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 38	-86	-29	2742	-137.53	-1.25	-30.1
247	SLU 39	-92	-31	2909	-140.42	-1.33	-31.99
247	SLU 40	-92	-31	2909	-140.42	-1.33	-31.99
247	SLU 41	-92	-31	2909	-140.42	-1.33	-31.99
247	SLU 42	-92	-31	2909	-140.42	-1.33	-31.99
247	SLU 43	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 44	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 45	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 46	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 47	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 48	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 49	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 50	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 51	-80	-25	2603	-164.49	-1.19	-27.75
247	SLU 52	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 53	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 54	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 55	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 56	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 57	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 58	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 59	-92	-29	2992	-171.21	-1.37	-32.17
247	SLU 60	-98	-30	3159	-174.09	-1.45	-34.07
247	SLU 61	-98	-30	3159	-174.09	-1.45	-34.07
247	SLU 62	-98	-30	3159	-174.09	-1.45	-34.07
247	SLU 63	-98	-30	3159	-174.09	-1.45	-34.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLU 64	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 65	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 66	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 67	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 68	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 69	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 70	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 71	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 72	-90	-30	2881	-167.88	-1.31	-31.17
247	SLU 73	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 74	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 75	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 76	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 77	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 78	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 79	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 80	-102	-34	3270	-174.6	-1.49	-35.59
247	SLU 81	-108	-35	3436	-177.48	-1.57	-37.49
247	SLU 82	-108	-35	3436	-177.48	-1.57	-37.49
247	SLU 83	-108	-35	3436	-177.48	-1.57	-37.49
247	SLU 84	-108	-35	3436	-177.48	-1.57	-37.49
247	SLE RA 1	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 2	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 3	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 4	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 5	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 6	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 7	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 8	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 9	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE RA 10	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 11	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 12	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 13	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 14	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 15	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 16	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 17	-75	-24	2414	-132.87	-1.1	-26.17
247	SLE RA 18	-79	-25	2525	-134.79	-1.16	-27.44
247	SLE RA 19	-79	-25	2525	-134.79	-1.16	-27.44
247	SLE RA 20	-79	-25	2525	-134.79	-1.16	-27.44
247	SLE RA 21	-79	-25	2525	-134.79	-1.16	-27.44
247	SLE FR 1	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE FR 2	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE FR 3	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE FR 4	-70	-23	2266	-130.31	-1.03	-24.49
247	SLE FR 5	-70	-23	2266	-130.31	-1.03	-24.49
247	SLE FR 6	-73	-24	2340	-131.59	-1.07	-25.33
247	SLE QP 1	-67	-22	2155	-128.39	-0.98	-23.22
247	SLE QP 2	-70	-23	2266	-130.31	-1.03	-24.49
247	SLD 1	178	30	2114	-121.5	-0.31	61.11
247	SLD 2	136	39	2115	-121.48	-0.3	46.76
247	SLD 3	222	-22	2252	-129.58	-0.41	76.17
247	SLD 4	180	-13	2253	-129.56	-0.41	61.81
247	SLD 5	-48	68	2011	-115.43	-0.66	-16.51
247	SLD 6	-90	77	2012	-115.4	-0.66	-31.07
247	SLD 7	99	-104	2471	-142.35	-1	33.67
247	SLD 8	57	-95	2472	-142.33	-1	19.1
247	SLD 9	-197	49	2061	-118.3	-1.07	-68.08
247	SLD 10	-240	58	2061	-118.27	-1.07	-82.64
247	SLD 11	-50	-123	2521	-145.22	-1.41	-17.9
247	SLD 12	-93	-114	2521	-145.2	-1.4	-32.47
247	SLD 13	-321	-33	2279	-131.07	-1.66	-110.78
247	SLD 14	-363	-24	2280	-131.04	-1.66	-125.14
247	SLD 15	-277	-85	2418	-139.15	-1.76	-95.73
247	SLD 16	-319	-76	2418	-139.12	-1.76	-110.09
247	SLV 1	493	98	1919	-109.36	0.62	169.8
247	SLV 2	398	118	1921	-109.3	0.62	137.23
247	SLV 3	594	-21	2236	-129.48	0.39	204.2
247	SLV 4	499	0	2238	-129.42	0.39	171.63
247	SLV 5	-20	185	1681	-93.54	-0.18	-6.73
247	SLV 6	-117	206	1682	-93.48	-0.18	-39.79
247	SLV 7	316	-209	2737	-160.59	-0.96	107.94
247	SLV 8	219	-188	2739	-160.53	-0.96	74.87
247	SLV 9	-360	142	1793	-100.09	-1.11	-123.85
247	SLV 10	-457	163	1795	-100.03	-1.11	-156.92
247	SLV 11	-24	-252	2850	-167.14	-1.89	-9.18
247	SLV 12	-121	-231	2852	-167.08	-1.88	-42.25
247	SLV 13	-640	-46	2295	-131.2	-2.46	-220.61
247	SLV 14	-735	-25	2297	-131.15	-2.46	-253.18
247	SLV 15	-539	-164	2612	-151.32	-2.69	-186.2
247	SLV 16	-634	-144	2614	-151.26	-2.69	-218.78
247	CRTFP Ux+	0	0	0	0	0	0
247	CRTFP Ux-	0	0	0	0	0	0
247	CRTFP Uy+	0	0	0	0	0	0
247	CRTFP Uy-	0	0	0	0	0	0
248	SLU 1	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 2	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 3	-65	-28	2110	-146.16	-1.32	-22.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLU 4	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 5	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 6	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 7	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 8	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 9	-65	-28	2110	-146.16	-1.32	-22.51
248	SLU 10	-78	-33	2506	-156.86	-1.58	-27
248	SLU 11	-78	-33	2506	-156.86	-1.58	-27
248	SLU 12	-78	-33	2506	-156.86	-1.58	-27
248	SLU 13	-78	-33	2506	-156.86	-1.58	-27
248	SLU 14	-78	-33	2506	-156.86	-1.58	-27
248	SLU 15	-78	-33	2506	-156.86	-1.58	-27
248	SLU 16	-78	-33	2506	-156.86	-1.58	-27
248	SLU 17	-78	-33	2506	-156.86	-1.58	-27
248	SLU 18	-83	-36	2675	-161.44	-1.69	-28.93
248	SLU 19	-83	-36	2675	-161.44	-1.69	-28.93
248	SLU 20	-83	-36	2675	-161.44	-1.69	-28.93
248	SLU 21	-83	-36	2675	-161.44	-1.69	-28.93
248	SLU 22	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 23	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 24	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 25	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 26	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 27	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 28	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 29	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 30	-75	-34	2392	-152.43	-1.49	-25.99
248	SLU 31	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 32	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 33	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 34	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 35	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 36	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 37	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 38	-88	-39	2788	-163.13	-1.75	-30.49
248	SLU 39	-93	-42	2958	-167.72	-1.87	-32.41
248	SLU 40	-93	-42	2958	-167.72	-1.87	-32.41
248	SLU 41	-93	-42	2958	-167.72	-1.87	-32.41
248	SLU 42	-93	-42	2958	-167.72	-1.87	-32.41
248	SLU 43	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 44	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 45	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 46	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 47	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 48	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 49	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 50	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 51	-81	-34	2646	-187.86	-1.65	-28.07
248	SLU 52	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 53	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 54	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 55	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 56	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 57	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 58	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 59	-94	-40	3042	-198.55	-1.91	-32.56
248	SLU 60	-99	-42	3211	-203.14	-2.03	-34.48
248	SLU 61	-99	-42	3211	-203.14	-2.03	-34.48
248	SLU 62	-99	-42	3211	-203.14	-2.03	-34.48
248	SLU 63	-99	-42	3211	-203.14	-2.03	-34.48
248	SLU 64	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 65	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 66	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 67	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 68	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 69	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 70	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 71	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 72	-91	-40	2929	-194.13	-1.83	-31.55
248	SLU 73	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 74	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 75	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 76	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 77	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 78	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 79	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 80	-104	-46	3324	-204.83	-2.09	-36.04
248	SLU 81	-109	-48	3494	-209.41	-2.2	-37.97
248	SLU 82	-109	-48	3494	-209.41	-2.2	-37.97
248	SLU 83	-109	-48	3494	-209.41	-2.2	-37.97
248	SLU 84	-109	-48	3494	-209.41	-2.2	-37.97
248	SLE RA 1	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 2	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 3	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 4	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 5	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 6	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 7	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 8	-68	-30	2191	-147.95	-1.37	-23.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLE RA 9	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE RA 10	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 11	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 12	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 13	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 14	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 15	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 16	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 17	-76	-33	2454	-155.08	-1.54	-26.5
248	SLE RA 18	-80	-35	2567	-158.14	-1.62	-27.78
248	SLE RA 19	-80	-35	2567	-158.14	-1.62	-27.78
248	SLE RA 20	-80	-35	2567	-158.14	-1.62	-27.78
248	SLE RA 21	-80	-35	2567	-158.14	-1.62	-27.78
248	SLE FR 1	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE FR 2	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE FR 3	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE FR 4	-71	-31	2304	-151.01	-1.44	-24.79
248	SLE FR 5	-71	-31	2304	-151.01	-1.44	-24.79
248	SLE FR 6	-74	-32	2379	-153.05	-1.49	-25.64
248	SLE QP 1	-68	-30	2191	-147.95	-1.37	-23.5
248	SLE QP 2	-71	-31	2304	-151.01	-1.44	-24.79
248	SLD 1	177	28	2134	-142.77	-0.64	60.74
248	SLD 2	135	40	2135	-142.72	-0.64	46.39
248	SLD 3	221	-31	2274	-150.1	-0.77	75.8
248	SLD 4	179	-19	2274	-150.05	-0.77	61.46
248	SLD 5	-49	72	2041	-137.44	-1.01	-16.85
248	SLD 6	-92	84	2042	-137.39	-1	-31.4
248	SLD 7	99	-125	2506	-161.87	-1.44	33.36
248	SLD 8	56	-113	2507	-161.82	-1.43	18.81
248	SLD 9	-199	51	2101	-140.19	-1.45	-68.38
248	SLD 10	-241	63	2101	-140.15	-1.45	-82.94
248	SLD 11	-51	-146	2566	-164.63	-1.88	-18.17
248	SLD 12	-94	-134	2566	-164.58	-1.88	-32.72
248	SLD 13	-322	-43	2333	-151.96	-2.12	-111.03
248	SLD 14	-364	-31	2334	-151.91	-2.11	-125.38
248	SLD 15	-277	-102	2473	-159.29	-2.25	-95.97
248	SLD 16	-319	-90	2473	-159.25	-2.24	-110.31
248	SLV 1	492	104	1917	-131.34	0.38	169.32
248	SLV 2	397	131	1918	-131.23	0.39	136.78
248	SLV 3	593	-32	2237	-149.79	0.08	203.75
248	SLV 4	498	-5	2239	-149.69	0.09	171.21
248	SLV 5	-22	205	1701	-117.16	-0.44	-7.14
248	SLV 6	-118	233	1703	-117.05	-0.43	-40.17
248	SLV 7	316	-247	2769	-178.67	-1.45	107.63
248	SLV 8	219	-219	2771	-178.56	-1.44	74.6
248	SLV 9	-361	157	1837	-123.46	-1.44	-124.17
248	SLV 10	-458	185	1838	-123.35	-1.44	-157.21
248	SLV 11	-24	-295	2905	-184.97	-2.45	-9.4
248	SLV 12	-121	-268	2906	-184.86	-2.45	-42.44
248	SLV 13	-640	-57	2369	-152.33	-2.97	-220.79
248	SLV 14	-736	-30	2370	-152.22	-2.96	-253.33
248	SLV 15	-539	-193	2689	-170.78	-3.27	-186.36
248	SLV 16	-634	-166	2691	-170.68	-3.26	-218.9
248	CRTFP Ux+	0	0	0	0	0	0
248	CRTFP Ux-	0	0	0	0	0	0
248	CRTFP Uy+	0	0	0	0	0	0
248	CRTFP Uy-	0	0	0	0	0	0
249	SLU 1	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 2	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 3	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 4	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 5	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 6	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 7	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 8	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 9	-65	-35	2158	-175.71	-1.85	-22.74
249	SLU 10	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 11	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 12	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 13	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 14	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 15	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 16	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 17	-78	-42	2563	-192.71	-2.23	-27.29
249	SLU 18	-84	-45	2737	-199.99	-2.39	-29.24
249	SLU 19	-84	-45	2737	-199.99	-2.39	-29.24
249	SLU 20	-84	-45	2737	-199.99	-2.39	-29.24
249	SLU 21	-84	-45	2737	-199.99	-2.39	-29.24
249	SLU 22	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 23	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 24	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 25	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 26	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 27	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 28	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 29	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 30	-76	-42	2447	-186.54	-2.11	-26.28
249	SLU 31	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 32	-89	-49	2852	-203.54	-2.48	-30.83



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLU 33	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 34	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 35	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 36	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 37	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 38	-89	-49	2852	-203.54	-2.48	-30.83
249	SLU 39	-94	-52	3026	-210.83	-2.64	-32.78
249	SLU 40	-94	-52	3026	-210.83	-2.64	-32.78
249	SLU 41	-94	-52	3026	-210.83	-2.64	-32.78
249	SLU 42	-94	-52	3026	-210.83	-2.64	-32.78
249	SLU 43	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 44	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 45	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 46	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 47	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 48	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 49	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 50	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 51	-82	-43	2707	-224.7	-2.32	-28.35
249	SLU 52	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 53	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 54	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 55	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 56	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 57	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 58	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 59	-95	-50	3112	-241.7	-2.7	-32.9
249	SLU 60	-100	-53	3286	-248.99	-2.86	-34.85
249	SLU 61	-100	-53	3286	-248.99	-2.86	-34.85
249	SLU 62	-100	-53	3286	-248.99	-2.86	-34.85
249	SLU 63	-100	-53	3286	-248.99	-2.86	-34.85
249	SLU 64	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 65	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 66	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 67	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 68	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 69	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 70	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 71	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 72	-92	-50	2996	-235.54	-2.58	-31.89
249	SLU 73	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 74	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 75	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 76	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 77	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 78	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 79	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 80	-105	-57	3401	-252.54	-2.95	-36.44
249	SLU 81	-110	-60	3574	-259.82	-3.11	-38.39
249	SLU 82	-110	-60	3574	-259.82	-3.11	-38.39
249	SLU 83	-110	-60	3574	-259.82	-3.11	-38.39
249	SLU 84	-110	-60	3574	-259.82	-3.11	-38.39
249	SLE RA 1	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 2	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 3	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 4	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 5	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 6	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 7	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 8	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 9	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE RA 10	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 11	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 12	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 13	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 14	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 15	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 16	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 17	-77	-42	2511	-190.14	-2.18	-26.79
249	SLE RA 18	-81	-44	2627	-194.99	-2.28	-28.09
249	SLE RA 19	-81	-44	2627	-194.99	-2.28	-28.09
249	SLE RA 20	-81	-44	2627	-194.99	-2.28	-28.09
249	SLE RA 21	-81	-44	2627	-194.99	-2.28	-28.09
249	SLE FR 1	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE FR 2	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE FR 3	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE FR 4	-72	-39	2357	-183.66	-2.03	-25.05
249	SLE FR 5	-72	-39	2357	-183.66	-2.03	-25.05
249	SLE FR 6	-75	-40	2434	-186.9	-2.1	-25.92
249	SLE QP 1	-68	-37	2241	-178.8	-1.93	-23.75
249	SLE QP 2	-72	-39	2357	-183.66	-2.03	-25.05
249	SLD 1	176	28	2165	-173.41	-1.12	60.37
249	SLD 2	134	43	2165	-173.38	-1.12	46.04
249	SLD 3	220	-41	2308	-180.28	-1.3	75.44
249	SLD 4	178	-26	2308	-180.25	-1.29	61.12
249	SLD 5	-50	80	2082	-170.18	-1.49	-17.17
249	SLD 6	-93	95	2083	-170.15	-1.49	-31.71
249	SLD 7	98	-149	2558	-193.07	-2.08	33.08
249	SLD 8	55	-134	2559	-193.04	-2.08	18.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLD 9	-199	56	2154	-174.28	-1.99	-68.65
249	SLD 10	-242	71	2155	-174.25	-1.98	-83.18
249	SLD 11	-52	-173	2630	-197.17	-2.58	-18.4
249	SLD 12	-94	-157	2631	-197.14	-2.57	-32.94
249	SLD 13	-322	-52	2405	-187.07	-2.77	-111.22
249	SLD 14	-364	-37	2405	-187.04	-2.76	-125.55
249	SLD 15	-278	-120	2548	-193.94	-2.95	-96.15
249	SLD 16	-320	-105	2548	-193.91	-2.94	-110.47
249	SLV 1	490	113	1920	-159.49	0.04	168.82
249	SLV 2	395	147	1921	-159.43	0.05	136.32
249	SLV 3	592	-44	2247	-176.83	-0.38	203.28
249	SLV 4	497	-10	2249	-176.77	-0.36	170.78
249	SLV 5	-23	233	1728	-150.14	-0.79	-7.53
249	SLV 6	-120	268	1729	-150.07	-0.78	-40.53
249	SLV 7	315	-291	2821	-207.93	-2.17	107.33
249	SLV 8	219	-257	2822	-207.87	-2.15	74.34
249	SLV 9	-363	179	1891	-159.45	-1.91	-124.44
249	SLV 10	-459	213	1892	-159.38	-1.9	-157.44
249	SLV 11	-24	-346	2984	-217.25	-3.29	-9.58
249	SLV 12	-121	-311	2985	-217.18	-3.28	-42.58
249	SLV 13	-641	-68	2464	-190.55	-3.7	-220.88
249	SLV 14	-736	-34	2466	-190.49	-3.69	-253.39
249	SLV 15	-539	-225	2792	-207.89	-4.12	-186.42
249	SLV 16	-634	-191	2793	-207.82	-4.1	-218.93
249	CRTFP Ux+	0	0	0	0	0	0
249	CRTFP Ux-	0	0	0	0	0	0
249	CRTFP Uy+	0	0	0	0	0	0
249	CRTFP Uy-	0	0	0	0	0	0
250	SLU 1	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 2	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 3	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 4	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 5	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 6	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 7	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 8	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 9	-66	-42	2226	-219.17	-2.58	-22.94
250	SLU 10	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 11	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 12	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 13	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 14	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 15	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 16	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 17	-79	-50	2645	-245.42	-3.11	-27.54
250	SLU 18	-85	-54	2824	-256.67	-3.34	-29.51
250	SLU 19	-85	-54	2824	-256.67	-3.34	-29.51
250	SLU 20	-85	-54	2824	-256.67	-3.34	-29.51
250	SLU 21	-85	-54	2824	-256.67	-3.34	-29.51
250	SLU 22	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 23	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 24	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 25	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 26	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 27	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 28	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 29	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 30	-76	-50	2524	-236.68	-2.94	-26.52
250	SLU 31	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 32	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 33	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 34	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 35	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 36	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 37	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 38	-90	-58	2943	-262.93	-3.48	-31.13
250	SLU 39	-95	-62	3123	-274.18	-3.7	-33.1
250	SLU 40	-95	-62	3123	-274.18	-3.7	-33.1
250	SLU 41	-95	-62	3123	-274.18	-3.7	-33.1
250	SLU 42	-95	-62	3123	-274.18	-3.7	-33.1
250	SLU 43	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 44	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 45	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 46	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 47	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 48	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 49	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 50	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 51	-82	-51	2791	-278.91	-3.23	-28.59
250	SLU 52	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 53	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 54	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 55	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 56	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 57	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 58	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 59	-95	-60	3210	-305.16	-3.76	-33.19
250	SLU 60	-101	-64	3390	-316.41	-3.99	-35.16
250	SLU 61	-101	-64	3390	-316.41	-3.99	-35.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
250	SLU 62	-101	-64	3390	-316.41	-3.99	-35.16
250	SLU 63	-101	-64	3390	-316.41	-3.99	-35.16
250	SLU 64	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 65	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 66	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 67	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 68	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 69	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 70	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 71	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 72	-93	-59	3089	-296.43	-3.59	-32.17
250	SLU 73	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 74	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 75	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 76	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 77	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 78	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 79	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 80	-106	-68	3508	-322.68	-4.13	-36.78
250	SLU 81	-111	-72	3688	-333.92	-4.35	-38.75
250	SLU 82	-111	-72	3688	-333.92	-4.35	-38.75
250	SLU 83	-111	-72	3688	-333.92	-4.35	-38.75
250	SLU 84	-111	-72	3688	-333.92	-4.35	-38.75
250	SLE RA 1	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 2	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 3	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 4	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 5	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 6	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 7	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 8	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 9	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE RA 10	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 11	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 12	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 13	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 14	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 15	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 16	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 17	-78	-50	2590	-241.67	-3.04	-27.03
250	SLE RA 18	-82	-52	2710	-249.17	-3.19	-28.35
250	SLE RA 19	-82	-52	2710	-249.17	-3.19	-28.35
250	SLE RA 20	-82	-52	2710	-249.17	-3.19	-28.35
250	SLE RA 21	-82	-52	2710	-249.17	-3.19	-28.35
250	SLE FR 1	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE FR 2	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE FR 3	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE FR 4	-73	-46	2431	-231.67	-2.84	-25.28
250	SLE FR 5	-73	-46	2431	-231.67	-2.84	-25.28
250	SLE FR 6	-75	-48	2510	-236.67	-2.94	-26.15
250	SLE QP 1	-69	-44	2311	-224.17	-2.68	-23.96
250	SLE QP 2	-73	-46	2431	-231.67	-2.84	-25.28
250	SLD 1	175	29	2212	-215.08	-1.78	60.01
250	SLD 2	133	47	2212	-215.1	-1.77	45.7
250	SLD 3	219	-51	2360	-222.88	-2.02	75.1
250	SLD 4	177	-32	2360	-222.9	-2.01	60.79
250	SLD 5	-51	90	2141	-214.85	-2.16	-17.46
250	SLD 6	-94	109	2141	-214.87	-2.15	-31.98
250	SLD 7	97	-175	2634	-240.87	-2.96	32.83
250	SLD 8	55	-156	2634	-240.89	-2.95	18.32
250	SLD 9	-200	64	2227	-222.46	-2.72	-68.87
250	SLD 10	-243	82	2228	-222.48	-2.71	-83.39
250	SLD 11	-52	-202	2720	-248.48	-3.52	-18.57
250	SLD 12	-94	-183	2721	-248.5	-3.51	-33.09
250	SLD 13	-323	-60	2501	-240.44	-3.66	-111.34
250	SLD 14	-365	-42	2501	-240.46	-3.65	-125.65
250	SLD 15	-278	-140	2649	-248.25	-3.9	-96.25
250	SLD 16	-320	-122	2649	-248.27	-3.89	-110.56
250	SLV 1	489	126	1932	-193.28	-0.44	168.29
250	SLV 2	394	168	1933	-193.32	-0.42	135.83
250	SLV 3	591	-57	2272	-212.45	-0.99	202.78
250	SLV 4	496	-15	2273	-212.5	-0.98	170.33
250	SLV 5	-25	268	1765	-191.06	-1.28	-7.92
250	SLV 6	-121	310	1766	-191.1	-1.26	-40.87
250	SLV 7	315	-342	2898	-254.97	-3.14	107.07
250	SLV 8	218	-299	2899	-255.02	-3.12	74.12
250	SLV 9	-364	207	1962	-208.33	-2.55	-124.67
250	SLV 10	-460	249	1963	-208.37	-2.53	-157.62
250	SLV 11	-24	-403	3095	-272.25	-4.42	-9.68
250	SLV 12	-121	-361	3096	-272.29	-4.4	-42.63
250	SLV 13	-641	-78	2589	-250.85	-4.7	-220.88
250	SLV 14	-736	-36	2589	-250.89	-4.68	-253.34
250	SLV 15	-539	-261	2928	-270.02	-5.25	-186.38
250	SLV 16	-634	-219	2929	-270.06	-5.24	-218.84
250	CRTFP Ux+	0	0	0	0	0	0
250	CRTFP Ux-	0	0	0	0	0	0
250	CRTFP Uy+	0	0	0	0	0	0
250	CRTFP Uy-	0	0	0	0	0	0
251	SLU 1	-67	-48	2319	-280.65	-3.52	-23.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 2	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 3	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 4	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 5	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 6	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 7	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 8	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 9	-67	-48	2319	-280.65	-3.52	-23.1
251	SLU 10	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 11	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 12	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 13	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 14	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 15	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 16	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 17	-80	-58	2757	-319.97	-4.26	-27.75
251	SLU 18	-86	-63	2945	-336.82	-4.57	-29.74
251	SLU 19	-86	-63	2945	-336.82	-4.57	-29.74
251	SLU 20	-86	-63	2945	-336.82	-4.57	-29.74
251	SLU 21	-86	-63	2945	-336.82	-4.57	-29.74
251	SLU 22	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 23	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 24	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 25	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 26	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 27	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 28	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 29	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 30	-77	-57	2630	-307.56	-4.03	-26.73
251	SLU 31	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 32	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 33	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 34	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 35	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 36	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 37	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 38	-90	-67	3069	-346.88	-4.77	-31.37
251	SLU 39	-96	-72	3256	-363.73	-5.08	-33.36
251	SLU 40	-96	-72	3256	-363.73	-5.08	-33.36
251	SLU 41	-96	-72	3256	-363.73	-5.08	-33.36
251	SLU 42	-96	-72	3256	-363.73	-5.08	-33.36
251	SLU 43	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 44	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 45	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 46	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 47	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 48	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 49	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 50	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 51	-83	-59	2907	-355.61	-4.4	-28.79
251	SLU 52	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 53	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 54	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 55	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 56	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 57	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 58	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 59	-96	-70	3346	-394.93	-5.14	-33.44
251	SLU 60	-102	-74	3534	-411.79	-5.45	-35.43
251	SLU 61	-102	-74	3534	-411.79	-5.45	-35.43
251	SLU 62	-102	-74	3534	-411.79	-5.45	-35.43
251	SLU 63	-102	-74	3534	-411.79	-5.45	-35.43
251	SLU 64	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 65	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 66	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 67	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 68	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 69	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 70	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 71	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 72	-93	-68	3219	-382.53	-4.91	-32.42
251	SLU 73	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 74	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 75	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 76	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 77	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 78	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 79	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 80	-107	-79	3657	-421.85	-5.65	-37.06
251	SLU 81	-112	-83	3845	-438.7	-5.96	-39.05
251	SLU 82	-112	-83	3845	-438.7	-5.96	-39.05
251	SLU 83	-112	-83	3845	-438.7	-5.96	-39.05
251	SLU 84	-112	-83	3845	-438.7	-5.96	-39.05
251	SLE RA 1	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 2	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 3	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 4	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 5	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 6	-70	-50	2408	-288.34	-3.67	-24.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLE RA 7	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 8	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 9	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE RA 10	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 11	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 12	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 13	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 14	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 15	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 16	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 17	-78	-57	2700	-314.55	-4.16	-27.24
251	SLE RA 18	-82	-60	2825	-325.78	-4.37	-28.56
251	SLE RA 19	-82	-60	2825	-325.78	-4.37	-28.56
251	SLE RA 20	-82	-60	2825	-325.78	-4.37	-28.56
251	SLE RA 21	-82	-60	2825	-325.78	-4.37	-28.56
251	SLE FR 1	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE FR 2	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE FR 3	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE FR 4	-73	-53	2533	-299.57	-3.88	-25.47
251	SLE FR 5	-73	-53	2533	-299.57	-3.88	-25.47
251	SLE FR 6	-76	-55	2616	-307.06	-4.02	-26.35
251	SLE QP 1	-70	-50	2408	-288.34	-3.67	-24.14
251	SLE QP 2	-73	-53	2533	-299.57	-3.88	-25.47
251	SLD 1	174	32	2281	-272.15	-2.64	59.65
251	SLD 2	132	54	2281	-272.21	-2.63	45.36
251	SLD 3	218	-61	2437	-283.34	-2.95	74.76
251	SLD 4	176	-38	2437	-283.39	-2.94	60.47
251	SLD 5	-52	104	2221	-274.36	-3.03	-17.75
251	SLD 6	-94	126	2221	-274.42	-3.02	-32.24
251	SLD 7	97	-203	2740	-311.64	-4.08	32.62
251	SLD 8	54	-181	2740	-311.7	-4.07	18.13
251	SLD 9	-201	74	2326	-287.44	-3.68	-69.06
251	SLD 10	-243	96	2326	-287.5	-3.67	-83.56
251	SLD 11	-52	-233	2844	-324.72	-4.74	-18.69
251	SLD 12	-95	-211	2844	-324.78	-4.73	-33.19
251	SLD 13	-323	-69	2629	-315.75	-4.81	-111.41
251	SLD 14	-365	-46	2629	-315.8	-4.8	-125.69
251	SLD 15	-278	-161	2785	-326.93	-5.13	-96.29
251	SLD 16	-320	-138	2785	-326.99	-5.12	-110.58
251	SLV 1	487	141	1959	-236.8	-1.06	167.71
251	SLV 2	392	191	1959	-236.93	-1.03	135.3
251	SLV 3	589	-70	2317	-263.3	-1.79	202.26
251	SLV 4	494	-20	2317	-263.43	-1.77	169.85
251	SLV 5	-26	308	1819	-240.5	-1.92	-8.33
251	SLV 6	-123	359	1819	-240.64	-1.9	-41.23
251	SLV 7	314	-397	3010	-328.83	-4.37	106.84
251	SLV 8	218	-346	3010	-328.96	-4.35	73.94
251	SLV 9	-365	239	2055	-270.18	-3.4	-124.87
251	SLV 10	-461	290	2056	-270.31	-3.38	-157.78
251	SLV 11	-24	-466	3247	-358.5	-5.85	-9.7
251	SLV 12	-121	-415	3247	-358.64	-5.83	-42.61
251	SLV 13	-641	-87	2749	-335.71	-5.98	-220.78
251	SLV 14	-736	-36	2749	-335.84	-5.96	-253.19
251	SLV 15	-539	-298	3106	-362.21	-6.72	-186.23
251	SLV 16	-634	-248	3106	-362.34	-6.7	-218.64
251	CRTFP Ux+	0	0	0	0	0	0
251	CRTFP Ux-	0	0	0	0	0	0
251	CRTFP Uy+	0	0	0	0	0	0
251	CRTFP Uy-	0	0	0	0	0	0
252	SLU 1	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 2	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 3	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 4	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 5	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 6	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 7	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 8	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 9	-67	-54	2444	-365.04	-4.67	-23.24
252	SLU 10	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 11	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 12	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 13	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 14	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 15	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 16	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 17	-80	-66	2908	-422.33	-5.66	-27.92
252	SLU 18	-86	-71	3107	-446.88	-6.08	-29.93
252	SLU 19	-86	-71	3107	-446.88	-6.08	-29.93
252	SLU 20	-86	-71	3107	-446.88	-6.08	-29.93
252	SLU 21	-86	-71	3107	-446.88	-6.08	-29.93
252	SLU 22	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 23	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 24	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 25	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 26	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 27	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 28	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 29	-78	-63	2773	-404.83	-5.36	-26.9
252	SLU 30	-78	-63	2773	-404.83	-5.36	-26.9



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
252	SLU 31	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 32	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 33	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 34	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 35	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 36	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 37	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 38	-91	-75	3238	-462.12	-6.34	-31.58
252	SLU 39	-97	-80	3437	-486.67	-6.76	-33.58
252	SLU 40	-97	-80	3437	-486.67	-6.76	-33.58
252	SLU 41	-97	-80	3437	-486.67	-6.76	-33.58
252	SLU 42	-97	-80	3437	-486.67	-6.76	-33.58
252	SLU 43	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 44	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 45	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 46	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 47	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 48	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 49	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 50	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 51	-83	-67	3064	-460.91	-5.84	-28.96
252	SLU 52	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 53	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 54	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 55	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 56	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 57	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 58	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 59	-97	-78	3528	-518.2	-6.82	-33.64
252	SLU 60	-103	-84	3727	-542.75	-7.25	-35.65
252	SLU 61	-103	-84	3727	-542.75	-7.25	-35.65
252	SLU 62	-103	-84	3727	-542.75	-7.25	-35.65
252	SLU 63	-103	-84	3727	-542.75	-7.25	-35.65
252	SLU 64	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 65	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 66	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 67	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 68	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 69	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 70	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 71	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 72	-94	-76	3393	-500.7	-6.52	-32.62
252	SLU 73	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 74	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 75	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 76	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 77	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 78	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 79	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 80	-107	-88	3858	-557.99	-7.51	-37.3
252	SLU 81	-113	-93	4057	-582.54	-7.93	-39.3
252	SLU 82	-113	-93	4057	-582.54	-7.93	-39.3
252	SLU 83	-113	-93	4057	-582.54	-7.93	-39.3
252	SLU 84	-113	-93	4057	-582.54	-7.93	-39.3
252	SLE RA 1	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 2	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 3	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 4	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 5	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 6	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 7	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 8	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 9	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE RA 10	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 11	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 12	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 13	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 14	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 15	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 16	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 17	-79	-64	2848	-414.6	-5.52	-27.41
252	SLE RA 18	-83	-68	2980	-430.97	-5.81	-28.74
252	SLE RA 19	-83	-68	2980	-430.97	-5.81	-28.74
252	SLE RA 20	-83	-68	2980	-430.97	-5.81	-28.74
252	SLE RA 21	-83	-68	2980	-430.97	-5.81	-28.74
252	SLE FR 1	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE FR 2	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE FR 3	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE FR 4	-74	-60	2671	-392.78	-5.15	-25.62
252	SLE FR 5	-74	-60	2671	-392.78	-5.15	-25.62
252	SLE FR 6	-76	-62	2759	-403.69	-5.34	-26.52
252	SLE QP 1	-70	-56	2538	-376.41	-4.87	-24.29
252	SLE QP 2	-74	-60	2671	-392.78	-5.15	-25.62
252	SLD 1	173	35	2379	-350.01	-3.69	59.29
252	SLD 2	131	61	2379	-350.05	-3.68	45.02
252	SLD 3	217	-70	2545	-367.13	-4.09	74.43
252	SLD 4	175	-44	2545	-367.17	-4.08	60.16
252	SLD 5	-53	119	2332	-353.97	-4.1	-18.01
252	SLD 6	-95	145	2331	-354.01	-4.09	-32.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLD 7	96	-232	2884	-411.03	-5.45	32.45
252	SLD 8	54	-205	2884	-411.07	-5.44	17.97
252	SLD 9	-202	86	2457	-374.48	-4.85	-69.22
252	SLD 10	-244	112	2457	-374.53	-4.84	-83.69
252	SLD 11	-52	-265	3010	-431.54	-6.21	-18.76
252	SLD 12	-95	-239	3009	-431.58	-6.2	-33.24
252	SLD 13	-323	-76	2796	-418.38	-6.21	-111.41
252	SLD 14	-365	-50	2796	-418.43	-6.2	-125.68
252	SLD 15	-278	-181	2962	-435.5	-6.62	-96.27
252	SLD 16	-320	-155	2962	-435.54	-6.61	-110.54
252	SLV 1	485	158	2007	-295.25	-1.83	167.09
252	SLV 2	391	217	2006	-295.35	-1.8	134.73
252	SLV 3	588	-84	2388	-335.09	-2.77	201.7
252	SLV 4	493	-25	2387	-335.18	-2.74	169.34
252	SLV 5	-27	351	1893	-303.07	-2.71	-8.74
252	SLV 6	-124	412	1893	-303.16	-2.71	-41.59
252	SLV 7	314	-456	3164	-435.85	-5.87	106.65
252	SLV 8	218	-395	3164	-435.95	-5.84	73.79
252	SLV 9	-365	275	2177	-349.6	-4.45	-125.04
252	SLV 10	-462	336	2177	-349.7	-4.43	-157.89
252	SLV 11	-24	-531	3448	-482.39	-7.59	-9.66
252	SLV 12	-120	-471	3448	-482.49	-7.56	-42.51
252	SLV 13	-641	-95	2954	-450.37	-7.55	-220.59
252	SLV 14	-735	-35	2953	-450.47	-7.53	-252.95
252	SLV 15	-538	-337	3335	-490.21	-8.49	-185.98
252	SLV 16	-633	-277	3334	-490.3	-8.47	-218.34
252	CRTFP Ux+	0	0	0	0	0	0
252	CRTFP Ux-	0	0	0	0	0	0
252	CRTFP Uy+	0	0	0	0	0	0
252	CRTFP Uy-	0	0	0	0	0	0
253	SLU 1	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 2	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 3	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 4	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 5	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 6	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 7	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 8	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 9	-67	-58	2607	-478.38	-6.01	-23.36
253	SLU 10	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 11	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 12	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 13	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 14	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 15	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 16	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 17	-81	-72	3106	-559.92	-7.29	-28.07
253	SLU 18	-87	-77	3320	-594.86	-7.83	-30.09
253	SLU 19	-87	-77	3320	-594.86	-7.83	-30.09
253	SLU 20	-87	-77	3320	-594.86	-7.83	-30.09
253	SLU 21	-87	-77	3320	-594.86	-7.83	-30.09
253	SLU 22	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 23	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 24	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 25	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 26	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 27	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 28	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 29	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 30	-78	-69	2961	-535.49	-6.9	-27.04
253	SLU 31	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 32	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 33	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 34	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 35	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 36	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 37	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 38	-92	-82	3460	-617.03	-8.18	-31.75
253	SLU 39	-98	-88	3674	-651.97	-8.73	-33.77
253	SLU 40	-98	-88	3674	-651.97	-8.73	-33.77
253	SLU 41	-98	-88	3674	-651.97	-8.73	-33.77
253	SLU 42	-98	-88	3674	-651.97	-8.73	-33.77
253	SLU 43	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 44	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 45	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 46	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 47	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 48	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 49	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 50	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 51	-84	-72	3267	-602.31	-7.5	-29.11
253	SLU 52	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 53	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 54	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 55	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 56	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 57	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 58	-98	-86	3767	-683.85	-8.78	-33.81
253	SLU 59	-98	-86	3767	-683.85	-8.78	-33.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
253	SLU 60	-103	-91	3981	-718.8	-9.33	-35.83
253	SLU 61	-103	-91	3981	-718.8	-9.33	-35.83
253	SLU 62	-103	-91	3981	-718.8	-9.33	-35.83
253	SLU 63	-103	-91	3981	-718.8	-9.33	-35.83
253	SLU 64	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 65	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 66	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 67	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 68	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 69	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 70	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 71	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 72	-95	-83	3621	-659.42	-8.4	-32.79
253	SLU 73	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 74	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 75	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 76	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 77	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 78	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 79	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 80	-108	-96	4120	-740.96	-9.67	-37.5
253	SLU 81	-114	-102	4334	-775.9	-10.22	-39.52
253	SLU 82	-114	-102	4334	-775.9	-10.22	-39.52
253	SLU 83	-114	-102	4334	-775.9	-10.22	-39.52
253	SLU 84	-114	-102	4334	-775.9	-10.22	-39.52
253	SLE RA 1	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 2	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 3	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 4	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 5	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 6	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 7	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 8	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 9	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE RA 10	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 11	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 12	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 13	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 14	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 15	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 16	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 17	-80	-70	3041	-549.05	-7.11	-27.55
253	SLE RA 18	-83	-74	3183	-572.35	-7.48	-28.9
253	SLE RA 19	-83	-74	3183	-572.35	-7.48	-28.9
253	SLE RA 20	-83	-74	3183	-572.35	-7.48	-28.9
253	SLE RA 21	-83	-74	3183	-572.35	-7.48	-28.9
253	SLE FR 1	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE FR 2	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE FR 3	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE FR 4	-74	-65	2850	-517.99	-6.63	-25.76
253	SLE FR 5	-74	-65	2850	-517.99	-6.63	-25.76
253	SLE FR 6	-77	-68	2945	-533.52	-6.87	-26.66
253	SLE QP 1	-71	-61	2708	-494.69	-6.26	-24.41
253	SLE QP 2	-74	-65	2850	-517.99	-6.63	-25.76
253	SLD 1	171	40	2512	-454.95	-4.92	58.92
253	SLD 2	130	70	2511	-454.91	-4.91	44.68
253	SLD 3	216	-79	2691	-480.52	-5.42	74.1
253	SLD 4	175	-49	2690	-480.48	-5.41	59.85
253	SLD 5	-54	135	2477	-460.32	-5.35	-18.27
253	SLD 6	-96	166	2477	-460.27	-5.34	-32.73
253	SLD 7	96	-260	3075	-545.54	-7.04	32.3
253	SLD 8	53	-229	3074	-545.5	-7.02	17.85
253	SLD 9	-202	99	2627	-490.48	-6.23	-69.36
253	SLD 10	-245	130	2626	-490.44	-6.22	-83.81
253	SLD 11	-53	-297	3224	-575.71	-7.91	-18.79
253	SLD 12	-95	-266	3224	-575.67	-7.9	-33.24
253	SLD 13	-323	-82	3011	-555.51	-7.84	-111.37
253	SLD 14	-365	-51	3010	-555.47	-7.83	-125.61
253	SLD 15	-278	-200	3190	-581.07	-8.35	-96.2
253	SLD 16	-320	-170	3189	-581.03	-8.34	-110.44
253	SLV 1	484	175	2079	-374.42	-2.74	166.43
253	SLV 2	389	244	2077	-374.33	-2.72	134.12
253	SLV 3	586	-98	2491	-433.52	-3.91	201.13
253	SLV 4	491	-29	2489	-433.43	-3.88	168.81
253	SLV 5	-29	396	1994	-385.32	-3.71	-9.17
253	SLV 6	-125	467	1993	-385.23	-3.68	-41.98
253	SLV 7	313	-514	3368	-582.31	-7.59	106.49
253	SLV 8	217	-444	3367	-582.22	-7.56	73.68
253	SLV 9	-366	314	2334	-453.76	-5.7	-125.2
253	SLV 10	-462	384	2333	-453.67	-5.67	-158.01
253	SLV 11	-24	-597	3708	-650.75	-9.58	-9.54
253	SLV 12	-120	-527	3706	-650.66	-9.55	-42.34
253	SLV 13	-640	-101	3211	-602.56	-9.38	-220.33
253	SLV 14	-735	-32	3210	-602.47	-9.35	-252.65
253	SLV 15	-538	-374	3624	-661.65	-10.54	-185.63
253	SLV 16	-632	-305	3622	-661.56	-10.51	-217.95
253	CRTFP Ux+	0	0	0	0	0	0
253	CRTFP Ux-	0	0	0	0	0	0
253	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
253	CRTFP Uy-	0	0	0	0	0	0
254	SLU 1	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 2	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 3	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 4	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 5	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 6	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 7	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 8	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 9	-68	-62	2813	-626.15	-7.46	-23.44
254	SLU 10	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 11	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 12	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 13	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 14	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 15	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 16	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 17	-82	-76	3356	-739.47	-9.05	-28.17
254	SLU 18	-87	-82	3589	-788.03	-9.74	-30.2
254	SLU 19	-87	-82	3589	-788.03	-9.74	-30.2
254	SLU 20	-87	-82	3589	-788.03	-9.74	-30.2
254	SLU 21	-87	-82	3589	-788.03	-9.74	-30.2
254	SLU 22	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 23	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 24	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 25	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 26	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 27	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 28	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 29	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 30	-79	-72	3197	-705.91	-8.57	-27.15
254	SLU 31	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 32	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 33	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 34	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 35	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 36	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 37	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 38	-92	-86	3740	-819.23	-10.17	-31.87
254	SLU 39	-98	-93	3973	-867.79	-10.85	-33.9
254	SLU 40	-98	-93	3973	-867.79	-10.85	-33.9
254	SLU 41	-98	-93	3973	-867.79	-10.85	-33.9
254	SLU 42	-98	-93	3973	-867.79	-10.85	-33.9
254	SLU 43	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 44	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 45	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 46	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 47	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 48	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 49	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 50	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 51	-85	-76	3525	-786.65	-9.31	-29.21
254	SLU 52	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 53	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 54	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 55	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 56	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 57	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 58	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 59	-98	-91	4068	-899.96	-10.91	-33.94
254	SLU 60	-104	-97	4301	-948.53	-11.59	-35.96
254	SLU 61	-104	-97	4301	-948.53	-11.59	-35.96
254	SLU 62	-104	-97	4301	-948.53	-11.59	-35.96
254	SLU 63	-104	-97	4301	-948.53	-11.59	-35.96
254	SLU 64	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 65	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 66	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 67	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 68	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 69	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 70	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 71	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 72	-95	-87	3909	-866.41	-10.43	-32.91
254	SLU 73	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 74	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 75	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 76	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 77	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 78	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 79	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 80	-109	-101	4452	-979.73	-12.02	-37.64
254	SLU 81	-115	-107	4685	-1028.29	-12.71	-39.66
254	SLU 82	-115	-107	4685	-1028.29	-12.71	-39.66
254	SLU 83	-115	-107	4685	-1028.29	-12.71	-39.66
254	SLU 84	-115	-107	4685	-1028.29	-12.71	-39.66
254	SLE RA 1	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 2	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 3	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 4	-71	-65	2923	-648.94	-7.78	-24.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLE RA 5	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 6	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 7	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 8	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 9	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE RA 10	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 11	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 12	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 13	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 14	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 15	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 16	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 17	-80	-74	3285	-724.48	-8.84	-27.65
254	SLE RA 18	-84	-78	3440	-756.86	-9.3	-29.01
254	SLE RA 19	-84	-78	3440	-756.86	-9.3	-29.01
254	SLE RA 20	-84	-78	3440	-756.86	-9.3	-29.01
254	SLE RA 21	-84	-78	3440	-756.86	-9.3	-29.01
254	SLE FR 1	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE FR 2	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE FR 3	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE FR 4	-75	-69	3078	-681.32	-8.23	-25.85
254	SLE FR 5	-75	-69	3078	-681.32	-8.23	-25.85
254	SLE FR 6	-77	-71	3181	-702.9	-8.54	-26.75
254	SLE QP 1	-71	-65	2923	-648.94	-7.78	-24.5
254	SLE QP 2	-75	-69	3078	-681.32	-8.23	-25.85
254	SLD 1	170	45	2683	-592.36	-6.26	58.58
254	SLD 2	129	80	2682	-592.19	-6.25	44.35
254	SLD 3	215	-87	2879	-628.96	-6.87	73.79
254	SLD 4	174	-52	2878	-628.79	-6.86	59.56
254	SLD 5	-55	153	2663	-599.18	-6.73	-18.52
254	SLD 6	-97	188	2662	-599.01	-6.72	-32.95
254	SLD 7	95	-286	3315	-721.18	-8.75	32.2
254	SLD 8	53	-251	3314	-721.01	-8.74	17.77
254	SLD 9	-203	114	2841	-641.62	-7.73	-69.47
254	SLD 10	-245	149	2840	-641.46	-7.72	-83.91
254	SLD 11	-53	-325	3494	-763.62	-9.75	-18.75
254	SLD 12	-95	-290	3493	-763.45	-9.74	-33.19
254	SLD 13	-323	-85	3277	-733.84	-9.61	-111.27
254	SLD 14	-365	-50	3276	-733.68	-9.6	-125.5
254	SLD 15	-278	-217	3473	-770.44	-10.21	-96.05
254	SLD 16	-320	-182	3472	-770.27	-10.2	-110.28
254	SLV 1	482	192	2180	-478.83	-3.76	165.76
254	SLV 2	387	271	2178	-478.45	-3.73	133.48
254	SLV 3	585	-111	2630	-563.19	-5.15	200.56
254	SLV 4	490	-32	2628	-562.81	-5.12	168.29
254	SLV 5	-30	441	2126	-492.75	-4.78	-9.62
254	SLV 6	-126	521	2124	-492.37	-4.75	-42.38
254	SLV 7	313	-569	3627	-773.96	-9.44	106.4
254	SLV 8	217	-489	3625	-773.58	-9.41	73.64
254	SLV 9	-366	352	2531	-589.05	-7.06	-125.34
254	SLV 10	-463	432	2528	-588.67	-7.03	-158.1
254	SLV 11	-24	-659	4031	-870.26	-11.71	-9.33
254	SLV 12	-120	-578	4029	-869.88	-11.68	-42.09
254	SLV 13	-640	-105	3528	-799.82	-11.34	-219.99
254	SLV 14	-734	-26	3525	-799.44	-11.31	-252.27
254	SLV 15	-537	-408	3978	-884.18	-12.74	-185.19
254	SLV 16	-632	-329	3976	-883.8	-12.71	-217.46
254	CRTFP Ux+	0	0	0	0	0	0
254	CRTFP Ux-	0	0	0	0	0	0
254	CRTFP Uy+	0	0	0	0	0	0
254	CRTFP Uy-	0	0	0	0	0	0
255	SLU 1	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 2	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 3	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 4	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 5	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 6	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 7	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 8	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 9	-59	-54	2617	-689.14	67.46	-18.7
255	SLU 10	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 11	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 12	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 13	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 14	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 15	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 16	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 17	-70	-66	3127	-819.15	80.49	-22.42
255	SLU 18	-76	-72	3345	-874.86	86.07	-24.01
255	SLU 19	-76	-72	3345	-874.86	86.07	-24.01
255	SLU 20	-76	-72	3345	-874.86	86.07	-24.01
255	SLU 21	-76	-72	3345	-874.86	86.07	-24.01
255	SLU 22	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 23	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 24	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 25	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 26	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 27	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 28	-68	-63	2978	-780.9	76.68	-21.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLU 29	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 30	-68	-63	2978	-780.9	76.68	-21.64
255	SLU 31	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 32	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 33	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 34	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 35	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 36	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 37	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 38	-80	-75	3488	-910.91	89.71	-25.35
255	SLU 39	-85	-81	3706	-966.63	95.29	-26.95
255	SLU 40	-85	-81	3706	-966.63	95.29	-26.95
255	SLU 41	-85	-81	3706	-966.63	95.29	-26.95
255	SLU 42	-85	-81	3706	-966.63	95.29	-26.95
255	SLU 43	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 44	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 45	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 46	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 47	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 48	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 49	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 50	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 51	-73	-67	3279	-864.42	84.54	-23.3
255	SLU 52	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 53	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 54	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 55	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 56	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 57	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 58	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 59	-85	-79	3789	-994.43	97.56	-27.02
255	SLU 60	-90	-85	4007	-1050.15	103.14	-28.61
255	SLU 61	-90	-85	4007	-1050.15	103.14	-28.61
255	SLU 62	-90	-85	4007	-1050.15	103.14	-28.61
255	SLU 63	-90	-85	4007	-1050.15	103.14	-28.61
255	SLU 64	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 65	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 66	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 67	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 68	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 69	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 70	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 71	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 72	-82	-76	3639	-956.18	93.76	-26.24
255	SLU 73	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 74	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 75	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 76	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 77	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 78	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 79	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 80	-94	-88	4149	-1086.19	106.78	-29.96
255	SLU 81	-99	-94	4368	-1141.91	112.37	-31.55
255	SLU 82	-99	-94	4368	-1141.91	112.37	-31.55
255	SLU 83	-99	-94	4368	-1141.91	112.37	-31.55
255	SLU 84	-99	-94	4368	-1141.91	112.37	-31.55
255	SLE RA 1	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 2	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 3	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 4	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 5	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 6	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 7	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 8	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 9	-61	-56	2720	-715.36	70.09	-19.54
255	SLE RA 10	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 11	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 12	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 13	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 14	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 15	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 16	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 17	-69	-65	3060	-802.03	78.78	-22.02
255	SLE RA 18	-73	-68	3206	-839.17	82.5	-23.08
255	SLE RA 19	-73	-68	3206	-839.17	82.5	-23.08
255	SLE RA 20	-73	-68	3206	-839.17	82.5	-23.08
255	SLE RA 21	-73	-68	3206	-839.17	82.5	-23.08
255	SLE FR 1	-61	-56	2720	-715.36	70.09	-19.54
255	SLE FR 2	-61	-56	2720	-715.36	70.09	-19.54
255	SLE FR 3	-61	-56	2720	-715.36	70.09	-19.54
255	SLE FR 4	-65	-60	2866	-752.5	73.82	-20.6
255	SLE FR 5	-65	-60	2866	-752.5	73.82	-20.6
255	SLE FR 6	-67	-62	2963	-777.27	76.3	-21.31
255	SLE QP 1	-61	-56	2720	-715.36	70.09	-19.54
255	SLE QP 2	-65	-60	2866	-752.5	73.82	-20.6
255	SLD 1	146	-74	2476	-650.08	64.33	50.66
255	SLD 2	110	-41	2475	-649.82	64.3	37.47
255	SLD 3	184	-197	2660	-692.68	69.03	66.06
255	SLD 4	149	-163	2659	-692.42	69	52.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLD 5	-48	110	2471	-657.26	63.85	-17.86
255	SLD 6	-84	144	2469	-656.99	63.83	-31.25
255	SLD 7	82	-299	3084	-799.26	79.52	33.47
255	SLD 8	45	-265	3082	-799	79.49	20.08
255	SLD 9	-175	145	2649	-706.01	68.14	-61.28
255	SLD 10	-211	179	2648	-705.75	68.12	-74.66
255	SLD 11	-46	-264	3263	-848.01	83.81	-9.95
255	SLD 12	-82	-229	3261	-847.75	83.78	-23.34
255	SLD 13	-278	43	3073	-812.59	78.63	-94.06
255	SLD 14	-314	77	3072	-812.33	78.61	-107.26
255	SLD 15	-239	-79	3257	-855.19	83.33	-78.66
255	SLD 16	-275	-45	3256	-854.93	83.31	-91.86
255	SLV 1	413	-92	1979	-519.41	52.21	141.08
255	SLV 2	331	-15	1976	-518.82	52.16	111.14
255	SLV 3	502	-374	2402	-617.49	63.02	176.39
255	SLV 4	420	-297	2400	-616.9	62.97	146.46
255	SLV 5	-27	331	1959	-534.03	50.96	-14.96
255	SLV 6	-109	409	1956	-533.43	50.9	-45.34
255	SLV 7	269	-609	3370	-860.97	86.99	102.76
255	SLV 8	186	-532	3367	-860.37	86.94	72.38
255	SLV 9	-316	412	2365	-644.64	60.7	-113.57
255	SLV 10	-398	490	2362	-644.04	60.64	-143.96
255	SLV 11	-20	-529	3776	-971.58	96.73	4.14
255	SLV 12	-103	-451	3773	-970.98	96.67	-26.24
255	SLV 13	-550	177	3332	-888.11	84.67	-187.66
255	SLV 14	-631	254	3330	-887.52	84.61	-217.59
255	SLV 15	-461	-105	3756	-986.19	95.48	-152.34
255	SLV 16	-542	-28	3753	-985.6	95.42	-182.27
255	CRTFP Ux+	0	0	0	0	0	0
255	CRTFP Ux-	0	0	0	0	0	0
255	CRTFP Uy+	0	0	0	0	0	0
255	CRTFP Uy-	0	0	0	0	0	0
257	SLU 1	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 2	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 3	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 4	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 5	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 6	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 7	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 8	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 9	-87	-79	4121	-891.2	901.13	-1.68
257	SLU 10	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 11	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 12	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 13	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 14	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 15	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 16	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 17	-105	-97	4928	-1064.67	1076.08	-1.32
257	SLU 18	-112	-106	5274	-1139.01	1151.06	-1.17
257	SLU 19	-112	-106	5274	-1139.01	1151.06	-1.17
257	SLU 20	-112	-106	5274	-1139.01	1151.06	-1.17
257	SLU 21	-112	-106	5274	-1139.01	1151.06	-1.17
257	SLU 22	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 23	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 24	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 25	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 26	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 27	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 28	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 29	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 30	-101	-92	4692	-1013.85	1024.93	-1.74
257	SLU 31	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 32	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 33	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 34	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 35	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 36	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 37	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 38	-119	-111	5499	-1187.32	1199.88	-1.38
257	SLU 39	-126	-119	5845	-1261.66	1274.85	-1.23
257	SLU 40	-126	-119	5845	-1261.66	1274.85	-1.23
257	SLU 41	-126	-119	5845	-1261.66	1274.85	-1.23
257	SLU 42	-126	-119	5845	-1261.66	1274.85	-1.23
257	SLU 43	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 44	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 45	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 46	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 47	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 48	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 49	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 50	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 51	-109	-98	5162	-1116.51	1129.03	-2.16
257	SLU 52	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 53	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 54	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 55	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 56	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 57	-126	-117	5969	-1289.98	1303.98	-1.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLU 58	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 59	-126	-117	5969	-1289.98	1303.98	-1.8
257	SLU 60	-134	-125	6315	-1364.32	1378.96	-1.65
257	SLU 61	-134	-125	6315	-1364.32	1378.96	-1.65
257	SLU 62	-134	-125	6315	-1364.32	1378.96	-1.65
257	SLU 63	-134	-125	6315	-1364.32	1378.96	-1.65
257	SLU 64	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 65	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 66	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 67	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 68	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 69	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 70	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 71	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 72	-123	-111	5732	-1239.16	1252.82	-2.22
257	SLU 73	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 74	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 75	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 76	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 77	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 78	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 79	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 80	-140	-130	6540	-1412.63	1427.77	-1.86
257	SLU 81	-148	-138	6886	-1486.97	1502.75	-1.71
257	SLU 82	-148	-138	6886	-1486.97	1502.75	-1.71
257	SLU 83	-148	-138	6886	-1486.97	1502.75	-1.71
257	SLU 84	-148	-138	6886	-1486.97	1502.75	-1.71
257	SLE RA 1	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 2	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 3	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 4	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 5	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 6	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 7	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 8	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 9	-91	-83	4284	-926.24	936.5	-1.69
257	SLE RA 10	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 11	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 12	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 13	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 14	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 15	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 16	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 17	-103	-95	4822	-1041.89	1053.13	-1.46
257	SLE RA 18	-108	-100	5053	-1091.45	1103.12	-1.36
257	SLE RA 19	-108	-100	5053	-1091.45	1103.12	-1.36
257	SLE RA 20	-108	-100	5053	-1091.45	1103.12	-1.36
257	SLE RA 21	-108	-100	5053	-1091.45	1103.12	-1.36
257	SLE FR 1	-91	-83	4284	-926.24	936.5	-1.69
257	SLE FR 2	-91	-83	4284	-926.24	936.5	-1.69
257	SLE FR 3	-91	-83	4284	-926.24	936.5	-1.69
257	SLE FR 4	-96	-88	4515	-975.8	986.49	-1.59
257	SLE FR 5	-96	-88	4515	-975.8	986.49	-1.59
257	SLE FR 6	-100	-91	4669	-1008.85	1019.81	-1.52
257	SLE QP 1	-91	-83	4284	-926.24	936.5	-1.69
257	SLE QP 2	-96	-88	4515	-975.8	986.49	-1.59
257	SLD 1	215	-109	3881	-839.98	854.47	54.79
257	SLD 2	160	-57	3879	-839.57	854.05	29.93
257	SLD 3	274	-296	4179	-899.43	919.97	108.17
257	SLD 4	220	-244	4177	-899.02	919.54	83.31
257	SLD 5	-74	170	3875	-845.04	847.7	-56.75
257	SLD 6	-129	224	3873	-844.63	847.27	-81.97
257	SLD 7	124	-453	4866	-1043.2	1066.01	121.17
257	SLD 8	69	-399	4863	-1042.79	1065.59	95.95
257	SLD 9	-262	224	4166	-908.82	907.39	-99.14
257	SLD 10	-317	277	4164	-908.41	906.96	-124.36
257	SLD 11	-64	-399	5157	-1106.98	1125.7	78.79
257	SLD 12	-119	-346	5155	-1106.57	1125.27	53.57
257	SLD 13	-412	68	4853	-1052.58	1053.43	-86.49
257	SLD 14	-467	120	4851	-1052.18	1053.01	-111.35
257	SLD 15	-353	-119	5150	-1112.03	1118.92	-33.12
257	SLD 16	-407	-66	5148	-1111.63	1118.5	-57.98
257	SLV 1	610	-134	3073	-666.68	685.94	125.88
257	SLV 2	486	-16	3068	-665.77	684.98	69.49
257	SLV 3	745	-565	3757	-803.46	836.57	248.86
257	SLV 4	622	-446	3752	-802.55	835.62	192.47
257	SLV 5	-46	508	3047	-675.95	668.2	-129.71
257	SLV 6	-172	629	3042	-675.02	667.23	-186.96
257	SLV 7	406	-926	5326	-1131.87	1170.32	280.24
257	SLV 8	281	-806	5321	-1130.95	1169.35	222.99
257	SLV 9	-474	630	3708	-820.66	803.63	-226.18
257	SLV 10	-599	750	3703	-819.73	802.66	-283.42
257	SLV 11	-21	-805	5987	-1276.59	1305.74	183.78
257	SLV 12	-146	-684	5983	-1275.66	1304.77	126.53
257	SLV 13	-815	270	5277	-1149.06	1137.35	-195.66
257	SLV 14	-938	389	5273	-1148.14	1136.4	-252.05
257	SLV 15	-679	-160	5961	-1285.84	1287.99	-72.67
257	SLV 16	-802	-41	5956	-1284.92	1287.03	-129.06
257	CRTFP Ux+	0	0	0	0	0	0



Nodo		Reazione a traslazione			Reazione a rotazione		
Ind.	Cont.	x	y	z	x	y	z
257	CRTFP Ux-	0	0	0	0	0	0
257	CRTFP Uy+	0	0	0	-0.01	0.01	0
257	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 -10751.2 al nodo di indice 230, di coordinate x = 12.74, y = 5.57, z = -1.59, nel contesto SLU 81.

Spostamento estremo minimo -0.0035837 al nodo di indice 230, di coordinate x = 12.74, y = 5.57, z = -1.59, nel contesto SLU 81.

Spostamento estremo massimo -0.0001348 al nodo di indice 52, di coordinate x = 3.36, y = -3.1, z = -1.59, nel contesto SLV 15.

Nodo		Pressione minima		Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
24	SLV 10	-0.0027008	-8102.5	SLV 7	-0.0006829	-2048.8
27	SLU 81	-0.0005873	-1761.8	SLV 12	-0.0002185	-655.6
28	SLU 81	-0.000778	-2334	SLV 12	-0.0003239	-971.7
29	SLU 81	-0.0008935	-2680.5	SLV 12	-0.000386	-1157.9
30	SLU 81	-0.0010002	-3000.7	SLV 12	-0.0004406	-1321.8
31	SLU 81	-0.0010962	-3288.5	SLV 8	-0.0004858	-1457.5
32	SLU 81	-0.0011805	-3541.4	SLV 8	-0.000522	-1566
33	SLU 81	-0.0012528	-3758.4	SLV 8	-0.0005501	-1650.2
34	SLU 81	-0.0013134	-3940.3	SLV 8	-0.0005707	-1712.2
35	SLU 81	-0.0013629	-4088.8	SLV 8	-0.0005847	-1754
36	SLU 81	-0.0014024	-4207.2	SLV 8	-0.0005927	-1778.2
37	SLU 81	-0.0014342	-4302.6	SLV 8	-0.0005966	-1789.7
38	SLU 81	-0.0015224	-4567.3	SLV 8	-0.0006037	-1811
39	SLU 81	-0.001575	-4724.9	SLV 8	-0.0006079	-1823.6
40	SLU 81	-0.0016361	-4908.2	SLV 8	-0.0006113	-1833.9
41	SLU 81	-0.0017075	-5122.6	SLV 8	-0.000614	-1841.9
42	SLU 81	-0.0017941	-5382.4	SLV 7	-0.0006174	-1852.2
43	SLU 81	-0.0019026	-5707.9	SLV 7	-0.0006231	-1869.3
44	SLV 10	-0.0020434	-6130.1	SLV 7	-0.0006346	-1903.9
45	SLV 10	-0.0022542	-6762.5	SLV 7	-0.0006553	-1965.8
46	SLV 10	-0.0025114	-7534.2	SLV 7	-0.0006881	-2064.4
47	SLV 10	-0.0028163	-8448.9	SLV 7	-0.0007347	-2204.1
49	SLV 10	-0.0024586	-7375.9	SLV 7	-0.0007005	-2101.6
52	SLV 2	-0.0006613	-1983.8	SLV 15	-0.0001348	-404.5
54	SLU 81	-0.0022646	-6793.7	SLV 7	-0.0007261	-2178.2
57	SLU 81	-0.0021614	-6484.1	SLV 7	-0.000763	-2289
60	SLV 1	-0.0008063	-2418.9	SLV 16	-0.0002589	-776.7
61	SLU 81	-0.0021049	-6314.8	SLV 3	-0.0007996	-2398.8
64	SLU 81	-0.0009226	-2767.7	SLV 16	-0.0003312	-993.6
65	SLU 81	-0.0020968	-6290.4	SLV 3	-0.0008329	-2498.6
68	SLU 81	-0.0010541	-3162.3	SLV 16	-0.0004038	-1211.3
69	SLU 81	-0.0021358	-6407.4	SLV 3	-0.0008804	-2641.2
72	SLU 81	-0.0011918	-3575.3	SLV 16	-0.0004761	-1428.4
73	SLU 81	-0.0022182	-6654.6	SLV 3	-0.0009414	-2824.2
76	SLU 81	-0.0013367	-4010.2	SLV 16	-0.0005466	-1639.8
77	SLU 81	-0.0023367	-7010.2	SLV 3	-0.0010136	-3040.9
80	SLU 81	-0.0014885	-4465.4	SLV 16	-0.0006123	-1836.8
81	SLU 81	-0.0024793	-7437.9	SLV 3	-0.0010929	-3278.8
84	SLU 81	-0.0016431	-4929.2	SLV 14	-0.0006724	-2017.3
85	SLU 81	-0.0026268	-7880.4	SLV 3	-0.001172	-3516
88	SLU 81	-0.0017912	-5373.6	SLV 14	-0.0007268	-2180.5
89	SLU 81	-0.0027501	-8250.4	SLV 3	-0.0012394	-3718.2
92	SLU 81	-0.0019157	-5747	SLV 14	-0.0007718	-2315.3
93	SLU 81	-0.0019608	-5882.3	SLV 14	-0.0007486	-2245.9
94	SLU 81	-0.0019652	-5895.6	SLV 14	-0.0008153	-2445.8
95	SLU 81	-0.0019907	-5972.2	SLV 14	-0.000889	-2667.1
96	SLU 81	-0.0020284	-6085.3	SLV 14	-0.0009665	-2899.4
97	SLU 81	-0.0020714	-6214.3	SLV 14	-0.001045	-3135.1
98	SLU 81	-0.002115	-6345	SLV 14	-0.001123	-3368.9
99	SLU 81	-0.0021555	-6466.6	SLV 14	-0.0011986	-3595.7
100	SLU 81	-0.0021902	-6570.7	SLU 1	-0.001228	-3684.1
101	SLU 81	-0.0022168	-6650.5	SLU 1	-0.0012391	-3717.4
102	SLU 81	-0.0022338	-6701.5	SLU 1	-0.0012465	-3739.6
103	SLU 81	-0.0022416	-6724.8	SLU 1	-0.0012503	-3750.9
104	SLU 81	-0.0022448	-6734.4	SLU 1	-0.0012528	-3758.4
105	SLU 81	-0.0023072	-6921.7	SLU 1	-0.001293	-3878.9
106	SLU 81	-0.0023582	-7074.6	SLU 1	-0.0013248	-3974.3
107	SLU 81	-0.0024127	-7238.1	SLU 1	-0.0013596	-4078.9
108	SLU 81	-0.0024644	-7393.2	SLV 4	-0.0013884	-4165.1
109	SLU 81	-0.0025108	-7532.5	SLV 3	-0.0013706	-4111.7
110	SLU 81	-0.0025526	-7657.8	SLV 3	-0.001347	-4040.9



Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
111	SLU 81	-0.0025929	-7778.7	SLV 3	-0.0013207	-3962.1
112	SLU 81	-0.0026379	-7913.6	SLV 3	-0.0012953	-3885.8
113	SLU 81	-0.0026977	-8093	SLV 3	-0.0012753	-3826
114	SLU 81	-0.0027881	-8364.3	SLV 3	-0.0012677	-3803.2
115	SLU 81	-0.0029296	-8788.7	SLV 3	-0.0012815	-3844.5
117	SLU 81	-0.0019904	-5971.3	SLV 14	-0.0007994	-2398.3
139	SLU 81	-0.0028098	-8429.5	SLV 3	-0.001279	-3837.1
141	SLU 81	-0.0020242	-6072.6	SLV 14	-0.0007729	-2318.7
142	SLU 81	-0.0020279	-6083.7	SLV 14	-0.0008391	-2517.3
143	SLU 81	-0.0020517	-6155.1	SLV 14	-0.000912	-2735.9
144	SLU 81	-0.0020877	-6263.1	SLV 14	-0.0009885	-2965.4
145	SLU 81	-0.0021292	-6387.5	SLV 14	-0.0010662	-3198.5
146	SLU 81	-0.0021712	-6513.7	SLV 14	-0.0011432	-3429.5
147	SLU 81	-0.0022104	-6631.2	SLV 14	-0.0012178	-3653.4
148	SLU 81	-0.0022438	-6731.5	SLU 1	-0.0012596	-3778.7
149	SLU 81	-0.0022692	-6807.7	SLU 1	-0.00127	-3810
150	SLU 81	-0.0022851	-6855.4	SLU 1	-0.0012767	-3830.2
151	SLU 81	-0.0022919	-6875.6	SLU 1	-0.0012799	-3839.7
152	SLU 81	-0.0022942	-6882.5	SLU 1	-0.0012819	-3845.7
153	SLU 81	-0.0023454	-7036.2	SLU 1	-0.0013155	-3946.6
154	SLU 81	-0.0023957	-7187.1	SLU 1	-0.0013469	-4040.8
155	SLU 81	-0.0024496	-7348.7	SLU 1	-0.0013815	-4144.4
156	SLU 81	-0.0025007	-7502.1	SLU 1	-0.0014159	-4247.7
157	SLU 81	-0.0025467	-7640	SLV 1	-0.0014015	-4204.5
158	SLU 81	-0.002588	-7764	SLV 1	-0.0013782	-4134.6
159	SLU 81	-0.0026279	-7883.7	SLV 1	-0.001352	-4056.1
160	SLU 81	-0.0026726	-8017.7	SLV 1	-0.0013266	-3979.7
161	SLU 81	-0.0027321	-8196.4	SLV 1	-0.0013066	-3919.8
162	SLU 81	-0.0028224	-8467.1	SLV 3	-0.001299	-3897
163	SLU 81	-0.0029638	-8891.3	SLV 3	-0.0013128	-3938.3
164	SLU 81	-0.0028097	-8429	SLV 1	-0.0012916	-3874.9
167	SLU 81	-0.0020231	-6069.3	SLV 14	-0.000813	-2438.9
168	SLU 81	-0.0027525	-8257.6	SLV 1	-0.0012788	-3836.5
171	SLU 81	-0.0020157	-6047	SLV 14	-0.0008135	-2440.5
172	SLU 81	-0.0026733	-8020	SLV 1	-0.0012537	-3761.1
175	SLU 81	-0.001998	-5994	SLV 14	-0.0008105	-2431.5
176	SLU 81	-0.0025993	-7797.9	SLV 1	-0.0012265	-3679.4
179	SLU 81	-0.0019915	-5974.5	SLV 14	-0.0008107	-2432.2
180	SLU 81	-0.0025496	-7648.9	SLV 2	-0.0012055	-3616.5
183	SLU 81	-0.0020106	-6031.8	SLV 14	-0.0008187	-2456.1
184	SLU 81	-0.0025379	-7613.6	SLV 2	-0.0011977	-3593.1
187	SLU 81	-0.0020656	-6196.9	SLV 9	-0.0008171	-2451.2
188	SLU 81	-0.0025733	-7719.9	SLV 2	-0.0012079	-3623.7
191	SLU 81	-0.0021649	-6494.6	SLV 9	-0.0008158	-2447.3
192	SLU 81	-0.0026622	-7986.5	SLV 2	-0.0012393	-3717.9
195	SLU 81	-0.0023154	-6946.3	SLV 9	-0.0008313	-2494
196	SLU 81	-0.002808	-8424.1	SLV 2	-0.0012938	-3881.5
199	SLU 81	-0.0025232	-7569.7	SLV 9	-0.0008657	-2597.2
200	SLU 81	-0.0030117	-9035	SLV 2	-0.0013723	-4116.8
203	SLU 81	-0.0027914	-8374.3	SLV 9	-0.0009201	-2760.4
204	SLU 81	-0.0032699	-9809.8	SLV 6	-0.0014664	-4399.3
206	SLU 81	-0.0029764	-8929.2	SLV 9	-0.0009481	-2844.4
207	SLU 81	-0.0027652	-8295.7	SLV 9	-0.0009209	-2762.8
208	SLU 81	-0.0025816	-7744.7	SLV 9	-0.0009019	-2705.7
209	SLU 81	-0.0024314	-7294.1	SLV 9	-0.0008923	-2677
210	SLU 81	-0.0023152	-6945.5	SLV 9	-0.0008919	-2675.7
211	SLU 81	-0.0022303	-6691	SLV 9	-0.0008993	-2697.9
212	SLU 81	-0.0021725	-6517.6	SLV 9	-0.000913	-2738.9
213	SLU 81	-0.0021368	-6410.4	SLV 9	-0.0009313	-2793.8
214	SLU 81	-0.002118	-6354.1	SLV 9	-0.0009523	-2857
215	SLU 81	-0.0021117	-6335.2	SLV 9	-0.0009745	-2923.6
216	SLU 81	-0.002114	-6341.9	SLV 9	-0.0009965	-2989.5
217	SLU 81	-0.002122	-6365.9	SLV 9	-0.0010169	-3050.6
218	SLU 81	-0.0021339	-6401.8	SLV 9	-0.0010347	-3104.1
219	SLU 81	-0.0021495	-6448.4	SLV 9	-0.0010496	-3148.7
220	SLU 81	-0.0021693	-6507.9	SLV 5	-0.0010621	-3186.2
221	SLU 81	-0.0021956	-6586.9	SLV 5	-0.0010738	-3221.4
222	SLU 81	-0.002232	-6696	SLV 5	-0.0010868	-3260.5
223	SLU 81	-0.0022833	-6850	SLV 5	-0.0011038	-3311.4
224	SLU 81	-0.0023556	-7066.8	SLV 5	-0.0011276	-3382.8
225	SLU 81	-0.0024557	-7367.2	SLV 5	-0.0011616	-3484.7
226	SLU 81	-0.0025909	-7772.7	SLV 6	-0.0012087	-3626.2
227	SLU 81	-0.0027679	-8303.7	SLV 6	-0.0012727	-3818.2
228	SLU 81	-0.002992	-8975.9	SLV 6	-0.0013565	-4069.4
229	SLU 81	-0.0032652	-9795.7	SLV 6	-0.0014614	-4384.3
230	SLU 81	-0.0035837	-10751.2	SLV 2	-0.0015777	-4733.2
232	SLU 81	-0.0031167	-9350.2	SLV 9	-0.000993	-2979
256	SLU 81	-0.0035736	-10720.8	SLV 6	-0.0015563	-4668.8

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 -0.0026873 al nodo di indice 230, di coordinate x = 12.74, y = 5.57, z = -1.59, nel contesto SLD 15.

Spostamento estremo massimo -0.0002824 al nodo di indice 52, di coordinate x = 3.36, y = -3.1, z = -1.59, nel contesto SLD 15.

Cedimento elastico estremo massimo 0.0000352 al nodo di indice 163, di coordinate x = 12.74, y = 1.49, z = -1.59, nel contesto SLE rara 18.

Nodo Ind.	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
24	SLD 7	-1.3E-03	-3758	SLD 10	-2.1E-03	-6393.3	SLE RA 18	6.09E-07				
27	SLD 12	-3.1E-04	-933.8	SLD 5	-4.6E-04	-1365.3						
28	SLD 12	-4.3E-04	-1281.8	SLD 5	-5.9E-04	-1760.4						
29	SLD 12	-5.0E-04	-1490.3	SLD 5	-6.7E-04	-2002						
30	SLD 12	-5.6E-04	-1679.5	SLD 5	-7.4E-04	-2228.8						
31	SLD 8	-6.1E-04	-1844.5	SLD 9	-8.1E-04	-2438.2						
32	SLD 8	-6.6E-04	-1985	SLD 9	-8.8E-04	-2627						
33	SLD 8	-7.0E-04	-2101.9	SLD 9	-9.3E-04	-2793.7						
34	SLD 8	-7.3E-04	-2196.5	SLD 9	-9.8E-04	-2938						
35	SLD 8	-7.6E-04	-2270.3	SLD 9	-1.0E-03	-3060.8						
36	SLD 8	-7.8E-04	-2325.7	SLD 9	-1.1E-03	-3163.9						
37	SLD 8	-7.9E-04	-2367.5	SLD 9	-1.1E-03	-3252						
38	SLD 8	-8.3E-04	-2478.3	SLD 9	-1.2E-03	-3500.7						
39	SLD 8	-8.5E-04	-2543.3	SLD 9	-1.2E-03	-3646.3						
40	SLD 8	-8.7E-04	-2616.4	SLD 9	-1.3E-03	-3816.9						
41	SLD 8	-0.0009	-2700	SLD 9	-1.3E-03	-4017.7						
42	SLD 7	-9.3E-04	-2801.1	SLD 10	-1.4E-03	-4259.8						
43	SLD 7	-9.8E-04	-2929.2	SLD 10	-0.00152	-4560						
44	SLD 7	-1.0E-03	-3097.8	SLD 10	-1.6E-03	-4936.3						
45	SLD 7	-1.1E-03	-3320.4	SLD 10	-1.8E-03	-5407.9						
46	SLD 7	-1.2E-03	-3608.7	SLD 10	-2.0E-03	-5989.9	SLE RA 18	1.34E-06				
47	SLD 7	-1.3E-03	-3966.9	SLD 10	-2.2E-03	-6686	SLE RA 18	1.62E-06				
49	SLD 7	-1.2E-03	-3590.6	SLD 10	-2.0E-03	-5886.8	SLE RA 18	1.52E-06				
52	SLD 15	-2.8E-04	-847.2	SLD 2	-5.1E-04	-1541.1						
54	SLD 7	-1.2E-03	-3466.7	SLD 10	-1.8E-03	-5454.3						
57	SLD 7	-1.1E-03	-3402.4	SLD 10	-1.7E-03	-5120.6						
60	SLD 16	-4.1E-04	-1236.8	SLD 1	-6.5E-04	-1958.8						
61	SLD 3	-1.1E-03	-3382.8	SLD 14	-1.6E-03	-4920.4						
64	SLD 16	-4.9E-04	-1470.3	SLD 1	-7.4E-04	-2219						
65	SLD 3	-1.1E-03	-3416.1	SLD 14	-1.6E-03	-4851						
68	SLD 16	-5.7E-04	-1708.5	SLD 1	-0.00083	-2489.9						
69	SLD 3	-1.2E-03	-3518.5	SLD 14	-1.6E-03	-4891.7						
72	SLD 16	-6.5E-04	-1952	SLD 1	-9.3E-04	-2775.6						
73	SLD 3	-1.2E-03	-3684.8	SLD 14	-1.7E-03	-5033.3						
76	SLD 16	-7.3E-04	-2199.9	SLD 1	-1.0E-03	-3081.8						
77	SLD 3	-1.3E-03	-3904.6	SLD 14	-1.8E-03	-5258.9	SLE RA 18	0.000002				
80	SLD 16	-8.2E-04	-2448.1	SLD 1	-1.1E-03	-3410.7						
81	SLD 3	-1.4E-03	-4159.4	SLD 14	-1.8E-03	-5541.4	SLE RA 18	8.10E-06				
84	SLD 14	-9.0E-04	-2691.8	SLD 3	-1.3E-03	-3753.2						
85	SLD 3	-1.5E-03	-4419.4	SLD 14	-1.9E-03	-5838.3	SLE RA 18	2.66E-05				
88	SLD 14	-9.7E-04	-2920.9	SLD 3	-1.4E-03	-4085.2						
89	SLD 3	-1.5E-03	-4638.9	SLD 14	-2.0E-03	-6086	SLE RA 18	0.000014				
92	SLD 14	-1.0E-03	-3112.8	SLD 3	-1.5E-03	-4365.8						
93	SLD 14	-1.0E-03	-3138.2	SLD 3	-1.5E-03	-4539.8						
94	SLD 14	-1.1E-03	-3217.8	SLD 3	-1.5E-03	-4430.5						
95	SLD 14	-1.1E-03	-3329.6	SLD 3	-1.5E-03	-4370						
96	SLD 14	-1.2E-03	-3459.7	SLE RA 18	-1.5E-03	-4434.9	SLE RA 18	3.76E-06				
97	SLD 14	-1.2E-03	-3598.1	SLE RA 18	-1.5E-03	-4522.9	SLE RA 18	1.82E-06				
98	SLD 14	-1.2E-03	-3737.6	SLE RA 18	-1.5E-03	-4612.8	SLE RA 18	1.88E-06				
99	SLE RA 1	-1.3E-03	-3828.9	SLE RA 18	-1.6E-03	-4697	SLE RA 18	2.27E-06				
100	SLE RA 1	-1.3E-03	-3875.8	SLE RA 18	-1.6E-03	-4769.4	SLE RA 18	2.81E-06				
101	SLE RA 1	-1.3E-03	-3912.7	SLE RA 18	-1.6E-03	-4825.2	SLE RA 18	3.40E-06				
102	SLE RA 1	-1.3E-03	-3936.9	SLE RA 18	-1.6E-03	-4861	SLE RA 18	3.91E-06				
103	SLE RA 1	-1.3E-03	-3948.9	SLE RA 18	-1.6E-03	-4877.7	SLE RA 18	4.05E-06				
104	SLE RA 1	-1.3E-03	-3956.3	SLE RA 18	-1.6E-03	-4885.2	SLE RA 18	3.50E-06				
105	SLE RA 1	-0.00136	-4079.9	SLE RA 18	-1.7E-03	-5024.5	SLE RA 18	5.69E-06				
106	SLE RA 1	-1.4E-03	-4178.3	SLE RA 18	-1.7E-03	-5137.5	SLE RA 18	1.04E-05				
107	SLE RA 1	-1.4E-03	-4286	SLE RA 18	-1.8E-03	-5258.8	SLE RA 18	1.36E-05				
108	SLE RA 1	-1.5E-03	-4392.4	SLE RA 18	-1.8E-03	-5374.9	SLE RA 18	1.64E-05				
109	SLD 3	-1.5E-03	-4491.6	SLE RA 18	-1.8E-03	-5480.6	SLE RA 18	2.01E-05				
110	SLD 3	-1.5E-03	-4514.7	SLE RA 18	-1.9E-03	-5577	SLE RA 18	2.54E-05				
111	SLD 3	-1.5E-03	-4534.4	SLE RA 18	-1.9E-03	-5671.2	SLE RA 18	3.32E-05				
112	SLD 3	-1.5E-03	-4561.7	SLE RA 18	-1.9E-03	-5776.4	SLE RA 18	1.43E-05				



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.
113	SLD 3	-1.5E-03	-4613.2	SLE RA 18	-2.0E-03	-5914.6	SLE RA 18	1.59E-05				
114	SLD 3	-1.6E-03	-4714.5	SLD 14	-2.0E-03	-6146.8	SLE RA 18	1.62E-05				
115	SLD 3	-1.6E-03	-4898.5	SLD 14	-2.2E-03	-6555.5	SLE RA 18	3.39E-05				
117	SLD 14	-1.1E-03	-3229.9	SLD 3	-1.5E-03	-4535.7	SLE RA 18	2.41E-06				
139	SLD 3	-1.6E-03	-4755.1	SLD 14	-2.1E-03	-6198.4	SLE RA 18	1.69E-05				
141	SLD 14	-1.1E-03	-3239.6	SLD 3	-1.6E-03	-4685.2						
142	SLD 14	-1.1E-03	-3317.9	SLD 3	-1.5E-03	-4574.4	SLE RA 18	5.63E-06				
143	SLD 14	-1.1E-03	-3426.6	SLD 3	-1.5E-03	-4510.3						
144	SLD 14	-1.2E-03	-3553.7	SLE RA 18	-1.5E-03	-4565.1	SLE RA 18	5.56E-06				
145	SLD 14	-1.2E-03	-3689.2	SLE RA 18	-1.5E-03	-4649.7	SLE RA 18	0.000003				
146	SLD 14	-1.3E-03	-3825.8	SLE RA 18	-1.6E-03	-4736.3	SLE RA 18	2.81E-06				
147	SLE RA 1	-1.3E-03	-3929.8	SLE RA 18	-1.6E-03	-4817.5	SLE RA 18	3.15E-06				
148	SLE RA 1	-1.3E-03	-3974.4	SLE RA 18	-1.6E-03	-4887.2	SLE RA 18	3.66E-06				
149	SLE RA 1	-1.3E-03	-4009.1	SLE RA 18	-1.6E-03	-4940.3	SLE RA 18	4.21E-06				
150	SLE RA 1	-1.3E-03	-4031.3	SLE RA 18	-1.7E-03	-4973.7	SLE RA 18	4.78E-06				
151	SLE RA 1	-1.3E-03	-4041.4	SLE RA 18	-1.7E-03	-4988.2	SLE RA 18	0.000005				
152	SLE RA 1	-1.3E-03	-4047.1	SLE RA 18	-1.7E-03	-4993.7	SLE RA 18	4.26E-06				
153	SLE RA 1	-1.4E-03	-4150.2	SLE RA 18	-1.7E-03	-5108.4	SLE RA 18	6.48E-06				
154	SLE RA 1	-1.4E-03	-4247.5	SLE RA 18	-0.00174	-5219.9	SLE RA 18	1.12E-05				
155	SLE RA 1	-1.5E-03	-4354	SLE RA 18	-0.00178	-5339.9	SLE RA 18	1.44E-05				
156	SLE RA 1	-1.5E-03	-4459.4	SLE RA 18	-1.8E-03	-5454.8	SLE RA 18	1.72E-05				
157	SLE RA 1	-1.5E-03	-4559.8	SLE RA 18	-1.9E-03	-5559.4	SLE RA 18	2.09E-05				
158	SLD 1	-1.5E-03	-4594.4	SLE RA 18	-1.9E-03	-5654.9	SLE RA 18	2.63E-05				
159	SLD 1	-1.5E-03	-4613.9	SLE RA 18	-1.9E-03	-5748.3	SLE RA 18	3.42E-05				
160	SLD 1	-1.5E-03	-4640.8	SLE RA 18	-2.0E-03	-5852.8	SLE RA 18	1.56E-05				
161	SLD 1	-1.6E-03	-4692	SLE RA 18	-2.0E-03	-5990.5	SLE RA 18	1.73E-05				
162	SLD 3	-1.6E-03	-4793	SLD 14	-2.1E-03	-6202.2	SLE RA 18	1.76E-05				
163	SLD 3	-1.7E-03	-4976.9	SLD 14	-2.2E-03	-6610.7	SLE RA 18	3.52E-05				
164	SLD 1	-1.6E-03	-4772.5	SLD 16	-2.1E-03	-6184.4	SLE RA 18	1.64E-05				
167	SLD 14	-1.1E-03	-3284.8	SLD 3	-1.5E-03	-4612.1	SLE RA 18	6.49E-07				
168	SLD 1	-1.6E-03	-4696.8	SLD 16	-2.0E-03	-6050.3	SLE RA 18	3.35E-05				
171	SLD 14	-1.1E-03	-3281.3	SLD 3	-1.5E-03	-4599.6						
172	SLD 1	-1.5E-03	-4582.1	SLE RA 18	-2.0E-03	-5875.1	SLE RA 18	1.79E-05				
175	SLD 14	-1.1E-03	-3263.2	SLD 3	-1.5E-03	-4565.8						
176	SLD 1	-1.5E-03	-4470.8	SLE RA 18	-1.9E-03	-5715.6	SLE RA 18	8.29E-06				
179	SLD 14	-1.1E-03	-3261.5	SLD 3	-1.5E-03	-4559.3						
180	SLD 2	-1.5E-03	-4394.2	SLD 15	-1.9E-03	-5616.8	SLE RA 18	5.78E-06				
183	SLD 14	-1.1E-03	-3297.6	SLD 3	-1.5E-03	-4613.1						
184	SLD 2	-1.5E-03	-4375.8	SLD 15	-1.9E-03	-5605.5	SLE RA 18	0.000005				
187	SLD 9	-1.1E-03	-3364.1	SLD 8	-1.6E-03	-4773.5						
188	SLD 2	-1.5E-03	-4431.9	SLD 15	-1.9E-03	-5700.9	SLE RA 18	0.000006				
191	SLD 9	-1.2E-03	-3474.4	SLD 8	-1.7E-03	-5059.2						
192	SLD 2	-1.5E-03	-4573.5	SLD 15	-2.0E-03	-5916	SLE RA 18	8.82E-06				
195	SLD 9	-1.2E-03	-3662.2	SLD 8	-1.8E-03	-5464.2						
196	SLD 2	-1.6E-03	-4806.9	SLD 15	-2.1E-03	-6258.3	SLE RA 18	1.62E-05				
199	SLD 9	-1.3E-03	-3936.7	SLD 8	-2.0E-03	-6002.4	SLE RA 18	4.61E-06				
200	SLD 2	-1.7E-03	-5134.2	SLD 15	-2.2E-03	-6729.2	SLE RA 18	2.63E-05				
203	SLD 9	-1.4E-03	-4302.9	SLD 8	-2.2E-03	-6681.6	SLE RA 18	8.57E-06				
204	SLD 6	-1.8E-03	-5547.9	SLD 11	-2.4E-03	-7324.5	SLE RA 18	2.86E-05				
206	SLD 9	-1.5E-03	-4541.9	SLD 8	-2.4E-03	-7159.5	SLE RA 18	0.000008				
207	SLD 9	-1.4E-03	-4275.8	SLD 8	-2.2E-03	-6609	SLE RA 18	8.73E-06				
208	SLD 9	-1.4E-03	-4050.4	SLD 8	-2.0E-03	-6124.1	SLE RA 18	6.32E-06				
209	SLD 9	-1.3E-03	-3873.9	SLD 8	-1.9E-03	-5719.7	SLE RA 18	2.58E-06				
210	SLD 9	-1.2E-03	-3746.4	SLD 8	-1.8E-03	-5397.6						
211	SLD 9	-1.2E-03	-3663.4	SLD 8	-1.7E-03	-5152.4						
212	SLD 9	-1.2E-03	-3618.1	SLD 8	-1.7E-03	-4974						
213	SLD 9	-1.2E-03	-3602.8	SLD 8	-1.6E-03	-4850.8						
214	SLD 9	-1.2E-03	-3609.8	SLD 8	-1.6E-03	-4771.1						
215	SLD 9	-1.2E-03	-3632	SLD 8	-1.6E-03	-4724.5						
216	SLD 9	-1.2E-03	-3663.1	SLD 8	-1.6E-03	-4702.2						
217	SLD 9	-1.2E-03	-3698.6	SLD 8	-1.6E-03	-4698.1						
218	SLD 9	-1.2E-03	-3735.1	SLD 8	-1.6E-03	-4708.7						
219	SLD 9	-1.3E-03	-3771.8	SLE RA 18	-1.6E-03	-4738.6						
220	SLD 5	-0.00127	-3810.1	SLE RA 18	-1.6E-03	-4782.4						
221	SLD 5	-1.3E-03	-3854.7	SLE RA 18	-1.6E-03	-4840.6						
222	SLD 5	-1.3E-03	-3912	SLE RA 18	-1.6E-03	-4920.8						
223	SLD 5	-1.3E-03	-3990.9	SLD 12	-1.7E-03	-5041.2						
224	SLD 5	-1.4E-03	-4101.7	SLD 12	-1.7E-03	-5213.2						
225	SLD 5	-1.4E-03	-4256.4	SLD 12	-1.8E-03	-5449.5	SLE RA 18	2.47E-06				
226	SLD 6	-1.5E-03	-4466.6	SLD 11	-1.9E-03	-5766	SLE RA 18	6.57E-06				
227	SLD 6	-1.6E-03	-4744.5	SLD 11	-2.1E-03	-6177	SLE RA 18	1.33E-05				
228	SLD 6	-1.7E-03	-5099.7	SLD 11	-2.2E-03	-6693.1	SLE RA 18	2.51E-05				
229	SLD 6	-1.8E-03	-5536.4	SLD 11	-2.4E-03	-7318.3	SLE RA 18	2.86E-05				
230	SLD 2	-2.0E-03	-6029.7	SLD 15	-2.7E-03	-8062	SLE RA 18	2.07E-05				
232	SLD 9	-1.6E-03	-4755.4	SLD 8	-2.5E-03	-7494.9	SLE RA 18	9.09E-06				
256	SLD 6	-2.0E-03	-5999.5	SLD 11	-2.7E-03	-8057.3	SLE RA 18	2.05E-05				

1.5 Baricentri delle rigidezze

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

Posizione: posizione in pianta del baricentro delle rigidezze.

X: coordinata X. [m]

Y: coordinata Y. [m]

Baricentro masse: posizione in pianta del baricentro delle masse.

X: coordinata X. [m]



Y: coordinata Y. [m]

Distanza: distanza in pianta tra il baricentro delle rigidzze 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	7.575	1.08	7.949	1.127	-0.374	-0.047
Primo	7.874	0.788	7.963	1.151	-0.089	-0.362

1.6 Rigidzze di interpiano

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

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

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

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

Quota inferiore	Quota superiore	KUx	KUy
Fondazione	Rialzato	88424522	47764403
Rialzato	Primo	57469018	38140856

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: 0.998789

Traslazione Y: 0.998484

Traslazione Z: 0

Rotazione X: 0.925245

Rotazione Y: 0.951681

Rotazione Z: 0.770958

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	1.075800805	0.000000152	0.028011057	0	0.031897995	0.000000216	0.019922759	0.000000152	0.028011057
2	0.845941911	0.000000013	0.000004959	0	0.000004318	0.000000017	0.00127542	0.000000013	0.000004959
3	0.624022628	0.000002529	0.003053379	0	0.003394128	0.00000298	0.002132268	0.000002529	0.003053379
4	0.570561919	0.000095658	0.06191191	0	0.06958717	0.000097265	0.049509948	0.000095658	0.06191191
5	0.549475933	0.000003254	0.038524705	0	0.044152297	0.000005134	0.027243224	0.000003254	0.038524705
6	0.454300368	0.000095426	0.00000048	0	0.000001624	0.00010329	0.000017568	0.000095426	0.00000048
7	0.428574328	0.002371333	0.000015461	0	0.000027751	0.002740648	0.004192959	0.002371333	0.000015461
8	0.423667401	0.015250093	0.000105774	0	0.000100257	0.016606524	0.008081208	0.015250093	0.000105774
9	0.404689666	0.000784478	0.000068622	0	0.000039578	0.000835569	0.000452082	0.000784478	0.000068622
10	0.392313213	0.001682485	0.000063783	0	0.000060496	0.001852516	0.000079258	0.001682485	0.000063783
11	0.36881067	0.044555445	0.000926704	0	0.001082919	0.050055347	0.0037092	0.044555445	0.000926704
12	0.356875263	0.000034692	0.000122839	0	0.001921036	0.000036637	0.000089324	0.000034692	0.000122839
13	0.349076011	0.044309275	0.000619849	0	0.000679835	0.047551708	0.000168591	0.044309275	0.000619849
14	0.330684919	0.000772567	0.002550109	0	0.00309645	0.000811682	0.002272476	0.000772567	0.002550109
15	0.326490035	0.000197956	0.00003579	0	0.000064898	0.000211479	0.000004816	0.000197956	0.00003579
16	0.321855911	0.000039211	0.013146031	0	0.014975524	0.000027359	0.008823235	0.000039211	0.013146031
17	0.299048689	0.001715639	0.008063679	0	0.008463548	0.002021125	0.008893085	0.001715639	0.008063679
18	0.275547854	0.00267624	0.000915186	0	0.000935472	0.003031191	0.000131781	0.00267624	0.000915186
19	0.263920714	0.000485532	0.003041006	0	0.003366349	0.000517883	0.001402894	0.000485532	0.003041006
20	0.241430713	0.000378413	0.000000558	0	0.000115314	0.000285298	0.000202657	0.000378413	0.000000558
21	0.229941388	0.001234054	0.000138347	0	0.000047201	0.001765783	0.000044914	0.001234054	0.000138347
22	0.197868436	0.000056413	0.015384203	0	0.004521442	0.000073063	0.012439772	0.000056413	0.015384203
23	0.193037827	0.000711965	0.000850665	0	0.004112017	0.000106602	0.000000179	0.000711965	0.000850665
24	0.165750892	0.004671672	0.260676977	0	0.212669105	0.007230679	0.19518728	0.004671672	0.260676977
25	0.152260122	0.033579189	0.065321128	0	0.05840772	0.018095175	0.071959073	0.033579189	0.065321128
26	0.147230363	0.030397683	0.336725105	0	0.306216998	0.035450696	0.27319111	0.030397683	0.336725105
27	0.135783841	0.643678338	0.023986346	0	0.015799486	0.561413658	0.000405186	0.643678338	0.023986346
28	0.127737776	0.087768281	0.078495611	0	0.061287919	0.070695054	0.041818849	0.087768281	0.078495611
29	0.110735768	0.037973878	0.001187758	0	0.000009873	0.020394967	0.001953188	0.037973878	0.001187758
30	0.085920607	0.001654524	0.010332548	0	0.000384157	0.000572511	0.000109289	0.001654524	0.010332548
31	0.077619527	0.008752257	0.003737777	0	0.000391066	0.000740533	0.000236258	0.008752257	0.003737777
32	0.043262881	0.004105415	0.039771223	0	0.066765136	0.002817449	0.032858654	0.004105415	0.039771223
33	0.036824613	0.028746234	0.000368107	0	0.007515145	0.105027146	0.000133975	0.028746234	0.000368107
34	0.009654604	0.000008842	0.000326261	0	0.0009062	0.000494981	0.002006379	0.000008842	0.000326261
35	0.007492486	0.000000205	0.000000112	0	0.002244683	0.000008941	0.000009269	0.000000205	0.000000112



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: Pesì strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-241755.44	-294967.23	1933690.55	0
Reazioni	0	0	241755.44	294967.23	-1933690.55	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-63766.283	-68456.47	503109.41	0
Reazioni	0	0	63766.283	68456.47	-503109.41	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	-58568.535	-66008.04	465415.64	0
Reazioni	0	0	58568.535	66008.04	-465415.64	0
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	83966.36	0	0	0	307663.35	-93878.46
Reazioni	-83966.36	0	0	0	-307663.35	93878.46
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	86351.286	0	-316402.02	0	684725.46
Reazioni	0	-86351.286	0	316402.02	0	-684725.46
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	-23830.6
Reazioni	0	0	0	0	0	23830.6
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	24507.46
Reazioni	0	0	0	0	0	-24507.46
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	37024.866	0	0	0	135663.79	-41395.6
Reazioni	-37024.866	0	0	0	-135663.79	41395.6
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	38033.269	0	-139358.7	0	301586.1
Reazioni	0	-38033.269	0	139358.7	0	-301586.1
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	-10508.07
Reazioni	0	0	0	0	0	10508.07
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	10794.27



Contributo	Fx	Fy	Fz	Mx	My	Mz
Reazioni	0	0	0	0	0	-10794.27
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	4.9	-1.15
Reazioni	-1	0	0	0	-4.9	1.15
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	-4.9	0	7.96
Reazioni	0	-1	0	4.9	0	-7.96
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Zz

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	
							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	63990.91	15628.02	0	4.261E04	1.816E05	1.197E05	64391.45	7	54010.74	96	0	0
SLV Y	15628.02	53768.61	0	152552.48	4.548E04	4.439E05	64391.45	7	54010.74	96	0	0
X SLD	28180.37	6855.98	0	1.868E04	7.996E04	5.229E04	28360.19	7	23470.75	96	0	0
Y SLD	6855.98	23368.71	0	66281.541	1.993E04	1.929E05	28360.19	7	23470.75	96	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	11754
Elemento min. diagonale	907.77596954
Elemento max diagonale	28118217832083.4
Rapporto max/min	30974842665.5602
Elementi non nulli	340916



SIDEL
INGEGNERIA

TABULATI DI CALCOLO-VERIFICHE
SALA COMUNE
STATO DI PROGETTO



Sommario

1 Verifiche	3
1.1 Verifica regolarità strutturale.....	3
1.2 Verifiche travate C.A.	5
1.3 Verifica sismica globale	24
1.4 Verifiche maschi in muratura.....	29
1.5 Verifiche travi di accoppiamento in muratura	72



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 - NO

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

Ok - Criterio A1 (Distribuzione masse) rispettato, con rapporto massimo 0,04 (limite=0,2) al livello Rialzato

No - Criterio A2 (Distribuzione rigidezze) NON rispettato, con rapporto massimo $884245.2/477644=1.9$ (limite=1,2) al livello Rialzato

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

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

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

Regolarità in altezza - NO

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

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

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

No - Criterio E2 (Riduzione rigidezze) NON rispettato, con rapporto massimo $884245.2/574690.2=1.5$ (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 $190.2/20.8=9.2$ (limite=1,3) tra il livello Primo ed il precedente

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

Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (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	1.09	0.37	10.08	0.04	884245	477644	1.85	101.4919	101.4919	1	10.12	10.08	1	0	+∞	0
Primo	4.9	0.36	10.05	0.04	574690	381409	1.51	100.704	100.7043	1	10.08	10.05	1	0	+∞	0

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): $6.49/6.49=0.01$.

Livello		E1			E2			E3			F			G1			G2			
Descr	Q	Qjnf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.9	1.09	76334	73683	1.04	88424522	57469018	1.54	88424522	88424522	1	190.2	20.8	9.15	0	10.08	0	0	10.08	0

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	1.09	SLV 1	524975	-57655	9.1	272091	-15835	17.2		
Rialzato	1.09	SLV 2	525081	-57655	9.1	271921	-15835	17.2		
Rialzato	1.09	SLV 3	525013	-58075	9	271717	13291	20.4		
Rialzato	1.09	SLV 4	525119	-58075	9	271546	13291	20.4		
Rialzato	1.09	SLV 5	524626	-16660	31.5	266746	-48924	5.5		
Rialzato	1.09	SLV 6	524900	-16660	31.5	266927	-48924	5.5		
Rialzato	1.09	SLV 7	524918	-18059	29.1	270374	48161	5.6		
Rialzato	1.09	SLV 8	525026	-18059	29.1	266629	48161	5.5		
Rialzato	1.09	SLV 9	523025	-18059	29	270196	-48161	5.6		
Rialzato	1.09	SLV 10	523412	-18059	29	270443	-48161	5.6		
Rialzato	1.09	SLV 11	523689	-16660	31.4	271813	48924	5.6		
Rialzato	1.09	SLV 12	524908	-16660	31.5	269349	48924	5.5		
Rialzato	1.09	SLV 13	524581	-58075	9	276351	-13291	20.8		
Rialzato	1.09	SLV 14	524687	-58075	9	276181	-13291	20.8		
Rialzato	1.09	SLV 15	522889	-57655	9.1	275802	15835	17.4		
Rialzato	1.09	SLV 16	524418	-57655	9.1	275806	15835	17.4		
Primo	4.9	SLV 1	373783	-18173	20.6	250364	-6968	35.9		
Primo	4.9	SLV 2	373789	-18173	20.6	254508	-6968	36.5		
Primo	4.9	SLV 3	372032	-19363	19.2	237665	1332	178.5		
Primo	4.9	SLV 4	372038	-19363	19.2	241681	1332	181.5		
Primo	4.9	SLV 5	373736	-3647	102.5	253229	-14678	17.3		
Primo	4.9	SLV 6	371982	-3647	102	259465	-14678	17.7		
Primo	4.9	SLV 7	363678	-7614	47.8	226559	12987	17.4		
Primo	4.9	SLV 8	363684	-7614	47.8	233336	12987	18		
Primo	4.9	SLV 9	364894	-7614	47.9	258095	-12987	19.9		
Primo	4.9	SLV 10	364900	-7614	47.9	259654	-12987	20		
Primo	4.9	SLV 11	365410	-3647	100.2	240819	14678	16.4		
Primo	4.9	SLV 12	365417	-3647	100.2	252797	14678	17.2		
Primo	4.9	SLV 13	371925	-19363	19.2	253223	-1332	190.2		
Primo	4.9	SLV 14	350360	-19363	18.1	253220	-1332	190.2		
Primo	4.9	SLV 15	357417	-18173	19.7	259853	6968	37.3		
Primo	4.9	SLV 16	357423	-18173	19.7	251313	6968	36.1		



1.2 Verifiche travate C.A.

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

N*: indice progressivo della sezione.

Descrizione: descrizione della sezione.

Tipo: tipo di sezione.

Base: base della sezione. [m]

Altezza: altezza della sezione. [m]

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

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

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

x: distanza da asse appoggio sinistro. [m]

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).

γ_R : 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]

γ_s : 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]

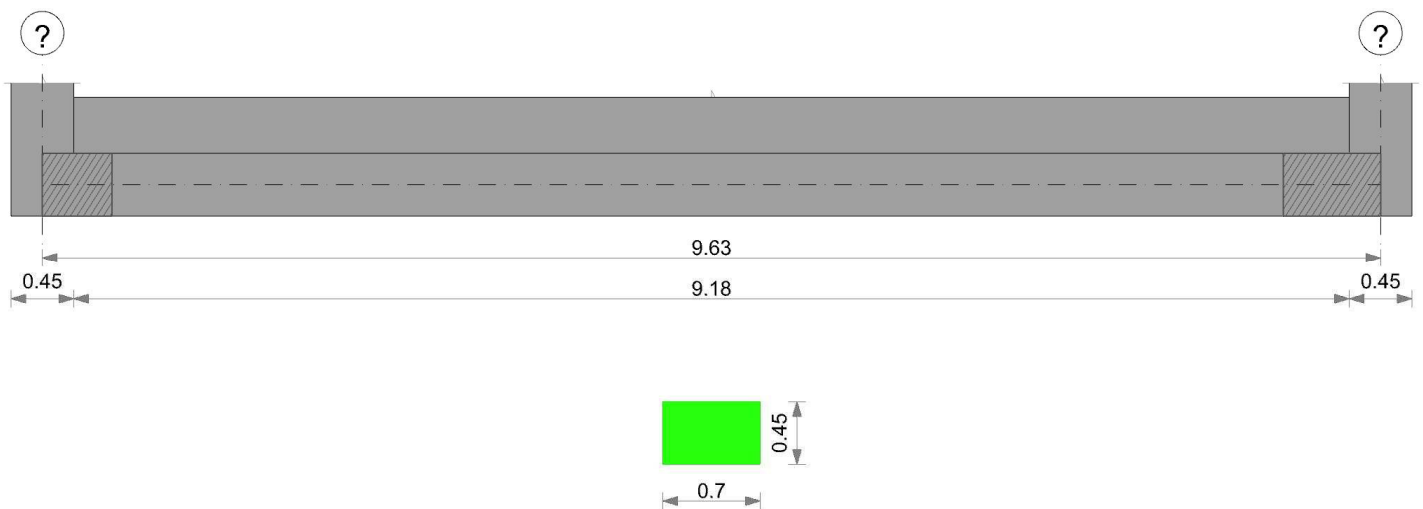
Vrsd: resistenza a taglio per la presenza delle armature. [daN]

Vult: taglio ultimo. [daN]

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

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

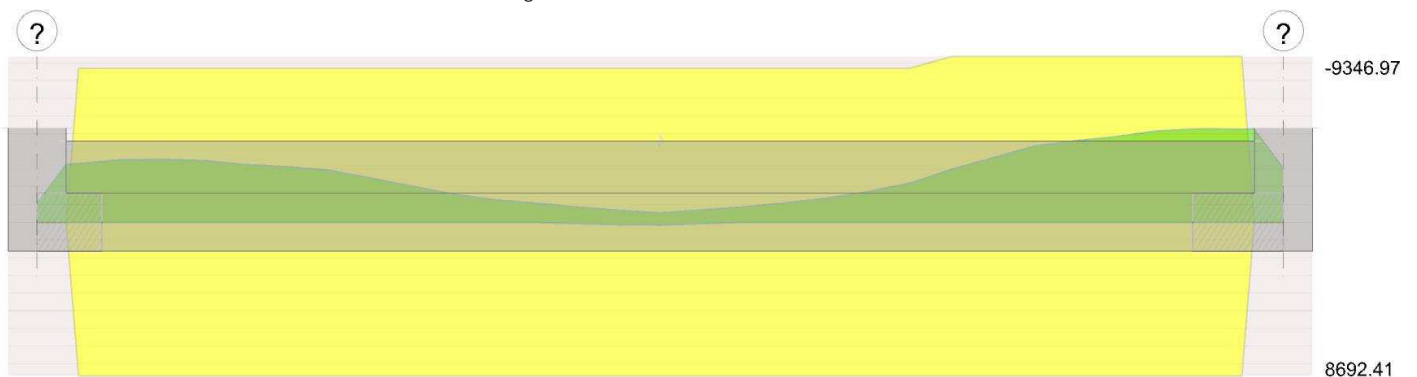
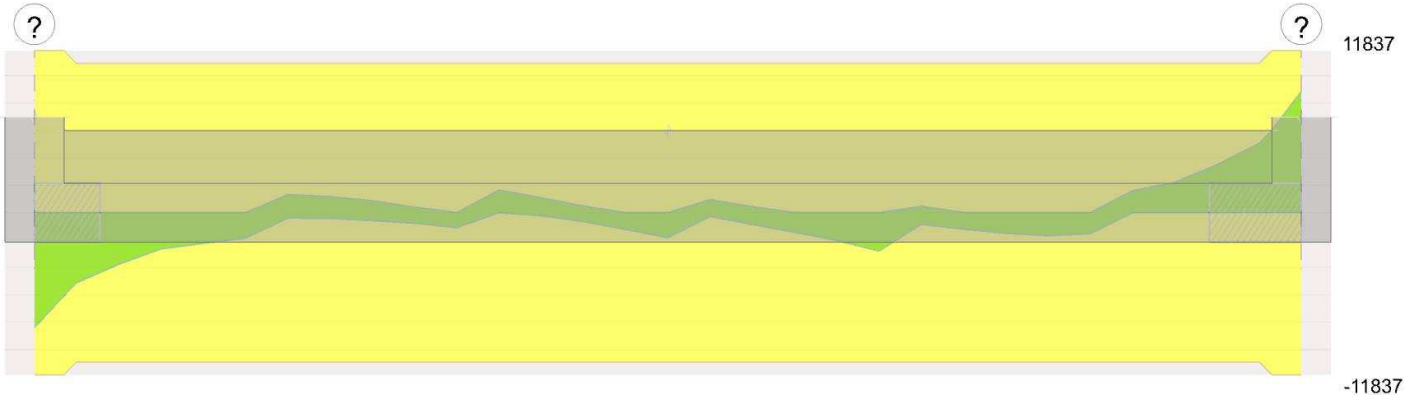


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - ?, sezione R 70x45, aste 122, 121, 120, 119, 118, 117, 116, 115, 114, 113, 112, 111, 110, 109, 108, 107, 106, 105, 104, 103, 102, 101, 100, 99

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2288	SLV 8	0.085	2634	5948	SLV 8	15877	Si
0.23	0.41	0.0002	2163	SLV 8	0.085	2634	5625	SLV 8	15877	Si
4.81	0.41	0.0002	1461	SLU 81	0.017	2708	3800	SLU 81	15877	Si
9.4	0.41	0.0002	2586	SLU 81	0.017	2708	6722	SLU 81	15877	Si
9.63	0.41	0.0002	2748	SLU 81	0.017	2708	7146	SLU 81	15877	No

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	Rara				Quasi permanente				Verifica
					σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	M	Comb	σc	$\sigma c \text{ limite}$	
0	0.41	0.0000017	1605	SLE RA 18	46469	1494000	576219	36000000	1398	SLE QP 2	40492	1120500	Si
0.23	0.41	0.0000017	1526	SLE RA 18	44197	1494000	548045	36000000	1329	SLE QP 2	38485	1120500	Si
4.81	0.41	0.0000017	1059	SLE RA 18	30670	1494000	380306	36000000	916	SLE QP 2	26536	1120500	Si
9.4	0.41	0.0000017	1882	SLE RA 18	54506	1494000	675877	36000000	1647	SLE QP 2	47682	1120500	Si
9.63	0.41	0.0000017	2001	SLE RA 18	57954	1494000	718627	36000000	1752	SLE QP 2	50733	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	23	159	SLV 8	0.36	1618	1.653	13.98	8.9	26.34	SLV 8	0.34	1254	1.489	Si
0.23	35	22	159	SLV 8	0.36	1618	1.653	13.29	8.35	26.34	SLV 8	0.36	1618	1.653	Si
4.81	24	9	159	SLV 8	0.36	1618	1.653	9.16	3.31	26.34	SLV 8	0.36	1618	1.653	Si
9.4	43	17	159	SLV 11	0.36	1618	1.653	16.47	6.35	26.34	SLV 11	0.36	1618	1.653	Si
9.63	46	18	159	SLV 15	0.36	1618	1.653	17.52	6.84	26.34	SLV 15	0.31	987	1.35	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
122,121,120,119,118,117,116,115,114,113,112,111,110,109,108,107,106,105,104,103,102,101,100,99	10.08	1.3	SLU 81	ST	BT	2.3	375202	103419	3.63	Si
122,121,120,119,118,117,116,115,114,113,112,111,110,109,108,107,106,105,104,103,102,101,100,99	10.08	1.3	SLV 12	SIS	BT	2.3	330402	86174	3.83	Si
122,121,120,119,118,117,116,115,114,113,112,111,110,109,108,107,106,105,104,103,102,101,100,99	10.08	1.3	SLD 12	SIS	BT	2.3	357052	76753	4.65	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	-744	-103419	-18744.87	15278.59	0	0	0.15	-0.18	0.94	9.78	1496	2060	0	14430	
0	7440	-86174	-19743.23	13132.38	0	5	0.15	-0.23	0.84	9.78	1496	2060	0	14430	0.07
0	2977	-76753	-15439.45	11442.13	0	2	0.15	-0.2	0.9	9.78	1496	2060	0	14430	0.03

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

N		S		D		I		B		G		P		E	
Nq	Nc	Sq	Sg	Dq	Dc	Iq	Ic	Bq	Bc	Gq	Gc	Pq	Pc	Eq	Eg
1	5	0	0.02	0	0.23	0	0	0	0	0	0	1	1	0	0
1	5	0	0.02	0	0.23	0	0.02	0	0	0	0	1	1	0	0
1	5	0	0.02	0	0.23	0	0.01	0	0	0	0	1	1	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

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	230	SLE RA 18	0.05	0	230	206	SLE RA 18	0.05	0	206	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	206	SLE RA 1	0.05	0	206	206	SLE RA 1	0.05	0	206	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	206	SLE RA 1	0.05	0	206	206	SLE RA 1	0.05	0	206	SLE RA 1	0.0033	0	SLE RA 1	Si

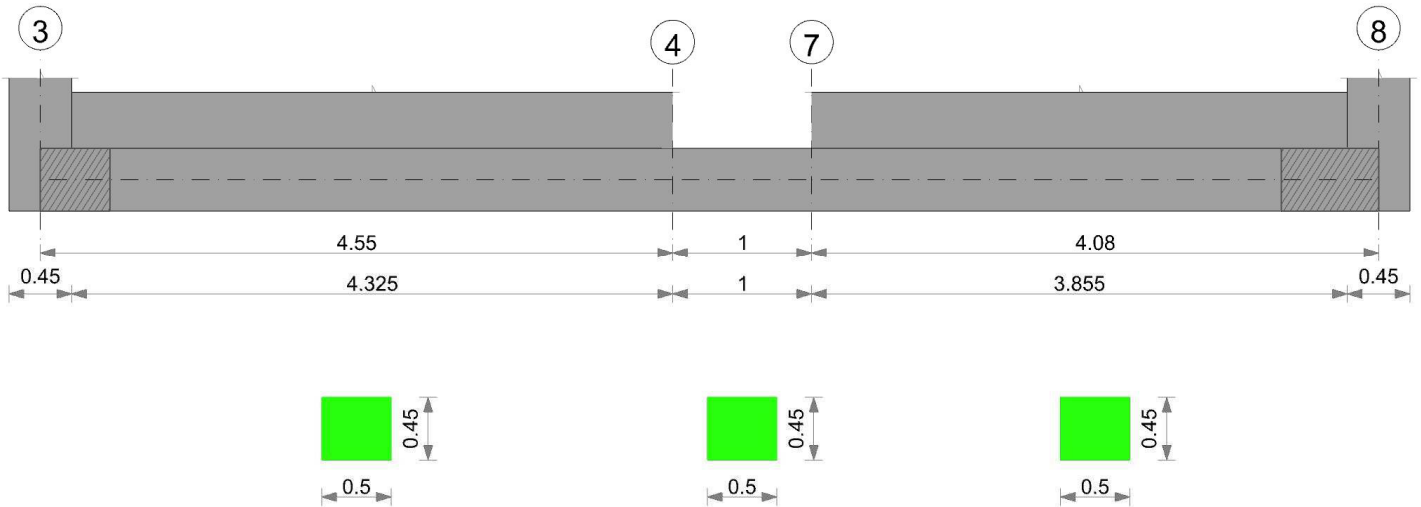
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R adm	R Max	Nodo I	D+ adm	D+	Nodo	D- adm	D-	Nodo	
E	0.19	0	SLE RA 18	0.19	0	206	0.19	0	206	0.1	0	206	Si
D	0.19	0	SLE RA 1	0.19	0	206	0.19	0	206	0.1	0	206	Si
Z	0.19	0	SLE RA 1	0.19	0	206	0.19	0	206	0.1	0	206	Si



CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

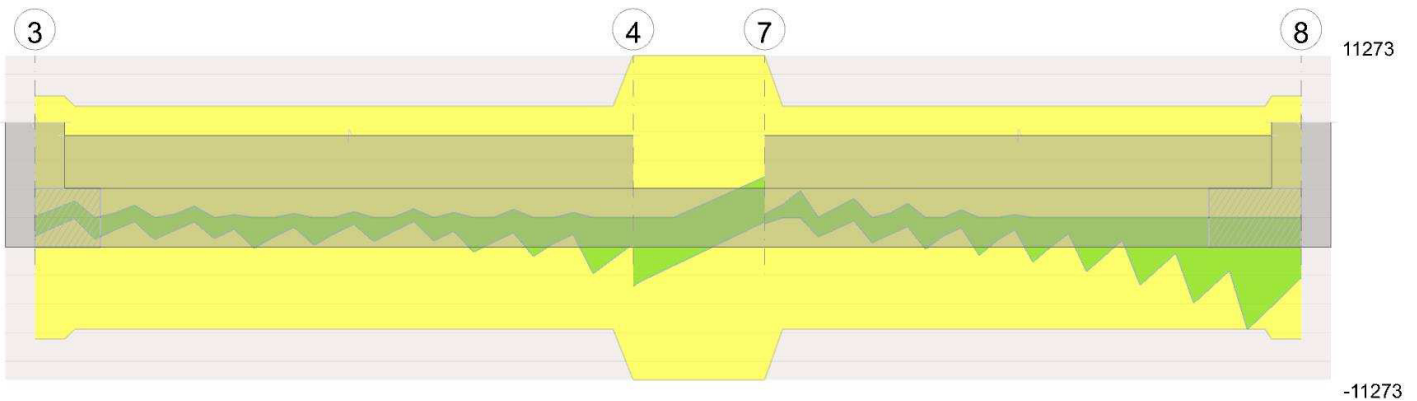
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 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 4 - 7, sezione R 50x45, asta 88

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	52.16	SLU 39	52.16	7755.45	0.113	148.69	-60.47	SLU 43	-713.18	-7755.45	0.113	10.87	Si
0.5	0.000509	0.052	0.000509	0.052							-1499.88	SLU 81	-1629.87	-7755.45	0.113	4.76	Si
0.57	0.000509	0.052	0.000509	0.052							-1574.43	SLU 81	-1631.62	-7755.45	0.113	4.75	Si
1	0.000509	0.052	0.000509	0.052							-1309.72	SLU 81	-1576.29	-7755.45	0.113	4.92	Si



Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

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

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

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	763.61	SLV 14	763.61	7266.79	0.197	9.52	-801.43	SLV 3	-961.13	-7266.79	0.197	7.56	Si
0.5	0.000509	0.052	0.000509	0.052							-1038.54	SLV 15	-1401.71	-7266.79	0.197	5.18	Si
0.83	0.000509	0.052	0.000509	0.052							-1609.15	SLV 16	-1714.3	-7266.79	0.197	4.24	Si
1	0.000509	0.052	0.000509	0.052							-1714.3	SLV 16	-1714.3	-7266.79	0.197	4.24	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	0.000008	0.000509	0	-4774	SLU 81	-4774	-7764	-63178	-11273	-11273	1	2.36	Si
0.5	0.000008	0.000509	0	-1348	SLU 81	-1348	-7764	-63178	-11273	-11273	1	8.37	Si
1	0.000008	0.000509	0	2119	SLU 81	2119	7764	63178	11273	11273	1	5.32	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	0.000008	0.000509	0	-4665	SLV 16	-4665	-7764	-63178	-11273	-11273	1	2.42	Si
0.5	0.000008	0.000509	0	780	SLV 1	780	7764	63178	11273	11273	1	14.45	Si
0.5	0.000008	0.000509	0	-2485	SLV 16	-2485	-7764	-63178	-11273	-11273	1	4.54	Si
1	0.000008	0.000509	0	2826	SLV 3	2826	7764	63178	11273	11273	1	3.99	Si
1	0.000008	0.000509	0	-263	SLV 14	-263	-7764	-63178	-11273	-11273	1	42.93	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	σf	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma \text{ FRP}$	$\sigma \text{ FRP lim.}$	
0	11.5	18	11.5	608	1494000	9125	36000000								Si
0	-31.95	1	-526.59	27853	1494000	417795	36000000	-31.95	1	-480.78	25430	1120500			Si
0.5	-1096.28	18	-1191.35	63015	1494000	945221	36000000	-972.1	2	-1056.25	55869	1120500			Si
1	-962.79	18	-1153.76	61026	1494000	915393	36000000	-866.58	2	-1026.56	54298	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	-2958	-1707	-11273	SLV 16	0.36	1618	1.653	-18.91	-782.52	-7266.79	SLV 3	0.36	1618	1.653	Si
0.5	-852	-1632	-11273	SLV 16	0.36	1618	1.653	-1056.25	-345.47	-7266.79	SLV 16	0.36	1618	1.653	Si
1	1282	1544	11273	SLV 3	0.36	1618	1.653	-866.58	-847.72	-7266.79	SLV 16	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 4, sezione R 50x45, aste 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	974	SLU 81	0.017	2690	2997	SLU 81	15877	Si
0.23	0.41	0.0002	973	SLU 81	0.017	2690	2995	SLU 81	15877	Si
2.28	0.41	0.0002	1080	SLU 81	0.017	2690	3322	SLU 81	15877	Si
4.55	0.41	0.0004	1145	SLU 81	0.034	6379	3523	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Caratteristiche della tensione 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	702	SLE RA 18	20322	1494000	251998	36000000	599	SLE QP 2	17360	1120500	Si
0.23	0.41	0.00000168	701	SLE RA 18	20289	1494000	251580	36000000	596	SLE QP 2	17273	1120500	Si
2.28	0.41	0.00000168	772	SLE RA 18	22350	1494000	277141	36000000	643	SLE QP 2	18611	1120500	Si
4.55	0.41	0.00000402	817	SLE RA 18	22953	1494000	284622	36000000	677	SLE QP 2	19022	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	18	11	159	SLV 3	0.36	1618	1.653	5.99	3.47	26.17	SLV 3	0.36	1618	1.653	Si
0.23	18	10	159	SLV 3	0.36	1618	1.653	5.96	3.22	26.17	SLV 3	0.36	1618	1.653	Si
2.28	20	4	159	SLV 3	0.36	1618	1.653	6.43	1.32	26.17	SLV 3	0.36	1618	1.653	Si
4.55	21	1	133	SLV 16	0.36	1618	1.653	6.77	0.37	61.33	SLV 16	0.36	1618	1.653	Si

Campata 2 tra i fili 4 - 7, sezione R 50x45, asta 88

Campata 3 tra i fili 7 - 8, sezione R 50x45, aste 89, 90, 91, 92, 93, 94, 95, 96, 97, 98

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0004	1177	SLU 81	0.034	6379	3623	SLU 81	15877	Si
2.04	0.41	0.0002	1331	SLU 81	0.018	2797	4096	SLU 81	15877	Si
3.85	0.41	0.0002	1515	SLU 81	0.018	2797	4663	SLU 81	15877	Si
4.08	0.41	0.0002	1569	SLU 81	0.018	2797	4829	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Carico delle tendine 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	0.00000402	841	SLE RA 18	23634	1494000	293062	36000000	700	SLE QP 2	19655	1120500	Si
2.04	0.41	0.00000175	957	SLE RA 18	27691	1494000	343371	36000000	809	SLE QP 2	23417	1120500	Si
3.85	0.41	0.00000175	1098	SLE RA 18	31768	1494000	393927	36000000	949	SLE QP 2	27458	1120500	Si
4.08	0.41	0.00000175	1138	SLE RA 18	32932	1494000	408351	36000000	986	SLE QP 2	28540	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico



x	T gravità	T sisma	T ultimo	Comb.	Pga	Tr	Ind. taglio	M gravità	M sisma	M ultimo	Comb.	Pga	Tr	Ind. momento	Ver
0	22	1	159	SLV 15	0.36	1618	1.653	7	0.46	61.33	SLV 16	0.36	1618	1.653	Si
2.04	25	5	159	SLV 16	0.36	1618	1.653	8.09	1.73	27.2	SLV 16	0.36	1618	1.653	Si
3.85	29	11	159	SLV 14	0.36	1618	1.653	9.49	3.61	27.2	SLV 14	0.36	1618	1.653	Si
4.08	30	12	159	SLV 14	0.36	1618	1.653	9.86	3.92	27.2	SLV 14	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98	10.08	1.1	SLU 81	ST	BT	2.3	447865	86074	5.2	Si
77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98	10.08	1.1	SLV 11	SIS	BT	2.3	386389	59291	6.52	Si
77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98	10.08	1.1	SLD 11	SIS	BT	2.3	420628	57587	7.3	Si

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

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-620	-86074	1.62	20495.61	0	0	0.24	0	1.1	9.6	1496	2060	0	14430	0
0	7383	-59291	-3709.87	17095.61	0	7	0.29	-0.06	0.97	9.5	1496	2060	0	14430	0.07
0	2995	-57587	-1617.82	15038.62	0	3	0.26	-0.03	1.04	9.56	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

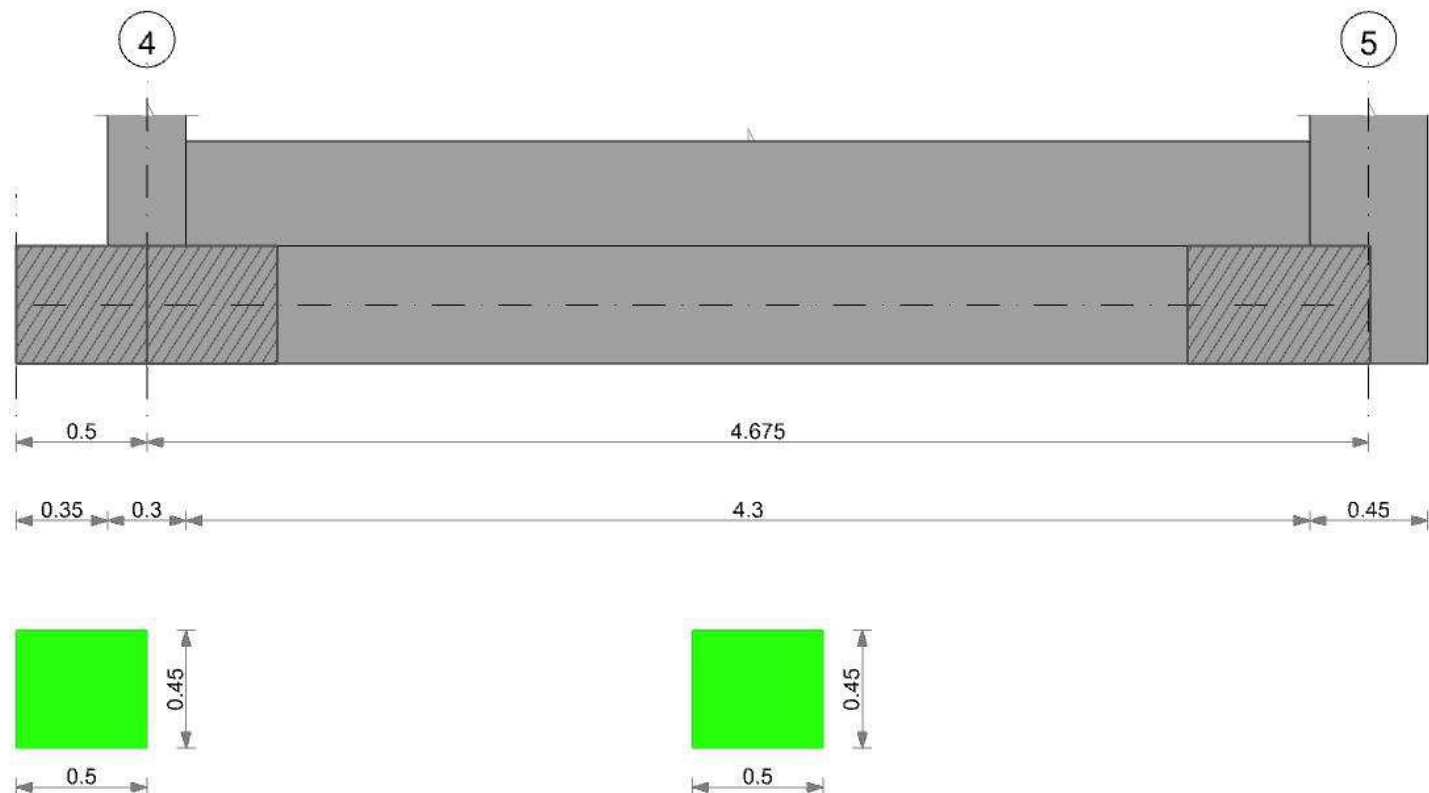
Documenti associati all'interazione																	
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	163	SLE RA 18	0.05	0	163	141	SLE RA 18	0.05	0	153	SLE RA 10	0.0033	0	SLE FR 6	Si
D	0.05	0	141	SLE RA 1	0.05	0	141	141	SLE RA 1	0.05	0	152	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	141	SLE RA 1	0.05	0	141	141	SLE RA 1	0.05	0	152	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Verifica geometrica - Rotazioni assolute e distorsioni																	
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	153	163	SLE RA 18	0.19	0	141	SLE RA 1	0.1	0	153	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	141	152	SLE RA 1	0.19	0	141	SLE RA 1	0.1	0	152	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	141	152	SLE RA 1	0.19	0	141	SLE RA 1	0.1	0	152	SLE RA 1	Si

CORDOLO 3

Geometria



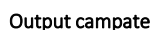
Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000



Diagramma verifica stato limite ultimo flessione



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 4 - 5, sezione R 50x45, aste 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133

Verifiche di resistenza della suola di fondazione

Verifiche delle tensioni di esercizio

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Indicatori di rischio sismico

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
123,124,125,126,127,128,129,130,131,132,133	4.9	1.1	SLU 81	ST	BT	2.3	194282	39521	4.92	Si
123,124,125,126,127,128,129,130,131,132,133	4.9	1.1	SLV 3	SIS	BT	2.3	160307	35209	4.55	Si
123,124,125,126,127,128,129,130,131,132,133	4.9	1.1	SLD 3	SIS	BT	2.3	177896	30308	5.87	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	-581	-39521	-2630.94	4357.85	0	-1	0.11	-0.07	0.97	4.68	1496	2060	0	14430	
0	4556	-35209	-4896.25	4293.61	0	7	0.12	-0.14	0.82	4.66	1496	2060	0	14430	0.07
0	1785	-30308	-3110.3	3537.25	0	3	0.12	-0.1	0.89	4.67	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	0.03	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

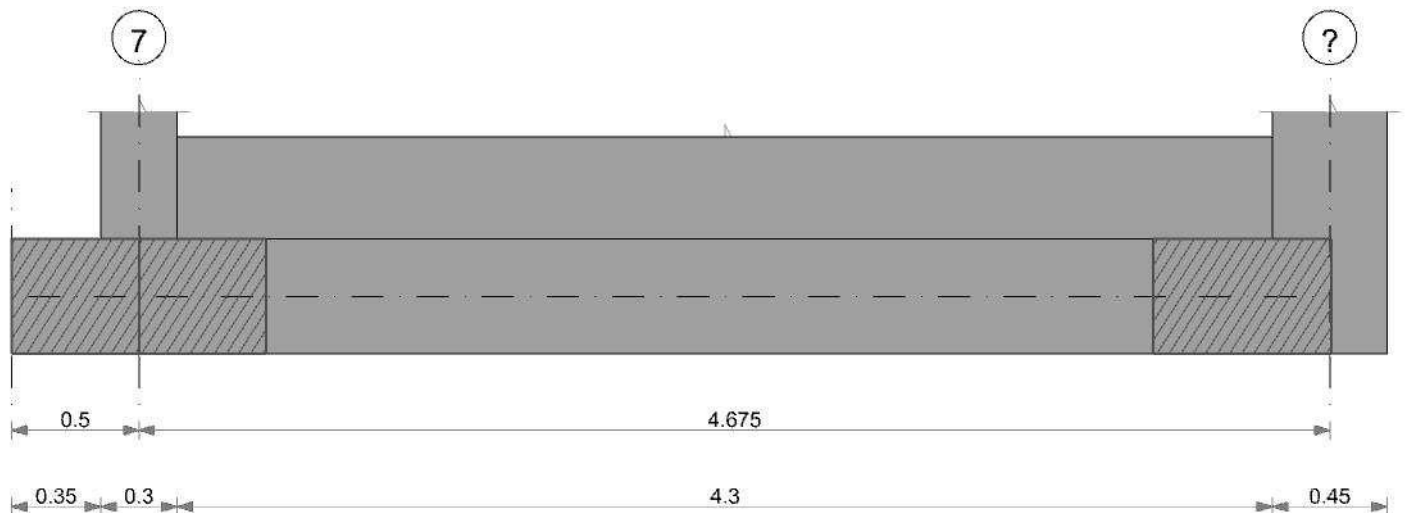
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	232	SLE RA 18	0.05	0	232	117	SLE RA 18	0.05	0	117	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	117	SLE RA 1	0.05	0	117	117	SLE RA 1	0.05	0	117	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	117	SLE RA 1	0.05	0	117	117	SLE RA 1	0.05	0	117	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica	
Tipo	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	117	232	SLE RA 18	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	117	232	SLE RA 1	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	117	232	SLE RA 1	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si

CORDOLO 4

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

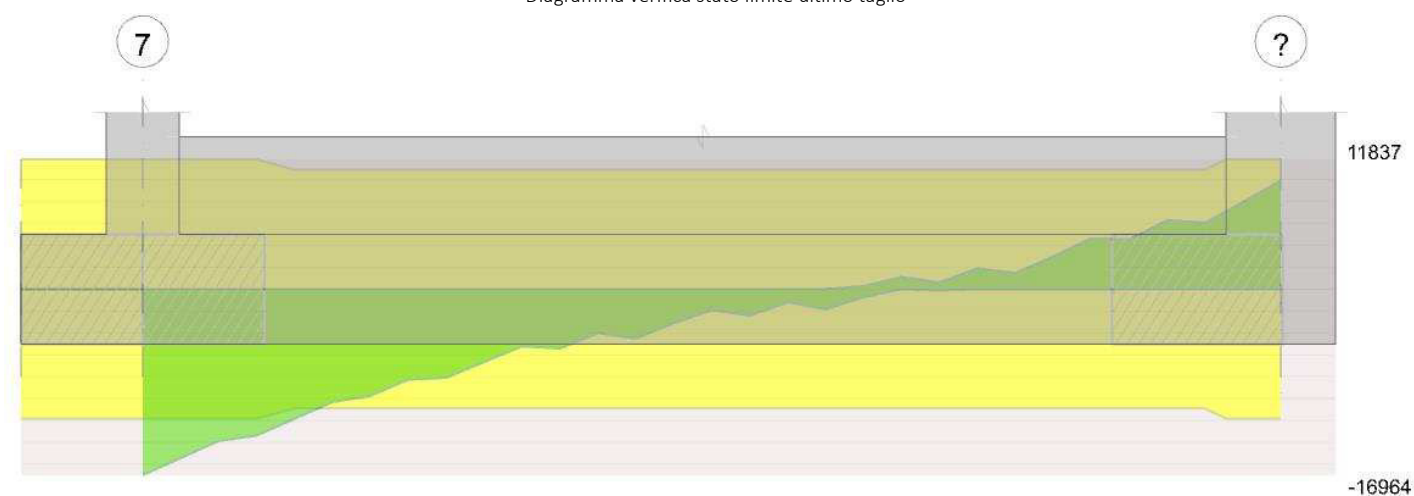
Elenco delle sezioni

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

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

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

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2092	SLU 81	0.017	2785	5399	SLU 81	15877	Si
0.15	0.41	0.0002	2100	SLU 81	0.017	2785	5419	SLU 81	15877	Si
2.34	0.41	0.0002	1847	SLU 81	0.017	2785	4767	SLU 81	15877	Si
4.45	0.41	0.0002	2618	SLU 81	0.017	2785	6757	SLU 81	15877	Si
4.68	0.41	0.0002	2780	SLU 81	0.017	2785	7175	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	0.00000174	1515	SLE RA 18	43837	1494000	543581	36000000	1307	SLE QP 2	37821	1120500	Si
0.15	0.41	0.00000174	1520	SLE RA 18	44001	1494000	545606	36000000	1312	SLE QP 2	37967	1120500	Si
2.34	0.41	0.00000174	1340	SLE RA 18	38773	1494000	480791	36000000	1161	SLE QP 2	33597	1120500	Si
4.45	0.41	0.00000174	1906	SLE RA 18	55161	1494000	684002	36000000	1668	SLE QP 2	48259	1120500	Si
4.68	0.41	0.00000174	2025	SLE RA 18	58594	1494000	726569	36000000	1773	SLE QP 2	51306	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	34	13	159	SLV 14	0.36	1618	1.653	13.07	4.92	27.08	SLV 14	0.36	1618	1.653	Si
0.15	34	13	159	SLV 14	0.36	1618	1.653	13.12	4.9	27.08	SLV 14	0.36	1618	1.653	Si
2.34	30	11	159	SLV 15	0.36	1618	1.653	11.61	4.2	27.08	SLV 15	0.36	1618	1.653	Si
4.45	43	17	159	SLV 11	0.36	1618	1.653	16.68	6.52	27.08	SLV 11	0.36	1618	1.653	Si
4.68	46	18	159	SLV 11	0.36	1618	1.653	17.73	7.09	27.08	SLV 11	0.32	1062	1.391	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
12,11,10,9,8,7,6,5,4,3,2,1	4.9	1.3	SLU 81	ST	BT	2.3	218581	56987	3.84	Si
12,11,10,9,8,7,6,5,4,3,2,1	4.9	1.3	SLV 16	SIS	BT	2.3	190374	47623	4	Si
12,11,10,9,8,7,6,5,4,3,2,1	4.9	1.3	SLD 16	SIS	BT	2.3	205313	42232	4.86	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	-800	-56987	5654.69	4130.07	0	-1	0.07	0.1	1.1	4.76	1496	2060	0	14430	
0	-5937	-47623	7429.5	3927.95	0	-7	0.08	0.16	0.99	4.74	1496	2060	0	14430	0.07
0	-2896	-42232	5329.11	3317.06	0	-4	0.08	0.13	1.05	4.74	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	0.03	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

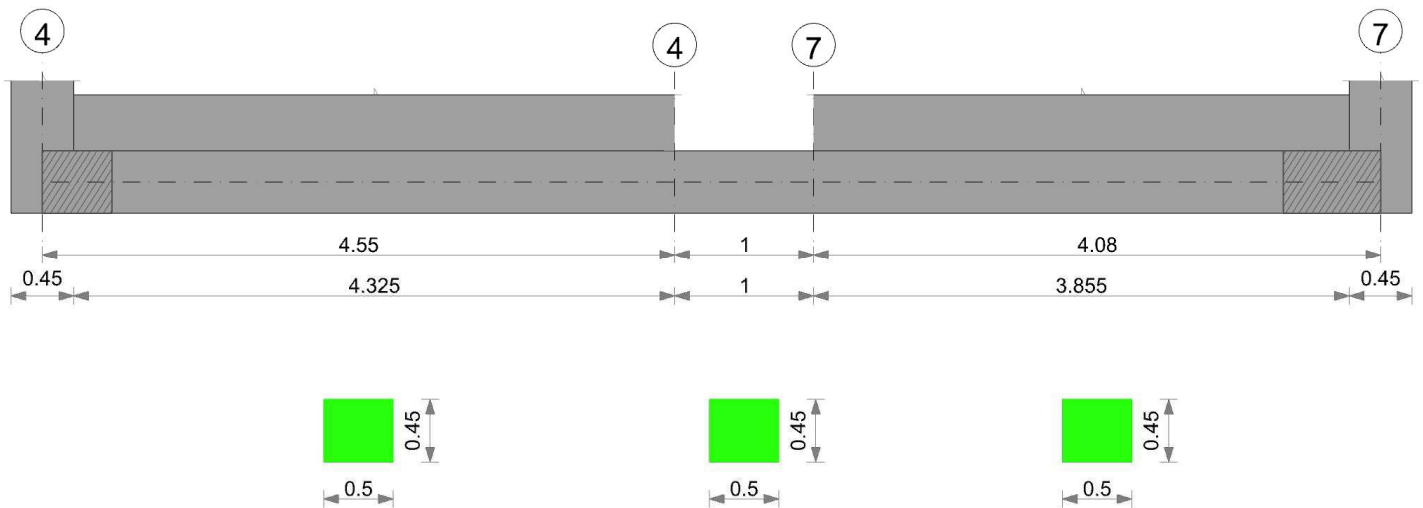
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	256	SLE RA 18	0.05	0	256	139	SLE RA 1	0.05	0	139	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	139	SLE RA 1	0.05	0	139	139	SLE RA 1	0.05	0	139	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	139	SLE RA 1	0.05	0	139	139	SLE RA 1	0.05	0	139	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	139	256	SLE RA 1	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	139	256	SLE RA 1	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	139	256	SLE RA 1	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si

CORDOLO 5

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

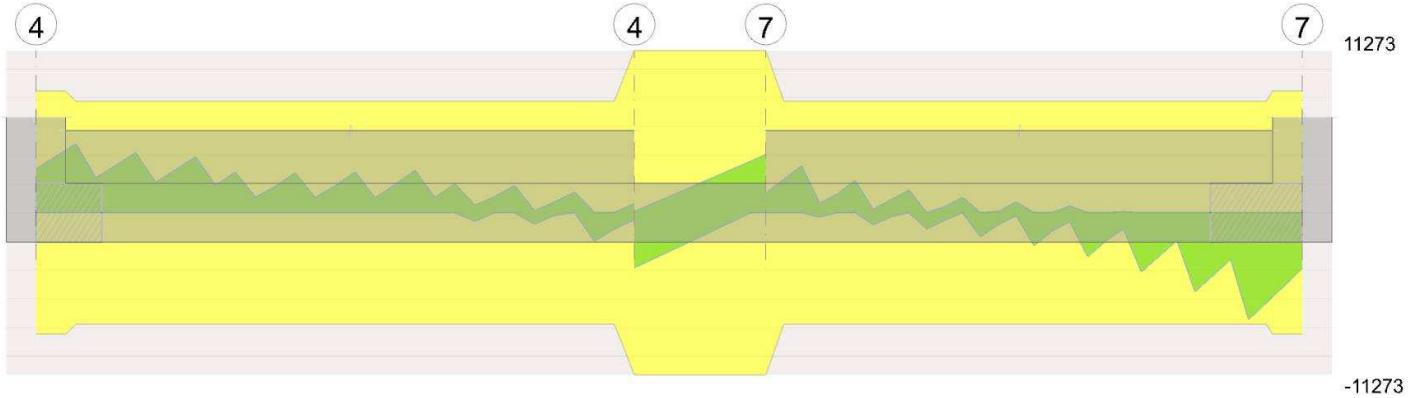
Elenco delle sezioni

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 4 - 7, sezione R 50x45, asta 66

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							-785.61	SLU 81	-1230.76	-7755.45	0.113	6.3	Si
0.43	0.000509	0.052	0.000509	0.052							-1496.25	SLU 81	-1498.8	-7755.45	0.113	5.17	Si
0.5	0.000509	0.052	0.000509	0.052							-1493.87	SLU 81	-1498.8	-7755.45	0.113	5.17	Si
1	0.000509	0.052	0.000509	0.052							-516.94	SLU 81	-1061.58	-7755.45	0.113	7.31	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

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

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

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	352.67	SLV 13	352.67	7266.79	0.197	20.61	-1443.82	SLV 4	-1443.82	-7266.79	0.197	5.03	Si
0.5	0.000509	0.052	0.000509	0.052							-1033.59	SLV 15	-1255.43	-7266.79	0.197	5.79	Si
1	0.000509	0.052	0.000509	0.052	605.43	SLV 2	605.43	7266.79	0.197	12	-1316.51	SLV 15	-1346.26	-7266.79	0.197	5.4	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	0.000008	0.000509	0	-3088	SLU 81	-3088	-7764	-63178	-11273	-11273	1	3.65	Si
0.5	0.000008	0.000509	0	260	SLU 81	260	7764	63178	11273	11273	1	43.36	Si
1	0.000008	0.000509	0	3660	SLU 81	3660	7764	63178	11273	11273	1	3.08	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	0.000008	0.000509	0	76	SLV 2	76	7764	63178	11273	11273	1	148.43	Si
0	0.000008	0.000509	0	-3819	SLV 15	-3819	-7764	-63178	-11273	-11273	1	2.95	Si
0.5	0.000008	0.000509	0	2045	SLV 2	2045	7764	63178	11273	11273	1	5.51	Si
0.5	0.000008	0.000509	0	-1676	SLV 15	-1676	-7764	-63178	-11273	-11273	1	6.72	Si
1	0.000008	0.000509	0	4033	SLV 4	4033	7764	63178	11273	11273	1	2.8	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	-584.8	18	-904.42	47838	1494000	717565	36000000	-545.58	2	-814.47	43080	1120500					Si
0.5	-1091.87	18	-1095.65	57953	1494000	869293	36000000	-968.2	2	-972.04	51415	1120500					Si
1	-384.11	18	-778.03	41153	1494000	617292	36000000	-355.54	2	-694.73	36747	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	-1871	-1947	-11273	SLV 15	0.36	1618	1.653	-545.58	-898.25	-7266.79	SLV 4	0.36	1618	1.653	Si
0.5	184	1860	11273	SLV 2	0.36	1618	1.653	-868.21	-387.22	-7266.79	SLV 15	0.36	1618	1.653	Si
1	2275	1758	11273	SLV 4	0.36	1618	1.653	-355.54	-960.97	-7266.79	SLV 15	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

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

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	910	SLV 3	0.085	2617	2873	SLU 81	15877	Si
0.23	0.41	0.0002	933	SLU 81	0.017	2690	2872	SLU 81	15877	Si
2.28	0.41	0.0002	1045	SLU 81	0.017	2690	3214	SLU 81	15877	Si
4.55	0.41	0.0004	1114	SLU 81	0.034	6379	3427	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb.	σ c	σ c limite	σ f	σ f limite	M	Comb.	σ c	σ c limite	Verifica
0	0.41	0.00000168	672	SLE RA 18	19470	1494000	241427	36000000	573	SLE QP 2	16605	1120500	Si
0.23	0.41	0.00000168	671	SLE RA 18	19439	1494000	241046	36000000	570	SLE QP 2	16521	1120500	Si
2.28	0.41	0.00000168	746	SLE RA 18	21603	1494000	267881	36000000	620	SLE QP 2	17949	1120500	Si
4.55	0.41	0.00000402	794	SLE RA 18	22310	1494000	276642	36000000	657	SLE QP 2	18452	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	18	10	159	SLV 3	0.36	1618	1.653	5.73	3.37	26.17	SLV 3	0.36	1618	1.653	Si
0.23	18	10	159	SLV 3	0.36	1618	1.653	5.7	3.11	26.17	SLV 3	0.36	1618	1.653	Si
2.28	19	4	159	SLV 3	0.36	1618	1.653	6.2	1.22	26.17	SLV 3	0.36	1618	1.653	Si
4.55	20	1	119	SLV 16	0.36	1618	1.653	6.57	0.32	61.33	SLV 16	0.36	1618	1.653	Si

Campata 2 tra i fili 4 - 7, sezione R 50x45, asta 66

Campata 3 tra i fili 7 - 7, sezione R 50x45, aste 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0004	1153	SLU 81	0.034	6379	3549	SLU 81	15877	Si
2.04	0.41	0.0002	1309	SLU 81	0.018	2797	4027	SLU 81	15877	Si
3.85	0.41	0.0002	1494	SLU 81	0.018	2797	4596	SLU 81	15877	Si
4.08	0.41	0.0002	1548	SLU 81	0.018	2797	4762	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Carico della tensione 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	0.00000402	824	SLE RA 18	23136	1494000	286891	36000000	684	SLE QP 2	19213	1120500	Si	
2.04	0.41	0.00000175	940	SLE RA 18	27215	1494000	337466	36000000	795	SLE QP 2	22995	1120500	Si	
3.85	0.41	0.00000175	1082	SLE RA 18	31308	1494000	388219	36000000	935	SLE QP 2	27050	1120500	Si	
4.08	0.41	0.00000175	1122	SLE RA 18	32471	1494000	402646	36000000	972	SLE QP 2	28132	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	1	159	SLV 15	0.36	1618	1.653	6.84	0.45	61.33	SLV 16	0.36	1618	1.653	Si
2.04	24	5	159	SLV 14	0.36	1618	1.653	7.95	1.79	27.2	SLV 14	0.36	1618	1.653	Si
3.85	29	11	159	SLV 14	0.36	1618	1.653	9.35	3.67	27.2	SLV 14	0.36	1618	1.653	Si
4.08	30	12	159	SLV 14	0.36	1618	1.653	9.72	3.98	27.2	SLV 14	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb.	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76	10.08	1.1	SLU 81	ST	BT	2.3	446337	84609	5.28	Si
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76	10.08	1.1	SLV 10	SIS	BT	2.3	368618	55197	6.68	Si
55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76	10.08	1.1	SLD 10	SIS	BT	2.3	412090	55268	7.46	Si

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

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-620	-84609	1.62	21555.37	0	0	0.25	0	1.1	9.57	1496	2060	0	14430	
0	-7111	-55197	3262.45	29966.8	0	-7	0.54	0.06	0.98	8.99	1496	2060	0	14430	0.07
0	-3297	-55268	1408.43	21030.03	0	-3	0.38	0.03	1.05	9.32	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

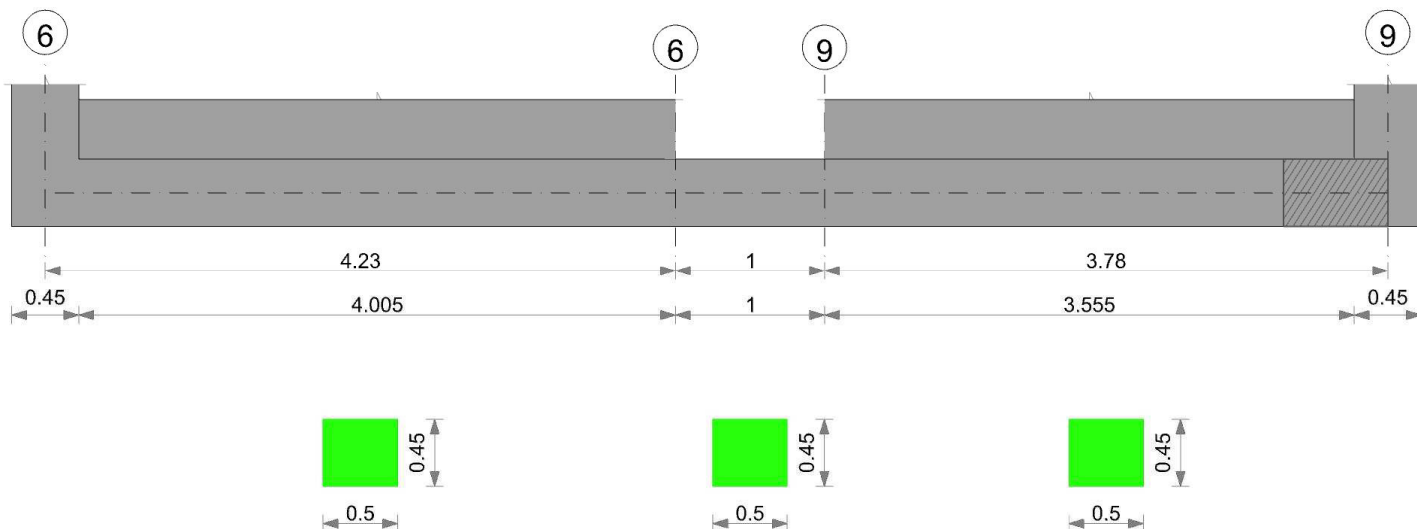
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	115	SLE RA 18	0.05	0	115	93	SLE RA 18	0.05	0	105	SLE RA 18	0.0033	0	SLE FR 6	Si
D	0.05	0	93	SLE RA 1	0.05	0	93	93	SLE RA 1	0.05	0	104	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	93	SLE RA 1	0.05	0	93	93	SLE RA 1	0.05	0	104	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	105	115	SLE RA 18	0.19	0	93	SLE RA 1	0.1	0	105	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	93	104	SLE RA 1	0.19	0	93	SLE RA 1	0.1	0	104	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	93	104	SLE RA 1	0.19	0	93	SLE RA 1	0.1	0	104	SLE RA 1	Si

CORDOLO 6

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

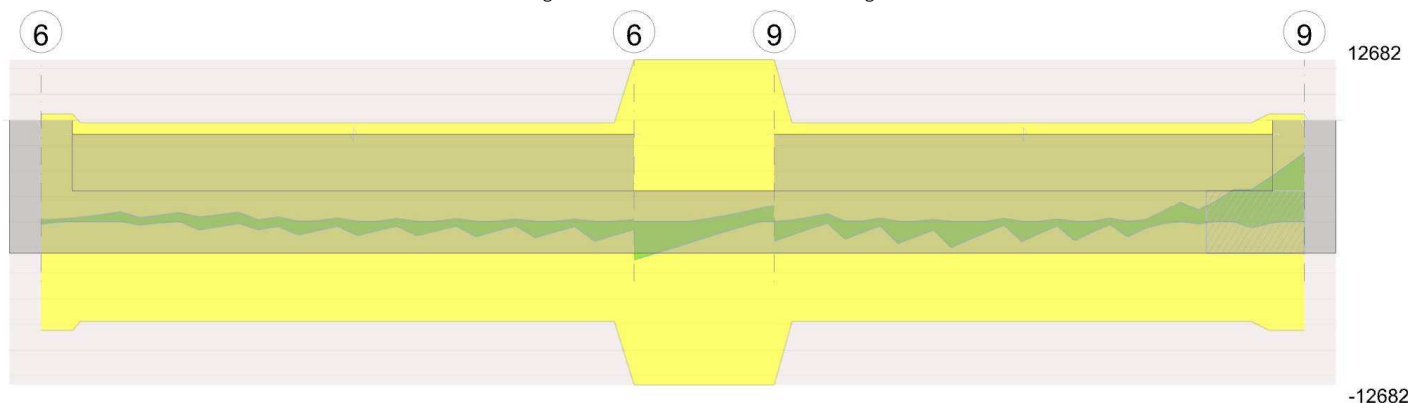
Elenco delle sezioni

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

Campata 2 tra i fili 6 - 9, sezione R 50x45, asta 44

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	284.74	SLU 81	284.74	7755.45	0.113	27.24	153.68	SLU 1	-173.12	-7755.45	0.113	44.8	Si
0.5	0.000509	0.052	0.000509	0.052							-669.55	SLU 81	-761.55	-7755.45	0.113	10.18	Si
0.6	0.000509	0.052	0.000509	0.052							-737.65	SLU 81	-764.19	-7755.45	0.113	10.15	Si
1	0.000509	0.052	0.000509	0.052							-591.26	SLU 81	-739.8	-7755.45	0.113	10.48	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

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



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

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+dcs	M+ult	x/d	coeff	M-ela	Comb.	M-dcs	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	421.02	SLV 15	421.02	7266.79	0.197	17.26	-70.24	SLV 2	-284.47	-7266.79	0.197	25.55	Si
0.5	0.000509	0.052	0.000509	0.052							-749.17	SLV 9	-863.7	-7266.79	0.197	8.41	Si
0.7	0.000509	0.052	0.000509	0.052	-101.16	SLV 4	16.74	7266.79	0.197	434.16	-876.74	SLV 13	-922.23	-7266.79	0.197	7.88	Si
1	0.000509	0.052	0.000509	0.052	129.33	SLV 4	129.33	7266.79	0.197	56.19	-887.82	SLV 13	-922.23	-7266.79	0.197	7.88	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000009	0.000509	0	-2919	SLV 81	-2919	-7764	-63178	-12682	-12682	1	4.34	Si
0.5	0.000009	0.000509	0	-888	SLV 81	-888	-7764	-63178	-12682	-12682	1	14.28	Si
1	0.000009	0.000509	0	1215	SLV 81	1215	7764	63178	12682	12682	1	10.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000009	0.000509	0	-2988	SLV 13	-2988	-7764	-63178	-12682	-12682	1	4.24	Si
0.5	0.000009	0.000509	0	165	SLV 4	165	7764	63178	12682	12682	1	77.07	Si
0.5	0.000009	0.000509	0	-1290	SLV 13	-1290	-7764	-63178	-12682	-12682	1	9.83	Si
1	0.000009	0.000509	0	1259	SLV 2	1259	7764	63178	12682	12682	1	10.07	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	205.66	18	205.66	10878	1494000	163169	36000000	175.39	2	175.39	9277	1120500			Si
0.5	-487.72	18	-554.69	29340	1494000	440093	36000000	-428.95	2	-487.27	25774	1120500			Si
1	-431.2	18	-538.99	28509	1494000	427637	36000000	-379.25	2	-473.48	25044	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	-1848	-1140	-12682	SLV 13	0.36	1618	1.653	175.39	245.63	7266.79	SLV 15	0.36	1618	1.653	Si
0.5	-563	-727	-12682	SLV 13	0.36	1618	1.653	-487.27	-376.43	-7266.79	SLV 13	0.36	1618	1.653	Si
1	771	488	12682	SLV 2	0.36	1618	1.653	-379.25	-508.58	-7266.79	SLV 13	0.36	1618	1.653	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 6, sezione R 50x45, aste 54, 53, 52, 51, 50, 49, 48, 47, 46, 45

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	86	SLV 5	0.085	2629	298	SLV 5	15877	Si
0.23	0.41	0.0002	111	SLV 5	0.085	2629	387	SLV 5	15877	Si
2.12	0.41	0.0002	332	SLU 81	0.017	2703	1156	SLU 81	15877	Si
4.23	0.41	0.0005	469	SLU 81	0.038	7165	1633	SLU 81	17712	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara					Quasi permanente					Verifica
			M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000169	27	SLE RA 18	789	1494000	9783	36000000	4	SLE QP 2	118	1120500	Si
0.23	0.41	0.00000169	52	SLE RA 18	1517	1494000	18814	36000000	26	SLE QP 2	764	1120500	Si
2.12	0.41	0.00000169	234	SLE RA 18	6784	1494000	84127	36000000	188	SLE QP 2	5443	1120500	Si
4.23	0.41	0.00000452	335	SLE RA 18	9348	1494000	115915	36000000	279	SLE QP 2	7772	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	0	3	159	SLV 5	0.36	1618	1.653	0.04	0.82	26.29	SLV 5	0.36	1618	1.653	Si
0.23	1	3	159	SLV 5	0.36	1618	1.653	0.26	0.85	26.29	SLV 5	0.36	1618	1.653	Si
2.12	7	4	159	SLV 9	0.36	1618	1.653	1.88	1.2	26.29	SLV 9	0.36	1618	1.653	Si
4.23	10	6	177	SLV 9	0.36	1618	1.653	2.79	1.69	68.77	SLV 9	0.36	1618	1.653	Si

Campata 2 tra i fili 6 - 9, sezione R 50x45, asta 44

Campata 3 tra i fili 9 - 9, sezione R 50x45, aste 43, 42, 41, 40, 39, 38, 37, 36, 35

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	503	SLV 9	0.137	6877	1785	SLU 81	17712	Si
1.89	0.41	0.0002	707	SLV 10	0.086	2728	2460	SLV 10	15877	Si
3.56	0.41	0.0002	1127	SLV 10	0.086	2728	3920	SLV 10	15877	Si
3.78	0.41	0.0002	1211	SLV 10	0.086	2728	4211	SLV 10	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara					Quasi permanente					Verifica
			M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000452	367	SLE RA 18	10252	1494000	127128	36000000	308	SLE QP 2	8601	1120500	Si
1.89	0.41	0.00000176	485	SLE RA 18	14037	1494000	174058	36000000	414	SLE QP 2	11988	1120500	Si
3.56	0.41	0.00000176	745	SLE RA 18	21566	1494000	267422	36000000	646	SLE QP 2	18696	1120500	Si
3.78	0.41	0.00000176	800	SLE RA 18	23145	1494000	287000	36000000	695	SLE QP 2	20097	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	11	7	177	SLV 9	0.36	1618	1.653	3.08	1.95	68.77	SLV 9	0.36	1618	1.653	Si
1.89	14	10	159	SLV 10	0.36	1618	1.653	4.14	2.93	27.28	SLV 10	0.36	1618	1.653	Si
3.56	22	17	159	SLV 10	0.36	1618	1.653	6.46	4.81	27.28	SLV 10	0.36	1618	1.653	Si
3.78	24	18	159	SLV 10	0.36	1618	1.653	6.95	5.16	27.28	SLV 10	0.36	1618	1.653	Si



Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLU 81	ST	BT	2.3	281490	54590	5.16	Si
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLV 10	SIS	BT	2.3	244628	49050	4.99	Si
54,53,52,51,50,49,48,47,46,45,44,43,42,41,40,39,38,37,36,35	9.46	1.1	SLD 10	SIS	BT	2.3	266487	42161	6.32	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	-673	-54590	7769.62	35276.07	0	-1	0.65	0.14	0.82	8.17	1496	2060	0	14430	
0	-3161	-49050	8679.77	39971.48	0	-4	0.81	0.18	0.75	7.83	1496	2060	0	14430	0.07
0	-1610	-42161	6549.6	30500.54	0	-2	0.72	0.16	0.79	8.01	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	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

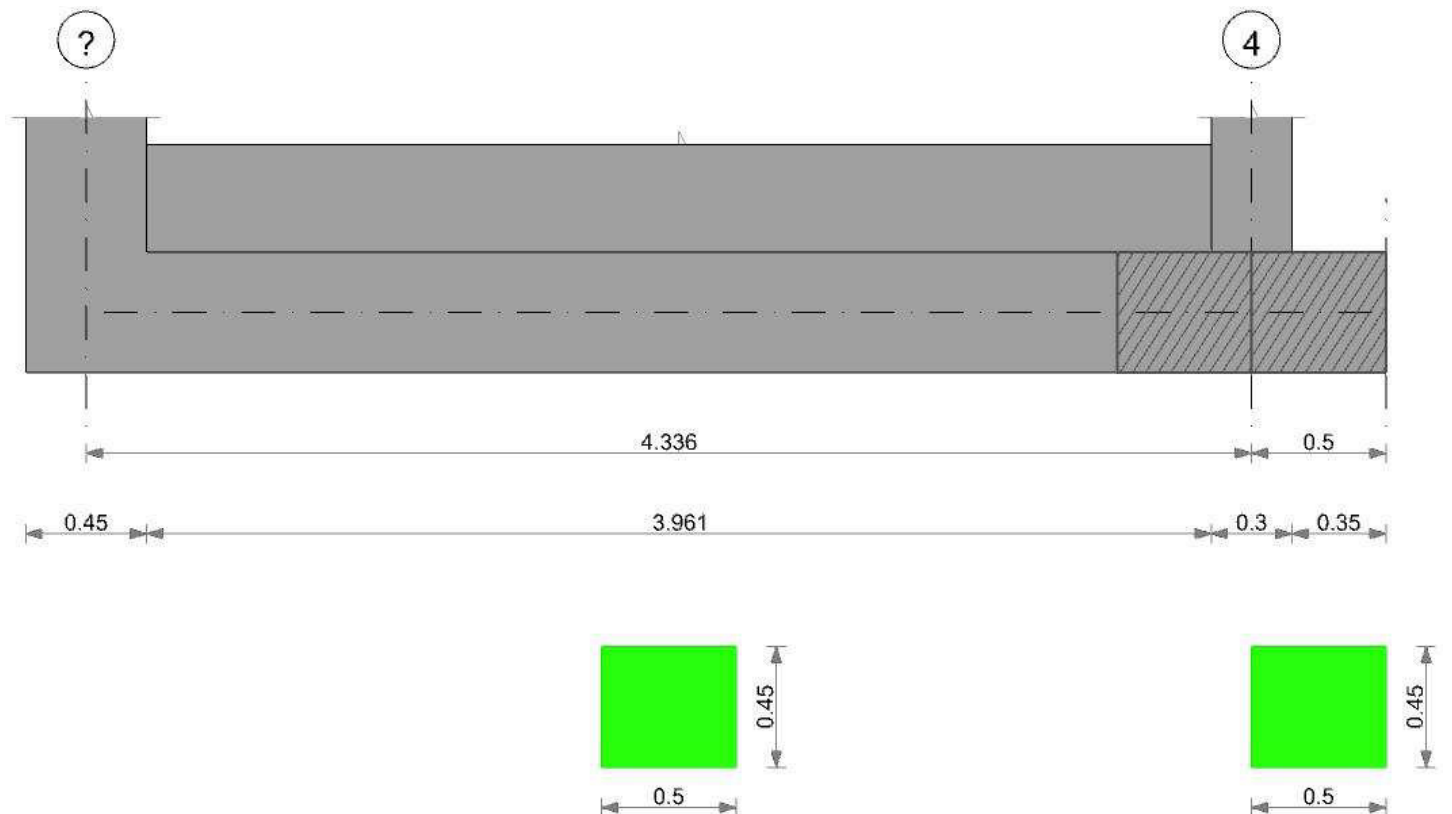
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	47	SLE RA 18	0.05	0	47	27	SLE RA 18	0.05	0	38	SLE RA 18	0.0033	0	SLE RA 18	Si
D	0.05	0	27	SLE RA 1	0.05	0	27	27	SLE RA 1	0.05	0	37	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	27	SLE RA 1	0.05	0	27	27	SLE RA 1	0.05	0	37	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Verifica gestionale - 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	38	47	SLE RA 18	0.19	0	27	SLE RA 1	0.1	0	38	SLE RA 18	Si
D	0.19	0	SLE RA 1	0.19	0	27	37	SLE RA 1	0.19	0	27	SLE RA 1	0.1	0	37	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	27	37	SLE RA 1	0.19	0	27	SLE RA 1	0.1	0	37	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

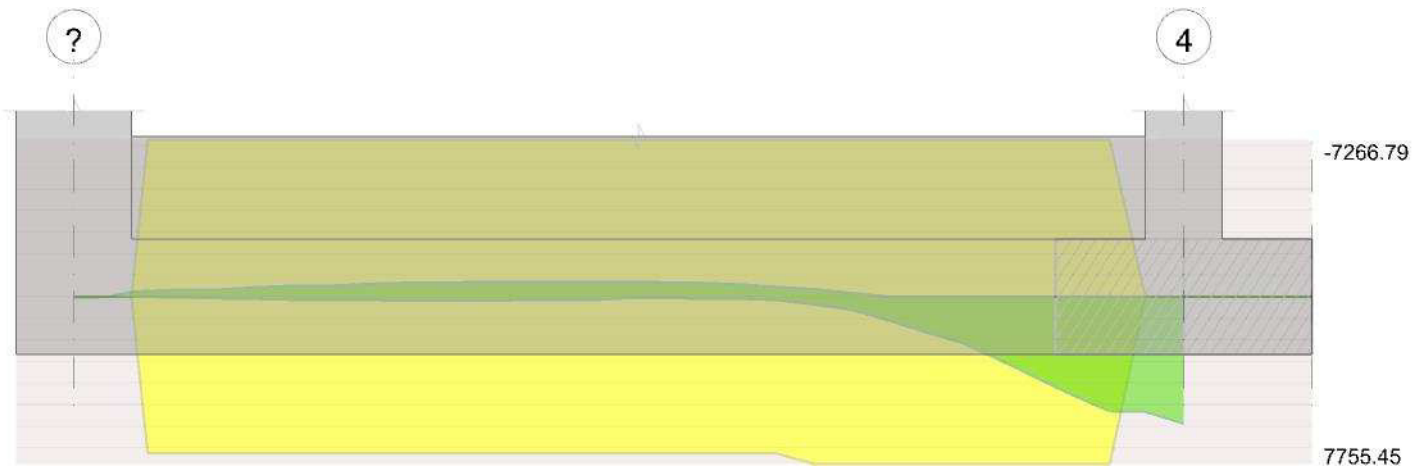
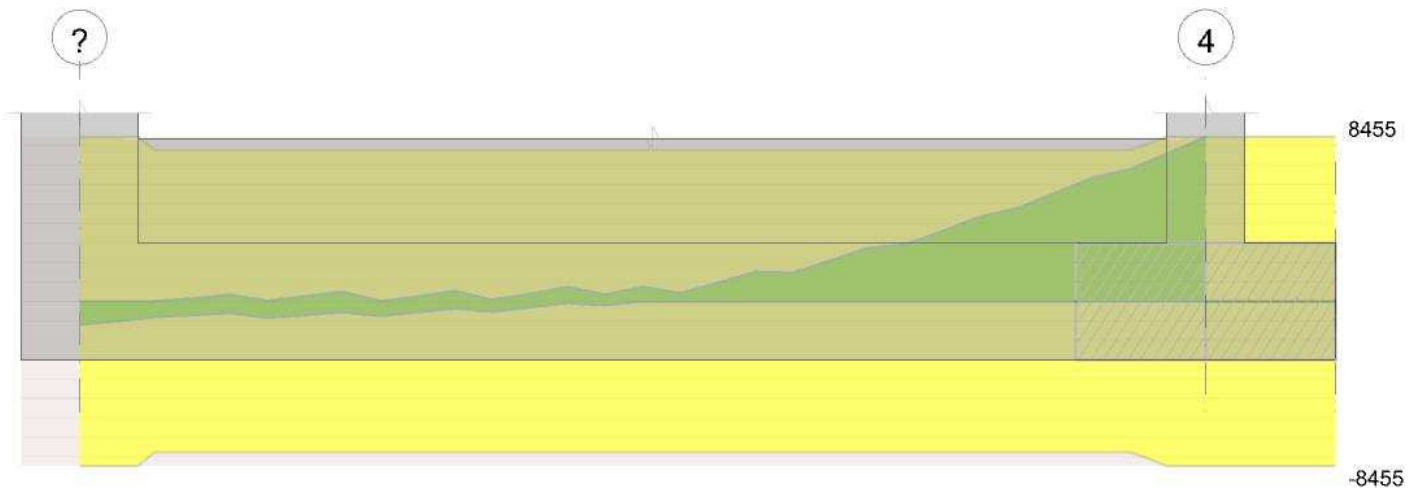


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili ? - 4, sezione R 50x45, aste 25, 26, 27, 28, 29, 30, 31, 32, 33, 34

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	142	SLV 2	0.087	2737	494	SLV 2	15877	Si
0.23	0.41	0.0002	165	SLV 2	0.087	2737	575	SLV 2	15877	Si
2.17	0.41	0.0002	396	SLV 1	0.087	2737	1378	SLU 81	15877	Si
4.19	0.41	0.0002	735	SLU 81	0.018	2816	2557	SLU 81	15877	Si
4.34	0.41	0.0002	745	SLU 81	0.018	2816	2593	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	0.00000176	30	SLE RA 18	862	1494000	10692	36000000	11	SLE QP 2	331	1120500	Si					
0.23	0.41	0.00000176	54	SLE RA 18	1572	1494000	19495	36000000	33	SLE QP 2	963	1120500	Si					
2.17	0.41	0.00000176	282	SLE RA 18	8171	1494000	101320	36000000	235	SLE QP 2	6791	1120500	Si					
4.19	0.41	0.00000176	529	SLE RA 18	15298	1494000	189700	36000000	449	SLE QP 2	13001	1120500	Si					
4.34	0.41	0.00000176	536	SLE RA 18	15512	1494000	192352	36000000	456	SLE QP 2	13190	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	0	5	159	SLV 2	0.36	1618	1.653	0.11	1.31	27.37	SLV 2	0.36	1618	1.653	Si
0.23	1	5	159	SLV 2	0.36	1618	1.653	0.33	1.32	27.37	SLV 2	0.36	1618	1.653	Si
2.17	8	6	159	SLV 1	0.36	1618	1.653	2.35	1.61	27.37	SLV 1	0.36	1618	1.653	Si
4.19	16	8	159	SLV 3	0.36	1618	1.653	4.49	2.43	27.37	SLV 3	0.36	1618	1.653	Si
4.34	16	9	159	SLV 3	0.36	1618	1.653	4.56	2.45	27.37	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	yR	Rd	Ed	Rd/Ed	Verifica
25,26,27,28,29,30,31,32,33,34	4.56	1.1	SLU 81	ST	BT	2.3	172984	23523	7.35	Si
25,26,27,28,29,30,31,32,33,34	4.56	1.1	SLV 1	SIS	LT	2.3	149364	20611	7.25	Si
25,26,27,28,29,30,31,32,33,34	4.56	1.1	SLD 3	SIS	BT	2.3	162019	17933	9.03	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	-24	-23523	-1190.81	6616.34	0	0	0.28	-0.05	1	4	1496	2060	0	14430	0
0	2824	-20611	-2697.18	3277.84	0	8	0.16	-0.13	0.84	4.24	1496	2060	37	0	0.07
0	990	-17933	-1443.42	4928.99	0	3	0.27	-0.08	0.94	4.01	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	1.15	1.15	0.92	1.16	1.27	1	0.76	0.76	0.66	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	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

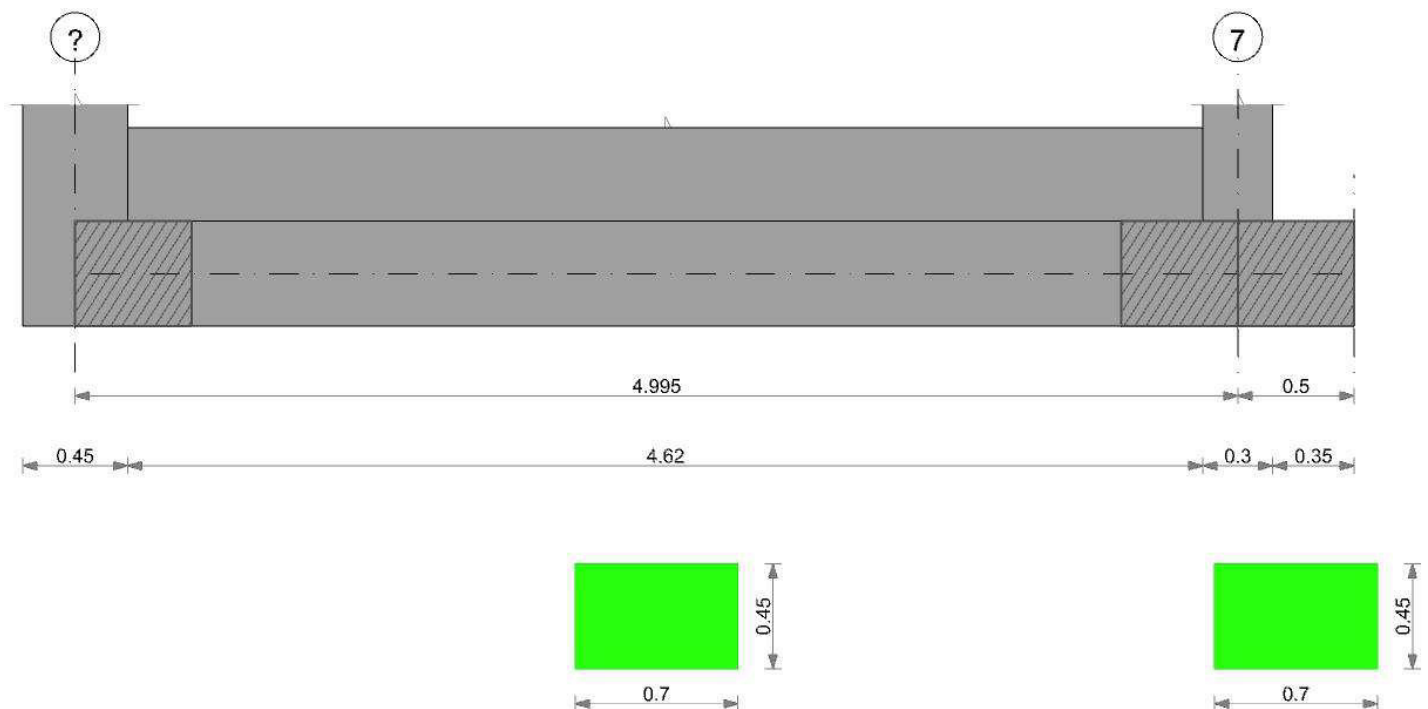
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	117	SLE RA 18	0.05	0	117	52	SLE RA 18	0.05	0	117	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	117	SLE RA 1	0.05	0	117	117	SLE RA 1	0.05	0	117	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	117	SLE RA 1	0.05	0	117	117	SLE RA 1	0.05	0	117	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	117	52	SLE RA 18	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	117	52	SLE RA 1	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	117	52	SLE RA 1	0.19	0	117	SLE RA 1	0.1	0	117	SLE RA 1	Si

CORDOLO 8

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

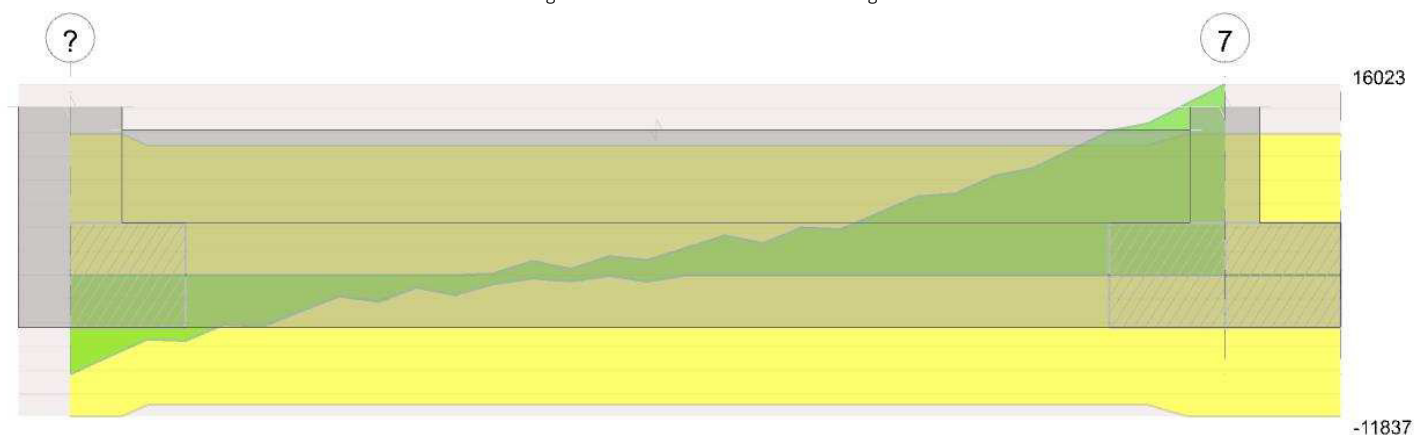
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 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 ? - 7, sezione R 70x45, aste 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2095	SLV 10	0.086	2692	5408	SLV 10	15877	Si
0.23	0.41	0.0002	1975	SLV 10	0.086	2692	5097	SLV 10	15877	Si
2.5	0.41	0.0002	1485	SLU 81	0.017	2768	3832	SLU 81	15877	Si
4.85	0.41	0.0002	2081	SLU 81	0.017	2768	5372	SLU 81	15877	Si
5	0.41	0.0002	2092	SLU 81	0.017	2768	5399	SLU 81	15877	Si

Verifiche delle tensioni di esercizio

Carregamento de tensão: 173,60kN/m²			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	1369	SLE RA 18	39620	1494000	491292	36000000	1186	SLE QP 2	34340	1120500	Si
0.23	0.41	0.00000173	1305	SLE RA 18	37768	1494000	468321	36000000	1130	SLE QP 2	32710	1120500	Si
2.5	0.41	0.00000173	1074	SLE RA 18	31086	1494000	385466	36000000	925	SLE QP 2	26773	1120500	Si
4.85	0.41	0.00000173	1507	SLE RA 18	43614	1494000	540819	36000000	1300	SLE QP 2	37624	1120500	Si
5	0.41	0.00000173	1515	SLE RA 18	43843	1494000	543658	36000000	1307	SLE QP 2	37826	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	31	23	159	SLV 10	0.36	1618	1.653	11.86	9.09	26.92	SLV 10	0.36	1618	1.653	Si
0.23	29	22	159	SLV 10	0.36	1618	1.653	11.3	8.45	26.92	SLV 10	0.36	1618	1.653	Si
2.5	24	12	159	SLV 14	0.36	1618	1.653	9.25	4.7	26.92	SLV 14	0.36	1618	1.653	Si
4.85	34	13	159	SLV 14	0.36	1618	1.653	13	4.95	26.92	SLV 14	0.36	1618	1.653	Si
5	34	13	159	SLV 14	0.36	1618	1.653	13.07	4.92	26.92	SLV 14	0.36	1618	1.653	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
24,23,22,21,20,19,18,17,16,15,14,13	5.22	1.3	SLU 81	ST	BT	2.3	236277	52505	4.5	Si
24,23,22,21,20,19,18,17,16,15,14,13	5.22	1.3	SLV 13	SIS	BT	2.3	210312	46674	4.51	Si
24,23,22,21,20,19,18,17,16,15,14,13	5.22	1.3	SLD 13	SIS	BT	2.3	224455	40188	5.59	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	18	-52505	4727.03	4486.79	0	0	0.09	0.09	1.12	5.05	1496	2060	0	14430	
0	-5497	-46674	7191.23	337.39	0	-7	0.01	0.15	0.99	5.21	1496	2060	0	14430	0.07



Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-2380	-40188	4871.4	1720.12	0	-3	0.04	0.12	1.06	5.13	1496	2060	0	14430	0.03

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

N			S			D			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	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	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.03	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	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.	Rl adm	Rl	Comb.	
E	0.05	0	139	SLE RA 18	0.05	0	139	24	SLE RA 18	0.05	0	139	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	139	SLE RA 1	0.05	0	139	139	SLE RA 1	0.05	0	139	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	139	SLE RA 1	0.05	0	139	139	SLE RA 1	0.05	0	139	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	139	24	SLE RA 18	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	139	24	SLE RA 1	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	139	24	SLE RA 1	0.19	0	139	SLE RA 1	0.1	0	139	SLE RA 1	Si

1.3 Verifica sismica globale

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

Desc.: descrizione.

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

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

Comb.: combinazione.

PGA: accelerazione al suolo.

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

TR: tempo di ritorno.

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

fa: fattore di accelerazione.

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

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

Verifica: stato di verifica.

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

Trave: titolo della trave.

Pressoflessione: dati della verifica a pressoflessione.

Coeff.s.: coefficiente di sicurezza a flessione.

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

campata: campata di riferimento.

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

Taglio: dati della verifica a taglio.

Coeff.s.: coefficiente di sicurezza a taglio.

Maschio: maschio.

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

Trave: trave di collegamento in muratura.

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

S. L.: stato limite di riferimento.

TR,C: periodo di ritorno di capacità.

PGA,C: accelerazione di aggancio di capacità.

TR,Rif: periodo di ritorno di riferimento.

PGA,Rif: accelerazione di aggancio di riferimento.

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

PAM: perdita media annua attesa.

Classe PAM: classe di rischio PAM.

IS-V: indice di sicurezza.

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

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

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

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

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

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

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

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

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



Accelerazioni e tempi di ritorno

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

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

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

Tr,SLOrif = 30 anni

Tr,SLDrif = 50 anni

Tr,SLVrif = 475 anni

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (gE)	TR	(TR/TRrif)^.41	fa
Maschio 25	PF	0.365	SLV 7	0.0834	0.3415	34	0.3392	0.341
Maschio 12	V	1.661	SLV 7	0.3624	1.4833	1618	1.6529	1.4831
Maschio 25	PFFP	0.536	SLV 4	0.1241	0.5081	88	0.5009	0.5063
Maschio 18	R	1.513	SLV 9	0.3624	1.4833	1618	1.6529	1.4831
Trave di accoppiamento 3	PF	0.799	SLV 16	0.191	0.7816	247	0.7648	0.7812
Trave di accoppiamento 3	V	0.957	SLV 3	0.2327	0.9526	417	0.948	0.952

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	4.712	SLU 81	Si
Maschio 1	V SLU	11.317	SLU 81	Si
Maschio 1	PF	2.54	SLV 12	Si
Maschio 1	V	4.106	SLV 5	Si
Maschio 1	PFFP	10.036	SLV 16	Si
Maschio 1	R	6.66	SLV 13	Si
Maschio 4	PF SLU	8.406	SLU 81	Si
Maschio 4	V SLU	8.067	SLU 43	Si
Maschio 4	PF	3.387	SLV 14	Si
Maschio 4	V	4.402	SLV 16	Si
Maschio 4	PFFP	24.536	SLV 14	Si
Maschio 4	R	2.563	SLV 3	Si
Maschio 5	PF SLU	9.122	SLU 39	Si
Maschio 5	V SLU	9.929	SLU 43	Si
Maschio 5	PF	4.673	SLV 14	Si
Maschio 5	V	5.647	SLV 3	Si
Maschio 5	PFFP	29.298	SLV 3	Si
Maschio 5	R	2.184	SLV 14	Si
Maschio 6	PF SLU	9.034	SLU 64	Si
Maschio 6	V SLU	22.831	SLU 81	Si
Maschio 6	PF	2.3	SLV 9	Si
Maschio 6	V	5.084	SLV 5	Si
Maschio 6	PFFP	9.861	SLV 9	Si
Maschio 6	R	4.499	SLV 8	Si
Maschio 7	PF SLU	26.965	SLU 43	Si
Maschio 7	V SLU	19.688	SLU 81	Si
Maschio 7	PF	4.034	SLV 10	Si
Maschio 7	V	3.732	SLV 14	Si
Maschio 7	PFFP	11.055	SLV 9	Si
Maschio 7	R	5.601	SLV 10	Si
Maschio 8	PF SLU	24.071	SLU 39	Si
Maschio 8	V SLU	9.188	SLU 81	Si
Maschio 8	PF	6.078	SLV 10	Si
Maschio 8	V	4.458	SLV 10	Si
Maschio 8	PFFP	17.795	SLV 6	Si
Maschio 8	R	3.467	SLV 16	Si
Maschio 9	PF SLU	3.788	SLU 43	Si
Maschio 9	V SLU	4.967	SLU 81	Si
Maschio 9	PF	2.723	SLV 15	Si
Maschio 9	V	4.809	SLV 4	Si
Maschio 9	PFFP	11.105	SLV 11	Si
Maschio 9	R	3.033	SLV 2	Si
Maschio 10	PF SLU	10.501	SLU 81	Si
Maschio 10	V SLU	6.179	SLU 81	Si
Maschio 10	PF	5.909	SLV 3	Si
Maschio 10	V	7.388	SLV 15	Si
Maschio 10	PFFP	7.667	SLV 4	Si
Maschio 10	R	4.104	SLV 13	Si
Maschio 11	PF SLU	8.147	SLU 43	Si
Maschio 11	V SLU	3.194	SLU 81	Si
Maschio 11	PF	2.133	SLV 11	Si
Maschio 11	V	2.549	SLV 11	Si
Maschio 11	PFFP	4.279	SLV 4	Si
Maschio 11	R	9.347	SLV 13	Si
Maschio 12	PF SLU	10.212	SLU 81	Si
Maschio 12	V SLU	11.996	SLU 81	Si
Maschio 12	PF	3.27	SLV 7	Si
Maschio 12	V	2.658	SLV 7	Si
Maschio 12	PFFP	10.417	SLV 3	Si
Maschio 12	R	5.206	SLV 13	Si
Maschio 13	PF SLU	5.9	SLU 81	Si
Maschio 13	V SLU	4.385	SLU 81	Si
Maschio 13	PF	3.356	SLV 14	Si
Maschio 13	V	3.077	SLV 10	Si
Maschio 13	PFFP	15.748	SLV 5	Si
Maschio 13	R	4.337	SLV 8	Si
Maschio 14	PF SLU	9.654	SLU 43	Si
Maschio 14	V SLU	14.067	SLU 81	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 14	PF	2.982	SLV 8	Si
Maschio 14	V	5.507	SLV 5	Si
Maschio 14	PFFP	1.576	SLV 8	Si
Maschio 14	R	4.853	SLV 1	Si
Maschio 18	PF SLU	11.298	SLU 43	Si
Maschio 18	V SLU	24.141	SLU 81	Si
Maschio 18	PF	3.597	SLV 14	Si
Maschio 18	V	7.757	SLV 14	Si
Maschio 18	PFFP	3.632	SLV 2	Si
Maschio 18	R	1.529	SLV 9	Si
Maschio 20	PF SLU	3.74	SLU 39	Si
Maschio 20	V SLU	9.329	SLU 81	Si
Maschio 20	PF	0.792	SLV 9	No
Maschio 20	V	6.361	SLV 1	Si
Maschio 20	PFFP	0	SLV 5	No
Maschio 20	R	2.742	SLV 3	Si
Maschio 21	PF SLU	2.216	SLU 43	Si
Maschio 21	V SLU	12.484	SLU 81	Si
Maschio 21	PF	0	SLV 3	No
Maschio 21	V	6.028	SLV 10	Si
Maschio 21	PFFP	0	SLV 11	No
Maschio 21	R	2.437	SLV 14	Si
Maschio 22	PF SLU	2.864	SLU 43	Si
Maschio 22	V SLU	6.668	SLU 81	Si
Maschio 22	PF	0.873	SLV 12	No
Maschio 22	V	5.061	SLV 14	Si
Maschio 22	PFFP	1.733	SLV 8	Si
Maschio 22	R	2.655	SLV 1	Si
Maschio 23	PF SLU	2.166	SLU 64	Si
Maschio 23	V SLU	3.652	SLU 81	Si
Maschio 23	PF	1.017	SLV 16	Si
Maschio 23	V	4.18	SLV 14	Si
Maschio 23	PFFP	1.216	SLV 5	Si
Maschio 23	R	2.363	SLV 14	Si
Maschio 24	PF SLU	2.631	SLU 64	Si
Maschio 24	V SLU	12.154	SLU 81	Si
Maschio 24	PF	1.252	SLV 4	Si
Maschio 24	V	4.804	SLV 2	Si
Maschio 24	PFFP	2.292	SLV 13	Si
Maschio 24	R	2.63	SLV 4	Si
Maschio 25	PF SLU	3.99	SLU 64	Si
Maschio 25	V SLU	3.165	SLU 81	Si
Maschio 25	PF	0	SLV 1	No
Maschio 25	V	2.567	SLV 7	Si
Maschio 25	PFFP	0	SLV 1	No
Maschio 25	R	5.081	SLV 14	Si
Maschio 26	PF SLU	3.429	SLU 64	Si
Maschio 26	V SLU	6.813	SLU 81	Si
Maschio 26	PF	1.118	SLV 7	Si
Maschio 26	V	3.92	SLV 7	Si
Maschio 26	PFFP	1.867	SLV 3	Si
Maschio 26	R	4.434	SLV 13	Si
Maschio 27	PF SLU	5.936	SLU 39	Si
Maschio 27	V SLU	19.46	SLU 81	Si
Maschio 27	PF	1.199	SLV 10	Si
Maschio 27	V	6.391	SLV 10	Si
Maschio 27	PFFP	1.688	SLV 13	Si
Maschio 27	R	4.493	SLV 3	Si

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.931	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.071	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.565	SLV 16	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
4	PF	3.208	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.157	SLV 3	0.362	1.483	1618	1.653	Si
5	PF	3.362	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.902	SLV 14	0.362	1.483	1618	1.653	Si
6	PF	1.793	SLV 9	0.362	1.483	1618	1.653	Si
	V	3.987	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.138	SLV 9	0.362	1.483	1618	1.653	Si
	R	2.96	SLV 8	0.362	1.483	1618	1.653	Si
7	PF	2.266	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.238	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	2.405	SLV 9	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
8	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.93	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.769	SLV 16	0.362	1.483	1618	1.653	Si
9	PF	1.974	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.137	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.314	SLV 2	0.362	1.483	1618	1.653	Si
10	PF	1.509	SLV 4	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.64	SLV 4	0.362	1.483	1618	1.653	Si
	R	2.681	SLV 13	0.362	1.483	1618	1.653	Si
11	PF	1.756	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.823	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.437	SLV 4	0.347	1.419	1398	1.557	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	2.118	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.661	SLV 7	0.362	1.483	1618	1.653	Si
12	PFFP	2.208	SLV 3	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	3.84	SLV 10	0.362	1.483	1618	1.653	Si
13	V	2.937	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	3.119	SLV 8	0.362	1.483	1618	1.653	Si
14	PF	2.292	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.103	SLV 8	0.268	1.098	628	1.121	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
18	PFFP	3.039	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.513	SLV 9	0.362	1.483	1618	1.653	Si
	PF	0.874	SLV 9	0.21	0.861	319	0.849	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.695	SLV 9	0.163	0.669	168	0.653	No
	R	2.452	SLV 11	0.362	1.483	1618	1.653	Si
21	PF	0.693	SLV 7	0.163	0.667	167	0.651	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.897	SLV 12	0.217	0.887	345	0.877	No
	R	1.966	SLV 10	0.362	1.483	1618	1.653	Si
	PF	0.9	SLV 12	0.217	0.889	348	0.88	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.608	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.246	SLV 5	0.362	1.483	1618	1.653	Si
	PF	1.028	SLV 16	0.251	1.027	514	1.033	Si
23	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.087	SLV 5	0.265	1.083	602	1.102	Si
	R	2.17	SLV 14	0.362	1.483	1618	1.653	Si
24	PF	1.484	SLV 4	0.358	1.464	1551	1.624	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.723	SLV 13	0.362	1.483	1618	1.653	Si
	R	2.516	SLV 2	0.362	1.483	1618	1.653	Si
	PF	0.365	SLV 7	0.083	0.342	34	0.339	No
	V	3.316	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	0.536	SLV 4	0.124	0.508	88	0.501	No
	R	3.672	SLV 14	0.362	1.483	1618	1.653	Si
26	PF	1.143	SLV 7	0.277	1.136	694	1.168	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.75	SLV 3	0.362	1.483	1618	1.653	Si
	R	4.065	SLV 13	0.362	1.483	1618	1.653	Si
	PF	1.107	SLV 10	0.269	1.102	634	1.126	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
27	PFFP	1.541	SLV 13	0.362	1.483	1618	1.653	Si
	R	3.612	SLV 3	0.362	1.483	1618	1.653	Si

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
3	F	0.799	SLV 16	0.191	0.782	247	0.765	No
	V	0.957	SLV 3	0.233	0.953	417	0.948	No
4	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.859	SLV 1	0.362	1.483	1618	1.653	Si
5	F	3.297	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.883	SLV 1	0.362	1.483	1618	1.653	Si
6	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.275	SLV 14	0.308	1.262	953	1.33	Si
7	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.617	SLV 10	0.362	1.483	1618	1.653	Si
8	F	2.156	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.112	SLV 13	0.27	1.107	643	1.132	Si
9	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.081	SLV 7	0.263	1.077	593	1.095	Si
10	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.359	SLV 11	0.328	1.343	1166	1.445	Si
11	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.242	SLV 6	0.3	1.23	881	1.288	Si
12	F	2.725	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.621	SLV 10	0.362	1.483	1618	1.653	Si
13	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.149	SLV 8	0.362	1.483	1618	1.653	Si
14	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
15	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
16	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.222	SLV 10	0.362	1.483	1618	1.653	Si
17	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.146	SLV 10	0.362	1.483	1618	1.653	Si
18	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.041	SLV 14	0.254	1.039	532	1.048	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ζ E)	TR	(TR/TRrif)^.41	Verifica
19	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.175	SLV 14	0.362	1.483	1618	1.653	Si
20	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.86	SLV 12	0.362	1.483	1618	1.653	Si
21	F	3.408	SLV 12	0.362	1.483	1618	1.653	Si
	V	2.479	SLV 12	0.362	1.483	1618	1.653	Si
22	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.622	SLV 11	0.362	1.483	1618	1.653	Si
23	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.002	SLV 7	0.362	1.483	1618	1.653	Si
24	F	3.971	SLV 10	0.362	1.483	1618	1.653	Si
	V	2.581	SLV 7	0.362	1.483	1618	1.653	Si
25	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.174	SLV 7	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	34	0.083	475	0.244	pressoflessione maschio muratura

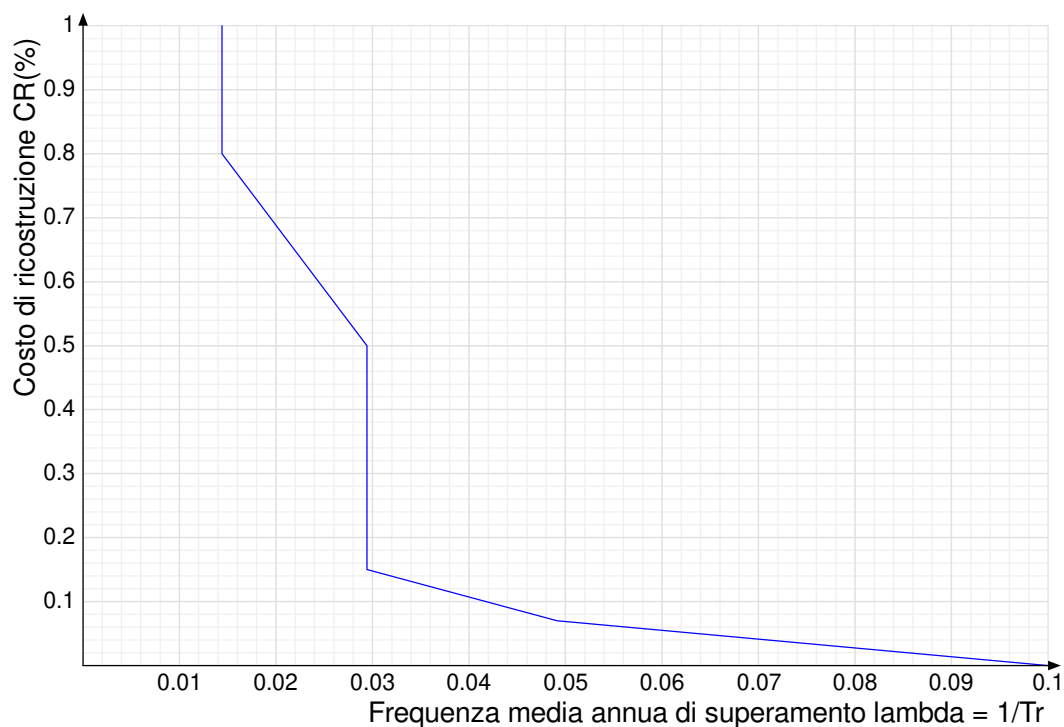
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
34	475	2.811	D	34.154	D	pressoflessione maschio muratura

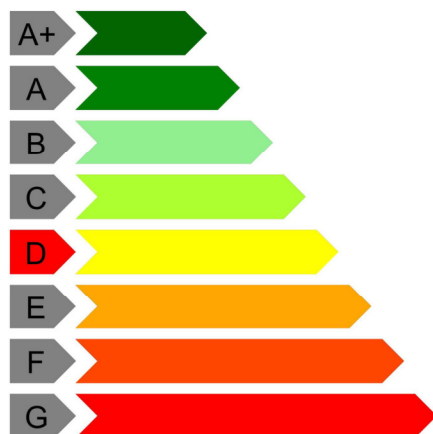
Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ_{SLR}	λ_{SLC}	λ_{SLV}	λ_{SLD}	λ_{SLO}	λ_{SLID}
0.014412	0.014412	0.029412	0.029412	0.049118	0.1

Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



Classe PAM



Classe IS-V



1.4 Verifiche maschi in muratura

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

X_{ini.}: coordinate del punto iniziale del maschio. [m]

Y_{ini.}: coordinate del punto iniziale del maschio. [m]

X_{fin.}: coordinate del punto finale del maschio. [m]

Y_{fin.}: coordinate del punto finale del maschio. [m]

Quota i.: livello o falda inferiore.

Quota s.: livello o falda superiore.

l: lunghezza del maschio. [m]

Sp.: spessore. [m]

h_{netta}: altezza netta (a filo solai). [m]

h_{ini.}: altezza nel modello al punto iniziale. [m]

h_{fin.}: altezza nel modello al punto finale. [m]

a: distanza tra irrigidimenti laterali. [m]

a.s.,sx: lunghezza di appoggio del solaio di sinistra. [m]

a.s.,dx: lunghezza di appoggio del solaio di destra. [m]

f_b: resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]

f_k: resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]

f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]

f_{medio}: resistenza media a compressione della muratura utilizzata. [daN/m²]

τ₀: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]

f_{v0}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]

μ: coefficiente di attrito [C8.7.1.17].

φ: coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

f_{v,lim}: valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]

E: modulo di elasticità longitudinale della muratura utilizzata. [daN/m²]

G: modulo di elasticità tangenziale della muratura utilizzata. [daN/m²]

FC: fattore di confidenza della muratura.

Materiale: descrizione del materiale.

F_v Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

F_v Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.

t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.



E: modulo di elasticità longitudinale. [daN/m²]

eu: dilatazione a rottura.

Tipo fibra: natura della fibra.

materiale: materiale fibra del rinforzo.

lato applicazione: lato di applicazione del rinforzo.

esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.

ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.

ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.

ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.

ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.

strati: numero strati del rinforzo.

verifica taglio: tipo di verifica a taglio.

elim,conv / ϵ ,CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.

at: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.

α : coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.

elim,conv: deformazione limite convenzionale del rinforzo FRCCM.

ϵ ,fd: deformazione di progetto del rinforzo FRCCM ovvero CRM.

γ ,fd: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.

connettori: presenza di connettori per la prevenzione del distacco del rinforzo.

tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.

CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.

CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.

intonaco: materiale intonaco FRCCM ovvero CRM.

spessore intonaco: spessore intonaco. [m]

tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.

Comb.: combinazione.

Quota: quota della sezione di verifica. [m]

M: momento flettente nel piano. [daN*m]

N: sforzo normale. [daN]

em: deformazione della muratura.

em_u: deformazione elastica della muratura.

em_u: 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.

N_{mur}: aliquota di sforzo normale recepito dalla sola muratura. [daN]

V: taglio nel piano. [daN]

df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]

l': lunghezza della parte compressa della parete. [m]

σ N: tensione media nella zona compressa. [daN/m²]

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]

α 0: moltiplicatore secondo [C8.7.1.1].

M*: massa partecipante al cinematisimo. [daN/(m/s²)]

e*: frazione di massa partecipante della muratura [C8.7.1.5].

α 0*: accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]

α Lim: accelerazione limite [C7.2.11]. [m/s²]

Stato limite: pF_SLV=Presso flessione per azioni non sismiche; V_SLV=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.

fd: resistenza a compressione di calcolo. [daN/m²]

Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.

σ 0: 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
3.114	-2.82	3.114	5.915	L1	L2	8.735	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 84	-1.59	38097.19	-42041	-0.0000254	0.0004492	0.0035	8.735	167540.96	179514.12	179514.12	4.71	No	Si
SLU 84	1.09	-7131.37	-35190	-0.0000148	0.0004492	0.0035	8.735	142433.25	190693.08	190693.08	26.74	No	Si
SLU 81	-1.59	38097.19	-42041	-0.0000254	0.0004492	0.0035	8.735	167540.96	179514.12	179514.12	4.71	No	Si
SLU 81	1.09	-7131.37	-35190	-0.0000148	0.0004492	0.0035	8.735	142433.25	190693.08	190693.08	26.74	No	Si
SLU 63	-1.59	34595.46	-38253	-0.000023	0.0004492	0.0035	8.735	153765.14	164772.41	164772.41	4.76	No	Si
SLU 63	1.09	-7187.43	-31774	-0.0000135	0.0004492	0.0035	8.735	129594.06	177097.29	177097.29	24.64	No	Si
SLU 41	-1.59	32740.61	-35896	-0.0000216	0.0004492	0.0035	8.735	145059.26	155587.07	155587.07	4.75	No	Si
SLU 41	1.09	-4861.07	-30405	-0.0000124	0.0004492	0.0035	8.735	124387.64	171647.16	171647.16	35.31	No	Si
SLU 39	-1.59	32740.61	-35896	-0.0000216	0.0004492	0.0035	8.735	145059.26	155587.07	155587.07	4.75	No	Si
SLU 39	1.09	-4861.07	-30405	-0.0000124	0.0004492	0.0035	8.735	124387.64	171647.16	171647.16	35.31	No	Si
SLU 83	-1.59	38097.19	-42041	-0.0000254	0.0004492	0.0035	8.735	167540.96	179514.12	179514.12	4.71	No	Si
SLU 83	1.09	-7131.37	-35190	-0.0000148	0.0004492	0.0035	8.735	142433.25	190693.08	190693.08	26.74	No	Si
SLU 82	-1.59	38097.19	-42041	-0.0000254	0.0004492	0.0035	8.735	167540.96	179514.12	179514.12	4.71	No	Si
SLU 82	1.09	-7131.37	-35190	-0.0000148	0.0004492	0.0035	8.735	142433.25	190693.08	190693.08	26.74	No	Si
SLU 40	-1.59	32740.61	-35896	-0.0000216	0.0004492	0.0035	8.735	145059.26	155587.07	155587.07	4.75	No	Si
SLU 40	1.09	-4861.07	-30405	-0.0000124	0.0004492	0.0035	8.735	124387.64	171647.16	171647.16	35.31	No	Si
SLU 62	-1.59	34595.46	-38253	-0.000023	0.0004492	0.0035	8.735	153765.14	164772.41	164772.41	4.76	No	Si
SLU 62	1.09	-7187.43	-31774	-0.0000135	0.0004492	0.0035	8.735	129594.06	177097.29	177097.29	24.64	No	Si
SLU 42	-1.59	32740.61	-35896	-0.0000216	0.0004492	0.0035	8.735	145059.26	155587.07	155587.07	4.75	No	Si
SLU 42	1.09	-4861.07	-30405	-0.0000124	0.0004492	0.0035	8.735	124387.64	171647.16	171647.16	35.31	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	-1.59	26419.57	-18379	-0.0000134	0.0006738	0.0035	8.735		85755.77	85755.77	3.25		Si
SLV 16	1.09	5329.34	-24128	-0.0000102	0.0006738	0.0035	8.735		109645.68	109645.68	20.57		Si
SLV 6	-1.59	-1929.45	-24971	-0.0000096	0.0006738	0.0035	8.735		151080.62	151080.62	78.3		Si
SLV 6	1.09	-43616.74	-23369	-0.00002	0.0006738	0.0035	8.735		144529.87	144529.87	3.31		Si
SLV 11	-1.59	50597.56	-29733	-0.0000239	0.0006738	0.0035	8.735		132719.8	132719.8	2.62		Si
SLV 11	1.09	29676.2	-21147	-0.0000152	0.0006738	0.0035	8.735		97325.91	97325.91	3.28		Si
SLV 12	-1.59	51899.7	-29519	-0.0000243	0.0006738	0.0035	8.735		131847.23	131847.23	2.54		Si
SLV 12	1.09	32175.03	-20084	-0.0000155	0.0006738	0.0035	8.735		92906.54	92906.54	2.89		Si
SLV 10	-1.59	-6300.99	-18674	-0.0000084	0.0006738	0.0035	8.735		125218.39	125218.39	19.87		Si
SLV 10	1.09	-43814.46	-25272	-0.0000205	0.0006738	0.0035	8.735		152313.04	152313.04	3.48		Si
SLV 8	-1.59	56271.25	-35816	-0.0000275	0.0006738	0.0035	8.735		157481.06	157481.06	2.8		Si
SLV 8	1.09	32372.75	-18181	-0.000015	0.0006738	0.0035	8.735		84923.92	84923.92	2.62		Si
SLV 5	-1.59	-3231.59	-25185	-0.00001	0.0006738	0.0035	8.735		151957.13	151957.13	47.02		Si
SLV 5	1.09	-46115.58	-24432	-0.0000211	0.0006738	0.0035	8.735		148877.9	148877.9	3.23		Si
SLV 7	-1.59	54969.11	-36030	-0.0000272	0.0006738	0.0035	8.735		158352.93	158352.93	2.88		Si
SLV 7	1.09	29873.91	-19244	-0.0000146	0.0006738	0.0035	8.735		89383.37	89383.37	2.99		Si
SLV 9	-1.59	-7603.14	-18888	-0.0000088	0.0006738	0.0035	8.735		126104.08	126104.08	16.59		Si
SLV 9	1.09	-46313.29	-26335	-0.0000216	0.0006738	0.0035	8.735		156661.07	156661.07	3.38		Si
SLV 15	-1.59	25136.92	-18590	-0.0000131	0.0006738	0.0035	8.735		86641.29	86641.29	3.45		Si
SLV 15	1.09	2867.91	-25175	-0.0000099	0.0006738	0.0035	8.735		113973.89	113973.89	39.74		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'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 76	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 73	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 73	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 75	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 75	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 84	-1.59	38097.19	-42041	-33633	-9476	8.735	8.735	-8556	9474	37241	81562	141261	44549	118802	No	12.54	Si
SLU 84	1.09	-7131.37	-35190	-28152	-10433	8.735	8.735	-7162	9288	36510	81562	141261	44549	118071	No	11.32	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 79	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 81	-1.59	38097.19	-42041	-33633	-9476	8.735	8.735	-8556	9474	37241	81562	141261	44549	118802	No	12.54	Si
SLU 81	1.09	-7131.37	-35190	-28152	-10433	8.735	8.735	-7162	9288	36510	81562	141261	44549	118071	No	11.32	Si
SLU 83	-1.59	38097.19	-42041	-33633	-9476	8.735	8.735	-8556	9474	37241	81562	141261	44549	118802	No	12.54	Si
SLU 83	1.09	-7131.37	-35190	-28152	-10433	8.735	8.735	-7162	9288	36510	81562	141261	44549	118071	No	11.32	Si
SLU 78	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 78	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 74	-1.59	35882.69	-39851	-31881	-8886	8.735	8.735	-8111	9415	37007	81562	141261	44549	118569	No	13.34	Si
SLU 74	1.09	-7907.3	-33050	-26440	-9812	8.735	8.735	-6727	9230	36282	81562	141261	44549	117843	No	12.01	Si
SLU 82	-1.59	38097.19	-42041	-33633	-9476	8.735	8.735	-8556	9474	37241	81562	141261	44549	118802	No	12.54	Si
SLU 82	1.09	-7131.37	-35190	-28152	-10433	8.735	8.735	-7162	9288	36510	81562	141261	44549	118071	No	11.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.59	-6300.99	-18674	-14939	-25670	8.735	8.735	-3801	13260	52122	81562	211892	44549	133684		5.21	Si
SLV 10	1.09	-43814.46	-25272	-20218	-26324	8.735	7.9014	-5696	13639	48496	81562	211892	44549	130057		4.94	Si
SLV 1	-1.59	22248.54	-36325	-29060	-17017	8.735	8.735	-7393	13979	54946	81562	211892	44549	136508		8.02	Si
SLV 1	1.09	-19269.89	-20388	-16310	-17387	8.735	8.735	-4149	13330	52396	81562	211892	44549	133958		7.7	Si
SLV 12	-1.59	51899.7	-29519	-23615	18517	8.735	7.828	-6008	13702	48265	81562	211892	44549	129827		7.01	Si
SLV 12	1.09	32175.03	-20084	-16067	17789	8.735	8.2964	-4088	13318	49719	81562	211892	44549	131281		7.38	Si
SLV 11	-1.59	50597.56	-29733	-23787	15556	8.735	7.9974	-6051	13710	49341	81562	211892	44549	130903		8.41	Si
SLV 11	1.09	29676.2	-21147	-16918	14674	8.735	8.735	-4304	13361	52518	81562	211892	44549	134080		9.14	Si
SLV 9	-1.59	-7603.14	-18888	-15111	-28631	8.735	8.735	-3844	13269	52157	81562	211892	44549	133718		4.67	Si
SLV 9	1.09	-46313.29	-26335	-21068	-29440	8.735	7.8267	-5991	13698	48246	81562	211892	44549	129807		4.41	Si
SLV 5	-1.59	-3231.59	-25185	-20148	-30419	8.735	8.735	-5126	13525	53164	81562	211892	44549	134726		4.43	Si
SLV 5	1.09	-46115.58	-24432	-19546	-31014	8.735	7.44	-5852	13670	45769	81562	211892	44549	127330		4.11	Si
SLV 8	-1.59	56271.25	-35816	-28653	16729	8.735	8.3891	-7289	13958	52692	81562	211892	44549	134254		8.03	Si
SLV 8	1.09	32372.75	-18181	-14544	16215	8.735	7.7606	-3700	13240	46238	81562	211892	44549	127800		7.88	Si
SLV 6	-1.59	-1929.45	-24971	-19977	-27458	8.735	8.735	-5082	13516	53130	81562	211892	44549	134691		4.91	Si
SLV 6	1.09	-43616.74	-23369	-18695	-27898	8.735	7.5032	-5550	13610	45953	81562	211892	44549	127515		4.57	Si
SLV 2	-1.59	23531.19	-36114	-28891	-14101	8.735	8.735	-7350	13970	54913	81562	211892	44549	136474		9.68	Si
SLV 2	1.09	-16808.45	-19341	-15472	-14318	8.735	8.735	-3936	13287	52229	81562	211892	44549	133790		9.34	Si
SLV 7	-1.59	54969.11	-36030	-28824	13768	8.735	8.5256	-7333	13967	53583	81562	211892	44549	135145		9.82	Si
SLV 7	1.09	29873.91	-19244	-15395	13100	8.735	8.4453	-3917	13283	50482	81562	211892	44549	132043		10.08	Si

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

quota -0.25 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-19774	0.24	538.39	4327.06	6480.08	5403.57	10.04	Si
SLV 15	-21056	0.24	538.39	4599.18	6785.77	5692.47	10.57	Si
SLV 14	-22285	0.24	538.39	4859.11	7078.46	5968.78	11.09	Si
SLV 12	-22384	0.24	538.39	4879.89	7101.77	5990.83	11.13	Si
SLV 13	-23567	0.24	538.39	5129.21	7382.06	6255.64	11.62	Si
SLV 11	-23685	0.24	538.39	5154.01	7409.99	6282	11.67	Si
SLV 8	-27140	0.24	538.39	5876.54	8226.04	7051.29	13.1	Si
SLV 7	-28442	0.24	538.39	6146.79	8533.52	7340.16	13.63	Si
SLV 10	-30755	0.24	538.39	6624.42	9079.93	7852.18	14.58	Si
SLV 9	-32056	0.24	538.39	6891.73	9386.78	8139.26	15.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-26732	-15337	-401	1.45	4247.4	0.912	23.10592	3.4694	Si
SLV 9	-26335	-18888	-1429	1.436	4207.9	0.911	22.90386	3.3502	Si
SLV 14	-25685	-15125	-326	1.493	4143.2	0.91	23.82782	3.4694	Si
SLV 15	-25175	-18590	-328	1.513	4092.6	0.91	24.17724	3.4694	Si
SLV 10	-25272	-18674	-1352	1.48	4102.2	0.91	23.63881	3.3502	Si
SLV 5	-24432	-25185	-2236	1.488	4018.7	0.909	23.80759	3.3502	Si
SLV 16	-24128	-18379	-253	1.56	3988.6	0.908	24.96741	3.4694	Si
SLV 6	-23369	-24971	-2160	1.536	3913.3	0.907	24.61535	3.3502	Si
SLV 1	-20388	-36325	-3092	1.65	3619.1	0.902	26.57362	3.4694	Si
SLV 2	-19341	-36114	-3017	1.709	3516.3	0.901	27.58267	3.4694	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	4.712	SLU 81	Si
V_SLU	11.317	SLU 81	Si
PF_SLV	2.54	SLV 12	Si
V_SLV	4.106	SLV 5	Si
PFFP_SLV	10.036	SLV 16	Si
R_SLV	6.66	SLV 13	Si

Maschio 4

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
7.664	1.239	3.114	1.239	L1	L2	4.55	0.3	2.68	2.68	2.68			



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.59	-13368.11	-71079	-0.0000984	0.0004492	0.0035	4.5501	92794.59	134311.33	134311.33	10.05	No	Si
SLU 84	0.58	-13195.7	-53565	-0.0000768	0.0004492	0.0035	4.5501	82726.29	110923.95	110923.95	8.41	No	Si
SLU 82	-1.59	-13368.11	-71079	-0.0000984	0.0004492	0.0035	4.5501	92794.59	134311.33	134311.33	10.05	No	Si
SLU 82	0.58	-13195.7	-53565	-0.0000768	0.0004492	0.0035	4.5501	82726.29	110923.95	110923.95	8.41	No	Si
SLU 41	-1.59	-11758.87	-62324	-0.0000851	0.0004492	0.0035	4.5501	88807.67	123152.79	123152.79	10.47	No	Si
SLU 41	0.58	-12135.74	-48835	-0.0000697	0.0004492	0.0035	4.5501	78572.21	103850.21	103850.21	8.56	No	Si
SLU 40	-1.59	-11758.87	-62324	-0.0000851	0.0004492	0.0035	4.5501	88807.67	123152.79	123152.79	10.47	No	Si
SLU 40	0.58	-12135.74	-48835	-0.0000697	0.0004492	0.0035	4.5501	78572.21	103850.21	103850.21	8.56	No	Si
SLU 75	-1.59	-12404.48	-66284	-0.0000909	0.0004492	0.0035	4.5501	90869.94	128427	128427	10.35	No	Si
SLU 75	0.58	-11842.3	-48691	-0.0000691	0.0004492	0.0035	4.5501	78436.01	103627.65	103627.65	8.75	No	Si
SLU 77	-1.59	-12404.48	-66284	-0.0000909	0.0004492	0.0035	4.5501	90869.94	128427	128427	10.35	No	Si
SLU 77	0.58	-11842.3	-48691	-0.0000691	0.0004492	0.0035	4.5501	78436.01	103627.65	103627.65	8.75	No	Si
SLU 81	-1.59	-13368.11	-71079	-0.0000984	0.0004492	0.0035	4.5501	92794.59	134311.33	134311.33	10.05	No	Si
SLU 81	0.58	-13195.7	-53565	-0.0000768	0.0004492	0.0035	4.5501	82726.29	110923.95	110923.95	8.41	No	Si
SLU 83	-1.59	-13368.11	-71079	-0.0000984	0.0004492	0.0035	4.5501	92794.59	134311.33	134311.33	10.05	No	Si
SLU 83	0.58	-13195.7	-53565	-0.0000768	0.0004492	0.0035	4.5501	82726.29	110923.95	110923.95	8.41	No	Si
SLU 39	-1.59	-11758.87	-62324	-0.0000851	0.0004492	0.0035	4.5501	88807.67	123152.79	123152.79	10.47	No	Si
SLU 39	0.58	-12135.74	-48835	-0.0000697	0.0004492	0.0035	4.5501	78572.21	103850.21	103850.21	8.56	No	Si
SLU 42	-1.59	-11758.87	-62324	-0.0000851	0.0004492	0.0035	4.5501	88807.67	123152.79	123152.79	10.47	No	Si
SLU 42	0.58	-12135.74	-48835	-0.0000697	0.0004492	0.0035	4.5501	78572.21	103850.21	103850.21	8.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.59	-13006.44	-48271	-0.0000686	0.0006738	0.0035	4.5501		107337.59	107337.59	8.25		Si
SLV 12	0.58	-7234.58	-31876	-0.0000427	0.0006738	0.0035	4.5501		77879.27	77879.27	10.76		Si
SLV 14	-1.59	-26519.96	-38347	-0.0000769	0.0006738	0.0035	4.5501		89827.61	89827.61	3.39		Si
SLV 14	0.58	-3707.59	-23839	-0.0000294	0.0006738	0.0035	4.5501		62383.62	62383.62	16.83		Si
SLV 13	-1.59	-26472.9	-38409	-0.0000769	0.0006738	0.0035	4.5501		89940.59	89940.59	3.4		Si
SLV 13	0.58	-3653.3	-23969	-0.0000294	0.0006738	0.0035	4.5501		62645.9	62645.9	17.15		Si
SLV 2	-1.59	9855.06	-45861	-0.0000615	0.0006738	0.0035	4.5501		92157.66	92157.66	9.35		Si
SLV 2	0.58	-10073.21	-34505	-0.0000495	0.0006738	0.0035	4.5501		82830.96	82830.96	8.22		Si
SLV 10	-1.59	-14210.47	-37049	-0.0000581	0.0006738	0.0035	4.5501		87463.4	87463.4	6.15		Si
SLV 10	0.58	-5236.72	-25253	-0.000033	0.0006738	0.0035	4.5501		65177.74	65177.74	12.45		Si
SLV 4	-1.59	10216.27	-49227	-0.0000657	0.0006738	0.0035	4.5501		97793.95	97793.95	9.57		Si
SLV 4	0.58	-10672.57	-36492	-0.0000525	0.0006738	0.0035	4.5501		86449.47	86449.47	8.1		Si
SLV 9	-1.59	-14162.69	-37112	-0.0000581	0.0006738	0.0035	4.5501		87578.1	87578.1	6.18		Si
SLV 9	0.58	-5181.61	-25385	-0.000033	0.0006738	0.0035	4.5501		65431.24	65431.24	12.63		Si
SLV 3	-1.59	10263.33	-49289	-0.0000658	0.0006738	0.0035	4.5501		97897.82	97897.82	9.54		Si
SLV 3	0.58	-10618.28	-36622	-0.0000525	0.0006738	0.0035	4.5501		86686.6	86686.6	8.16		Si
SLV 16	-1.59	-26158.75	-41714	-0.0000802	0.0006738	0.0035	4.5501		95958.42	95958.42	3.67		Si
SLV 16	0.58	-4306.95	-25826	-0.0000323	0.0006738	0.0035	4.5501		66276.28	66276.28	15.39		Si
SLV 15	-1.59	-26111.69	-41776	-0.0000802	0.0006738	0.0035	4.5501		96071.4	96071.4	3.68		Si
SLV 15	0.58	-4252.66	-25956	-0.0000323	0.0006738	0.0035	4.5501		66525.99	66525.99	15.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 49	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 45	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 45	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 44	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 44	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 70	-1.59	-10156.02	-55096	-40069	-7496	4.5501	4.5501	-29354	10833	14788	81562	49056	23205	72261	No	9.64	Si
SLU 70	0.58	-8684.37	-37319	-27141	-8034	4.5501	4.5501	-19883	10833	14788	81562	49056	23205	72261	No	8.99	Si
SLU 51	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 51	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 50	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 50	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 46	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 47	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 47	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 48	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 48	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si
SLU 43	-1.59	-8670.78	-47089	-34247	-8541	4.5501	4.5501	-25089	10833	14788	81562	49056	23205	72261	No	8.46	Si
SLU 43	0.58	-6775.13	-29468	-21431	-8957	4.5501	4.5501	-15700	10427	14233	81562	49056	23205	72261	No	8.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.59	-12958.66	-48334	-35152	-13747	4.5501	4.5501	-25752	16250	22182	81562	73584	23205	96789		7.04	Si
SLV 11	0.58	-7179.47	-32008	-23279	-13247	4.5501	4.5501	-17054	15911	21719	81562	73584	23205	96789		7.31	Si
SLV 13	-1.59	-26472.9	-38409	-27934	-19687	4.5501	4.5501	-20464	16250	22182	81562	73584	23205	96789		4.92	Si
SLV 13	0.58	-3653.3	-23969	-17432	-18379	4.5501	4.5501	-12770	15054	20549	81562	73584	23205	96789		5.27	Si
SLV 15	-1.59	-26111.69	-41776	-30382	-21905	4.5501	4.5501	-22258	16250	22182	81562	73584	23205	96789		4.42	Si
SLV 15	0.58	-4252.66	-25956	-18877	-20370	4.5501	4.5501	-13829	15266	20838	81562	73584	23205	96789		4.75	Si
SLV 14	-1.59	-26519.96	-38347	-27889	-19770	4.5501	4.5501	-20431	16250	22182	81562	73584	23205	96789		4.9	Si
SLV 14	0.58	-3707.59	-23839	-17337	-18462	4.5501	4.5501	-12701	15040	20530	81562	73584	23205	96789		5.24	Si
SLV 4	-1.59	10216.27	-49227	-35802	8715	4.5501	4.5501	-26228	16250	22182	81562	73584	23205	96789		11.11	Si
SLV 4	0.58	-10672.57	-36492	-26540	6535	4.5501	4.5501	-19443	16250	22182	81562	73584	23205	96789		14.81	Si
SLV 12	-1.59	-13006.44	-48271	-35106	-13832	4.5501	4.5501	-25718	16250	22182	81562	73584	23205	96789		7	Si
SLV 12	0.58	-7234.58	-31876	-23183	-13331	4.5501	4.5501	-16983	15897	21699	81562	73584	23205	96789		7.26	Si
SLV 1	-1.59	9902.13	-45923	-33399	11017	4.5501	4.5501	-24467	16250	22182	81562	73584	23205	96789		8.79	Si
SLV 1	0.58	-10018.92	-34635	-25189	8609	4.5501	4.5501	-18453	16191	22101	81562	73584	23205	96789		11.24	Si
SLV 16	-1.59	-26158.75	-41714	-30337	-21989	4.5501	4.5501	-22225	16250	22182	81562	73584	23205	96789		4.4	Si
SLV 16	0.58	-4306.95	-25826	-18782	-20453	4.5501	4.5501	-13760	15252	20819	81562	73584	23205	96789		4.73	Si
SLV 3	-1.59	10263.33	-49289	-35847	8798	4.5501	4.5501	-26261	16250	22182	81562	73584	23205	96789		11	Si
SLV 3	0.58	-10618.28	-36622	-26634	6618	4.5501	4.5501	-19512	16250	22182	81562	73584	23205	96789		14.62	Si
SLV 2	-1.59	9855.06	-45861	-33353	10934	4.5501	4.5501	-24434	16250	22182	81562	73584	23205	96789		8.85	Si
SLV 2	0.58	-10073.21	-34505	-25095	8526	4.5501	4.5501	-18384	16177	22082	81562	73584	23205	96789		11.35	Si

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

quota -0.25 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-29656	0.24	190.63	3921.09	5433.45	4677.27	24.54	Si
SLV 13	-29759	0.24	190.63	3932.86	5449.71	4691.28	24.61	Si
SLV 10	-30584	0.24	190.63	4026.82	5579.33	4803.07	25.2	Si
SLV 9	-30689	0.24	190.63	4038.65	5595.66	4817.16	25.27	Si
SLV 16	-32161	0.24	190.63	4203.99	5826.08	5015.03	26.31	Si
SLV 15	-32264	0.24	190.63	4215.44	5842.18	5028.81	26.38	Si
SLV 6	-33886	0.24	190.63	4394.41	6096.26	5245.33	27.52	Si
SLV 5	-33990	0.24	190.63	4405.82	6112.62	5259.22	27.59	Si
SLV 12	-38934	0.24	190.63	4931.25	6885.29	5908.27	30.99	Si
SLV 11	-39038	0.24	190.63	4942.03	6901.54	5921.78	31.06	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.25 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-34140	-49289	-48	0.742	3991.3	0.961	11.22212	4.37826	Si
SLV 4	-34002	-49227	-48	0.745	3977.2	0.961	11.26196	4.37826	Si
SLV 1	-32417	-45923	44	0.776	3816	0.96	11.74398	4.37826	Si
SLV 2	-32279	-45861	44	0.778	3802	0.96	11.78814	4.37826	Si
SLV 7	-32369	-50588	-153	0.774	3811.1	0.96	11.71306	4.14234	Si
SLV 8	-32229	-50525	-153	0.776	3796.9	0.96	11.75759	4.14234	Si
SLV 11	-29126	-48334	-151	0.845	3481.5	0.956	12.84635	4.14234	Si
SLV 12	-28986	-48271	-152	0.849	3467.2	0.956	12.90059	4.14234	Si
SLV 5	-26624	-39366	153	0.911	3227.2	0.953	13.89309	4.14234	Si
SLV 6	-26484	-39303	153	0.915	3212.9	0.953	13.95745	4.14234	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.406	SLU 81	Si
V_SLU	8.067	SLU 43	Si
PF_SLV	3.387	SLV 14	Si
V_SLV	4.402	SLV 16	Si
PFFP_SLV	24.536	SLV 14	Si
R_SLV	2.563	SLV 3	Si

Maschio 5

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

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota s.	I	Sp.	h netta	h inl.	h fin.	a	a.s.sx	a.s.dx
12.744	1.239	8.664	1.239	L1	L2	4.08	0.3	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	-1.59	-7621.36	-71521	-0.000103	0.0004492	0.0035	4.0799	76126.28	115735.9	115735.9	15.19	No	Si
SLU 39	0.58	9334.93	-50719	-0.000078	0.0004492	0.0035	4.0799	68375.96	85153.52	85153.52	9.12	No	Si
SLU 41	-1.59	-7621.36	-71521	-0.000103	0.0004492	0.0035	4.0799	76126.28	115735.9	115735.9	15.19	No	Si
SLU 41	0.58	9334.93	-50719	-0.000078	0.0004492	0.0035	4.0799	68375.96	85153.52	85153.52	9.12	No	Si
SLU 21	-1.59	-6887.47	-62781	-0.0000895	0.0004492	0.0035	4.0799	74307.87	106583.64	106583.64	15.47	No	Si
SLU 21	0.58	7750.13	-42998	-0.0000649	0.0004492	0.0035	4.0799	62495.79	74001.66	74001.66	9.55	No	Si
SLU 18	-1.59	-6887.47	-62781	-0.0000895	0.0004492	0.0035	4.0799	74307.87	106583.64	106583.64	15.47	No	Si
SLU 18	0.58	7750.13	-42998	-0.0000649	0.0004492	0.0035	4.0799	62495.79	74001.66	74001.66	9.55	No	Si
SLU 82	-1.59	-9001.78	-82082	-0.0001211	0.0004492	0.0035	4.0799	75543.02	123700.47	123700.47	13.74	No	Si
SLU 82	0.58	9971.07	-56191	-0.0000865	0.0004492	0.0035	4.0799	71559.09	91419.6	91419.6	9.17	No	Si
SLU 83	-1.59	-9001.78	-82082	-0.0001211	0.0004492	0.0035	4.0799	75543.02	123700.47	123700.47	13.74	No	Si
SLU 83	0.58	9971.07	-56191	-0.0000865	0.0004492	0.0035	4.0799	71559.09	91419.6	91419.6	9.17	No	Si
SLU 42	-1.59	-7621.36	-71521	-0.000103	0.0004492	0.0035	4.0799	76126.28	115735.9	115735.9	15.19	No	Si
SLU 42	0.58	9334.93	-50719	-0.000078	0.0004492	0.0035	4.0799	68375.96	85153.52	85153.52	9.12	No	Si
SLU 40	-1.59	-7621.36	-71521	-0.000103	0.0004492	0.0035	4.0799	76126.28	115735.9	115735.9	15.19	No	Si
SLU 40	0.58	9334.93	-50719	-0.000078	0.0004492	0.0035	4.0799	68375.96	85153.52	85153.52	9.12	No	Si
SLU 81	-1.59	-9001.78	-82082	-0.0001211	0.0004492	0.0035	4.0799	75543.02	123700.47	123700.47	13.74	No	Si
SLU 81	0.58	9971.07	-56191	-0.0000865	0.0004492	0.0035	4.0799	71559.09	91419.6	91419.6	9.17	No	Si
SLU 84	-1.59	-9001.78	-82082	-0.0001211	0.0004492	0.0035	4.0799	75543.02	123700.47	123700.47	13.74	No	Si
SLU 84	0.58	9971.07	-56191	-0.0000865	0.0004492	0.0035	4.0799	71559.09	91419.6	91419.6	9.17	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.59	-15221.93	-54057	-0.0000907	0.0006738	0.0035	4.0799		101828.5	101828.5	6.69		Si
SLV 9	0.58	4451.22	-35596	-0.0000487	0.0006738	0.0035	4.0799		65899.7	65899.7	14.8		Si
SLV 15	-1.59	-20285.89	-58032	-0.0001052	0.0006738	0.0035	4.0799		107336.17	107336.17	5.29		Si
SLV 15	0.58	7857.27	-38749	-0.0000585	0.0006738	0.0035	4.0799		70616.42	70616.42	8.99		Si
SLV 13	-1.59	-23039.22	-58475	-0.0001108	0.0006738	0.0035	4.0799		107949.79	107949.79	4.69		Si
SLV 13	0.58	7026.99	-39446	-0.0000579	0.0006738	0.0035	4.0799		71659.88	71659.88	10.2		Si
SLV 11	-1.59	-6044.14	-52580	-0.0000722	0.0006738	0.0035	4.0799		99742.04	99742.04	16.5		Si
SLV 11	0.58	7218.8	-33271	-0.0000508	0.0006738	0.0035	4.0799		62421.51	62421.51	8.65		Si
SLV 10	-1.59	-15287.9	-54065	-0.0000909	0.0006738	0.0035	4.0799		101839.53	101839.53	6.66		Si
SLV 10	0.58	4455.04	-35640	-0.0000488	0.0006738	0.0035	4.0799		65965.27	65965.27	14.81		Si
SLV 3	-1.59	11225.62	-43931	-0.0000708	0.0006738	0.0035	4.0799		78369.97	78369.97	6.98		Si
SLV 3	0.58	3265.57	-25425	-0.0000346	0.0006738	0.0035	4.0799		49524.16	49524.16	15.17		Si
SLV 4	-1.59	11160.63	-43939	-0.0000707	0.0006738	0.0035	4.0799		78381.71	78381.71	7.02		Si
SLV 4	0.58	3269.34	-25468	-0.0000347	0.0006738	0.0035	4.0799		49598.74	49598.74	15.17		Si
SLV 12	-1.59	-6110.12	-52588	-0.0000724	0.0006738	0.0035	4.0799		99753.75	99753.75	16.33		Si
SLV 12	0.58	7222.62	-33315	-0.0000508	0.0006738	0.0035	4.0799		62487.08	62487.08	8.65		Si
SLV 16	-1.59	-20350.88	-58040	-0.0001053	0.0006738	0.0035	4.0799		107347.04	107347.04	5.27		Si
SLV 16	0.58	7861.03	-38792	-0.0000586	0.0006738	0.0035	4.0799		70681.01	70681.01	8.99		Si
SLV 14	-1.59	-23104.21	-58483	-0.000111	0.0006738	0.0035	4.0799		107960.65	107960.65	4.67		Si
SLV 14	0.58	7030.76	-39490	-0.0000579	0.0006738	0.0035	4.0799		71724.47	71724.47	10.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 45	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 47	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 47	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 71	-1.59	-7554.46	-64494	-46905	3751	4.0799	4.0799	-38322	10833	13260	81562	43987	20808	64794	No	17.27	Si
SLU 71	0.58	6152.62	-40257	-29278	5336	4.0799	4.0799	-23921	10833	13260	81562	43987	20808	64794	No	12.14	Si
SLU 51	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 51	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 43	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 43	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 48	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 48	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 44	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 44	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 50	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 50	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 49	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	Si
SLU 46	-1.59	-6820.58	-55753	-40548	5216	4.0799	4.0799	-33128	10833	13260	81562	43987	20808	64794	No	12.42	Si
SLU 46	0.58	4567.82	-32537	-23663	6526	4.0799	4.0799	-19333	10833	13260	81562	43987	20808	64794	No	9.93	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	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.59	-23039.22	-58475	-42528	-10221	4.0799	4.0799	-34746	16250	19890	81562	65980	20808	86787		8.49	Si
SLV 13	0.58	7026.99	-39446	-28688	-5864	4.0799	4.0799	-23439	16250	19890	81562	65980	20808	86787		14.8	Si
SLV 1	-1.59	8472.28	-44374	-32272	13740	4.0799	4.0799	-26367	16250	19890	81562	65980	20808	86787		6.32	Si
SLV 1	0.58	2435.3	-26122	-18998	12378	4.0799	4.0799	-15522	15604	19099	81562	65980	20808	86787		7.01	Si
SLV 14	-1.59	-23104.21	-58483	-42533	-10298	4.0799	4.0799	-34750	16250	19890	81562	65980	20808	86787		8.43	Si
SLV 14	0.58	7030.76	-39490	-28720	-5934	4.0799	4.0799	-23464	16250	19890	81562	65980	20808	86787		14.62	Si
SLV 2	-1.59	8407.3	-44382	-32278	13664	4.0799	4.0799	-26371	16250	19890	81562	65980	20808	86787		6.35	Si
SLV 2	0.58	2439.07	-26166	-19029	12308	4.0799	4.0799	-15547	15609	19106	81562	65980	20808	86787		7.05	Si
SLV 7	-1.59	3409.31	-48350	-35164	8885	4.0799	4.0799	-28729	16250	19890	81562	65980	20808	86787		9.77	Si
SLV 7	0.58	5841.29	-29274	-21290	8536	4.0799	4.0799	-17395	15979	19558	81562	65980	20808	86787		10.17	Si
SLV 8	-1.59	3343.34	-48358	-35169	8808	4.0799	4.0799	-28734	16250	19890	81562	65980	20808	86787		9.85	Si
SLV 8	0.58	5845.11	-29318	-21322	8465	4.0799	4.0799	-17421	15984	19564	81562	65980	20808	86787		10.25	Si
SLV 3	-1.59	11225.62	-43931	-31950	15370	4.0799	4.0799	-26104	16250	19890	81562	65980	20808	86787		5.65	Si
SLV 3	0.58	3265.57	-25425	-18491	13552	4.0799	4.0799	-15107	15521	18998	81562	65980	20808	86787		6.4	Si
SLV 15	-1.59	-20285.89	-58032	-42205	-8592	4.0799	4.0799	-34482	16250	19890	81562	65980	20808	86787		10.1	Si
SLV 15	0.58	7857.27	-38749	-28181	-4691	4.0799	4.0799	-23024	16250	19890	81562	65980	20808	86787		18.5	Si
SLV 16	-1.59	-20350.88	-58040	-42211	-8668	4.0799	4.0799	-34487	16250	19890	81562	65980	20808	86787		10.01	Si
SLV 16	0.58	7861.03	-38792	-28212	-4761	4.0799	4.0799	-23050	16250	19890	81562	65980	20808	86787		18.23	Si
SLV 4	-1.59	11160.63	-43939	-31956	15294	4.0799	4.0799	-26108	16250	19890	81562	65980	20808	86787		5.67	Si
SLV 4	0.58	3269.34	-25468	-18522	13481	4.0799	4.0799	-15133	15527	19004	81562	65980	20808	86787		6.44	Si

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

quota -0.25 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-32732	0.24	170.93	4193.4	5822.26	5007.83	29.3	Si
SLV 4	-32765	0.24	170.93	4196.89	5827.41	5012.15	29.32	Si
SLV 1	-33629	0.24	170.93	4288.17	5962.41	5125.29	29.98	Si
SLV 2	-33662	0.24	170.93	4291.61	5967.52	5129.57	30.01	Si
SLV 7	-37131	0.24	170.93	4647.77	6507.29	5577.53	32.63	Si
SLV 8	-37164	0.24	170.93	4651.11	6512.48	5581.8	32.66	Si
SLV 5	-40122	0.24	170.93	4941.87	6970.1	5955.99	34.84	Si
SLV 6	-40155	0.24	170.93	4945.09	6975.2	5960.14	34.87	Si
SLV 11	-41799	0.24	170.93	5101.61	7226.78	6164.2	36.06	Si
SLV 12	-41832	0.24	170.93	5104.75	7231.89	6168.32	36.09	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.25 Wa = 0.05 Ta = 0.04

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-36610	-58483	137	0.636	4189.2	0.967	9.56137	4.37826	Si
SLV 13	-36563	-58475	137	0.637	4184.3	0.967	9.57227	4.37826	Si
SLV 16	-35736	-58040	45	0.651	4100.2	0.966	9.80115	4.37826	Si
SLV 15	-35688	-58032	45	0.652	4095.3	0.966	9.8126	4.37826	Si
SLV 10	-33252	-54065	180	0.689	3847.4	0.964	10.38183	4.14234	Si
SLV 9	-33203	-54057	180	0.689	3842.5	0.964	10.39507	4.14234	Si
SLV 12	-30337	-52588	-128	0.745	3550.8	0.961	11.2724	4.14234	Si
SLV 11	-30289	-52580	-128	0.746	3545.9	0.961	11.28798	4.14234	Si
SLV 6	-29498	-49834	124	0.763	3465.5	0.96	11.55434	4.14234	Si
SLV 5	-29450	-49826	124	0.765	3460.6	0.96	11.57096	4.14234	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	9.122	SLU 39	Si
V_SLU	9.929	SLU 43	Si
PF_SLV	4.673	SLV 14	Si
V_SLV	5.647	SLV 3	Si
PFFP_SLV	29.298	SLV 3	Si
R_SLV	2.184	SLV 14	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
3.114	5.915	5.239	5.915	L1	L2	2.125	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_{\text{M}} = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_{m}	ϵ_{m_-}	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 69	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 71	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 71	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 72	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 72	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 70	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 70	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 66	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 66	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 29	-0.2	1053.55	-11200	-0.0000229	0.0003743	0.0035	2.1255	10533.44	10925.56	10925.56	10.37	No	Si
SLU 29	0.2	1157.59	-10805	-0.0000228	0.0003743	0.0035	2.1255	10208.94	10617.72	10617.72	9.17	No	Si
SLU 64	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 64	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 65	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 65	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 67	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 67	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si
SLU 68	-0.2	1234.64	-13295	-0.0000273	0.0003743	0.0035	2.1255	12200.22	12578.95	12578.95	10.19	No	Si
SLU 68	0.2	1343.82	-12743	-0.0000269	0.0003743	0.0035	2.1255	11770.54	12140.42	12140.42	9.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_{\text{M}} = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_{m}	ϵ_{m_-}	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	-0.2	2369.43	-10431	-0.0000274	0.0005615	0.0035	2.1255		10690.26	10690.26	4.51		Si
SLV 16	0.2	654.46	-8659	-0.0000167	0.0005615	0.0035	2.1255		8997.04	8997.04	13.75		Si
SLV 9	-0.2	2002.53	-6206	-0.0000188	0.0005615	0.0035	2.1255		6602.74	6602.74	3.3		Si
SLV 9	0.2	3233.95	-7055	-0.0000264	0.0005615	0.0035	2.1255		7436.81	7436.81	2.3		Si
SLV 6	-0.2	1194.28	-7267	-0.0000169	0.0005615	0.0035	2.1255		7645.74	7645.74	6.4		Si
SLV 6	0.2	2990.04	-8526	-0.0000271	0.0005615	0.0035	2.1255		8869.02	8869.02	2.97		Si
SLV 14	-0.2	2746.83	-8116	-0.0000253	0.0005615	0.0035	2.1255		8472.48	8472.48	3.08		Si
SLV 14	0.2	1894.81	-7225	-0.00002	0.0005615	0.0035	2.1255		7604.31	7604.31	4.01		Si
SLV 15	-0.2	2259.19	-10226	-0.0000266	0.0005615	0.0035	2.1255		10495.66	10495.66	4.65		Si
SLV 15	0.2	735.04	-8561	-0.0000169	0.0005615	0.0035	2.1255		8902.21	8902.21	12.11		Si
SLV 10	-0.2	2114.45	-6414	-0.0000197	0.0005615	0.0035	2.1255		6806.85	6806.85	3.22		Si
SLV 10	0.2	3152.15	-7154	-0.000026	0.0005615	0.0035	2.1255		7534.62	7534.62	2.39		Si
SLV 13	-0.2	2636.59	-7912	-0.0000245	0.0005615	0.0035	2.1255		8274.55	8274.55	3.14		Si
SLV 13	0.2	1975.39	-7127	-0.0000202	0.0005615	0.0035	2.1255		7507.97	7507.97	3.8		Si
SLV 5	-0.2	1082.36	-7060	-0.0000161	0.0005615	0.0035	2.1255		7441.61	7441.61	6.88		Si
SLV 5	0.2	3071.85	-8427	-0.0000273	0.0005615	0.0035	2.1255		8772.75	8772.75	2.86		Si
SLV 2	-0.2	-320.4	-10962	-0.000019	0.0005615	0.0035	2.1255		12180.1	12180.1	38.02		Si
SLV 2	0.2	1354.46	-11799	-0.0000251	0.0005615	0.0035	2.1255		11970.09	11970.09	8.84		Si
SLV 1	-0.2	-430.64	-10758	-0.0000191	0.0005615	0.0035	2.1255		11988.97	11988.97	27.84		Si
SLV 1	0.2	1435.04	-11701	-0.0000253	0.0005615	0.0035	2.1255		11878.63	11878.63	8.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_{\text{M}} = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_{N}	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 76	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 77	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 77	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 82	-0.2	1563.71	-17292	-15371	-1457	2.1255	2.1255	-16071	9087	8692	28547	28641	5420	34060	No	23.37	Si
SLU 82	0.2	1674.31	-16857	-14984	-1492	2.1255	2.1255	-15667	9033	8640	28547	28641	5420	34060	No	22.83	Si
SLU 80	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 80	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 79	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 79	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 75	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 75	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 83	-0.2	1563.71	-17292	-15371	-1457	2.1255	2.1255	-16071	9087	8692	28547	28641	5420	34060	No	23.37	Si
SLU 83	0.2	1674.31	-16857	-14984	-1492	2.1255	2.1255	-15667	9033	8640	28547	28641	5420	34060	No	22.83	Si
SLU 78	-0.2	1464.99	-16093	-14305	-1366	2.1255	2.1255	-14956	8939	8549	28547	28641	5420	34060	No	24.93	Si
SLU 78	0.2	1575.16	-15623	-13887	-1398	2.1255	2.1255	-14520	8880	8494	28547	28641	5420	34060	No	24.37	Si
SLU 81	-0.2	1563.71	-17292	-15371	-1457	2.1255	2.1255	-16071	9087	8692	28547	28641	5420	34060	No	23.37	Si
SLU 81	0.2	1674.31	-16857	-14984	-1492	2.1255	2.1255	-15667	9033	8640	28547	28641	5420	34060	No	22.83	Si
SLU 84	-0.2	1563.71	-17292	-15371	-1457	2.1255	2.1255	-16071	9087	8692	28547	28641	5420	34060	No	23.37	Si
SLU 84	0.2	1674.31	-16857	-14984	-1492	2.1255	2.1255	-15667	9033	8640	28547	28641	5420	34060	No	22.83	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-0.2	2002.53	-6206	-5516	-4851	2.1255	2.1255	-5768	11570	11066	28547	42961	5420	39613		8.17	Si
SLV 9	0.2	3233.95	-7055	-6271	-4836	2.1255	1.813	-6556	11728	9568	28547	42961	5420	38115		7.88	Si
SLV 2	-0.2	-320.4	-10962	-9744	-6977	2.1255	2.1255	-10188	12454	11912	28547	42961	5420	40458		5.8	Si
SLV 2	0.2	1354.46	-11799	-10488	-6982	2.1255	2.1255	-10965	12610	12061	28547	42961	5420	40607		5.82	Si
SLV 11	-0.2	744.51	-13921	-12374	5278	2.1255	2.1255	-12938	13004	12438	28547	42961	5420	40985		7.76	Si
SLV 11	0.2	-900.55	-11833	-10518	5221	2.1255	2.1255	-10997	12616	12067	28547	42961	5420	40613		7.78	Si
SLV 16	-0.2	2369.43	-10431	-9272	5965	2.1255	2.1255	-9694	12356	11817	28547	42961	5420	40364		6.77	Si
SLV 16	0.2	654.46	-8659	-7697	5930	2.1255	2.1255	-8047	12026	11502	28547	42961	5420	40049		6.75	Si
SLV 6	-0.2	1194.28	-7267	-6460	-7050	2.1255	2.1255	-6754	11767	11255	28547	42961	5420	39802		5.65	Si
SLV 6	0.2	2990.04	-8526	-7579	-7033	2.1255	2.1255	-7924	12001	11479	28547	42961	5420	40025		5.69	Si
SLV 5	-0.2	1082.36	-7060	-6275	-7822	2.1255	2.1255	-6561	11729	11218	28547	42961	5420	39765		5.08	Si
SLV 5	0.2	3071.85	-8427	-7491	-7804	2.1255	2.0946	-7832	11983	11295	28547	42961	5420	39841		5.1	Si
SLV 1	-0.2	-430.64	-10758	-9562	-7737	2.1255	2.1255	-9998	12416	11876	28547	42961	5420	40422		5.22	Si
SLV 1	0.2	1435.04	-11701	-10401	-7742	2.1255	2.1255	-10874	12592	12043	28547	42961	5420	40590		5.24	Si
SLV 3	-0.2	-808.05	-13072	-11620	-4698	2.1255	2.1255	-12149	12846	12287	28547	42961	5420	40834		8.69	Si
SLV 3	0.2	194.69	-13134	-11675	-4725	2.1255	2.1255	-12207	12858	12298	28547	42961	5420	40845		8.65	Si
SLV 12	-0.2	856.43	-14129	-12559	6050	2.1255	2.1255	-13131	13043	12475	28547	42961	5420	41021		6.78	Si
SLV 12	0.2	-982.35	-11933	-10607	5992	2.1255	2.1255	-11090	12635	12084	28547	42961	5420	40631		6.78	Si
SLV 15	-0.2	2259.19	-10226	-9090	5205	2.1255	2.1255	-9504	12317	11781	28547	42961	5420	40328		7.75	Si
SLV 15	0.2	735.04	-8561	-7610	5170	2.1255	2.1255	-7956	12008	11485	28547	42961	5420	40032		7.74	Si

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

quota -0.25 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	6151	-5883	128.83	1270.34	9.86	Si
SLV 10	179667	0.24	6270	-5997	128.83	1293.91	10.04	Si
SLV 13	179667	0.24	7073	-6765	128.83	1451.64	11.27	Si
SLV 14	179667	0.24	7190	-6877	128.83	1474.55	11.45	Si
SLV 5	179667	0.24	7484	-7158	128.83	1531.69	11.89	Si
SLV 6	179667	0.24	7603	-7272	128.83	1554.8	12.07	Si
SLV 15	179667	0.24	9196	-8796	128.83	1859.89	14.44	Si
SLV 16	179667	0.24	9314	-8908	128.83	1882.1	14.61	Si
SLV 1	179667	0.24	11518	-11016	128.83	2291.74	17.79	Si
SLV 2	179667	0.24	11635	-11129	128.83	2313.18	17.96	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-10567	-17405	-776	0.966	1441.5	0.931	15.07327	3.3502	Si
SLV 7	-10457	-17362	-768	0.974	1430.4	0.931	15.20769	3.3502	Si
SLV 4	-9877	-14963	-678	1.024	1371.8	0.929	16.02618	3.4694	Si
SLV 3	-9769	-14921	-670	1.033	1361	0.928	16.17525	3.4694	Si
SLV 12	-9703	-15962	-633	1.041	1354.3	0.928	16.31004	3.3502	Si
SLV 11	-9594	-15920	-625	1.051	1343.3	0.928	16.4664	3.3502	Si
SLV 2	-8422	-11428	-451	1.173	1225.4	0.922	18.48199	3.4694	Si
SLV 1	-8314	-11386	-443	1.184	1214.6	0.922	18.67812	3.4694	Si
SLV 16	-6998	-10155	-201	1.366	1082.7	0.915	21.7067	3.4694	Si
SLV 15	-6890	-10113	-193	1.382	1072	0.914	21.9733	3.4694	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	9.034	SLU 64	Si
V_SLU	22.831	SLU 81	Si
PF_SLV	2.3	SLV 9	Si
V_SLV	5.084	SLV 5	Si
PFFP_SLV	9.861	SLV 9	Si
R_SLV	4.499	SLV 8	Si

Maschio 7

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
6.239	5.915	9.889	5.915	L1	L2	3.649	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim_conv / e_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim_conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 50	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 47	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 47	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 43	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 43	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 44	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 44	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 48	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 48	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 46	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 46	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 49	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 49	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 51	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 51	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 45	-0.2	1302.28	-21275	-0.0000221	0.0003743	0.0035	3.6493	33879.91	35115.51	35115.51	26.96	No	Si
SLU 45	0.2	658.68	-19758	-0.0000196	0.0003743	0.0035	3.6493	31790.53	33103.72	33103.72	50.26	No	Si
SLU 64	-0.2	1457.05	-24994	-0.000026	0.0003743	0.0035	3.6493	38787.47	40115.21	40115.21	27.53	No	Si
SLU 64	0.2	729.84	-23460	-0.0000233	0.0003743	0.0035	3.6493	36799.63	38041.19	38041.19	52.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-0.2	6247.58	-14093	-0.0000226	0.0005615	0.0035	3.6493		25200.27	25200.27	4.03		Si
SLV 10	0.2	328.63	-15443	-0.0000148	0.0005615	0.0035	3.6493		27438.91	27438.91	83.49		Si
SLV 16	-0.2	3782.49	-21777	-0.0000262	0.0005615	0.0035	3.6493		37662.19	37662.19	9.96		Si
SLV 16	0.2	-681.6	-19891	-0.0000196	0.0005615	0.0035	3.6493		37549.77	37549.77	55.09		Si
SLV 9	-0.2	5965.07	-14093	-0.0000222	0.0005615	0.0035	3.6493		25200.12	25200.12	4.22		Si
SLV 9	0.2	573.63	-15443	-0.0000152	0.0005615	0.0035	3.6493		27438.76	27438.76	47.83		Si
SLV 3	-0.2	-3798.16	-21501	-0.0000259	0.0005615	0.0035	3.6493		40111.95	40111.95	10.56		Si
SLV 3	0.2	1718.22	-19526	-0.0000208	0.0005615	0.0035	3.6493		34086.08	34086.08	19.84		Si
SLV 13	-0.2	5820.58	-18275	-0.000026	0.0005615	0.0035	3.6493		32061.04	32061.04	5.51		Si
SLV 13	0.2	-321.84	-17897	-0.0000171	0.0005615	0.0035	3.6493		34394.87	34394.87	106.87		Si
SLV 6	-0.2	4056.87	-14010	-0.0000192	0.0005615	0.0035	3.6493		25062.65	25062.65	6.18		Si
SLV 6	0.2	976.17	-15333	-0.0000157	0.0005615	0.0035	3.6493		27258.05	27258.05	27.92		Si
SLV 15	-0.2	3504.21	-21777	-0.0000258	0.0005615	0.0035	3.6493		37662.05	37662.05	10.75		Si
SLV 15	0.2	-440.26	-19891	-0.0000192	0.0005615	0.0035	3.6493		37549.63	37549.63	85.29		Si
SLV 5	-0.2	3774.36	-14010	-0.0000188	0.0005615	0.0035	3.6493		25062.5	25062.5	6.64		Si
SLV 5	0.2	1221.17	-15333	-0.0000161	0.0005615	0.0035	3.6493		27257.91	27257.91	22.32		Si
SLV 4	-0.2	-3519.88	-21501	-0.0000255	0.0005615	0.0035	3.6493		40112.09	40112.09	11.4		Si
SLV 4	0.2	1476.89	-19527	-0.0000205	0.0005615	0.0035	3.6493		34086.22	34086.22	23.08		Si
SLV 14	-0.2	6098.86	-18275	-0.0000264	0.0005615	0.0035	3.6493		32061.19	32061.19	5.26		Si
SLV 14	0.2	-563.17	-17897	-0.0000175	0.0005615	0.0035	3.6493		34395.01	34395.01	61.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 80	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si
SLU 83	-0.2	1774.84	-32391	-28792	2215	3.6493	3.6493	-17533	9282	15243	28547	49174	9306	43790	No	19.77	Si
SLU 83	0.2	888.58	-30857	-27428	2215	3.6493	3.6493	-16702	9171	15061	28547	49174	9306	43608	No	19.69	Si
SLU 84	-0.2	1774.84	-32391	-28792	2215	3.6493	3.6493	-17533	9282	15243	28547	49174	9306	43790	No	19.77	Si
SLU 84	0.2	888.58	-30857	-27428	2215	3.6493	3.6493	-16702	9171	15061	28547	49174	9306	43608	No	19.69	Si
SLU 79	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 79	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si
SLU 82	-0.2	1774.84	-32391	-28792	2215	3.6493	3.6493	-17533	9282	15243	28547	49174	9306	43790	No	19.77	Si
SLU 82	0.2	888.58	-30857	-27428	2215	3.6493	3.6493	-16702	9171	15061	28547	49174	9306	43608	No	19.69	Si
SLU 78	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 78	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si
SLU 76	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 76	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si
SLU 77	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 77	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si
SLU 81	-0.2	1774.84	-32391	-28792	2215	3.6493	3.6493	-17533	9282	15243	28547	49174	9306	43790	No	19.77	Si
SLU 81	0.2	888.58	-30857	-27428	2215	3.6493	3.6493	-16702	9171	15061	28547	49174	9306	43608	No	19.69	Si
SLU 75	-0.2	1679.5	-30172	-26819	2096	3.6493	3.6493	-16332	9122	14980	28547	49174	9306	43527	No	20.77	Si
SLU 75	0.2	840.96	-28638	-25456	2096	3.6493	3.6493	-15501	9011	14798	28547	49174	9306	43345	No	20.68	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	-0.2	-3519.88	-21501	-19112	-8912	3.6493	3.6493	-11638	12744	20929	28547	73761	9306	49475		5.55	Si
SLV 4	0.2	1476.89	-19527	-17357	-8923	3.6493	3.6493	-10569	12531	20577	28547	73761	9306	49124		5.51	Si
SLV 3	-0.2	-3798.16	-21501	-19112	-10211	3.6493	3.6493	-11638	12744	20929	28547	73761	9306	49475		4.85	Si
SLV 3	0.2	1718.22	-19526	-17357	-10222	3.6493	3.6493	-10569	12531	20577	28547	73761	9306	49124		4.81	Si
SLV 1	-0.2	-1481.79	-17999	-15999	-9480	3.6493	3.6493	-9743	12365	20306	28547	73761	9306	48852		5.15	Si
SLV 1	0.2	1836.64	-17532	-15584	-9469	3.6493	3.6493	-9490	12315	20223	28547	73761	9306	48769		5.15	Si
SLV 16	-0.2	3782.49	-21777	-19358	12343	3.6493	3.6493	-11788	12774	20978	28547	73761	9306	49524		4.01	Si
SLV 16	0.2	-681.6	-19891	-17681	12333	3.6493	3.6493	-10767	12570	20642	28547	73761	9306	49189		3.99	Si
SLV 13	-0.2	5820.58	-18275	-16245	11775	3.6493	3.6493	-9892	12395	20355	28547	73761	9306	48902		4.15	Si
SLV 13	0.2	-321.84	-17897	-15908	11786	3.6493	3.6493	-9687	12354	20288	28547	73761	9306	48834		4.14	Si
SLV 2	-0.2	-1203.51	-17999	-15999	-8181	3.6493	3.6493	-9743	12365	20306	28547	73761	9306	48852		5.97	Si
SLV 2	0.2	1595.31	-17532	-15584	-8170	3.6493	3.6493	-9490	12315	20223	28547	73761	9306	48770		5.97	Si
SLV 14	-0.2	6098.86	-18275	-16245	13074	3.6493	3.6493	-9892	12395	20355	28547	73761	9306	48902		3.74	Si
SLV 14	0.2	-563.17	-17897	-15909	13085	3.6493	3.6493	-9687	12354	20288	28547	73761	9306	48834		3.73	Si
SLV 9	-0.2	5965.07	-14093	-12527	5179	3.6493	3.6493	-7628	11942	19611	28547	73761	9306	48158		9.3	Si
SLV 9	0.2	573.63	-15443	-13727	5214	3.6493	3.6493	-8359	12088	19851	28547	73761	9306	48398		9.28	Si
SLV 10	-0.2	6247.58	-14093	-12527	6497	3.6493	3.6493	-7628	11942	19611	28547	73761	9306	48158		7.41	Si
SLV 10	0.2	328.63	-15443	-13727	6533	3.6493	3.6493	-8359	12088	19851	28547	73761	9306	48398		7.41	Si
SLV 15	-0.2	3504.21	-21777	-19357	11044	3.6493	3.6493	-11788	12774	20978	28547	73761	9306	49524		4.48	Si
SLV 15	0.2	-440.26	-19891	-17681	11034	3.6493	3.6493	-10767	12570	20642	28547	73761	9306	49189		4.46	Si

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

quota -0.25 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	6933	-11385	221.19	2445.39	11.06	Si
SLV 10	179667	0.24	6934	-11386	221.19	2445.56	11.06	Si
SLV 5	179667	0.24	7001	-11498	221.19	2468.34	11.16	Si
SLV 6	179667	0.24	7002	-11498	221.19	2468.51	11.16	Si
SLV 13	179667	0.24	9558	-15695	221.19	3310.42	14.97	Si
SLV 14	179667	0.24	9558	-15696	221.19	3310.58	14.97	Si
SLV 1	179667	0.24	9785	-16069	221.19	3383.93	15.3	Si
SLV 2	179667	0.24	9786	-16070	221.19	3384.09	15.3	Si
SLV 15	179667	0.24	11875	-19502	221.19	4046.68	18.29	Si
SLV 16	179667	0.24	11876	-19503	221.19	4046.84	18.3	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 é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 10	-14520	-13149	373	1.191	2110	0.922	18.76503	3.3502	Si
SLV 9	-14517	-13139	373	1.191	2109.7	0.922	18.76811	3.3502	Si
SLV 6	-14501	-13547	326	1.195	2108.1	0.922	18.82417	3.3502	Si
SLV 5	-14498	-13537	326	1.195	2107.8	0.922	18.82726	3.3502	Si
SLV 2	-13873	-18276	-253	1.238	2045	0.92	19.54356	3.4694	Si
SLV 1	-13870	-18266	-253	1.238	2044.7	0.92	19.54677	3.4694	Si
SLV 14	-13935	-16948	-95	1.243	2051.2	0.921	19.61623	3.4694	Si
SLV 13	-13932	-16938	-95	1.243	2050.9	0.921	19.61944	3.4694	Si
SLV 4	-13353	-21930	-702	1.247	1992.9	0.919	19.71487	3.4694	Si
SLV 3	-13350	-21921	-702	1.247	1992.6	0.919	19.71821	3.4694	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	26.965	SLU 43	Si
V_SLU	19.688	SLU 81	Si
PF_SLV	4.034	SLV 10	Si
V_SLV	3.732	SLV 14	Si
PFFP_SLV	11.055	SLV 9	Si
R_SLV	5.601	SLV 10	Si

Maschio 8

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
10.889	5.915	12.744	5.915	L1	L2	1.855	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 34	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 36	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 36	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 35	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 35	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 42	-0.2	-279.89	-17713	-0.0000353	0.0003743	0.0035	1.8552	13006.74	14714.12	14714.12	52.57	No	Si
SLU 42	0.2	-618.29	-17977	-0.0000379	0.0003743	0.0035	1.8552	13148.67	14882.71	14882.71	24.07	No	Si
SLU 37	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 37	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 38	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 38	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 41	-0.2	-279.89	-17713	-0.0000353	0.0003743	0.0035	1.8552	13006.74	14714.12	14714.12	52.57	No	Si
SLU 41	0.2	-618.29	-17977	-0.0000379	0.0003743	0.0035	1.8552	13148.67	14882.71	14882.71	24.07	No	Si
SLU 33	-0.2	-246.47	-16394	-0.0000324	0.0003743	0.0035	1.8552	12274.08	13849.22	13849.22	56.19	No	Si
SLU 33	0.2	-565.4	-16598	-0.0000348	0.0003743	0.0035	1.8552	12390.24	13983.98	13983.98	24.73	No	Si
SLU 39	-0.2	-279.89	-17713	-0.0000353	0.0003743	0.0035	1.8552	13006.74	14714.12	14714.12	52.57	No	Si
SLU 39	0.2	-618.29	-17977	-0.0000379	0.0003743	0.0035	1.8552	13148.67	14882.71	14882.71	24.07	No	Si
SLU 40	-0.2	-279.89	-17713	-0.0000353	0.0003743	0.0035	1.8552	13006.74	14714.12	14714.12	52.57	No	Si
SLU 40	0.2	-618.29	-17977	-0.0000379	0.0003743	0.0035	1.8552	13148.67	14882.71	14882.71	24.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	-0.2	-1047.02	-12503	-0.0000293	0.0005615	0.0035	1.8552		11535.62	11535.62	11.02		Si
SLV 4	0.2	657.83	-12015	-0.0000261	0.0005615	0.0035	1.8552		10499.32	10499.32	15.96		Si
SLV 13	-0.2	787.69	-12819	-0.0000284	0.0005615	0.0035	1.8552		11134.24	11134.24	14.14		Si
SLV 13	0.2	-1390.56	-13362	-0.000033	0.0005615	0.0035	1.8552		12206.17	12206.17	8.78		Si
SLV 3	-0.2	-1150.86	-12602	-0.0000301	0.0005615	0.0035	1.8552		11612.98	11612.98	10.09		Si
SLV 3	0.2	718.8	-11981	-0.0000264	0.0005615	0.0035	1.8552		10472.46	10472.46	14.57		Si
SLV 10	-0.2	440.59	-10355	-0.0000216	0.0005615	0.0035	1.8552		9170.14	9170.14	20.81		Si
SLV 10	0.2	-1793.62	-11687	-0.0000323	0.0005615	0.0035	1.8552		10902.44	10902.44	6.08		Si
SLV 7	-0.2	-699.92	-14966	-0.0000319	0.0005615	0.0035	1.8552		13441.61	13441.61	19.2		Si
SLV 7	0.2	1060.89	-13689	-0.0000317	0.0005615	0.0035	1.8552		11790.41	11790.41	11.11		Si
SLV 5	-0.2	-201.53	-9939	-0.0000194	0.0005615	0.0035	1.8552		9482.94	9482.94	47.05		Si
SLV 5	0.2	-1312.52	-10996	-0.0000281	0.0005615	0.0035	1.8552		10344.37	10344.37	7.88		Si
SLV 14	-0.2	891.53	-12720	-0.0000288	0.0005615	0.0035	1.8552		11055.83	11055.83	12.4		Si
SLV 14	0.2	-1451.53	-13396	-0.0000335	0.0005615	0.0035	1.8552		12232.78	12232.78	8.43		Si
SLV 1	-0.2	-1001.34	-11094	-0.0000264	0.0005615	0.0035	1.8552		10424.58	10424.58	10.41		Si
SLV 1	0.2	6.78	-11173	-0.0000206	0.0005615	0.0035	1.8552		9828.48	9828.48	1449.52		Si
SLV 6	-0.2	-96.12	-9838	-0.0000186	0.0005615	0.0035	1.8552		9401.06	9401.06	97.8		Si
SLV 6	0.2	-1374.42	-11030	-0.0000285	0.0005615	0.0035	1.8552		10372.59	10372.59	7.55		Si
SLV 9	-0.2	335.18	-10456	-0.0000212	0.0005615	0.0035	1.8552		9251.42	9251.42	27.6		Si
SLV 9	0.2	-1731.72	-11653	-0.0000318	0.0005615	0.0035	1.8552		10875.73	10875.73	6.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 78	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 82	-0.2	-275.44	-20327	-18068	3166	1.8552	1.8552	-21642	9830	8207	28547	24999	4731	29730	No	9.39	Si
SLU 82	0.2	-651.09	-20540	-18257	3236	1.8552	1.8552	-21869	9860	8232	28547	24999	4731	29730	No	9.19	Si
SLU 80	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 80	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 77	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 77	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 75	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 75	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 83	-0.2	-275.44	-20327	-18068	3166	1.8552	1.8552	-21642	9830	8207	28547	24999	4731	29730	No	9.39	Si
SLU 83	0.2	-651.09	-20540	-18257	3236	1.8552	1.8552	-21869	9860	8232	28547	24999	4731	29730	No	9.19	Si
SLU 79	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 79	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 81	-0.2	-275.44	-20327	-18068	3166	1.8552	1.8552	-21642	9830	8207	28547	24999	4731	29730	No	9.39	Si
SLU 81	0.2	-651.09	-20540	-18257	3236	1.8552	1.8552	-21869	9860	8232	28547	24999	4731	29730	No	9.19	Si
SLU 76	-0.2	-242.02	-19008	-16896	2985	1.8552	1.8552	-20238	9643	8050	28547	24999	4731	29730	No	9.96	Si
SLU 76	0.2	-598.2	-19161	-17032	3050	1.8552	1.8552	-20401	9665	8069	28547	24999	4731	29730	No	9.75	Si
SLU 84	-0.2	-275.44	-20327	-18068	3166	1.8552	1.8552	-21642	9830	8207	28547	24999	4731	29730	No	9.39	Si
SLU 84	0.2	-651.09	-20540	-18257	3236	1.8552	1.8552	-21869	9860	8232	28547	24999	4731	29730	No	9.19	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-0.2	-699.92	-14966	-13303	-4775	1.8552	1.8552	-15935	13604	11357	28547	37499	4731	39904		8.36	Si
SLV 7	0.2	1060.89	-13689	-12168	-4704	1.8552	1.8552	-14575	13332	11130	28547	37499	4731	39677		8.43	Si
SLV 3	-0.2	-1150.86	-12602	-11202	-4119	1.8552	1.8552	-13418	13100	10937	28547	37499	4731	39483		9.59	Si
SLV 3	0.2	718.8	-11981	-10650	-4050	1.8552	1.8552	-12756	12968	10826	28547	37499	4731	39373		9.72	Si
SLV 6	-0.2	-96.12	-9838	-8745	6240	1.8552	1.8552	-10475	12512	10445	28547	37499	4731	38992		6.25	Si
SLV 6	0.2	-1374.42	-11030	-9805	6267	1.8552	1.8552	-11744	12766	10657	28547	37499	4731	39204		6.26	Si
SLV 13	-0.2	787.69	-12819	-11395	7391	1.8552	1.8552	-13649	13146	10975	28547	37499	4731	39522		5.35	Si
SLV 13	0.2	-1390.56	-13362	-11877	7408	1.8552	1.8552	-14227	13262	11072	28547	37499	4731	39618		5.35	Si
SLV 5	-0.2	-201.53	-9939	-8835	5509	1.8552	1.8552	-10582	12533	10463	28547	37499	4731	39010		7.08	Si
SLV 5	0.2	-1312.52	-10996	-9774	5535	1.8552	1.8552	-11708	12758	10651	28547	37499	4731	39198		7.08	Si
SLV 9	-0.2	335.18	-10456	-9295	8037	1.8552	1.8552	-11133	12643	10555	28547	37499	4731	39102		4.87	Si
SLV 9	0.2	-1731.72	-11653	-10358	8051	1.8552	1.8552	-12407	12898	10768	28547	37499	4731	39315		4.88	Si
SLV 10	-0.2	440.59	-10355	-9205	8767	1.8552	1.8552	-11026	12622	10537	28547	37499	4731	39084		4.46	Si
SLV 10	0.2	-1793.62	-11687	-10389	8783	1.8552	1.8552	-12443	12905	10774	28547	37499	4731	39321		4.48	Si
SLV 15	-0.2	638.17	-14327	-12735	4306	1.8552	1.8552	-15254	13468	11243	28547	37499	4731	39790		9.24	Si
SLV 15	0.2	-678.54	-14170	-12595	4336	1.8552	1.8552	-15087	13434	11216	28547	37499	4731	39762		9.17	Si
SLV 14	-0.2	891.53	-12720	-11306	8111	1.8552	1.8552	-13543	13125	10958	28547	37499	4731	39504		4.87	Si
SLV 14	0.2	-1451.53	-13396	-11907	8129	1.8552	1.8552	-14263	13269	11078	28547	37499	4731	39624		4.87	Si
SLV 16	-0.2	742.01	-14228	-12647	5026	1.8552	1.8552	-15149	13446	11226	28547	37499	4731	39772		7.91	Si
SLV 16	0.2	-739.51	-14204	-12626	5057	1.8552	1.8552	-15123	13441	11222	28547	37499	4731	39768		7.86	Si

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

quota -0.25 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	11522	-9619	112.45	2001.02	17.79	Si
SLV 5	179667	0.24	11527	-9623	112.45	2001.79	17.8	Si
SLV 2	179667	0.24	11908	-9941	112.45	2062.4	18.34	Si
SLV 1	179667	0.24	11913	-9945	112.45	2063.15	18.35	Si
SLV 10	179667	0.24	12582	-10505	112.45	2168.8	19.29	Si
SLV 9	179667	0.24	12587	-10509	112.45	2169.55	19.29	Si
SLV 4	179667	0.24	13299	-11103	112.45	2280.62	20.28	Si
SLV 3	179667	0.24	13304	-11107	112.45	2281.36	20.29	Si
SLV 14	179667	0.24	15443	-12893	112.45	2607.54	23.19	Si
SLV 13	179667	0.24	15448	-12897	112.45	2608.25	23.19	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 16	-12148	-15990	-731	0.78	1554.1	0.943	12.02897	3.4694	Si
SLV 15	-12094	-16013	-728	0.783	1548.6	0.942	12.07633	3.4694	Si
SLV 12	-11997	-17598	-753	0.786	1538.8	0.942	12.12638	3.3502	Si
SLV 11	-11943	-17621	-749	0.789	1533.3	0.942	12.17539	3.3502	Si
SLV 14	-11393	-13169	-632	0.827	1477.6	0.94	12.78141	3.4694	Si
SLV 13	-11339	-13191	-629	0.83	1472.1	0.94	12.83469	3.4694	Si
SLV 8	-11113	-16155	-673	0.839	1449.2	0.939	12.99192	3.3502	Si
SLV 7	-11058	-16177	-669	0.843	1443.7	0.939	13.04813	3.3502	Si
SLV 4	-9200	-11179	-464	0.987	1255.8	0.931	15.4006	3.4694	Si
SLV 3	-9146	-11202	-460	0.992	1250.4	0.931	15.47789	3.4694	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	24.071	SLU 39	Si
V_SLU	9.188	SLU 81	Si
PF_SLV	6.078	SLV 10	Si
V_SLV	4.458	SLV 10	Si
PFFP_SLV	17.795	SLV 6	Si
R_SLV	3.467	SLV 16	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	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
7.964	-3.756	3.959	-3.756	L1	L2	4.005	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	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 FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 46	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 47	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 47	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 44	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 44	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 48	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 48	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 51	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 51	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 70	-1.59	-3339.84	-13917	-0.0000152	0.0004492	0.0035	4.0046	26104.66	35606.7	35606.7	10.66	No	Si
SLU 70	0.61	12850.36	-26454	-0.0000375	0.0004492	0.0035	4.0046	46604.97	50241.23	50241.23	3.91	No	Si
SLU 50	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 50	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 43	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 43	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 49	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 49	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si
SLU 45	-1.59	-2935.79	-12051	-0.0000132	0.0004492	0.0035	4.0046	22809.42	32196.04	32196.04	10.97	No	Si
SLU 45	0.61	11210.78	-21922	-0.0000316	0.0004492	0.0035	4.0046	39524.78	42468.46	42468.46	3.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-1.59	-7006.71	-13669	-0.0000194	0.0006738	0.0035	4.0046		35468.04	35468.04	5.06		Si
SLV 13	0.61	8512.18	-14008	-0.0000215	0.0006738	0.0035	4.0046		28692.58	28692.58	3.37		Si
SLV 7	-1.59	-32.94	-6408	-0.0000051	0.0006738	0.0035	4.0046		21789.5	21789.5	661.48		Si
SLV 7	0.61	12020.84	-19933	-0.0000306	0.0006738	0.0035	4.0046		39652.08	39652.08	3.3		Si
SLV 11	-1.59	-2342.01	-7150	-0.0000085	0.0006738	0.0035	4.0046		23200.77	23200.77	9.91		Si
SLV 11	0.61	11171.4	-15371	-0.0000259	0.0006738	0.0035	4.0046		31237.88	31237.88	2.8		Si
SLV 4	-1.59	1715.99	-8381	-0.0000087	0.0006738	0.0035	4.0046		18038.16	18038.16	10.51		Si
SLV 4	0.61	11852.05	-28396	-0.0000374	0.0006738	0.0035	4.0046		54797.82	54797.82	4.62		Si
SLV 14	-1.59	-6890.91	-13464	-0.0000191	0.0006738	0.0035	4.0046		35087.31	35087.31	5.09		Si
SLV 14	0.61	8251.57	-15011	-0.0000022	0.0006738	0.0035	4.0046		30567.31	30567.31	3.7		Si
SLV 8	-1.59	84.62	-6200	-0.0000005	0.0006738	0.0035	4.0046		13843	13843	163.6		Si
SLV 8	0.61	11756.27	-20952	-0.0000311	0.0006738	0.0035	4.0046		41498.27	41498.27	3.53		Si
SLV 15	-1.59	-6096.71	-11059	-0.0000162	0.0006738	0.0035	4.0046		30586.37	30586.37	5.02		Si
SLV 15	0.61	9281.21	-12183	-0.0000021	0.0006738	0.0035	4.0046		25270.14	25270.14	2.72		Si
SLV 3	-1.59	1600.2	-8586	-0.0000088	0.0006738	0.0035	4.0046		18432.8	18432.8	11.52		Si
SLV 3	0.61	12112.66	-27392	-0.0000369	0.0006738	0.0035	4.0046		53035.45	53035.45	4.38		Si
SLV 12	-1.59	-2224.46	-6942	-0.0000082	0.0006738	0.0035	4.0046		22805.79	22805.79	10.25		Si
SLV 12	0.61	10906.84	-16390	-0.0000263	0.0006738	0.0035	4.0046		33137.33	33137.33	3.04		Si
SLV 16	-1.59	-5980.91	-10854	-0.0000158	0.0006738	0.0035	4.0046		30201.25	30201.25	5.05		Si
SLV 16	0.61	9020.6	-13187	-0.0000214	0.0006738	0.0035	4.0046		27160.2	27160.2	3.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 75	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 79	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 79	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 81	-1.59	-4165.1	-17564	-14052	16982	4.0046	4.0046	-7797	9373	16891	81562	64762	20424	85186	No	5.02	Si
SLU 81	0.61	16138.21	-35697	-28558	17152	4.0046	4.0046	-15847	10446	18825	81562	64762	20424	85186	No	4.97	Si
SLU 74	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 74	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 76	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 76	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 83	-1.59	-4165.1	-17564	-14052	16982	4.0046	4.0046	-7797	9373	16891	81562	64762	20424	85186	No	5.02	Si
SLU 83	0.61	16138.21	-35697	-28558	17152	4.0046	4.0046	-15847	10446	18825	81562	64762	20424	85186	No	4.97	Si
SLU 84	-1.59	-4165.1	-17564	-14052	16982	4.0046	4.0046	-7797	9373	16891	81562	64762	20424	85186	No	5.02	Si
SLU 84	0.61	16138.21	-35697	-28558	17152	4.0046	4.0046	-15847	10446	18825	81562	64762	20424	85186	No	4.97	Si
SLU 73	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 73	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 78	-1.59	-3917.52	-16470	-13176	15949	4.0046	4.0046	-7312	9308	16774	81562	64762	20424	85186	No	5.34	Si
SLU 78	0.61	15151.85	-32924	-26339	16110	4.0046	4.0046	-14616	10282	18529	81562	64762	20424	85186	No	5.29	Si
SLU 82	-1.59	-4165.1	-17564	-14052	16982	4.0046	4.0046	-7797	9373	16891	81562	64762	20424	85186	No	5.02	Si
SLU 82	0.61	16138.21	-35697	-28558	17152	4.0046	4.0046	-15847	10446	18825	81562	64762	20424	85186	No	4.97	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.59	690.2	-11196	-8957	20085	4.0046	4.0046	-4970	13494	24317	81562	97144	20424	105879		5.27	Si
SLV 1	0.61	11343.63	-29216	-23373	19071	4.0046	4.0046	-12970	15094	27201	81562	97144	20424	108762		5.7	Si
SLV 8	-1.59	84.62	-6200	-4960	15155	4.0046	4.0046	-2752	13050	23518	81562	97144	20424	105080		6.93	Si
SLV 8	0.61	11756.27	-20952	-16762	15772	4.0046	4.0046	-9301	14360	25878	81562	97144	20424	107440		6.81	Si
SLV 12	-1.59	-2224.46	-6942	-5554	8980	4.0046	4.0046	-3082	13116	23637	81562	97144	20424	105198		11.71	Si
SLV 12	0.61	10906.84	-16390	-13112	10144	4.0046	4.0046	-7276	13955	25148	81562	97144	20424	106710		10.52	Si
SLV 2	-1.59	806	-10991	-8792	21558	4.0046	4.0046	-4879	13476	24285	81562	97144	20424	105846		4.91	Si
SLV 2	0.61	11083.02	-30220	-24176	20485	4.0046	4.0046	-13416	15183	27361	81562	97144	20424	108923		5.32	Si
SLV 11	-1.59	-2342.01	-7150	-5720	7485	4.0046	4.0046	-3174	13135	23670	81562	97144	20424	105232		14.06	Si
SLV 11	0.61	11171.4	-15371	-12296	8708	4.0046	3.8265	-6823	13865	23874	81562	97144	20424	105436		12.11	Si
SLV 4	-1.59	1715.99	-8381	-6705	21923	4.0046	4.0046	-3720	13244	23867	81562	97144	20424	105429		4.81	Si
SLV 4	0.61	11852.05	-28396	-22717	21335	4.0046	4.0046	-12606	15021	27069	81562	97144	20424	108631		5.09	Si
SLV 7	-1.59	-32.94	-6408	-5127	13660	4.0046	4.0046	-2845	13069	23551	81562	97144	20424	105113		7.69	Si
SLV 7	0.61	12020.84	-19933	-15946	14336	4.0046	4.0046	-8849	14270	25715	81562	97144	20424	107727		7.48	Si
SLV 3	-1.59	1600.2	-8586	-6869	20450	4.0046	4.0046	-3812	13262	23900	81562	97144	20424	105461		5.16	Si
SLV 3	0.61	12112.66	-27392	-21914	19921	4.0046	4.0046	-12160	14932	26909	81562	97144	20424	108470		5.45	Si
SLV 5	-1.59	-3066.26	-15108	-12086	12444	4.0046	4.0046	-6707	13841	24943	81562	97144	20424	106505		8.56	Si
SLV 5	0.61	9457.39	-26014	-20811	11503	4.0046	4.0046	-11548	14810	26688	81562	97144	20424	108250		9.41	Si
SLV 6	-1.59	-2948.7	-14899	-11919	13940	4.0046	4.0046	-6614	13823	24910	81562	97144	20424	106472		7.64	Si
SLV 6	0.61	9192.83	-27033	-21626	12939	4.0046	4.0046	-12001	14900	26851	81562	97144	20424	108413		8.38	Si

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

quota -0.25 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-10256	0.24	246.83	2235.99	3246.11	2741.05	11.1	Si
SLV 12	-10581	0.24	246.83	2304.37	3322.9	2813.63	11.4	Si
SLV 15	-11765	0.24	246.83	2552.73	3602.98	3077.85	12.47	Si
SLV 16	-12084	0.24	246.83	2619.43	3678.58	3149	12.76	Si
SLV 7	-12876	0.24	246.83	2784.09	3865.91	3325	13.47	Si
SLV 8	-13200	0.24	246.83	2851.31	3942.68	3396.99	13.76	Si
SLV 13	-15675	0.24	246.83	3359.44	4527.74	3943.59	15.98	Si
SLV 14	-15994	0.24	246.83	3424.43	4603.24	4013.84	16.26	Si
SLV 3	-20496	0.24	246.83	4325.44	5658.9	4992.17	20.23	Si
SLV 4	-20816	0.24	246.83	4388.34	5733.74	5061.04	20.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 2	-33225	-10991	-132	0.689	4065.1	0.951	10.52363	3.4694	Si
SLV 4	-32578	-8381	28	0.702	3999.4	0.951	10.73629	3.4694	Si
SLV 1	-31897	-11196	-128	0.711	3930.2	0.95	10.88063	3.4694	Si
SLV 3	-31250	-8586	32	0.725	3864.6	0.949	11.10481	3.4694	Si
SLV 6	-27783	-14899	-316	0.786	3512.8	0.945	12.08479	3.3502	Si
SLV 5	-26435	-15108	-312	0.816	3376.2	0.943	12.58492	3.3502	Si
SLV 8	-25628	-6200	215	0.839	3294.4	0.942	12.95519	3.3502	Si
SLV 7	-24280	-6408	219	0.875	3157.8	0.94	13.53261	3.3502	Si
SLV 10	-22464	-15641	-315	0.925	2974.1	0.936	14.35374	3.3502	Si
SLV 9	-21116	-15849	-311	0.97	2837.8	0.934	15.0875	3.3502	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	3.788	SLU 43	Si
V_SLU	4.967	SLU 81	Si
PF_SLV	2.723	SLV 15	Si
V_SLV	4.809	SLV 4	Si
PFFP_SLV	11.105	SLV 11	Si
R_SLV	3.033	SLV 2	Si

Maschio 10

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
12.744	-3.756	8.964	-3.756	L1	L2	3.78	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRDM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									at	α	elim,conv	$\epsilon_f d$	$\gamma_f d$	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 40	-1.59	-3862.92	-21737	-0.000024	0.0004492	0.0035	3.7804	36790.28	46102.84	46102.84	11.93	No	Si
SLU 40	0.61	3625.51	-20948	-0.0000229	0.0004492	0.0035	3.7804	35605.69	38196.37	38196.37	10.54	No	Si
SLU 83	-1.59	-4496.77	-25218	-0.0000279	0.0004492	0.0035	3.7804	41883.94	51707.32	51707.32	11.5	No	Si
SLU 83	0.61	3999.88	-23285	-0.0000255	0.0004492	0.0035	3.7804	39083.23	42004.01	42004.01	10.5	No	Si
SLU 41	-1.59	-3862.92	-21737	-0.000024	0.0004492	0.0035	3.7804	36790.28	46102.84	46102.84	11.93	No	Si
SLU 41	0.61	3625.51	-20948	-0.0000229	0.0004492	0.0035	3.7804	35605.69	38196.37	38196.37	10.54	No	Si
SLU 82	-1.59	-4496.77	-25218	-0.0000279	0.0004492	0.0035	3.7804	41883.94	51707.32	51707.32	11.5	No	Si
SLU 82	0.61	3999.88	-23285	-0.0000255	0.0004492	0.0035	3.7804	39083.23	42004.01	42004.01	10.5	No	Si
SLU 81	-1.59	-4496.77	-25218	-0.0000279	0.0004492	0.0035	3.7804	41883.94	51707.32	51707.32	11.5	No	Si
SLU 81	0.61	3999.88	-23285	-0.0000255	0.0004492	0.0035	3.7804	39083.23	42004.01	42004.01	10.5	No	Si
SLU 39	-1.59	-3862.92	-21737	-0.000024	0.0004492	0.0035	3.7804	36790.28	46102.84	46102.84	11.93	No	Si
SLU 39	0.61	3625.51	-20948	-0.0000229	0.0004492	0.0035	3.7804	35605.69	38196.37	38196.37	10.54	No	Si
SLU 42	-1.59	-3862.92	-21737	-0.000024	0.0004492	0.0035	3.7804	36790.28	46102.84	46102.84	11.93	No	Si
SLU 42	0.61	3625.51	-20948	-0.0000229	0.0004492	0.0035	3.7804	35605.69	38196.37	38196.37	10.54	No	Si
SLU 77	-1.59	-4243.14	-23771	-0.0000263	0.0004492	0.0035	3.7804	39793.13	49434.59	49434.59	11.65	No	Si
SLU 77	0.61	3639.29	-21358	-0.0000233	0.0004492	0.0035	3.7804	36222.25	38870.52	38870.52	10.68	No	Si
SLU 78	-1.59	-4243.14	-23771	-0.0000263	0.0004492	0.0035	3.7804	39793.13	49434.59	49434.59	11.65	No	Si
SLU 78	0.61	3639.29	-21358	-0.0000233	0.0004492	0.0035	3.7804	36222.25	38870.52	38870.52	10.68	No	Si
SLU 84	-1.59	-4496.77	-25218	-0.0000279	0.0004492	0.0035	3.7804	41883.94	51707.32	51707.32	11.5	No	Si
SLU 84	0.61	3999.88	-23285	-0.0000255	0.0004492	0.0035	3.7804	39083.23	42004.01	42004.01	10.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 8	-1.59	-140.63	-6698	-0.0000058	0.0006738	0.0035	3.7804		20613.4	20613.4	146.58		Si
SLV 8	0.61	1733.99	-6659	-0.0000079	0.0006738	0.0035	3.7804		13730.72	13730.72	7.92		Si
SLV 4	-1.59	778.11	-8363	-0.0000081	0.0006738	0.0035	3.7804		16819.94	16819.94	21.62		Si
SLV 4	0.61	1604.74	-4502	-0.0000059	0.0006738	0.0035	3.7804		9797.25	9797.25	6.11		Si
SLV 16	-1.59	-5310.54	-19186	-0.0000235	0.0006738	0.0035	3.7804		42523.48	42523.48	8.01		Si
SLV 16	0.61	2560.08	-19492	-0.00002	0.0006738	0.0035	3.7804		36430.39	36430.39	14.23		Si
SLV 15	-1.59	-5510.34	-19179	-0.0000238	0.0006738	0.0035	3.7804		42511.43	42511.43	7.71		Si
SLV 15	0.61	2764.88	-19980	-0.0000207	0.0006738	0.0035	3.7804		37269.88	37269.88	13.48		Si
SLV 7	-1.59	-343.46	-6691	-0.0000061	0.0006738	0.0035	3.7804		20600.34	20600.34	59.98		Si
SLV 7	0.61	1941.91	-7155	-0.0000086	0.0006738	0.0035	3.7804		14629.99	14629.99	7.53		Si
SLV 13	-1.59	-6548.15	-23853	-0.0000293	0.0006738	0.0035	3.7804		50347.95	50347.95	7.69		Si
SLV 13	0.61	2939.37	-22626	-0.0000233	0.0006738	0.0035	3.7804		41770.33	41770.33	14.21		Si
SLV 1	-1.59	-459.5	-13030	-0.0000116	0.0006738	0.0035	3.7804		31860.11	31860.11	69.34		Si
SLV 1	0.61	1984.04	-7636	-0.0000091	0.0006738	0.0035	3.7804		15501.99	15501.99	7.81		Si
SLV 2	-1.59	-259.7	-13038	-0.0000114	0.0006738	0.0035	3.7804		31872.7	31872.7	122.73		Si
SLV 2	0.61	1779.23	-7147	-0.0000084	0.0006738	0.0035	3.7804		14616.18	14616.18	8.21		Si
SLV 3	-1.59	578.31	-8356	-0.0000078	0.0006738	0.0035	3.7804		16806.91	16806.91	29.06		Si
SLV 3	0.61	1809.55	-4991	-0.0000066	0.0006738	0.0035	3.7804		10693.19	10693.19	5.91		Si
SLV 14	-1.59	-6348.35	-23860	-0.000029	0.0006738	0.0035	3.7804		50360	50360	7.93		Si
SLV 14	0.61	2734.56	-22137	-0.0000226	0.0006738	0.0035	3.7804		40938.74	40938.74	14.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 79	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si
SLU 76	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 76	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si
SLU 75	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 75	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si
SLU 74	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 74	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si
SLU 82	-1.59	-4496.77	-25218	-20175	-13015	3.7804	3.7804	-11859	9915	16866	81562	61136	19280	80416	No	6.18	Si
SLU 82	0.61	3999.88	-23285	-18628	-12038	3.7804	3.7804	-10950	9793	16660	81562	61136	19280	80416	No	6.68	Si
SLU 83	-1.59	-4496.77	-25218	-20175	-13015	3.7804	3.7804	-11859	9915	16866	81562	61136	19280	80416	No	6.18	Si
SLU 83	0.61	3999.88	-23285	-18628	-12038	3.7804	3.7804	-10950	9793	16660	81562	61136	19280	80416	No	6.68	Si
SLU 73	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 73	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si
SLU 81	-1.59	-4496.77	-25218	-20175	-13015	3.7804	3.7804	-11859	9915	16866	81562	61136	19280	80416	No	6.18	Si
SLU 81	0.61	3999.88	-23285	-18628	-12038	3.7804	3.7804	-10950	9793	16660	81562	61136	19280	80416	No	6.68	Si
SLU 84	-1.59	-4496.77	-25218	-20175	-13015	3.7804	3.7804	-11859	9915	16866	81562	61136	19280	80416	No	6.18	Si
SLU 84	0.61	3999.88	-23285	-18628	-12038	3.7804	3.7804	-10950	9793	16660	81562	61136	19280	80416	No	6.68	Si
SLU 78	-1.59	-4243.14	-23771	-19017	-12098	3.7804	3.7804	-11179	9824	16712	81562	61136	19280	80416	No	6.65	Si
SLU 78	0.61	3639.29	-21358	-17086	-11198	3.7804	3.7804	-10044	9673	16455	81562	61136	19280	80416	No	7.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c Int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.59	-6548.15	-23853	-19082	-13107	3.7804	3.7804	-11217	14743	25081	81562	91704	19280	106643		8.14	Si
SLV 13	0.61	2939.37	-22626	-18101	-10654	3.7804	3.7804	-10640	14628	24885	81562	91704	19280	106446		9.99	Si
SLV 15	-1.59	-5510.34	-19179	-15343	-14333	3.7804	3.7804	-9019	14304	24333	81562	91704	19280	105895		7.39	Si
SLV 15	0.61	2764.88	-19980	-15984	-12115	3.7804	3.7804	-9396	14379	24461	81562	91704	19280	106023		8.75	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-1.59	-140.63	-6698	-5358	-7969	3.7804	3.7804	-3150	13130	22336	81562	91704	19280	103898		13.04	Si
SLV 8	0.61	1733.99	-6659	-5327	-8339	3.7804	3.7804	-3131	13126	22330	81562	91704	19280	103892		12.46	Si
SLV 12	-1.59	-1967.22	-9945	-7956	-11203	3.7804	3.7804	-4677	13435	22856	81562	91704	19280	104417		9.32	Si
SLV 12	0.61	2020.59	-11156	-8924	-10547	3.7804	3.7804	-5246	13549	23049	81562	91704	19280	104611		9.92	Si
SLV 9	-1.59	-5629.42	-25518	-20415	-7909	3.7804	3.7804	-12000	14900	25348	81562	91704	19280	106909		13.52	Si
SLV 9	0.61	2810.13	-20469	-16375	-6378	3.7804	3.7804	-9626	14425	24540	81562	91704	19280	106101		16.64	Si
SLV 14	-1.59	-6348.35	-23860	-19088	-12325	3.7804	3.7804	-11221	14744	25082	81562	91704	19280	106644		8.65	Si
SLV 14	0.61	2734.56	-22137	-17710	-9962	3.7804	3.7804	-10410	14582	24806	81562	91704	19280	106368		10.68	Si
SLV 7	-1.59	-343.46	-6691	-5352	-8763	3.7804	3.7804	-3146	13129	22335	81562	91704	19280	103897		11.86	Si
SLV 7	0.61	1941.91	-7155	-5724	-9041	3.7804	3.7804	-3365	13173	22409	81562	91704	19280	103971		11.5	Si
SLV 11	-1.59	-2170.06	-9937	-7950	-11996	3.7804	3.7804	-4673	13435	22855	81562	91704	19280	104416		8.7	Si
SLV 11	0.61	2228.51	-11652	-9321	-11249	3.7804	3.7804	-5479	13596	23129	81562	91704	19280	104690		9.31	Si
SLV 10	-1.59	-5426.58	-25526	-20420	-7116	3.7804	3.7804	-12004	14901	25349	81562	91704	19280	106910		15.02	Si
SLV 10	0.61	2602.21	-19973	-15978	-5676	3.7804	3.7804	-9393	14379	24460	81562	91704	19280	106022		18.68	Si
SLV 16	-1.59	-5310.54	-19186	-15349	-13551	3.7804	3.7804	-9022	14304	24334	81562	91704	19280	105896		7.81	Si
SLV 16	0.61	2560.08	-19492	-15593	-11424	3.7804	3.7804	-9166	14333	24383	81562	91704	19280	105945		9.27	Si

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

quota -0.25 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-6136	0.24	233.01	1353.48	2219.63	1786.56	7.67	Si
SLV 3	-6458	0.24	233.01	1422.92	2296.69	1859.81	7.98	Si
SLV 8	-7309	0.24	233.01	1605.99	2500.37	2053.18	8.81	Si
SLV 7	-7636	0.24	233.01	1675.93	2578.33	2127.13	9.13	Si
SLV 2	-9572	0.24	233.01	2087.49	3040.62	2564.05	11	Si
SLV 1	-9893	0.24	233.01	2155.33	3116.91	2636.12	11.31	Si
SLV 12	-11752	0.24	233.01	2544.49	3556.86	3050.67	13.09	Si
SLV 11	-12078	0.24	233.01	2612.34	3634.11	3123.23	13.4	Si
SLV 6	-18760	0.24	233.01	3967.06	5207.5	4587.28	19.69	Si
SLV 5	-19087	0.24	233.01	4031.61	5283.95	4657.78	19.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-21618	-23853	-122	0.918	2849.2	0.937	14.23903	3.4694	Si
SLV 14	-21076	-23860	-120	0.936	2794.4	0.936	14.53422	3.4694	Si
SLV 15	-19776	-19179	-22	0.987	2663	0.934	15.36051	3.4694	Si
SLV 16	-19235	-19186	-20	1.008	2608.3	0.932	15.70689	3.4694	Si
SLV 9	-18493	-25518	-229	1.029	2533.4	0.931	16.0626	3.3502	Si
SLV 10	-17943	-25526	-227	1.052	2478	0.93	16.45368	3.3502	Si
SLV 5	-13970	-22272	-221	1.266	2078.3	0.919	20.00806	3.3502	Si
SLV 6	-13421	-22279	-220	1.303	2023.2	0.918	20.63216	3.3502	Si
SLV 11	-12355	-9937	104	1.389	1916.6	0.914	22.07185	3.3502	Si
SLV 12	-11805	-9945	106	1.434	1861.8	0.913	22.83094	3.3502	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	10.501	SLU 81	Si
V_SLU	6.179	SLU 81	Si
PF_SLV	5.909	SLV 3	Si
V_SLV	7.388	SLV 15	Si
PFFP_SLV	7.667	SLV 4	Si
R_SLV	4.104	SLV 13	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.	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
12.744	-1.751	12.744	-3.756	L1	L2	2.005	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 51	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 45	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 45	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 49	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 49	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 70	-0.2	-1094.47	-8971	-0.0000209	0.0003743	0.0035	2.0053	8116.63	9364.89	9364.89	8.56	No	Si
SLU 70	0.2	692.27	-6640	-0.0000148	0.0003743	0.0035	2.0053	6176.76	6486.81	6486.81	9.37	No	Si
SLU 50	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 50	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 44	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 44	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 43	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 43	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 46	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 46	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 48	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 48	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si
SLU 47	-0.2	-1030.84	-7846	-0.0000186	0.0003743	0.0035	2.0053	7195.1	8398.67	8398.67	8.15	No	Si
SLU 47	0.2	596.22	-5744	-0.0000127	0.0003743	0.0035	2.0053	5399.56	5681.5	5681.5	9.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-0.2	-661.37	-11052	-0.0000221	0.0005615	0.0035	2.0053		11395.27	11395.27	17.23		Si
SLV 13	0.2	1661.27	-7508	-0.0000211	0.0005615	0.0035	2.0053		7397.25	7397.25	4.45		Si
SLV 16	-0.2	-1296.78	-9975	-0.0000235	0.0005615	0.0035	2.0053		10449.21	10449.21	8.06		Si
SLV 16	0.2	2085.44	-6337	-0.0000212	0.0005615	0.0035	2.0053		6317.17	6317.17	3.03		Si
SLV 2	-0.2	-298.44	-3978	-0.0000082	0.0005615	0.0035	2.0053		4946.2	4946.2	16.57		Si
SLV 2	0.2	-1134.48	-4089	-0.0000125	0.0005615	0.0035	2.0053		5051.83	5051.83	4.45		Si
SLV 4	-0.2	-1045.06	-3154	-0.0000105	0.0005615	0.0035	2.0053		4160.89	4160.89	3.98		Si
SLV 4	0.2	-564.99	-3041	-0.0000079	0.0005615	0.0035	2.0053		4052.37	4052.37	7.17		Si
SLV 11	-0.2	-2191.79	-6882	-0.0000227	0.0005615	0.0035	2.0053		7654.73	7654.73	3.49		Si
SLV 11	0.2	1968.61	-4085	-0.0000176	0.0005615	0.0035	2.0053		4198.1	4198.1	2.13		Si
SLV 3	-0.2	-1156.28	-3407	-0.0000115	0.0005615	0.0035	2.0053		4403.1	4403.1	3.81		Si
SLV 3	0.2	-419.67	-3164	-0.0000074	0.0005615	0.0035	2.0053		4170.77	4170.77	9.94		Si
SLV 7	-0.2	-2116.28	-4836	-0.0000193	0.0005615	0.0035	2.0053		5758.56	5758.56	2.72		Si
SLV 7	0.2	1173.48	-3096	-0.0000111	0.0005615	0.0035	2.0053		3249.67	3249.67	2.77		Si
SLV 15	-0.2	-1407.99	-10229	-0.0000245	0.0005615	0.0035	2.0053		10673.66	10673.66	7.58		Si
SLV 15	0.2	2230.75	-6461	-0.0000222	0.0005615	0.0035	2.0053		6432.48	6432.48	2.88		Si
SLV 8	-0.2	-2003.37	-4579	-0.0000182	0.0005615	0.0035	2.0053		5515.6	5515.6	2.75		Si
SLV 8	0.2	1025.96	-2971	-0.0000101	0.0005615	0.0035	2.0053		3128.41	3128.41	3.05		Si
SLV 12	-0.2	-2078.89	-6625	-0.0000217	0.0005615	0.0035	2.0053		7421.35	7421.35	3.57		Si
SLV 12	0.2	1821.08	-3960	-0.0000164	0.0005615	0.0035	2.0053		4079.07	4079.07	2.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 76	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 84	-0.2	-1220.98	-11219	-9972	-10047	2.0053	2.0053	-11051	8418	7596	28547	27021	5114	32135	No	3.2	Si
SLU 84	0.2	875.93	-8458	-7518	-10062	2.0053	2.0053	-8331	8055	7269	28547	27021	5114	32135	No	3.19	Si
SLU 78	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 78	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 74	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 74	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 79	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 79	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 75	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 75	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 83	-0.2	-1220.98	-11219	-9972	-10047	2.0053	2.0053	-11051	8418	7596	28547	27021	5114	32135	No	3.2	Si
SLU 83	0.2	875.93	-8458	-7518	-10062	2.0053	2.0053	-8331	8055	7269	28547	27021	5114	32135	No	3.19	Si
SLU 73	-0.2	-1183.03	-10544	-9373	-9492	2.0053	2.0053	-10387	8329	7516	28547	27021	5114	32135	No	3.39	Si
SLU 73	0.2	820.84	-7913	-7033	-9506	2.0053	2.0053	-7794	7984	7204	28547	27021	5114	32135	No	3.38	Si
SLU 82	-0.2	-1220.98	-11219	-9972	-10047	2.0053	2.0053	-11051	8418	7596	28547	27021	5114	32135	No	3.2	Si
SLU 82	0.2	875.93	-8458	-7518	-10062	2.0053	2.0053	-8331	8055	7269	28547	27021	5114	32135	No	3.19	Si
SLU 81	-0.2	-1220.98	-11219	-9972	-10047	2.0053	2.0053	-11051	8418	7596	28547	27021	5114	32135	No	3.2	Si
SLU 81	0.2	875.93	-8458	-7518	-10062	2.0053	2.0053	-8331	8055	7269	28547	27021	5114	32135	No	3.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	-0.2	-1045.06	-3154	-2803	-4227	2.0053	2.0053	-3107	11038	9961	28547	40532	5114	38507		9.11	Si
SLV 4	0.2	-564.99	-3041	-2703	-4235	2.0053	2.0053	-2995	11016	9940	28547	40532	5114	38487		9.09	Si
SLV 3	-0.2	-1156.28	-3407	-3029	-5194	2.0053	1.9899	-3356	11088	9929	28547	40532	5114	38476		7.41	Si
SLV 3	0.2	-419.67	-3164	-2813	-5202	2.0053	2.0053	-3117	11040	9962	28547	40532	5114	38509		7.4	Si
SLV 12	-0.2	-2078.89	-6625	-5889	-13298	2.0053	2.0053	-6526	11722	10578	28547	40532	5114	39124		2.94	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.2	1821.08	-3960	-3520	-13311	2.0053	1.6283	-3901	11197	8204	28547	40532	5114	36751		2.76	Si
SLV 16	-0.2	-1296.78	-9975	-8867	-11479	2.0053	2.0053	-9826	12382	11173	28547	40532	5114	39720		3.46	Si
SLV 16	0.2	2085.44	-6337	-5633	-11493	2.0053	2.0053	-6242	11665	10526	28547	40532	5114	39073		3.4	Si
SLV 14	-0.2	-550.16	-10799	-9599	-7739	2.0053	2.0053	-10637	12544	11320	28547	40532	5114	39866		5.15	Si
SLV 14	0.2	1515.95	-7385	-6564	-7750	2.0053	2.0053	-7274	11872	10713	28547	40532	5114	39259		5.07	Si
SLV 11	-0.2	-2191.79	-6882	-6118	-14279	2.0053	2.0053	-6779	11773	10623	28547	40532	5114	39170		2.74	Si
SLV 11	0.2	1968.61	-4085	-3631	-14293	2.0053	1.5623	-4024	11221	7889	28547	40532	5114	36436		2.55	Si
SLV 13	-0.2	-661.37	-11052	-9824	-8706	2.0053	2.0053	-10887	12594	11365	28547	40532	5114	39911		4.58	Si
SLV 13	0.2	1661.27	-7508	-6674	-8717	2.0053	2.0053	-7396	11896	10735	28547	40532	5114	39281		4.51	Si
SLV 8	-0.2	-2003.37	-4579	-4070	-11122	2.0053	1.6953	-5348	11486	8763	28547	40532	5114	37309		3.35	Si
SLV 8	0.2	1025.96	-2971	-2641	-11134	2.0053	1.972	-2927	11002	9763	28547	40532	5114	38310		3.44	Si
SLV 7	-0.2	-2116.28	-4836	-4299	-12104	2.0053	1.6951	-5650	11547	8808	28547	40532	5114	37354		3.09	Si
SLV 7	0.2	1173.48	-3096	-2752	-12115	2.0053	1.871	-3050	11027	9284	28547	40532	5114	37830		3.12	Si
SLV 15	-0.2	-1407.99	-10229	-9092	-12446	2.0053	2.0053	-10076	12432	11218	28547	40532	5114	39765		3.19	Si
SLV 15	0.2	2230.75	-6461	-5743	-12459	2.0053	1.9721	-6364	11689	10374	28547	40532	5114	38920		3.12	Si

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

quota -0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.24	2606	-2352	121.55	520.14	4.28	Si
SLV 3	179667	0.24	2748	-2480	121.55	547.94	4.51	Si
SLV 8	179667	0.24	3197	-2885	121.55	635.52	5.23	Si
SLV 7	179667	0.24	3341	-3015	121.55	663.52	5.46	Si
SLV 2	179667	0.24	4024	-3631	121.55	795.43	6.54	Si
SLV 1	179667	0.24	4166	-3759	121.55	822.7	6.77	Si
SLV 12	179667	0.24	5122	-4622	121.55	1005.01	8.27	Si
SLV 11	179667	0.24	5266	-4752	121.55	1032.26	8.49	Si
SLV 6	179667	0.24	7922	-7148	121.55	1524.96	12.55	Si
SLV 5	179667	0.24	8066	-7278	121.55	1551.14	12.76	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3608	-13500	-381	1.997	726.3	0.895	32.42952	3.4694	Si
SLV 14	-3452	-13480	-371	2.052	711.3	0.894	33.35414	3.4694	Si
SLV 15	-3276	-11523	-366	2.116	694.5	0.893	34.43961	3.4694	Si
SLV 9	-3495	-13065	-238	2.06	715.4	0.894	33.48227	3.3502	Si
SLV 16	-3121	-11502	-356	2.178	679.6	0.892	35.4773	3.4694	Si
SLV 10	-3337	-13044	-228	2.119	700.3	0.893	34.47005	3.3502	Si
SLV 5	-3067	-10713	-100	2.248	674.5	0.892	36.63749	3.3502	Si
SLV 6	-2909	-10693	-90	2.317	659.5	0.891	37.79999	3.3502	Si
SLV 11	-2391	-6472	-188	2.549	611.3	0.889	41.66118	3.3502	Si
SLV 1	-2179	-5662	79	2.694	591.9	0.889	44.04166	3.4694	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.147	SLU 43	Si
V_SLU	3.194	SLU 81	Si
PF_SLV	2.133	SLV 11	Si
V_SLV	2.549	SLV 11	Si
PFFP_SLV	4.279	SLV 4	Si
R_SLV	9.347	SLV 13	Si

Maschio 12

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
12.744	2.899	12.744	-0.751	L1	L2	3.65	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									at	α	elim,conv	ε_{fd}	γF_d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 79	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 79	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 77	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 77	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 84	-0.2	-4658.56	-27497	-0.0000336	0.0003743	0.0035	3.65	41930.92	47572.96	47572.96	10.21	No	Si
SLU 84	0.2	-3584.37	-28226	-0.0000326	0.0003743	0.0035	3.65	42817.14	48546.43	48546.43	13.54	No	Si
SLU 75	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 75	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 82	-0.2	-4658.56	-27497	-0.0000336	0.0003743	0.0035	3.65	41930.92	47572.96	47572.96	10.21	No	Si
SLU 82	0.2	-3584.37	-28226	-0.0000326	0.0003743	0.0035	3.65	42817.14	48546.43	48546.43	13.54	No	Si
SLU 76	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 76	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 81	-0.2	-4658.56	-27497	-0.0000336	0.0003743	0.0035	3.65	41930.92	47572.96	47572.96	10.21	No	Si
SLU 81	0.2	-3584.37	-28226	-0.0000326	0.0003743	0.0035	3.65	42817.14	48546.43	48546.43	13.54	No	Si
SLU 80	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 80	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 78	-0.2	-4402.04	-25866	-0.0000316	0.0003743	0.0035	3.65	39903.99	45291.31	45291.31	10.29	No	Si
SLU 78	0.2	-3388.77	-26613	-0.0000307	0.0003743	0.0035	3.65	40838.77	46366.17	46366.17	13.68	No	Si
SLU 83	-0.2	-4658.56	-27497	-0.0000336	0.0003743	0.0035	3.65	41930.92	47572.96	47572.96	10.21	No	Si
SLU 83	0.2	-3584.37	-28226	-0.0000326	0.0003743	0.0035	3.65	42817.14	48546.43	48546.43	13.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 4	-0.2	-4378.59	-10027	-0.0000159	0.0005615	0.0035	3.65		21344.79	21344.79	4.87		Si
SLV 4	0.2	-2956.01	-10191	-0.0000139	0.0005615	0.0035	3.65		21623.43	21623.43	7.32		Si
SLV 3	-0.2	-4791.14	-10010	-0.0000165	0.0005615	0.0035	3.65		21317.3	21317.3	4.45		Si
SLV 3	0.2	-2664.8	-10183	-0.0000135	0.0005615	0.0035	3.65		21610.13	21610.13	8.11		Si
SLV 1	-0.2	-1429.98	-10511	-0.0000119	0.0005615	0.0035	3.65		22165.4	22165.4	15.5		Si
SLV 1	0.2	-2902.66	-10622	-0.0000142	0.0005615	0.0035	3.65		22352.87	22352.87	7.7		Si
SLV 8	-0.2	-8367.89	-14484	-0.0000263	0.0005615	0.0035	3.65		28762.87	28762.87	3.44		Si
SLV 8	0.2	-2253.57	-15047	-0.0000174	0.0005615	0.0035	3.65		29695.85	29695.85	13.18		Si
SLV 11	-0.2	-8847.65	-18789	-0.0000312	0.0005615	0.0035	3.65		35811.14	35811.14	4.05		Si
SLV 11	0.2	-1591.81	-19641	-0.0000207	0.0005615	0.0035	3.65		37159.39	37159.39	23.34		Si
SLV 16	-0.2	-4581.69	-24431	-0.00003	0.0005615	0.0035	3.65		44728.87	44728.87	9.76		Si
SLV 16	0.2	-1735.59	-25529	-0.0000266	0.0005615	0.0035	3.65		46392.17	46392.17	26.73		Si
SLV 15	-0.2	-4994.24	-24415	-0.0000306	0.0005615	0.0035	3.65		44704.37	44704.37	8.95		Si
SLV 15	0.2	-1444.38	-25521	-0.0000261	0.0005615	0.0035	3.65		46380.27	46380.27	32.11		Si
SLV 7	-0.2	-8786.72	-14468	-0.0000269	0.0005615	0.0035	3.65		28735.63	28735.63	3.27		Si
SLV 7	0.2	-1957.94	-15039	-0.0000169	0.0005615	0.0035	3.65		29682.65	29682.65	15.16		Si
SLV 2	-0.2	-1017.43	-10527	-0.0000113	0.0005615	0.0035	3.65		22192.8	22192.8	21.81		Si
SLV 2	0.2	-3193.87	-10629	-0.0000147	0.0005615	0.0035	3.65		22366.11	22366.11	7		Si
SLV 12	-0.2	-8428.82	-18806	-0.0000305	0.0005615	0.0035	3.65		35837.15	35837.15	4.25		Si
SLV 12	0.2	-1887.45	-19649	-0.0000212	0.0005615	0.0035	3.65		37172.01	37172.01	19.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 76	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 84	-0.2	-4658.56	-27497	-24442	-3602	3.65	3.65	-14881	8929	14665	28547	49184	9308	43212	No	12	Si
SLU 84	0.2	-3584.37	-28226	-25089	-3602	3.65	3.65	-15275	8981	14752	28547	49184	9308	43298	No	12.02	Si
SLU 79	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 79	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 77	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 77	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 82	-0.2	-4658.56	-27497	-24442	-3602	3.65	3.65	-14881	8929	14665	28547	49184	9308	43212	No	12	Si
SLU 82	0.2	-3584.37	-28226	-25089	-3602	3.65	3.65	-15275	8981	14752	28547	49184	9308	43298	No	12.02	Si
SLU 80	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 80	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 81	-0.2	-4658.56	-27497	-24442	-3602	3.65	3.65	-14881	8929	14665	28547	49184	9308	43212	No	12	Si
SLU 81	0.2	-3584.37	-28226	-25089	-3602	3.65	3.65	-15275	8981	14752	28547	49184	9308	43298	No	12.02	Si
SLU 75	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 75	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 78	-0.2	-4402.04	-25866	-22992	-3457	3.65	3.65	-13998	8811	14472	28547	49184	9308	43018	No	12.44	Si
SLU 78	0.2	-3388.77	-26613	-23656	-3457	3.65	3.65	-14402	8865	14560	28547	49184	9308	43107	No	12.47	Si
SLU 83	-0.2	-4658.56	-27497	-24442	-3602	3.65	3.65	-14881	8929	14665	28547	49184	9308	43212	No	12	Si
SLU 83	0.2	-3584.37	-28226	-25089	-3602	3.65	3.65	-15275	8981	14752	28547	49184	9308	43298	No	12.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-0.2	-4994.24	-24415	-21702	-8204	3.65	3.65	-13213	13059	21450	28547	73776	9308	49996		6.09	Si
SLV 15	0.2	-1444.38	-25521	-22685	-8156	3.65	3.65	-13811	13179	21646	28547	73776	9308	50193		6.15	Si
SLV 5	-0.2	2417.15	-16136	-14343	11721	3.65	3.65	-8733	12163	19978	28547	73776	9308	48525		4.14	Si
SLV 5	0.2	-2750.8	-16502	-14668	11681	3.65	3.65	-8930	12203	20043	28547	73776	9308	48590		4.16	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-0.2	-8847.65	-18789	-16702	-18388	3.65	3.65	-10169	12450	20450	28547	73776	9308	48996		2.66	Si
SLV 11	0.2	-1591.81	-19641	-17458	-18348	3.65	3.65	-10629	12542	20601	28547	73776	9308	49148		2.68	Si
SLV 3	-0.2	-4791.14	-10010	-8898	-7397	3.65	3.65	-5417	11500	18889	28547	73776	9308	47436		6.41	Si
SLV 3	0.2	-2664.8	-10183	-9051	-7428	3.65	3.65	-5511	11519	18920	28547	73776	9308	47466		6.39	Si
SLV 10	-0.2	2775.05	-20474	-18199	13269	3.65	3.65	-11080	12633	20749	28547	73776	9308	49296		3.72	Si
SLV 10	0.2	-2680.31	-21111	-18765	13252	3.65	3.65	-11425	12702	20862	28547	73776	9308	49409		3.73	Si
SLV 12	-0.2	-8428.82	-18806	-16716	-16599	3.65	3.65	-10177	12452	20453	28547	73776	9308	48999		2.95	Si
SLV 12	0.2	-1887.45	-19649	-17465	-16559	3.65	3.65	-10633	12543	20602	28547	73776	9308	49149		2.97	Si
SLV 6	-0.2	2835.98	-16153	-14358	13510	3.65	3.65	-8741	12165	19981	28547	73776	9308	48528		3.59	Si
SLV 6	0.2	-3046.43	-16510	-14675	13471	3.65	3.65	-8935	12204	20044	28547	73776	9308	48591		3.61	Si
SLV 7	-0.2	-8786.72	-14468	-12860	-18146	3.65	3.65	-7830	11983	19681	28547	73776	9308	48228		2.66	Si
SLV 7	0.2	-1957.94	-15039	-13368	-18130	3.65	3.65	-8139	12044	19783	28547	73776	9308	48330		2.67	Si
SLV 9	-0.2	2356.22	-20458	-18185	11479	3.65	3.65	-11071	12631	20746	28547	73776	9308	49293		4.29	Si
SLV 9	0.2	-2384.67	-21103	-18758	11463	3.65	3.65	-11421	12701	20861	28547	73776	9308	49408		4.31	Si
SLV 8	-0.2	-8367.89	-14484	-12875	-16357	3.65	3.65	-7839	11984	19684	28547	73776	9308	48231		2.95	Si
SLV 8	0.2	-2253.57	-15047	-13375	-16341	3.65	3.65	-8143	12045	19784	28547	73776	9308	48331		2.96	Si

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

quota -0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.24	6514	-10699	221.24	2304.62	10.42	Si
SLV 4	179667	0.24	6519	-10707	221.24	2306.34	10.42	Si
SLV 1	179667	0.24	6788	-11150	221.24	2397.22	10.84	Si
SLV 2	179667	0.24	6793	-11158	221.24	2398.92	10.84	Si
SLV 7	179667	0.24	9096	-14941	221.24	3161.46	14.29	Si
SLV 8	179667	0.24	9102	-14949	221.24	3163.14	14.3	Si
SLV 5	179667	0.24	10011	-16444	221.24	3457.26	15.63	Si
SLV 6	179667	0.24	10016	-16452	221.24	3458.91	15.63	Si
SLV 11	179667	0.24	11584	-19028	221.24	3956.44	17.88	Si
SLV 12	179667	0.24	11590	-19036	221.24	3958.05	17.89	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-14259	-22467	-1494	1.145	2083.9	0.922	18.06256	3.4694	Si
SLV 14	-14256	-22484	-1495	1.146	2083.6	0.922	18.0654	3.4694	Si
SLV 15	-13971	-22305	-1477	1.163	2055	0.921	18.36318	3.4694	Si
SLV 16	-13968	-22322	-1477	1.164	2054.7	0.921	18.36613	3.4694	Si
SLV 9	-13999	-19134	-1215	1.176	2057.9	0.921	18.56496	3.3502	Si
SLV 10	-13996	-19151	-1215	1.176	2057.5	0.921	18.56799	3.3502	Si
SLV 5	-13489	-16115	-958	1.223	2006.6	0.919	19.33332	3.3502	Si
SLV 6	-13486	-16132	-958	1.223	2006.3	0.919	19.3366	3.3502	Si
SLV 11	-13040	-18593	-1156	1.241	1961.7	0.918	19.65336	3.3502	Si
SLV 12	-13037	-18610	-1157	1.242	1961.3	0.918	19.65678	3.3502	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	10.212	SLU 81	Si
V_SLU	11.996	SLU 81	Si
PF_SLV	3.27	SLV 7	Si
V_SLV	2.658	SLV 7	Si
PFFP_SLV	10.417	SLV 3	Si
R_SLV	5.206	SLV 13	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
12.744	5.915	12.744	3.899	L1	L2	2.016	0.45	2.68	2.68	2.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									at	α	elim,conv	$\epsilon_f d$	γF_d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 81	-0.2	-714.74	-18529	-0.000036	0.0003743	0.0035	2.0156	14927.16	16897.55	16897.55	23.64	No	Si
SLU 81	0.2	-2640.46	-16695	-0.0000429	0.0003743	0.0035	2.0156	13783.52	15579.35	15579.35	5.9	No	Si
SLU 83	-0.2	-714.74	-18529	-0.000036	0.0003743	0.0035	2.0156	14927.16	16897.55	16897.55	23.64	No	Si
SLU 83	0.2	-2640.46	-16695	-0.0000429	0.0003743	0.0035	2.0156	13783.52	15579.35	15579.35	5.9	No	Si
SLU 73	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 73	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si
SLU 74	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 74	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si
SLU 82	-0.2	-714.74	-18529	-0.000036	0.0003743	0.0035	2.0156	14927.16	16897.55	16897.55	23.64	No	Si
SLU 82	0.2	-2640.46	-16695	-0.0000429	0.0003743	0.0035	2.0156	13783.52	15579.35	15579.35	5.9	No	Si
SLU 78	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 78	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si
SLU 84	-0.2	-714.74	-18529	-0.000036	0.0003743	0.0035	2.0156	14927.16	16897.55	16897.55	23.64	No	Si
SLU 84	0.2	-2640.46	-16695	-0.0000429	0.0003743	0.0035	2.0156	13783.52	15579.35	15579.35	5.9	No	Si
SLU 75	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 75	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si
SLU 76	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 76	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si
SLU 79	-0.2	-631.64	-17425	-0.0000335	0.0003743	0.0035	2.0156	14247.67	16116.65	16116.65	25.52	No	Si
SLU 79	0.2	-2472.41	-15650	-0.0000401	0.0003743	0.0035	2.0156	13099.23	14793.42	14793.42	5.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	-0.2	693.42	-11178	-0.0000224	0.0005615	0.0035	2.0156		10749.29	10749.29	15.5		Si
SLV 6	0.2	-2195.93	-9314	-0.0000268	0.0005615	0.0035	2.0156		9913.9	9913.9	4.51		Si
SLV 16	-0.2	-360.36	-13089	-0.000024	0.0005615	0.0035	2.0156		13241.98	13241.98	36.75		Si
SLV 16	0.2	-2638.79	-10755	-0.0000315	0.0005615	0.0035	2.0156		11195.11	11195.11	4.24		Si
SLV 5	-0.2	587.95	-10942	-0.0000214	0.0005615	0.0035	2.0156		10540.21	10540.21	17.93		Si
SLV 5	0.2	-2059.37	-9213	-0.0000259	0.0005615	0.0035	2.0156		9823.54	9823.54	4.77		Si
SLV 9	-0.2	756.52	-11587	-0.0000234	0.0005615	0.0035	2.0156		11110.59	11110.59	14.69		Si
SLV 9	0.2	-2755.51	-9098	-0.0000292	0.0005615	0.0035	2.0156		9720.24	9720.24	3.53		Si
SLV 13	-0.2	190.31	-12619	-0.0000223	0.0005615	0.0035	2.0156		12007.56	12007.56	63.09		Si
SLV 13	0.2	-2995.54	-9876	-0.0000318	0.0005615	0.0035	2.0156		10415.83	10415.83	3.48		Si
SLV 7	-0.2	-1593.92	-11733	-0.0000279	0.0005615	0.0035	2.0156		12056.86	12056.86	7.56		Si
SLV 7	0.2	-421.78	-11816	-0.0000221	0.0005615	0.0035	2.0156		12129.71	12129.71	28.76		Si
SLV 8	-0.2	-1488.45	-11969	-0.0000278	0.0005615	0.0035	2.0156		12265.77	12265.77	8.24		Si
SLV 8	0.2	-558.35	-11916	-0.000023	0.0005615	0.0035	2.0156		12218.88	12218.88	21.88		Si
SLV 15	-0.2	-464.25	-12856	-0.0000241	0.0005615	0.0035	2.0156		13046.18	13046.18	28.1		Si
SLV 15	0.2	-2504.27	-10656	-0.0000307	0.0005615	0.0035	2.0156		11107.9	11107.9	4.44		Si
SLV 10	-0.2	861.99	-11823	-0.0000243	0.0005615	0.0035	2.0156		11316.75	11316.75	13.13		Si
SLV 10	0.2	-2892.07	-9199	-0.0000301	0.0005615	0.0035	2.0156		9810.7	9810.7	3.39		Si
SLV 14	-0.2	294.2	-12851	-0.0000232	0.0005615	0.0035	2.0156		12209.3	12209.3	41.5		Si
SLV 14	0.2	-3130.06	-9975	-0.0000327	0.0005615	0.0035	2.0156		10504.34	10504.34	3.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 75	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si
SLU 79	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 79	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si
SLU 84	-0.2	-714.74	-18529	-16470	7367	2.0156	2.0156	-18158	9366	8495	28547	27161	5140	32301	No	4.38	Si
SLU 84	0.2	-2640.46	-16695	-14840	7302	2.0156	2.0156	-16360	9126	8278	28547	27161	5140	32301	No	4.42	Si
SLU 83	-0.2	-714.74	-18529	-16470	7367	2.0156	2.0156	-18158	9366	8495	28547	27161	5140	32301	No	4.38	Si
SLU 83	0.2	-2640.46	-16695	-14840	7302	2.0156	2.0156	-16360	9126	8278	28547	27161	5140	32301	No	4.42	Si
SLU 82	-0.2	-714.74	-18529	-16470	7367	2.0156	2.0156	-18158	9366	8495	28547	27161	5140	32301	No	4.38	Si
SLU 82	0.2	-2640.46	-16695	-14840	7302	2.0156	2.0156	-16360	9126	8278	28547	27161	5140	32301	No	4.42	Si
SLU 77	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 77	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si
SLU 78	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 78	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si
SLU 76	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 76	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si
SLU 81	-0.2	-714.74	-18529	-16470	7367	2.0156	2.0156	-18158	9366	8495	28547	27161	5140	32301	No	4.38	Si
SLU 81	0.2	-2640.46	-16695	-14840	7302	2.0156	2.0156	-16360	9126	8278	28547	27161	5140	32301	No	4.42	Si
SLU 80	-0.2	-631.64	-17425	-15489	7001	2.0156	2.0156	-17076	9221	8364	28547	27161	5140	32301	No	4.61	Si
SLU 80	0.2	-2472.41	-15650	-13911	6941	2.0156	2.0156	-15336	8989	8154	28547	27161	5140	32301	No	4.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-0.2	-464.25	-12856	-11428	5062	2.0156	2.0156	-12599	12936	11734	28547	40741	5140	40280		7.96	Si
SLV 15	0.2	-2504.27	-10656	-9472	5062	2.0156	2.0156	-10443	12505	11343	28547	40741	5140	39889		7.88	Si
SLV 6	-0.2	693.42	-11178	-9936	11283	2.0156	2.0156	-10954	12608	11436	28547	40741	5140	39982		3.54	Si
SLV 6	0.2	-2195.93	-9314	-8279	11216	2.0156	2.0156	-9128	12242	11104	28547	40741	5140	39651		3.54	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-0.2	294.2	-12851	-11423	10073	2.0156	2.0156	-12594	12935	11733	28547	40741	5140	40280		4	Si
SLV 14	0.2	-3130.06	-9975	-8867	10062	2.0156	2.0156	-9775	12372	11222	28547	40741	5140	39768		3.95	Si
SLV 2	-0.2	-267.68	-10700	-9511	4602	2.0156	2.0156	-10486	12514	11351	28547	40741	5140	39897		8.67	Si
SLV 2	0.2	-809.59	-10358	-9208	4523	2.0156	2.0156	-10151	12447	11290	28547	40741	5140	39836		8.81	Si
SLV 1	-0.2	-371.57	-10468	-9305	3670	2.0156	2.0156	-10258	12468	11309	28547	40741	5140	39856		10.86	Si
SLV 1	0.2	-675.07	-10259	-9119	3591	2.0156	2.0156	-10054	12427	11272	28547	40741	5140	39819		11.09	Si
SLV 10	-0.2	861.99	-11823	-10510	12925	2.0156	2.0156	-11587	12734	11550	28547	40741	5140	40097		3.1	Si
SLV 10	0.2	-2892.07	-9199	-8177	12878	2.0156	2.0156	-9015	12220	11084	28547	40741	5140	39630		3.08	Si
SLV 16	-0.2	-360.36	-13089	-11634	5994	2.0156	2.0156	-12827	12982	11775	28547	40741	5140	40322		6.73	Si
SLV 16	0.2	-2638.79	-10755	-9560	5993	2.0156	2.0156	-10540	12525	11360	28547	40741	5140	39907		6.66	Si
SLV 9	-0.2	756.52	-11587	-10300	11979	2.0156	2.0156	-11355	12688	11508	28547	40741	5140	40055		3.34	Si
SLV 9	0.2	-2755.51	-9098	-8087	11932	2.0156	2.0156	-8916	12200	11066	28547	40741	5140	39612		3.32	Si
SLV 5	-0.2	587.95	-10942	-9726	10337	2.0156	2.0156	-10723	12561	11394	28547	40741	5140	39940		3.86	Si
SLV 5	0.2	-2059.37	-9213	-8190	10270	2.0156	2.0156	-9029	12222	11086	28547	40741	5140	39633		3.86	Si
SLV 13	-0.2	190.31	-12619	-11217	9141	2.0156	2.0156	-12366	12890	11692	28547	40741	5140	40238		4.4	Si
SLV 13	0.2	-2995.54	-9876	-8778	9131	2.0156	2.0156	-9678	12352	11204	28547	40741	5140	39751		4.35	Si

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

quota -0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	10095	-9156	122.17	1923.98	15.75	Si
SLV 9	179667	0.24	10143	-9200	122.17	1932.58	15.82	Si
SLV 6	179667	0.24	10209	-9260	122.17	1944.29	15.91	Si
SLV 10	179667	0.24	10258	-9304	122.17	1952.87	15.98	Si
SLV 1	179667	0.24	11039	-10013	122.17	2090.06	17.11	Si
SLV 2	179667	0.24	11152	-10115	122.17	2109.78	17.27	Si
SLV 13	179667	0.24	11201	-10160	122.17	2118.27	17.34	Si
SLV 14	179667	0.24	11314	-10262	122.17	2137.94	17.5	Si
SLV 3	179667	0.24	11896	-10791	122.17	2238.76	18.32	Si
SLV 4	179667	0.24	12010	-10893	122.17	2258.22	18.48	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 é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.25 Wa = 0.08 Ta = 0.0267

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-10521	-13306	-711	0.933	1417.5	0.933	14.53116	3.3502	Si
SLV 7	-10392	-13279	-701	0.943	1404.5	0.933	14.6864	3.3502	Si
SLV 12	-10214	-15917	-813	0.946	1386.5	0.932	14.74881	3.3502	Si
SLV 11	-10085	-15890	-804	0.956	1373.5	0.932	14.91044	3.3502	Si
SLV 4	-9445	-8630	-450	1.034	1308.8	0.929	16.18024	3.4694	Si
SLV 3	-9317	-8603	-441	1.046	1296	0.929	16.36694	3.4694	Si
SLV 16	-8420	-17332	-793	1.094	1205.7	0.924	17.19765	3.4694	Si
SLV 15	-8293	-17305	-784	1.107	1192.9	0.924	17.41591	3.4694	Si
SLV 2	-8215	-7232	-330	1.158	1185	0.923	18.23046	3.4694	Si
SLV 1	-8088	-7206	-321	1.172	1172.3	0.923	18.46662	3.4694	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	5.9	SLU 81	Si
V_SLU	4.385	SLU 81	Si
PF_SLV	3.356	SLV 14	Si
V_SLV	3.077	SLV 10	Si
PFFP_SLV	15.748	SLV 5	Si
R_SLV	4.337	SLV 8	Si

Maschio 14

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
3.039	-2.737	3.039	5.99	L2	L3	8.727	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ϵ_c CNR DT-200							CRM / Fibrenet?			
									α_t	α	elim,conv	$\epsilon_{f,d}$	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 64	1.09	-9959	-25657	-0.0000173	0.0004492	0.0035	8.7269	102972.85	151191.32	151191.32	15.18	No	Si
SLU 64	4.9	1047.68	-727	-0.0000008	0.0004492	0.0035	8.7269	3163.81	10789.61	10789.61	10.3	No	Si
SLU 45	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 45	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 49	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 49	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 46	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 46	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 43	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 43	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 50	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 50	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 51	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 51	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 47	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 47	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 48	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 48	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si
SLU 44	1.09	-9615.11	-22713	-0.0000156	0.0004492	0.0035	8.7269	92069.24	139495.85	139495.85	14.51	No	Si
SLU 44	4.9	916.54	-273	-0.0000008	0.0004492	0.0035	8.7269	1190.37	8848.21	8848.21	9.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	1.09	26270.21	-19208	-0.0000197	0.0006738	0.0035	8.7269		88365.53	88365.53	3.36		Si
SLV 7	4.9	1425.62	-413	-0.0000014	0.0006738	0.0035	8.7269		9447.27	9447.27	6.63		Si
SLV 12	1.09	27805.9	-20716	-0.0000211	0.0006738	0.0035	8.7269		94540.18	94540.18	3.4		Si
SLV 12	4.9	338.92	-211	-0.0000002	0.0006738	0.0035	8.7269		8582.56	8582.56	25.32		Si
SLV 9	1.09	-43137.56	-22301	-0.0000284	0.0006738	0.0035	8.7269		138961.61	138961.61	3.22		Si
SLV 9	4.9	536.42	-1013	-0.0000007	0.0006738	0.0035	8.7269		12016.63	12016.63	22.4		Si
SLV 10	1.09	-40828.44	-21540	-0.000027	0.0006738	0.0035	8.7269		135893.4	135893.4	3.33		Si
SLV 10	4.9	257.81	-978	-0.0000006	0.0006738	0.0035	8.7269		11868.99	11868.99	46.04		Si
SLV 5	1.09	-42364.13	-20032	-0.0000275	0.0006738	0.0035	8.7269		129806.6	129806.6	3.06		Si
SLV 5	4.9	1344.52	-1180	-0.0000011	0.0006738	0.0035	8.7269		12733.7	12733.7	9.47		Si
SLV 1	1.09	-17422.49	-17091	-0.0000153	0.0006738	0.0035	8.7269		117831.63	117831.63	6.76		Si
SLV 1	4.9	2313.59	-1107	-0.0000015	0.0006738	0.0035	8.7269		12418.94	12418.94	5.37		Si
SLV 8	1.09	28579.33	-18447	-0.0000202	0.0006738	0.0035	8.7269		85228.45	85228.45	2.98		Si
SLV 8	4.9	1147.01	-379	-0.0000009	0.0006738	0.0035	8.7269		9299.63	9299.63	8.11		Si
SLV 11	1.09	25496.78	-21476	-0.0000206	0.0006738	0.0035	8.7269		97630.52	97630.52	3.83		Si
SLV 11	4.9	617.53	-246	-0.0000004	0.0006738	0.0035	8.7269		8730.2	8730.2	14.14		Si
SLV 6	1.09	-40055.01	-19272	-0.000026	0.0006738	0.0035	8.7269		126734.72	126734.72	3.16		Si
SLV 6	4.9	1065.9	-1146	-0.000001	0.0006738	0.0035	8.7269		12586.06	12586.06	11.81		Si
SLV 3	1.09	3167.81	-16843	-0.00001	0.0006738	0.0035	8.7269		78611.82	78611.82	24.82		Si
SLV 3	4.9	2337.93	-877	-0.0000016	0.0006738	0.0035	8.7269		11433.01	11433.01	4.89		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 77	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 82	1.09	-8428.63	-32082	-23333	-9796	8.7269	8.7269	-8912	9522	24928	122342	94087	44507	138595	No	14.15	Si
SLU 82	4.9	1370.85	-1909	-1388	-9852	8.7269	8.7269	-530	8404	22002	122342	94087	44507	138595	No	14.07	Si
SLU 79	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 79	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 83	1.09	-8428.63	-32082	-23333	-9796	8.7269	8.7269	-8912	9522	24928	122342	94087	44507	138595	No	14.15	Si
SLU 83	4.9	1370.85	-1909	-1388	-9852	8.7269	8.7269	-530	8404	22002	122342	94087	44507	138595	No	14.07	Si
SLU 75	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 75	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 81	1.09	-8428.63	-32082	-23333	-9796	8.7269	8.7269	-8912	9522	24928	122342	94087	44507	138595	No	14.15	Si
SLU 81	4.9	1370.85	-1909	-1388	-9852	8.7269	8.7269	-530	8404	22002	122342	94087	44507	138595	No	14.07	Si
SLU 76	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 76	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 80	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 80	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 78	1.09	-8887.74	-30155	-21931	-9334	8.7269	8.7269	-8377	9450	24741	122342	94087	44507	138595	No	14.85	Si
SLU 78	4.9	1273.9	-1554	-1130	-9379	8.7269	8.7269	-432	8391	21968	122342	94087	44507	138595	No	14.78	Si
SLU 84	1.09	-8428.63	-32082	-23333	-9796	8.7269	8.7269	-8912	9522	24928	122342	94087	44507	138595	No	14.15	Si
SLU 84	4.9	1370.85	-1909	-1388	-9852	8.7269	8.7269	-530	8404	22002	122342	94087	44507	138595	No	14.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	1.09	-40828.44	-21540	-15666	-21620	8.7269	7.4041	-7074	13915	30908	122342	141131	44507	153250		7.09	Si
SLV 10	4.9	257.81	-978	-711	-16425	8.7269	8.7269	-272	12554	32868	122342	141131	44507	155211		9.45	Si
SLV 3	1.09	3167.81	-16843	-12250	-7989	8.7269	8.7269	-4679	13436	35176	122342	141131	44507	157518		19.72	Si
SLV 3	4.9	2337.93	-877	-637	-9613	8.7269	5.0886	-243	12549	19157	122342	141131	44507	141499		14.72	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	1.09	25496.78	-21476	-15619	12174	8.7269	8.7269	-5966	13693	35850	122342	141131	44507	158192		12.99	Si
SLV 11	4.9	617.53	-246	-179	6975	8.7269	5.5502	-68	12514	20836	122342	141131	44507	143178		20.53	Si
SLV 8	1.09	28579.33	-18447	-13416	10901	8.7269	8.4426	-5124	13525	34256	122342	141131	44507	156598		14.37	Si
SLV 8	4.9	1147.01	-379	-275	5656	8.7269	4.0016	-105	12521	15031	122342	141131	44507	137374		24.29	Si
SLV 12	1.09	27805.9	-20716	-15066	14396	8.7269	8.7269	-5755	13651	35739	122342	141131	44507	158082		10.98	Si
SLV 12	4.9	338.92	-211	-154	9183	8.7269	8.277	-59	12512	31068	122342	141131	44507	153410		16.71	Si
SLV 9	1.09	-43137.56	-22301	-16219	-23843	8.7269	7.2873	-7442	13988	30582	122342	141131	44507	152924		6.41	Si
SLV 9	4.9	536.42	-1013	-737	-18633	8.7269	8.7269	-281	12556	32873	122342	141131	44507	155216		8.33	Si
SLV 5	1.09	-42364.13	-20032	-14569	-27338	8.7269	6.7459	-7217	13944	28218	122342	141131	44507	150561		5.51	Si
SLV 5	4.9	1344.52	-1180	-858	-22160	8.7269	8.7269	-328	12566	32898	122342	141131	44507	155240		7.01	Si
SLV 1	1.09	-17422.49	-17091	-12430	-18793	8.7269	8.7269	-4748	13450	35212	122342	141131	44507	157554		8.38	Si
SLV 1	4.9	2313.59	-1107	-805	-17295	8.7269	6.8185	-307	12561	25695	122342	141131	44507	148037		8.56	Si
SLV 6	1.09	-40055.01	-19272	-14016	-25115	8.7269	6.855	-6832	13867	28517	122342	141131	44507	150859		6.01	Si
SLV 6	4.9	1065.9	-1146	-833	-19952	8.7269	8.7269	-318	12564	32893	122342	141131	44507	155235		7.78	Si
SLV 2	1.09	-15147.93	-16342	-11885	-16604	8.7269	8.7269	-4540	13408	35103	122342	141131	44507	157445		9.48	Si
SLV 2	4.9	2039.15	-1073	-780	-15120	8.7269	7.3875	-298	12560	27835	122342	141131	44507	150178		9.93	Si

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

quota 2.995 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-10576	0.47	1416.42	1551.46	2912.25	2231.86	1.58	Si
SLV 12	-10700	0.47	1416.42	1569.25	2933.04	2251.15	1.59	Si
SLV 7	-10890	0.47	1416.42	1596.45	2964.86	2280.66	1.61	Si
SLV 11	-11014	0.47	1416.42	1614.21	2985.64	2299.93	1.62	Si
SLV 4	-11297	0.47	1416.42	1654.62	3032.77	2343.69	1.65	Si
SLV 3	-11606	0.47	1416.42	1698.79	3084.25	2391.52	1.69	Si
SLV 16	-11710	0.47	1416.42	1713.68	3101.61	2407.64	1.7	Si
SLV 15	-12020	0.47	1416.42	1757.78	3153.08	2455.43	1.73	Si
SLV 2	-12036	0.47	1416.42	1760.17	3155.88	2458.03	1.74	Si
SLV 1	-12346	0.47	1416.42	1804.21	3207.35	2505.78	1.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-1107	-17091	-670	4.869	1852.6	0.953	74.21998	15.2945	Si
SLV 2	-1073	-16342	-671	4.885	1851.3	0.954	74.38408	15.2945	Si
SLV 3	-877	-16843	-638	4.985	1844.9	0.961	75.38533	15.2945	Si
SLV 4	-843	-16094	-639	5.002	1843.8	0.962	75.54846	15.2945	Si
SLV 13	-549	-24654	646	5.154	1836.3	0.974	76.94326	15.2945	Si
SLV 14	-515	-23905	646	5.173	1835.7	0.975	77.10474	15.2945	Si
SLV 15	-319	-24406	679	5.278	1832.4	0.984	77.96945	15.2945	Si
SLV 16	-285	-23657	678	5.297	1832	0.985	78.12665	15.2945	Si
SLV 5	-1180	-20032	-247	4.876	1855.3	0.951	74.49952	13.84785	Si
SLV 6	-1146	-19272	-247	4.892	1854	0.952	74.66773	13.84785	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	9.654	SLU 43	Si
V_SLU	14.067	SLU 81	Si
PF_SLV	2.982	SLV 8	Si
V_SLV	5.507	SLV 5	Si
PFFP_SLV	1.576	SLV 8	Si
R_SLV	4.853	SLV 1	Si

Maschio 18

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
11.519	1.239	4.239	1.239	L2	L3	7.28	0.16	3.81	3.81	3.81			

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 FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ϵ_c CNR DT-200							CRM / Fibrenet?			
									α_t	α	elim,conv	ϵ_c ,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 FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 43	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 70	1.09	-12416.77	-37301	-0.0000529	0.0004492	0.0035	7.28	100191.39	148765.35	148765.35	11.98	No	Si
SLU 70	3.19	-5638.17	-30945	-0.0000391	0.0004492	0.0035	7.28	88149.72	130818.61	130818.61	23.2	No	Si
SLU 47	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 47	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 51	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 51	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 46	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 46	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 48	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 48	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 45	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 45	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 49	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 49	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 50	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 50	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si
SLU 44	1.09	-11225.16	-29602	-0.0000428	0.0004492	0.0035	7.28	85339.28	126820.6	126820.6	11.3	No	Si
SLU 44	3.19	-4691.25	-23529	-0.0000299	0.0004492	0.0035	7.28	71487.6	108754.19	108754.19	23.18	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	1.09	-32196.54	-31589	-0.0000638	0.0006738	0.0035	7.28		134916.2	134916.2	4.19		Si
SLV 16	3.19	-10906.15	-26687	-0.0000387	0.0006738	0.0035	7.28		119889.64	119889.64	10.99		Si
SLV 14	1.09	-37467.27	-31536	-0.0000687	0.0006738	0.0035	7.28		134753.54	134753.54	3.6		Si
SLV 14	3.19	-10524.29	-26685	-0.0000384	0.0006738	0.0035	7.28		119884.27	119884.27	11.39		Si
SLV 2	1.09	12181.94	-30708	-0.0000444	0.0006738	0.0035	7.28		107551.13	107551.13	8.83		Si
SLV 2	3.19	1587.87	-25956	-0.0000295	0.0006738	0.0035	7.28		92697.16	92697.16	58.38		Si
SLV 10	1.09	-26242.72	-31184	-0.0000579	0.0006738	0.0035	7.28		133673.59	133673.59	5.09		Si
SLV 10	3.19	-5840.46	-26428	-0.0000338	0.0006738	0.0035	7.28		119094.54	119094.54	20.39		Si
SLV 3	1.09	17912.24	-30823	-0.0000498	0.0006738	0.0035	7.28		107903.31	107903.31	6.02		Si
SLV 3	3.19	1327.34	-26020	-0.0000293	0.0006738	0.0035	7.28		92898.62	92898.62	69.99		Si
SLV 15	1.09	-31736.97	-31651	-0.0000635	0.0006738	0.0035	7.28		135105.6	135105.6	4.26		Si
SLV 15	3.19	-10784.82	-26749	-0.0000387	0.0006738	0.0035	7.28		120079.03	120079.03	11.13		Si
SLV 9	1.09	-25776.16	-31246	-0.0000575	0.0006738	0.0035	7.28		133865.86	133865.86	5.19		Si
SLV 9	3.19	-5717.29	-26490	-0.0000338	0.0006738	0.0035	7.28		119286.81	119286.81	20.86		Si
SLV 1	1.09	12641.51	-30769	-0.0000449	0.0006738	0.0035	7.28		107740.59	107740.59	8.52		Si
SLV 1	3.19	1709.19	-26018	-0.0000296	0.0006738	0.0035	7.28		92893.07	92893.07	54.35		Si
SLV 13	1.09	-37007.7	-31598	-0.0000683	0.0006738	0.0035	7.28		134942.93	134942.93	3.65		Si
SLV 13	3.19	-10402.97	-26747	-0.0000383	0.0006738	0.0035	7.28		120073.66	120073.66	11.54		Si
SLV 4	1.09	17452.66	-30761	-0.0000493	0.0006738	0.0035	7.28		107713.85	107713.85	6.17		Si
SLV 4	3.19	1206.01	-25958	-0.0000291	0.0006738	0.0035	7.28		92702.72	92702.72	76.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 73	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 82	1.09	-14857	-58193	-34168	-3272	7.28	7.28	-29334	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 82	3.19	-7985.87	-51837	-30436	-3272	7.28	7.28	-26130	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 81	1.09	-14857	-58193	-34168	-3272	7.28	7.28	-29334	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 81	3.19	-7985.87	-51837	-30436	-3272	7.28	7.28	-26130	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 77	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 77	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 83	1.09	-14857	-58193	-34168	-3272	7.28	7.28	-29334	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 83	3.19	-7985.87	-51837	-30436	-3272	7.28	7.28	-26130	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 80	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 80	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 74	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 74	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 78	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 78	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 75	1.09	-14124.93	-51925	-30488	-3259	7.28	7.28	-26175	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 75	3.19	-7281.56	-45569	-26756	-3259	7.28	7.28	-22971	10833	12619	122342	41860	37128	78988	No	24.24	Si
SLU 84	1.09	-14857	-58193	-34168	-3272	7.28	7.28	-29334	10833	12619	122342	41860	37128	78988	No	24.14	Si
SLU 84	3.19	-7985.87	-51837	-30436	-3272	7.28	7.28	-26130	10833	12619	122342	41860	37128	78988	No	24.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.09	17912.24	-30823	-18098	7949	7.28	7.28	-15537	15607	18180	122342	62790	37128	99918		12.57	Si
SLV 3	3.19	1327.34	-26020	-15278	6780	7.28	7.28	-13116	15123	17616	122342	62790	37128	99918		14.74	Si
SLV 9	1.09	-25776.16	-31246	-18347	-9713	7.28	7.28	-15751	15650	18229	122342	62790	37128	99918		10.29	Si
SLV 9	3.19	-5717.29	-26490	-15554	-9182	7.28	7.28	-13353	15171	17671	122342	62790	37128	99918		10.88	Si
SLV 10	1.09	-26242.72	-31184	-18310	-9876	7.28	7.28	-15719	15644	18222	122342	62790	37128	99918		10.12	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	3.19	-5840.46	-26428	-15517	-9346	7.28	7.28	-13322	15164	17663	122342	62790	37128	99918		10.69	Si
SLV 16	1.09	-32196.54	-31589	-18548	-10094	7.28	7.28	-15924	15685	18270	122342	62790	37128	99918		9.9	Si
SLV 16	3.19	-10906.15	-26687	-15669	-9044	7.28	7.28	-13452	15190	17694	122342	62790	37128	99918		11.05	Si
SLV 15	1.09	-31736.97	-31651	-18584	-9933	7.28	7.28	-15955	15691	18277	122342	62790	37128	99918		10.06	Si
SLV 15	3.19	-10784.82	-26749	-15706	-8883	7.28	7.28	-13484	15197	17701	122342	62790	37128	99918		11.25	Si
SLV 14	1.09	-37467.27	-31536	-18517	-12881	7.28	7.28	-15897	15679	18263	122342	62790	37128	99918		7.76	Si
SLV 14	3.19	-10524.29	-26685	-15668	-11713	7.28	7.28	-13452	15190	17694	122342	62790	37128	99918		8.53	Si
SLV 2	1.09	12181.94	-30708	-18030	5000	7.28	7.28	-15479	15596	18166	122342	62790	37128	99918		19.98	Si
SLV 2	3.19	1587.87	-25956	-15240	3950	7.28	7.28	-13084	15117	17608	122342	62790	37128	99918		25.29	Si
SLV 13	1.09	-37007.7	-31598	-18553	-12720	7.28	7.28	-15928	15686	18271	122342	62790	37128	99918		7.86	Si
SLV 13	3.19	-10402.97	-26747	-15705	-11552	7.28	7.28	-13483	15197	17701	122342	62790	37128	99918		8.65	Si
SLV 4	1.09	17452.66	-30761	-18061	7788	7.28	7.28	-15506	15601	18172	122342	62790	37128	99918		12.83	Si
SLV 4	3.19	1206.01	-25958	-15241	6619	7.28	7.28	-13085	15117	17608	122342	62790	37128	99918		15.09	Si
SLV 1	1.09	12641.51	-30769	-18066	5161	7.28	7.28	-15510	15602	18173	122342	62790	37128	99918		19.36	Si
SLV 1	3.19	1709.19	-26018	-15277	4111	7.28	7.28	-13115	15123	17615	122342	62790	37128	99918		24.3	Si

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

quota 2.995 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-25956	0.47	661.93	1824.03	2984.24	2404.14	3.63	Si
SLV 4	-25958	0.47	661.93	1824.14	2984.4	2404.27	3.63	Si
SLV 1	-26018	0.47	661.93	1827.77	2989.89	2408.83	3.64	Si
SLV 3	-26020	0.47	661.93	1827.88	2990.05	2408.96	3.64	Si
SLV 6	-26209	0.47	661.93	1839.31	3007.32	2423.31	3.66	Si
SLV 8	-26215	0.47	661.93	1839.66	3007.85	2423.75	3.66	Si
SLV 5	-26272	0.47	661.93	1843.09	3013.05	2428.07	3.67	Si
SLV 7	-26277	0.47	661.93	1843.44	3013.58	2428.51	3.67	Si
SLV 10	-26428	0.47	661.93	1852.49	3027.29	2439.89	3.69	Si
SLV 12	-26433	0.47	661.93	1852.84	3027.83	2440.33	3.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.995 Wa = 0.03 Ta = 0.1515

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-17561	-31246	-715	1.889	2421.6	0.93	29.52265	19.30841	Si
SLV 11	-17556	-31423	718	1.889	2421.1	0.93	29.52765	19.30841	Si
SLV 10	-17555	-31184	-715	1.889	2421	0.93	29.53144	19.30841	Si
SLV 12	-17550	-31361	718	1.89	2420.5	0.93	29.53644	19.30841	Si
SLV 5	-17467	-30998	-718	1.897	2412.1	0.93	29.65556	19.30841	Si
SLV 6	-17461	-30935	-718	1.897	2411.5	0.93	29.66442	19.30841	Si
SLV 7	-17462	-31175	715	1.897	2411.6	0.93	29.66481	19.30841	Si
SLV 8	-17456	-31112	715	1.898	2411	0.93	29.67368	19.30841	Si
SLV 15	-17668	-31651	220	1.902	2432.4	0.93	29.72839	19.30841	Si
SLV 13	-17669	-31598	-210	1.903	2432.5	0.93	29.73321	19.30841	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	11.298	SLV 43	Si
V_SLV	24.141	SLV 81	Si
PF_SLV	3.597	SLV 14	Si
V_SLV	7.757	SLV 14	Si
PFFP_SLV	3.632	SLV 2	Si
R_SLV	1.529	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	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
3.039	5.99	5.239	5.99	L2	L3	2.2	0.3	3.81	3.81	3.81			

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 FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	2.09	138.83	-6960	-0.0000168	0.0003743	0.0035	2.2005	6864.25	7317.13	7317.13	52.71	No	Si
SLU 39	3.99	2017.9	-7242	-0.0000294	0.0003743	0.0035	2.2005	7108.92	7546.85	7546.85	3.74	No	Si
SLU 42	2.09	138.83	-6960	-0.0000168	0.0003743	0.0035	2.2005	6864.25	7317.13	7317.13	52.71	No	Si
SLU 42	3.99	2017.9	-7242	-0.0000294	0.0003743	0.0035	2.2005	7108.92	7546.85	7546.85	3.74	No	Si
SLU 40	2.09	138.83	-6960	-0.0000168	0.0003743	0.0035	2.2005	6864.25	7317.13	7317.13	52.71	No	Si
SLU 40	3.99	2017.9	-7242	-0.0000294	0.0003743	0.0035	2.2005	7108.92	7546.85	7546.85	3.74	No	Si
SLU 41	2.09	138.83	-6960	-0.0000168	0.0003743	0.0035	2.2005	6864.25	7317.13	7317.13	52.71	No	Si
SLU 41	3.99	2017.9	-7242	-0.0000294	0.0003743	0.0035	2.2005	7108.92	7546.85	7546.85	3.74	No	Si
SLU 21	2.09	143.25	-6080	-0.0000148	0.0003743	0.0035	2.2005	6084.13	6498.56	6498.56	45.36	No	Si
SLU 21	3.99	1670.35	-6023	-0.0000242	0.0003743	0.0035	2.2005	6032.38	6443.31	6443.31	3.86	No	Si
SLU 84	2.09	208.13	-7749	-0.0000191	0.0003743	0.0035	2.2005	7543.06	7948.02	7948.02	38.19	No	Si
SLU 84	3.99	2077.35	-7559	-0.0000305	0.0003743	0.0035	2.2005	7380.84	7796.76	7796.76	3.75	No	Si
SLU 82	2.09	208.13	-7749	-0.0000191	0.0003743	0.0035	2.2005	7543.06	7948.02	7948.02	38.19	No	Si
SLU 82	3.99	2077.35	-7559	-0.0000305	0.0003743	0.0035	2.2005	7380.84	7796.76	7796.76	3.75	No	Si
SLU 83	2.09	208.13	-7749	-0.0000191	0.0003743	0.0035	2.2005	7543.06	7948.02	7948.02	38.19	No	Si
SLU 83	3.99	2077.35	-7559	-0.0000305	0.0003743	0.0035	2.2005	7380.84	7796.76	7796.76	3.75	No	Si
SLU 81	2.09	208.13	-7749	-0.0000191	0.0003743	0.0035	2.2005	7543.06	7948.02	7948.02	38.19	No	Si
SLU 81	3.99	2077.35	-7559	-0.0000305	0.0003743	0.0035	2.2005	7380.84	7796.76	7796.76	3.75	No	Si
SLU 20	2.09	143.25	-6080	-0.0000148	0.0003743	0.0035	2.2005	6084.13	6498.56	6498.56	45.36	No	Si
SLU 20	3.99	1670.35	-6023	-0.0000242	0.0003743	0.0035	2.2005	6032.38	6443.31	6443.31	3.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	2.09	-3219.06	-4589	-0.0000386	0.0005615	0.0035	1.7604		6159.42	6159.42	1.91		Si
SLV 3	3.99	2911.45	-5327	-0.0000321	0.0005615	0.0035	2.2005		5875.6	5875.6	2.02		Si
SLV 14	2.09	3635.37	-4166	-0.0000626	0.0005615	0.0035	2.2005		4691.87	4691.87	1.29		Si
SLV 14	3.99	-1092.13	-1698	-0.0000122	0.0005615	0.0035	1.7604		3159.12	3159.12	2.89		Si
SLV 2	2.09	-1293.85	-3770	-0.0000164	0.0005615	0.0035	2.2005		5322.07	5322.07	4.11		Si
SLV 2	3.99	1785.15	-3368	-0.0000195	0.0005615	0.0035	2.2005		3866.9	3866.9	2.17		Si
SLV 10	2.09	3692.01	-2588	-0.0051717	0.0005615	0.0035	1.7604		3050.11	3050.11	0.83		No
SLV 10	3.99	-947.27	-245	-0.0002059	0.0005615	0.0035	1.7604		1608.31	1608.31	1.7		Si
SLV 1	2.09	-1694.36	-3352	-0.0000186	0.0005615	0.0035	2.2005		4890.47	4890.47	2.89		Si
SLV 1	3.99	2174.97	-3582	-0.0000241	0.0005615	0.0035	2.2005		4089.62	4089.62	1.88		Si
SLV 5	2.09	1806.65	-2045	-0.0000315	0.0005615	0.0035	2.2005		2475.67	2475.67	1.37		Si
SLV 5	3.99	311.65	-963	-0.0000004	0.0005615	0.0035	2.2005		1319.85	1319.85	4.24		Si
SLV 13	2.09	3234.86	-3749	-0.0000536	0.0005615	0.0035	2.2005		4262.47	4262.47	1.32		Si
SLV 13	3.99	-702.31	-1912	-0.0000086	0.0005615	0.0035	2.2005		3384.94	3384.94	4.82		Si
SLV 4	2.09	-2818.56	-5007	-0.0000311	0.0005615	0.0035	2.2005		6577.26	6577.26	2.33		Si
SLV 4	3.99	2521.63	-5113	-0.0000028	0.0005615	0.0035	2.2005		5659.37	5659.37	2.24		Si
SLV 9	2.09	3285.42	-2164	-0.0052367	0.0005615	0.0035	1.7604		2602.15	2602.15	0.79		No
SLV 9	3.99	-551.53	-462	-0.0000365	0.0005615	0.0035	1.7604		1842.39	1842.39	3.34		Si
SLV 6	2.09	2213.24	-2469	-0.0000407	0.0005615	0.0035	2.2005		2925.21	2925.21	1.32		Si
SLV 6	3.99	-84.09	-746	-0.0000022	0.0005615	0.0035	2.2005		2146.48	2146.48	25.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	2.09	138.83	-6960	-5861	-2591	2.2005	2.2005	-8878	8128	5366	42820	19767	5611	25379	No	9.8	Si
SLU 42	3.99	2017.9	-7242	-6098	-2563	2.2005	2.2005	-9238	8176	5397	42820	19767	5611	25379	No	9.9	Si
SLU 83	2.09	208.13	-7749	-6526	-2720	2.2005	2.2005	-9886	8263	5454	42820	19767	5611	25379	No	9.33	Si
SLU 83	3.99	2077.35	-7559	-6365	-2689	2.2005	2.2005	-9642	8230	5433	42820	19767	5611	25379	No	9.44	Si
SLU 39	2.09	138.83	-6960	-5861	-2591	2.2005	2.2005	-8878	8128	5366	42820	19767	5611	25379	No	9.8	Si
SLU 39	3.99	2017.9	-7242	-6098	-2563	2.2005	2.2005	-9238	8176	5397	42820	19767	5611	25379	No	9.9	Si
SLU 82	2.09	208.13	-7749	-6526	-2720	2.2005	2.2005	-9886	8263	5454	42820	19767	5611	25379	No	9.33	Si
SLU 82	3.99	2077.35	-7559	-6365	-2689	2.2005	2.2005	-9642	8230	5433	42820	19767	5611	25379	No	9.44	Si
SLU 40	2.09	138.83	-6960	-5861	-2591	2.2005	2.2005	-8878	8128	5366	42820	19767	5611	25379	No	9.8	Si
SLU 40	3.99	2017.9	-7242	-6098	-2563	2.2005	2.2005	-9238	8176	5397	42820	19767	5611	25379	No	9.9	Si
SLU 81	2.09	208.13	-7749	-6526	-2720	2.2005	2.2005	-9886	8263	5454	42820	19767	5611	25379	No	9.33	Si
SLU 81	3.99	2077.35	-7559	-6365	-2689	2.2005	2.2005	-9642	8230	5433	42820	19767	5611	25379	No	9.44	Si
SLU 75	2.09	232.95	-7017	-5909	-2339	2.2005	2.2005	-8951	8138	5372	42820	19767	5611	25379	No	10.85	Si
SLU 75	3.99	1754.85	-6487	-5462	-2311	2.2005	2.2005	-8275	8048	5313	42820	19767	5611	25379	No	10.98	Si
SLU 84	2.09	208.13	-7749	-6526	-2720	2.2005	2.2005	-9886	8263	5454	42820	19767	5611	25379	No	9.33	Si
SLU 84	3.99	2077.35	-7559	-6365	-2689	2.2005	2.2005	-9642	8230	5433	42820	19767	5611	25379	No	9.44	Si
SLU 41	2.09	138.83	-6960	-5861	-2591	2.2005	2.2005	-8878	8128	5366	42820	19767	5611	25379	No	9.8	Si
SLU 41	3.99	2017.9	-7242	-6098	-2563	2.2005	2.2005	-9238	8176	5397	42820	19767	5611	25379	No	9.9	Si
SLU 77	2.09	232.95	-7017	-5909	-2339	2.2005	2.2005	-8951	8138	5372	42820	19767	5611	25379	No	10.85	Si
SLU 77	3.99	1754.85	-6487	-5462	-2311	2.2005	2.2005	-8275	8048	5313	42820	19767	5611	25379	No	10.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	2.09	-1293.85	-3770	-3174	-4762	2.2005	2.2005	-4809	11378	7511	42820	29651	5611	35262		7.4	Si
SLV 2	3.99	1785.15	-3368	-2836	-3050	2.2005	1.7105	-4296	11276	5786	42820	29651	5611	35262		11.56	Si
SLV 12	2.09	-1390.34	-6711	-5651	2308	2.2005	2.2005	-8561	12129	8007	42820	29651	5611	35262		15.28	Si
SLV 12	3.99	1507.67	-6062	-5105	-175	2.2005	2.2005	-7733	11963	7897	42820	29651	5611	35262		200.97	Si
SLV 4	2.09	-2818.56	-5007	-4216	-3425	2.2005	1.6118	-8753	12167	5883	42820	29651	5611	35262		10.3	Si
SLV 4	3.99	2521.63	-5113	-4306	-3027	2.2005	1.8211	-6522	11721	6404	42820	29651	5611	35262		11.65	Si
SLV 5	2.09	1806.65	-2045	-1722	-4866	2.2005	0.6503	-8863	12189	2378	42820	29651	5611	35262		7.25	Si
SLV 5	3.99	311.65	-963	-811	-2345	2.2005	2.2005	-1229	10662	7039	42820	29651	5611	35262		15.04	Si
SLV 6	2.09	2213.24	-2469	-2079	-4073	2.2005	0.6109	-11402	12697	2327	42820	29651	5611	35262		8.66	Si
SLV 6	3.99	-84.09	-746	-628	-1551	2.2005	2.2005	-952	10607	7002	42820	29651	5611	35262		22.73	Si
SLV 9	2.09	3285.42	-2164	-1822	-2943	1.7604	0	0	0	0	42820	23721	4489	28210		9.59	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	3.99	-551.53	-462	-389	-1043	1.7604	0	0	0	0	42820	23721	4489	28210		27.04	Si
SLV 3	2.09	-3219.06	-4589	-3865	-4207	1.7604	1.1965	0	0	0	42820	23721	4489	28210		6.71	Si
SLV 3	3.99	2911.45	-5327	-4486	-3809	2.2005	1.6611	-6796	11776	5868	42820	29651	5611	35262		9.26	Si
SLV 1	2.09	-1694.36	-3352	-2823	-5544	2.2005	1.7845	-5285	11474	6142	42820	29651	5611	35262		6.36	Si
SLV 1	3.99	2174.97	-3582	-3016	-3831	2.2005	1.4792	-4570	11331	5028	42820	29651	5611	35262		9.2	Si
SLV 10	2.09	3692.01	-2588	-2179	-2149	1.7604	0	0	0	0	42820	23721	4489	28210		13.13	Si
SLV 10	3.99	-947.27	-245	-206	-250	1.7604	0	0	0	0	42820	23721	4489	28210		112.88	Si
SLV 16	2.09	2110.66	-5403	-4550	2986	2.2005	2.1288	-6893	11795	7533	42820	29651	5611	35262		11.81	Si
SLV 16	3.99	-355.64	-3443	-2899	1311	2.2005	2.2005	-4392	11295	7456	42820	29651	5611	35262		26.9	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.47	0	-564	348.42	0	0	No, e>t/2
SLV 10	179667	0.47	0	-603	348.42	0	0	No, e>t/2
SLV 5	179667	0.47	0	-793	348.42	0	0	No, e>t/2
SLV 6	179667	0.47	0	-831	348.42	0	0	No, e>t/2
SLV 13	179667	0.47	4057	-2678	348.42	391.08	1.12	Si
SLV 14	179667	0.47	4115	-2716	348.42	396.48	1.14	Si
SLV 1	179667	0.47	5209	-3439	348.42	498.23	1.43	Si
SLV 2	179667	0.47	5267	-3477	348.42	503.54	1.45	Si
SLV 15	179667	0.47	7147	-4718	348.42	674.6	1.94	Si
SLV 16	179667	0.47	7205	-4756	348.42	679.77	1.95	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-2635	-7048	70	2.566	649.4	0.889	41.93196	15.2945	Si
SLV 4	-2615	-7226	70	2.577	647.5	0.889	42.10633	15.2945	Si
SLV 15	-2560	-3661	-142	2.591	642.4	0.889	42.34253	15.2945	Si
SLV 16	-2540	-3838	-141	2.602	640.6	0.889	42.52259	15.2945	Si
SLV 11	-2927	-6729	-149	2.409	676.6	0.891	39.31977	13.84785	Si
SLV 7	-2949	-7746	-85	2.411	678.8	0.891	39.34599	13.84785	Si
SLV 12	-2906	-6910	-148	2.419	674.7	0.89	39.47926	13.84785	Si
SLV 8	-2929	-7926	-85	2.421	676.8	0.891	39.50499	13.84785	Si
SLV 1	-2344	-5433	139	2.711	622.6	0.889	44.32583	15.2945	Si
SLV 2	-2324	-5611	139	2.723	620.8	0.889	44.51974	15.2945	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 39	Si
V_SLU	9.329	SLU 81	Si
PF_SLV	0.792	SLV 9	No
V_SLV	6.361	SLV 1	Si
PFPP_SLV	0	SLV 5	No
R_SLV	2.742	SLV 3	Si

Maschio 21

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

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s,sx	a.s,dx
6.239	5.99	6.789	5.99	L2	L3	0.549	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 48	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 51	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 51	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 64	3.09	182.74	-2133	-0.0000384	0.0003743	0.0035	0.5495	511.51	536.14	536.14	2.93	No	Si
SLU 64	3.99	-212.27	-1613	-0.0000384	0.0003743	0.0035	0.5495	400.57	478.39	478.39	2.25	No	Si
SLU 49	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 49	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 46	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 46	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 50	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 50	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 47	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 47	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 43	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 43	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 44	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 44	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si
SLU 45	3.09	154.9	-1647	-0.0000308	0.0003743	0.0035	0.5495	408.02	436.41	436.41	2.82	No	Si
SLU 45	3.99	-172.97	-1221	-0.000031	0.0003743	0.0035	0.5495	311.05	383.28	383.28	2.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	3.09	396.44	-3185	-0.0000731	0.0005615	0.0035	0.5495		793.04	793.04	2		Si
SLV 10	3.99	-534.72	-3033	-0.0001091	0.0005615	0.0035	0.4396		822.68	822.68	1.54		Si
SLV 14	3.09	469.73	-2587	-0.0000976	0.0005615	0.0035	0.5495		669.82	669.82	1.43		Si
SLV 14	3.99	-521.16	-2790	-0.0001126	0.0005615	0.0035	0.4396		767.01	767.01	1.47		Si
SLV 15	3.09	322.44	-1708	-0.0000682	0.0005615	0.0035	0.5495		461.37	461.37	1.43		Si
SLV 15	3.99	-291.88	-1769	-0.0000547	0.0005615	0.0035	0.4396		525.34	525.34	1.8		Si
SLV 7	3.09	-102.21	-427	-0.0000382	0.0005615	0.0035	0.4396		182.92	182.92	1.79		Si
SLV 7	3.99	187.69	294	0.0756891	0.0005615	0.0035	0.4396		0	0	0		No
SLV 4	3.09	-114.38	-1188	-0.0000221	0.0005615	0.0035	0.5495		380.03	380.03	3.32		Si
SLV 4	3.99	95.76	-217	-0.0018158	0.0005615	0.0035	0.4396		76.76	76.76	0.8		No
SLV 9	3.09	334.4	-3021	-0.000063	0.0005615	0.0035	0.5495		759.65	759.65	2.27		Si
SLV 9	3.99	-455.18	-2761	-0.0000875	0.0005615	0.0035	0.4396		760.46	760.46	1.67		Si
SLV 16	3.09	383.56	-1870	-0.0000941	0.0005615	0.0035	0.5495		501.13	501.13	1.31		Si
SLV 16	3.99	-370.24	-2037	-0.0000755	0.0005615	0.0035	0.4396		589.75	589.75	1.59		Si
SLV 13	3.09	408.61	-2425	-0.000079	0.0005615	0.0035	0.5495		634.36	634.36	1.55		Si
SLV 13	3.99	-442.8	-2522	-0.0000886	0.0005615	0.0035	0.4396		705.71	705.71	1.59		Si
SLV 3	3.09	-175.5	-1026	-0.000033	0.0005615	0.0035	0.4396		339.16	339.16	1.93		Si
SLV 3	3.99	174.12	51	-0.0161595	0.0005615	0.0035	0.4396		0	0	0		No
SLV 8	3.09	-40.17	-592	-0.0000092	0.0005615	0.0035	0.5495		226.24	226.24	5.63		Si
SLV 8	3.99	108.14	22	-0.009556	0.0005615	0.0035	0.4396		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 78	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLV 78	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLU 81	3.09	246.05	-3496	-2944	508	0.5495	0.5495	-17857	9325	1537	42820	4936	1401	6338	No	12.48	Si
SLU 81	3.99	-306.64	-2688	-2263	345	0.5495	0.482	-15843	9057	1310	42820	4936	1401	6338	No	18.35	Si
SLV 75	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLV 75	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLU 76	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLU 76	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLV 79	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLV 79	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLU 74	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLU 74	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLU 73	3.09	227.06	-3087	-2599	478	0.5495	0.5495	-15768	9047	1491	42820	4936	1401	6338	No	13.25	Si
SLU 73	3.99	-278.32	-2365	-1992	330	0.5495	0.4712	-14241	8843	1250	42820	4936	1401	6338	No	19.23	Si
SLU 82	3.09	246.05	-3496	-2944	508	0.5495	0.5495	-17857	9325	1537	42820	4936	1401	6338	No	12.48	Si
SLU 82	3.99	-306.64	-2688	-2263	345	0.5495	0.482	-15843	9057	1310	42820	4936	1401	6338	No	18.35	Si
SLU 83	3.09	246.05	-3496	-2944	508	0.5495	0.5495	-17857	9325	1537	42820	4936	1401	6338	No	12.48	Si
SLU 83	3.99	-306.64	-2688	-2263	345	0.5495	0.482	-15843	9057	1310	42820	4936	1401	6338	No	18.35	Si
SLU 84	3.09	246.05	-3496	-2944	508	0.5495	0.5495	-17857	9325	1537	42820	4936	1401	6338	No	12.48	Si
SLU 84	3.99	-306.64	-2688	-2263	345	0.5495	0.482	-15843	9057	1310	42820	4936	1401	6338	No	18.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	3.09	396.44	-3185	-2682	1083	0.5495	0.4509	-16272	13671	1849	42820	7404	1401	8806		8.13	Si
SLV 10	3.99	-534.72	-3033	-2554	1169	0.4396	0.2953	0	0	0	42820	5924	1121	7045		6.03	Si
SLV 13	3.09	408.61	-2425	-2042	997	0.5495	0.3187	-12387	12894	1233	42820	7404	1401	8806		8.83	Si
SLV 13	3.99	-442.8	-2522	-2124	934	0.4396	0.2975	0	0	0	42820	5924	1121	7045		7.54	Si
SLV 7	3.09	-102.21	-427	-360	-437	0.4396	0.1064	0	0	0	42820	5924	1121	7045		16.14	Si
SLV 7	3.99	187.69	294	247	-712	0.4396	0	0	0	0	42820	5924	1121	7045		9.89	Si
SLV 14	3.09	469.73	-2587	-2178	1187	0.5495	0.2795	-13214	13059	1095	42820	7404	1401	8806		7.42	Si
SLV 14	3.99	-521.16	-2790	-2349	1134	0.4396	0.2638	0	0	0	42820	5924	1121	7045		6.21	Si
SLV 8	3.09	-40.17	-592	-498	-244	0.5495	0.5495	-3022	11021	1817	42820	7404	1401	8806		36.09	Si
SLV 8	3.99	108.14	22	19	-510	0.4396	0	0	0	0	42820	5924	1121	7045		13.82	Si
SLV 15	3.09	322.44	-1708	-1438	711	0.5495	0.2579	-8725	12162	941	42820	7404	1401	8806		12.38	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	3.99	-291.88	-1769	-1490	541	0.4396	0.3294	0	0	0	42820	5924	1121	7045		13.03	Si
SLV 9	3.09	334.4	-3021	-2544	891	0.5495	0.4922	-15433	13503	1994	42820	7404	1401	8806		9.89	Si
SLV 9	3.99	-455.18	-2761	-2325	966	0.4396	0.3297	0	0	0	42820	5924	1121	7045		7.29	Si
SLV 16	3.09	383.56	-1870	-1575	901	0.5495	0.2089	-9552	12327	773	42820	7404	1401	8806		9.77	Si
SLV 16	3.99	-370.24	-2037	-1715	740	0.4396	0.279	0	0	0	42820	5924	1121	7045		9.52	Si
SLV 3	3.09	-175.5	-1026	-864	-540	0.4396	0.311	0	0	0	42820	5924	1121	7045		13.05	Si
SLV 3	3.99	174.12	51	43	-677	0.4396	0	0	0	0	42820	5924	1121	7045		10.4	Si
SLV 6	3.09	247.06	-2981	-2510	708	0.5495	0.5495	-15227	13462	2219	42820	7404	1401	8806		12.44	Si
SLV 6	3.99	-394.92	-2487	-2094	803	0.4396	0.3478	0	0	0	42820	5924	1121	7045		8.77	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	0	-452	87.01	0	0	No, e>t/2
SLV 12	179667	0.47	0	-450	87.01	0	0	No, e>t/2
SLV 16	179667	0.47	3969	-654	87.01	95.59	1.1	Si
SLV 15	179667	0.47	3980	-656	87.01	95.85	1.1	Si
SLV 8	179667	0.47	4127	-680	87.01	99.29	1.14	Si
SLV 7	179667	0.47	4138	-682	87.01	99.56	1.14	Si
SLV 14	179667	0.47	6430	-1060	87.01	152.3	1.75	Si
SLV 13	179667	0.47	6441	-1062	87.01	152.55	1.75	Si
SLV 4	179667	0.47	8629	-1423	87.01	201.33	2.31	Si
SLV 3	179667	0.47	8641	-1424	87.01	201.57	2.32	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-792	-587	57	2.287	174.8	0.892	37.2776	15.2945	Si
SLV 10	-832	-1116	267	2.073	178.5	0.892	33.76471	13.84785	Si
SLV 13	-763	-668	57	2.336	172	0.891	38.10223	15.2945	Si
SLV 9	-802	-1199	267	2.117	175.7	0.892	34.50275	13.84785	Si
SLV 6	-779	-1393	282	2.141	173.5	0.891	34.91449	13.84785	Si
SLV 16	-707	-410	-108	2.398	166.7	0.89	39.16043	15.2945	Si
SLV 5	-750	-1476	282	2.189	170.8	0.891	35.70464	13.84785	Si
SLV 15	-678	-492	-108	2.454	164	0.89	40.07874	15.2945	Si
SLV 2	-618	-1511	107	2.576	158.5	0.889	42.10704	15.2945	Si
SLV 1	-589	-1593	107	2.64	155.8	0.889	43.1568	15.2945	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	2.216	SLU 43	Si
V_SLU	12.484	SLU 81	Si
PF_SLV	0	SLV 3	No
V_SLV	6.028	SLV 10	Si
PFFP_SLV	0	SLV 11	No
R_SLV	2.437	SLV 14	Si

Maschio 22

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

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota s.	I	Sp.	h netta	h inl.	h fin.	a	a.s.sx	a.s.dx
7.289	5.99	9.889	5.99	L2	L3	2.6	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 44	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 47	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 47	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 46	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 46	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 50	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 50	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 48	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 48	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 45	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 45	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 71	3.09	385.71	-6621	-0.0000145	0.0003743	0.0035	2.5998	7889.3	8402.22	8402.22	21.78	No	Si
SLU 71	3.99	-2084.6	-4121	-0.0000172	0.0003743	0.0035	2.5998	5078.5	6997.41	6997.41	3.36	No	Si
SLU 49	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 49	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 51	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 51	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si
SLU 43	3.09	385.97	-5073	-0.0000114	0.0003743	0.0035	2.5998	6173.25	6607.58	6607.58	17.12	No	Si
SLU 43	3.99	-1857.82	-2732	-0.0000146	0.0003743	0.0035	2.5998	3429.14	5321.62	5321.62	2.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	3.09	1547.03	-5868	-0.000018	0.0005615	0.0035	2.5998		7660.19	7660.19	4.95		Si
SLV 9	3.99	50.22	-5380	-0.0000105	0.0005615	0.0035	2.5998		7074.3	7074.3	140.87		Si
SLV 12	3.09	-365.53	-5079	-0.0000113	0.0005615	0.0035	2.5998		8217.41	8217.41	22.48		Si
SLV 12	3.99	-4288.06	-1450	-0.0006102	0.0005615	0.0035	2.0798		3744.57	3744.57	0.87		No
SLV 11	3.09	-662.6	-5272	-0.000013	0.0005615	0.0035	2.5998		8449.27	8449.27	12.75		Si
SLV 11	3.99	-3782.16	-1748	-0.0004052	0.0005615	0.0035	2.0798		4117.87	4117.87	1.09		Si
SLV 16	3.09	1135.61	-4886	-0.0000143	0.0005615	0.0035	2.5998		6475.12	6475.12	5.7		Si
SLV 16	3.99	-4054.33	-2089	-0.0003872	0.0005615	0.0035	2.0798		4544.24	4544.24	1.12		Si
SLV 8	3.09	-991.23	-5425	-0.0000147	0.0005615	0.0035	2.5998		8631.35	8631.35	8.71		Si
SLV 8	3.99	-3335.45	-1994	-0.000249	0.0005615	0.0035	2.0798		4425.18	4425.18	1.33		Si
SLV 15	3.09	842.98	-5076	-0.0000134	0.0005615	0.0035	2.5998		6707.66	6707.66	7.96		Si
SLV 15	3.99	-3556	-2383	-0.0002081	0.0005615	0.0035	2.0798		4909.81	4909.81	1.38		Si
SLV 14	3.09	1798.5	-5065	-0.0000176	0.0005615	0.0035	2.5998		6693.25	6693.25	3.72		Si
SLV 14	3.99	-2904.61	-3179	-0.0000273	0.0005615	0.0035	2.0798		5895.93	5895.93	2.03		Si
SLV 10	3.09	1844.1	-5674	-0.000019	0.0005615	0.0035	2.5998		7427.96	7427.96	4.03		Si
SLV 10	3.99	-455.69	-5082	-0.0000117	0.0005615	0.0035	2.5998		8220.68	8220.68	18.04		Si
SLV 7	3.09	-1288.31	-5618	-0.0000164	0.0005615	0.0035	2.5998		8861.97	8861.97	6.88		Si
SLV 7	3.99	-2829.54	-2292	-0.0000749	0.0005615	0.0035	2.0798		4797.07	4797.07	1.7		Si
SLV 13	3.09	1505.87	-5255	-0.0000167	0.0005615	0.0035	2.5998		6923.97	6923.97	4.6		Si
SLV 13	3.99	-2406.28	-3472	-0.0000189	0.0005615	0.0035	2.5998		6257.36	6257.36	2.6		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	3.09	291.41	-11086	-9336	4497	2.5998	2.5998	-11970	8540	6661	42820	23355	6629	29984	No	6.67	Si
SLU 81	3.99	-2529.19	-8234	-6933	4079	2.5998	2.5998	-8890	8130	6341	42820	23355	6629	29984	No	7.35	Si
SLU 73	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 73	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 79	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 79	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 76	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 76	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 78	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 78	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 74	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 74	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 82	3.09	291.41	-11086	-9336	4497	2.5998	2.5998	-11970	8540	6661	42820	23355	6629	29984	No	6.67	Si
SLU 82	3.99	-2529.19	-8234	-6933	4079	2.5998	2.5998	-8890	8130	6341	42820	23355	6629	29984	No	7.35	Si
SLU 84	3.09	291.41	-11086	-9336	4497	2.5998	2.5998	-11970	8540	6661	42820	23355	6629	29984	No	6.67	Si
SLU 84	3.99	-2529.19	-8234	-6933	4079	2.5998	2.5998	-8890	8130	6341	42820	23355	6629	29984	No	7.35	Si
SLU 75	3.09	319.7	-9747	-8208	4228	2.5998	2.5998	-10524	8348	6511	42820	23355	6629	29984	No	7.09	Si
SLU 75	3.99	-2395.81	-7000	-5894	3835	2.5998	2.5998	-7558	7952	6202	42820	23355	6629	29984	No	7.82	Si
SLU 83	3.09	291.41	-11086	-9336	4497	2.5998	2.5998	-11970	8540	6661	42820	23355	6629	29984	No	6.67	Si
SLU 83	3.99	-2529.19	-8234	-6933	4079	2.5998	2.5998	-8890	8130	6341	42820	23355	6629	29984	No	7.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	3.09	1844.1	-5674	-4778	6595	2.5998	2.5998	-6127	11642	9080	42820	35032	6629	41662		6.32	Si
SLV 10	3.99	-455.69	-5082	-4280	6549	2.5998	2.5998	-5487	11514	8980	42820	35032	6629	41662		6.36	Si
SLV 15	3.09	842.98	-5076	-4275	5321	2.5998	2.5998	-5481	11513	8979	42820	35032	6629	41662		7.83	Si
SLV 15	3.99	-3556	-2383	-2007	4099	2.0798	0	0	0	0	42820	28026	5304	33329		8.13	Si
SLV 3	3.09	-1242.71	-6227	-5244	-1940	2.5998	2.5998	-6724	11761	9173	42820	35032	6629	41662		21.47	Si
SLV 3	3.99	-380.61	-4195	-3533	-1414	2.5998	2.5998	-4530	11323	8831	42820	35032	6629	41662		29.46	Si
SLV 6	3.09	1218.4	-6020	-5069	4417	2.5998	2.5998	-6499	11717	9138	42820	35032	6629	41662		9.43	Si
SLV 6	3.99	496.93	-5626	-4738	4895	2.5998	2.5998	-6074	11632	9072	42820	35032	6629	41662		8.51	Si
SLV 9	3.09	1547.03	-5868	-4941	5530	2.5998	2.5998	-6335	11684	9113	42820	35032	6629	41662		7.53	Si
SLV 9	3.99	50.22	-5380	-4531	5668	2.5998	2.5998	-5809	11578	9031	42820	35032	6629	41662		7.35	Si
SLV 16	3.09	1135.61	-4886	-4115	6370	2.5998	2.5998	-5276	11472	8947	42820	35032	6629	41662		6.54	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	3.99	-4054.33	-2089	-1759	4968	2.0798	0	0	0	0	42820	28026	5304	33329		6.71	Si
SLV 14	3.09	1798.5	-5065	-4265	7643	2.5998	2.5998	-5468	11510	8977	42820	35032	6629	41662		5.45	Si
SLV 14	3.99	-2904.61	-3179	-2677	6585	2.0798	1.1585	0	0	0	42820	28026	5304	33329		5.06	Si
SLV 12	3.09	-365.53	-5079	-4277	2351	2.5998	2.5998	-5484	11513	8980	42820	35032	6629	41662		17.72	Si
SLV 12	3.99	-4288.06	-1450	-1221	1158	2.0798	0	0	0	0	42820	28026	5304	33329		28.79	Si
SLV 5	3.09	921.32	-6213	-5232	3352	2.5998	2.5998	-6708	11758	9171	42820	35032	6629	41662		12.43	Si
SLV 5	3.99	1002.83	-5924	-4988	4014	2.5998	2.5998	-6396	11696	9122	42820	35032	6629	41662		10.38	Si
SLV 13	3.09	1505.87	-5255	-4425	6594	2.5998	2.5998	-5674	11551	9009	42820	35032	6629	41662		6.32	Si
SLV 13	3.99	-2406.28	-3472	-2924	5717	2.5998	1.8208	-5364	11490	6276	42820	35032	6629	41662		7.29	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.47	6361	-4961	411.65	713.2	1.73	Si
SLV 7	179667	0.47	6387	-4981	411.65	715.94	1.74	Si
SLV 12	179667	0.47	6406	-4996	411.65	718.03	1.74	Si
SLV 11	179667	0.47	6432	-5016	411.65	720.77	1.75	Si
SLV 4	179667	0.47	6829	-5326	411.65	763.2	1.85	Si
SLV 3	179667	0.47	6854	-5346	411.65	765.88	1.86	Si
SLV 16	179667	0.47	6979	-5443	411.65	779.17	1.89	Si
SLV 15	179667	0.47	7004	-5463	411.65	781.85	1.9	Si
SLV 2	179667	0.47	7275	-5674	411.65	810.54	1.97	Si
SLV 1	179667	0.47	7300	-5694	411.65	813.21	1.98	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-3246	-7008	223	2.486	779.6	0.89	40.60751	15.2945	Si
SLV 2	-3172	-7084	223	2.517	772.7	0.89	41.12102	15.2945	Si
SLV 5	-3411	-10624	915	2.306	795.1	0.89	37.63923	13.84785	Si
SLV 6	-3336	-10702	915	2.334	788	0.89	38.11071	13.84785	Si
SLV 3	-2984	-4264	-340	2.579	755.3	0.889	42.14464	15.2945	Si
SLV 9	-3291	-10980	946	2.346	783.8	0.89	38.31628	13.84785	Si
SLV 4	-2911	-4341	-340	2.612	748.5	0.889	42.69825	15.2945	Si
SLV 10	-3216	-11058	946	2.376	776.8	0.89	38.80462	13.84785	Si
SLV 13	-2845	-8195	326	2.645	742.6	0.889	43.24077	15.2945	Si
SLV 14	-2772	-8272	326	2.68	735.8	0.889	43.82063	15.2945	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	2.864	SLU 43	Si
V_SLU	6.668	SLU 81	Si
PF_SLV	0.873	SLV 12	No
V_SLV	5.061	SLV 14	Si
PFFP_SLV	1.733	SLV 8	Si
R_SLV	2.655	SLV 1	Si

Maschio 23

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

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s.sx	a.s.dx
10.889	5.99	12.819	5.99	L2	L3	1.93	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 66	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 68	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 68	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 76	2.09	3221.3	-7998	-0.000049	0.0003743	0.0035	1.9302	6672.08	6988.47	6988.47	2.17	No	Si
SLU 76	3.99	-3615.35	-9072	-0.0000555	0.0003743	0.0035	1.9302	7408.44	8793.12	8793.12	2.43	No	Si
SLU 71	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 71	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 70	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 70	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 64	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 64	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 69	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 69	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 65	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 65	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 67	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 67	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si
SLU 72	2.09	2683.03	-6334	-0.0000399	0.0003743	0.0035	1.9302	5456.69	5811.54	5811.54	2.17	No	Si
SLU 72	3.99	-2665.47	-6397	-0.0000398	0.0003743	0.0035	1.9302	5503.68	6705.14	6705.14	2.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	2.09	3945.13	-5884	-0.0000686	0.0005615	0.0035	1.9302		5567.08	5567.08	1.41		Si
SLV 8	3.99	-3360.57	-7595	-0.0000492	0.0005615	0.0035	1.9302		7853.4	7853.4	2.34		Si
SLV 16	2.09	4402.25	-4642	-0.0010152	0.0005615	0.0035	1.9302		4479.24	4479.24	1.02		Si
SLV 16	3.99	-4035.73	-7106	-0.0000661	0.0005615	0.0035	1.5442		7439.67	7439.67	1.84		Si
SLV 13	2.09	2830.12	-4498	-0.0000452	0.0005615	0.0035	1.9302		4349.84	4349.84	1.54		Si
SLV 13	3.99	-2891.89	-5392	-0.0000423	0.0005615	0.0035	1.9302		5966.82	5966.82	2.06		Si
SLV 12	2.09	4830.58	-5536	-0.0002331	0.0005615	0.0035	1.9302		5263.75	5263.75	1.09		Si
SLV 12	3.99	-4115	-8120	-0.0000604	0.0005615	0.0035	1.9302		8299.42	8299.42	2.02		Si
SLV 4	2.09	1450.76	-5802	-0.0000267	0.0005615	0.0035	1.9302		5496.22	5496.22	3.79		Si
SLV 4	3.99	-1520.97	-5359	-0.0000261	0.0005615	0.0035	1.9302		5938.1	5938.1	3.9		Si
SLV 7	2.09	3618.6	-6163	-0.0000554	0.0005615	0.0035	1.9302		5808.76	5808.76	1.61		Si
SLV 7	3.99	-3032.07	-7267	-0.0000447	0.0005615	0.0035	1.9302		7575.12	7575.12	2.5		Si
SLV 15	2.09	4080.61	-4917	-0.000131	0.0005615	0.0035	1.9302		4721.1	4721.1	1.16		Si
SLV 15	3.99	-3712.16	-6782	-0.0000551	0.0005615	0.0035	1.5442		7167.22	7167.22	1.93		Si
SLV 14	2.09	3151.76	-4223	-0.0000662	0.0005615	0.0035	1.9302		4103.72	4103.72	1.3		Si
SLV 14	3.99	-3215.47	-5715	-0.000048	0.0005615	0.0035	1.5442		6252.3	6252.3	1.94		Si
SLV 10	2.09	662.28	-4137	-0.0000159	0.0005615	0.0035	1.9302		4026.88	4026.88	6.08		Si
SLV 10	3.99	-1380.79	-3484	-0.0000203	0.0005615	0.0035	1.9302		4286.35	4286.35	3.1		Si
SLV 11	2.09	4504.05	-5815	-0.0001081	0.0005615	0.0035	1.9302		5507.28	5507.28	1.22		Si
SLV 11	3.99	-3786.5	-7791	-0.0000553	0.0005615	0.0035	1.9302		8019.33	8019.33	2.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 75	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 83	2.09	3451.99	-8711	-7336	6095	1.9302	1.7066	-12668	8634	4420	42820	17340	4922	22262	No	3.65	Si
SLU 83	3.99	-4022.45	-10219	-8605	6047	1.9302	1.7145	-16907	9199	4731	42820	17340	4922	22262	No	3.68	Si
SLU 84	2.09	3451.99	-8711	-7336	6095	1.9302	1.7066	-12668	8634	4420	42820	17340	4922	22262	No	3.65	Si
SLU 84	3.99	-4022.45	-10219	-8605	6047	1.9302	1.7145	-16907	9199	4731	42820	17340	4922	22262	No	3.68	Si
SLU 78	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 78	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 80	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 80	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 82	2.09	3451.99	-8711	-7336	6095	1.9302	1.7066	-12668	8634	4420	42820	17340	4922	22262	No	3.65	Si
SLU 82	3.99	-4022.45	-10219	-8605	6047	1.9302	1.7145	-16907	9199	4731	42820	17340	4922	22262	No	3.68	Si
SLU 79	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 79	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 76	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 76	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 77	2.09	3221.3	-7998	-6735	5537	1.9302	1.6871	-11631	8495	4300	42820	17340	4922	22262	No	4.02	Si
SLU 77	3.99	-3615.35	-9072	-7640	5492	1.9302	1.6998	-15113	8960	4569	42820	17340	4922	22262	No	4.05	Si
SLU 81	2.09	3451.99	-8711	-7336	6095	1.9302	1.7066	-12668	8634	4420	42820	17340	4922	22262	No	3.65	Si
SLU 81	3.99	-4022.45	-10219	-8605	6047	1.9302	1.7145	-16907	9199	4731	42820	17340	4922	22262	No	3.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	2.09	3151.76	-4223	-3556	7399	1.9302	0.6563	-18226	14062	2769	42820	26010	4922	30932		4.18	Si
SLV 14	3.99	-3215.47	-5715	-4813	5575	1.5442	1.2076	0	0	0	42820	20808	3938	24746		4.44	Si
SLV 11	2.09	4504.05	-5815	-4897	1259	1.9302	0.5716	-28995	16216	2781	42820	26010	4922	30932		24.57	Si
SLV 11	3.99	-3786.5	-7791	-6561	3655	1.9302	1.4373	-15327	13482	5813	42820	26010	4922	30932		8.46	Si
SLV 5	2.09	-549.7	-4764	-4012	5020	1.9302	1.9302	-6928	11802	6834	42820	26010	4922	30932		6.16	Si
SLV 5	3.99	-297.87	-2631	-2215	2564	1.9302	1.9302	-3826	11182	6475	42820	26010	4922	30932		12.07	Si
SLV 10	2.09	662.28	-4137	-3484	7351	1.9302	1.9302	-6016	11620	6729	42820	26010	4922	30932		4.21	Si
SLV 10	3.99	-1380.79	-3484	-2934	4308	1.9302	1.7063	-5745	11566	5920	42820	26010	4922	30932		7.18	Si
SLV 16	2.09	4402.25	-4642	-3909	5768	1.9302	0.0506	-131464	16250	247	42820	26010	4922	30932		5.36	Si
SLV 16	3.99	-4035.73	-7106	-5984	5576	1.5442	1.1916	0	0	0	42820	20808	3938	24746		4.44	Si
SLV 13	2.09	2830.12	-4498	-3788	6756	1.9302	1.0077	-6541	11725	3544	42820	26010	4922	30932		4.58	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	3.99	-2891.89	-5392	-4540	4932	1.9302	1.2862	-11827	12782	4932	42820	26010	4922	30932		6.27	Si
SLV 9	2.09	335.75	-4416	-3719	6697	1.9302	1.9302	-6422	11701	6776	42820	26010	4922	30932		4.62	Si
SLV 9	3.99	-1052.3	-3155	-2657	3654	1.9302	1.8947	-4588	11334	6443	42820	26010	4922	30932		8.46	Si
SLV 15	2.09	4080.61	-4917	-4141	5124	1.9302	0.4058	-34618	16250	1978	42820	26010	4922	30932		6.04	Si
SLV 15	3.99	-3712.16	-6782	-5711	4932	1.5442	1.2534	0	0	0	42820	20808	3938	24746		5.02	Si
SLV 12	2.09	4830.58	-5536	-4662	1913	1.9302	0.2775	-57515	16250	1353	42820	26010	4922	30932		16.17	Si
SLV 12	3.99	-4115	-8120	-6838	4308	1.9302	1.375	-16709	13759	5675	42820	26010	4922	30932		7.18	Si
SLV 6	2.09	-223.17	-4485	-3777	5673	1.9302	1.9302	-6522	11721	6787	42820	26010	4922	30932		5.45	Si
SLV 6	3.99	-626.37	-2960	-2492	3217	1.9302	1.9302	-4304	11277	6530	42820	26010	4922	30932		9.62	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.47	4406	-2552	305.63	371.69	1.22	Si
SLV 6	179667	0.47	4565	-2643	305.63	384.64	1.26	Si
SLV 9	179667	0.47	4669	-2704	305.63	393.19	1.29	Si
SLV 10	179667	0.47	4828	-2796	305.63	406.09	1.33	Si
SLV 1	179667	0.47	7750	-4488	305.63	639.01	2.09	Si
SLV 2	179667	0.47	7906	-4578	305.63	651.17	2.13	Si
SLV 13	179667	0.47	8627	-4996	305.63	707.02	2.31	Si
SLV 14	179667	0.47	8783	-5086	305.63	719.02	2.35	Si
SLV 3	179667	0.47	10878	-6299	305.63	877.58	2.87	Si
SLV 4	179667	0.47	11034	-6390	305.63	889.18	2.91	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-2960	-8554	134	2.22	630.8	0.893	36.14182	15.2945	Si
SLV 13	-2885	-8554	134	2.254	623.6	0.892	36.70931	15.2945	Si
SLV 16	-2770	-9286	76	2.32	612.7	0.892	37.81164	15.2945	Si
SLV 15	-2695	-9287	77	2.356	605.5	0.891	38.42708	15.2945	Si
SLV 2	-2623	-5101	-78	2.392	598.8	0.891	39.02938	15.2945	Si
SLV 10	-3065	-6491	128	2.176	640.8	0.893	35.40028	13.84785	Si
SLV 1	-2547	-5101	-77	2.431	591.7	0.89	39.68359	15.2945	Si
SLV 9	-2989	-6491	128	2.209	633.5	0.893	35.95387	13.84785	Si
SLV 6	-2964	-5455	64	2.233	631.1	0.893	36.34757	13.84785	Si
SLV 4	-2432	-5833	-135	2.481	580.9	0.89	40.512	15.2945	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	2.166	SLU 64	Si
V_SLU	3.652	SLU 81	Si
PF_SLV	1.017	SLV 16	Si
V_SLV	4.18	SLV 14	Si
PFFP_SLV	1.216	SLV 5	Si
R_SLV	2.363	SLV 14	Si

Maschio 24

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

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s.sx	a.s.dx
12.819	-3.756	3.959	-3.756	L2	L3	8.86	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 67	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 71	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 71	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 72	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 72	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 64	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 64	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 51	1.09	47087.77	-28295	-0.000032	0.0004492	0.0035	8.86	114425.07	125661.65	125661.65	2.67	No	Si
SLU 51	4.9	641.5	-7263	-0.000004	0.0004492	0.0035	8.86	31456.07	39277.9	39277.9	61.23	No	Si
SLU 65	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 65	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 70	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 70	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 66	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 66	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 69	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 69	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si
SLU 68	1.09	54603.34	-32871	-0.0000373	0.0004492	0.0035	8.86	130880.33	143659.24	143659.24	2.63	No	Si
SLU 68	4.9	988.61	-12027	-0.0000066	0.0004492	0.0035	8.86	51305.1	59378.74	59378.74	60.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em _l	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	1.09	35804.35	-22993	-0.0000247	0.0006738	0.0035	8.86		105640.68	105640.68	2.95		Si
SLV 11	4.9	2758.77	-10968	-0.0000066	0.0006738	0.0035	8.86		55237.16	55237.16	20.02		Si
SLV 8	1.09	72271.09	-24827	-0.0000512	0.0006738	0.0035	8.86		113201.97	113201.97	1.57		Si
SLV 8	4.9	2545.66	-11210	-0.0000067	0.0006738	0.0035	8.86		56265.63	56265.63	22.1		Si
SLV 6	1.09	51134.78	-30351	-0.0000343	0.0006738	0.0035	8.86		135725.07	135725.07	2.65		Si
SLV 6	4.9	-1005.4	-10968	-0.000006	0.0006738	0.0035	8.86		93924.22	93924.22	93.42		Si
SLV 1	1.09	87802.79	-28552	-0.0000666	0.0006738	0.0035	8.86		128418.52	128418.52	1.46		Si
SLV 1	4.9	457.96	-11241	-0.000006	0.0006738	0.0035	8.86		56398.97	56398.97	123.15		Si
SLV 7	1.09	66123.29	-23898	-0.0000448	0.0006738	0.0035	8.86		109372.53	109372.53	1.65		Si
SLV 7	4.9	2762.93	-11167	-0.0000067	0.0006738	0.0035	8.86		56081.95	56081.95	20.3		Si
SLV 5	1.09	44986.98	-29422	-0.0000314	0.0006738	0.0035	8.86		131954.03	131954.03	2.93		Si
SLV 5	4.9	-788.13	-10924	-0.0000059	0.0006738	0.0035	8.86		93743.12	93743.12	118.94		Si
SLV 2	1.09	93858.58	-29466	-0.0000752	0.0006738	0.0035	8.86		132133.11	132133.11	1.41		Si
SLV 2	4.9	243.95	-11284	-0.0000059	0.0006738	0.0035	8.86		56579.91	56579.91	231.94		Si
SLV 3	1.09	94143.69	-26895	-0.0000929	0.0006738	0.0035	8.86		121688.96	121688.96	1.29		Si
SLV 3	4.9	1523.28	-11314	-0.0000064	0.0006738	0.0035	8.86		56708.18	56708.18	37.23		Si
SLV 4	1.09	100199.47	-27809	-0.000109	0.0006738	0.0035	8.86		125403.56	125403.56	1.25		Si
SLV 4	4.9	1309.26	-11357	-0.0000063	0.0006738	0.0035	8.86		56889.11	56889.11	43.45		Si
SLV 12	1.09	41952.15	-23922	-0.0000276	0.0006738	0.0035	8.86		109470.12	109470.12	2.61		Si
SLV 12	4.9	2541.5	-11011	-0.0000066	0.0006738	0.0035	8.86		55420.84	55420.84	21.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	1.09	70197.18	-44834	-32607	11523	8.86	8.5929	-12267	9969	25699	122342	95522	45186	140708	No	12.21	Si
SLU 82	4.9	1951.14	-25844	-18796	11577	8.86	8.86	-7071	9276	24656	122342	95522	45186	140708	No	12.15	Si
SLU 84	1.09	70197.18	-44834	-32607	11523	8.86	8.5929	-12267	9969	25699	122342	95522	45186	140708	No	12.21	Si
SLU 84	4.9	1951.14	-25844	-18796	11577	8.86	8.86	-7071	9276	24656	122342	95522	45186	140708	No	12.15	Si
SLU 75	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 75	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 76	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 76	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 78	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 78	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 80	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 80	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 79	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 79	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 77	1.09	65519.03	-41245	-29996	11050	8.86	8.5244	-11285	9838	25159	122342	95522	45186	140708	No	12.73	Si
SLU 77	4.9	1662.38	-21699	-15781	11103	8.86	8.86	-5937	9125	24254	122342	95522	45186	140708	No	12.67	Si
SLU 81	1.09	70197.18	-44834	-32607	11523	8.86	8.5929	-12267	9969	25699	122342	95522	45186	140708	No	12.21	Si
SLU 81	4.9	1951.14	-25844	-18796	11577	8.86	8.86	-7071	9276	24656	122342	95522	45186	140708	No	12.15	Si
SLU 83	1.09	70197.18	-44834	-32607	11523	8.86	8.5929	-12267	9969	25699	122342	95522	45186	140708	No	12.21	Si
SLU 83	4.9	1951.14	-25844	-18796	11577	8.86	8.86	-7071	9276	24656	122342	95522	45186	140708	No	12.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	1.09	87802.79	-28552	-20765	25945	8.86	4.0643	-7812	14062	17146	122342	143283	45186	139489		5.38	Si
SLV 1	4.9	457.96	-11241	-8176	19209	8.86	8.86	-3076	13115	34860	122342	143283	45186	157203		8.18	Si
SLV 4	1.09	100199.47	-27809	-20225	26127	8.86	2.4807	-27525	16250	12093	122342	143283	45186	134436		5.15	Si
SLV 4	4.9	1309.26	-11357	-8259	20034	8.86	8.86	-3107	13121	34877	122342	143283	45186	157219		7.85	Si
SLV 6	1.09	51134.78	-30351	-22073	19062	8.86	8.2357	-8305	14161	34987	122342	143283	45186	157330		8.25	Si
SLV 6	4.9	-1005.4	-10968	-7976	16077	8.86	8.86	-3001	13100	34820	122342	143283	45186	157163		9.78	Si
SLV 16	1.09	-863.66	-24793	-18031	-10419	8.86	8.86	-6784	13857	36831	122342	143283	45186	159174		15.28	Si
SLV 16	4.9	1295.41	-10694	-7778	-3605	8.86	8.86	-2926	13085	34781	122342	143283	45186	157123		43.58	Si
SLV 2	1.09	93858.58	-29466	-21430	28760	8.86	3.7342	-8063	14113	15810	122342	143283	45186	138152		4.8	Si
SLV 2	4.9	243.95	-11284	-8207	22017	8.86	8.86	-3087	13117	34866	122342	143283	45186	157209		7.14	Si
SLV 15	1.09	-6919.45	-23878	-17366	-13233	8.86	8.86	-6533	13807	36698	122342	143283	45186	159041		12.02	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	4.9	1509.43	-10652	-7747	-6412	8.86	8.86	-2914	13083	34774	122342	143283	45186	157117		24.5	Si
SLV 8	1.09	72271.09	-24827	-18056	10286	8.86	4.557	-6793	13859	18946	122342	143283	45186	141289		13.74	Si
SLV 8	4.9	2545.66	-11210	-8153	9469	8.86	8.86	-3067	13113	34856	122342	143283	45186	157198		16.6	Si
SLV 5	1.09	44986.98	-29422	-21398	16204	8.86	8.703	-8050	14110	36840	122342	143283	45186	159182		9.82	Si
SLV 5	4.9	-788.13	-10924	-7945	13227	8.86	8.86	-2989	13098	34814	122342	143283	45186	157156		11.88	Si
SLV 3	1.09	94143.69	-26895	-19560	23312	8.86	2.7886	-23638	16250	13594	122342	143283	45186	135937		5.83	Si
SLV 3	4.9	1523.28	-11314	-8229	17227	8.86	8.86	-3096	13119	34871	122342	143283	45186	157213		9.13	Si
SLV 13	1.09	-13260.35	-25535	-18571	-10601	8.86	8.86	-6987	13897	36939	122342	143283	45186	159282		15.03	Si
SLV 13	4.9	444.11	-10579	-7694	-4430	8.86	8.86	-2895	13079	34764	122342	143283	45186	157106		35.47	Si

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

quota 2.995 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-17499	0.47	1438.02	2530.58	4060.52	3295.55	2.29	Si
SLV 15	-17738	0.47	1438.02	2563.86	4099.82	3331.84	2.32	Si
SLV 9	-17920	0.47	1438.02	2589.09	4129.64	3359.37	2.34	Si
SLV 14	-17932	0.47	1438.02	2590.83	4131.7	3361.26	2.34	Si
SLV 16	-18171	0.47	1438.02	2624.05	4171	3397.53	2.36	Si
SLV 10	-18360	0.47	1438.02	2650.14	4201.9	3426.02	2.38	Si
SLV 5	-18522	0.47	1438.02	2672.72	4228.66	3450.69	2.4	Si
SLV 11	-18717	0.47	1438.02	2699.7	4260.67	3480.18	2.42	Si
SLV 6	-18962	0.47	1438.02	2733.6	4300.93	3517.27	2.45	Si
SLV 12	-19157	0.47	1438.02	2760.53	4332.94	3546.73	2.47	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	α0*	aLim	Verifica
SLV 4	-11357	-27809	501	2.464	2684.3	0.89	40.22482	15.2945	Si
SLV 2	-11284	-29466	-676	2.464	2677.5	0.89	40.22874	15.2945	Si
SLV 3	-11314	-26895	500	2.469	2680.3	0.89	40.3097	15.2945	Si
SLV 1	-11241	-28552	-677	2.469	2673.5	0.89	40.31273	15.2945	Si
SLV 16	-10694	-24793	687	2.535	2622.6	0.89	41.42106	15.2945	Si
SLV 15	-10652	-23878	687	2.541	2618.6	0.889	41.51094	15.2945	Si
SLV 14	-10621	-26450	-489	2.554	2615.8	0.889	41.73784	15.2945	Si
SLV 13	-10579	-25535	-490	2.56	2611.9	0.889	41.82749	15.2945	Si
SLV 8	-11210	-24827	1938	2.41	2670.6	0.89	39.36143	13.84785	Si
SLV 7	-11167	-23898	1938	2.415	2666.6	0.89	39.44626	13.84785	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.631	SLV 64	Si
V_SLV	12.154	SLV 81	Si
PF_SLV	1.252	SLV 4	Si
V_SLV	4.804	SLV 2	Si
PFFP_SLV	2.292	SLV 13	Si
R_SLV	2.63	SLV 4	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	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
12.819	-1.751	12.819	-3.756	L2	L3	2.005	0.3	3.81	3.81	3.81			

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 FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 64	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 66	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 66	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 71	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 71	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 68	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 68	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 70	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 70	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 69	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 69	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 67	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 67	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 72	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 72	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 65	2.09	-2560.35	-4606	-0.0000345	0.0003743	0.0035	2.0053	4270.99	20801.61	20801.61	8.12	No	Si
SLU 65	3.99	2313.92	786	0.000765	0.0003743	0.0035	1.6042	0	9232.2	9232.2	3.99	No	Si
SLU 73	2.09	-2837.53	-5514	-0.0000382	0.0003743	0.0035	2.0053	5030.5	21391.28	21391.28	7.54	No	Si
SLU 73	3.99	2710.62	647	0.0005002	0.0003743	0.0035	1.6042	0	11287.37	11287.37	4.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	2.09	-4130.83	-5142	-0.0000742	0.0005615	0.0035	2.0053		22933.4	22933.4	5.55		Si
SLV 7	3.99	3539.53	2210	0.0027332	0.0005615	0.0035	1.6042		0	0	0		No
SLV 3	2.09	-4690.67	-4575	-0.0001207	0.0005615	0.0035	2.0053		22413.18	22413.18	4.78		Si
SLV 3	3.99	2154.4	2100	0.0029153	0.0005615	0.0035	1.6042		0	0	0		No
SLV 12	2.09	-2588.61	-4516	-0.0000346	0.0005615	0.0035	2.0053		22358.97	22358.97	8.64		Si
SLV 12	3.99	3423.01	1396	0.0013875	0.0005615	0.0035	1.6042		0	0	0		No
SLV 1	2.09	-3874.66	-3881	-0.0000951	0.0005615	0.0035	2.0053		21758.96	21758.96	5.62		Si
SLV 1	3.99	1166.7	1362	0.0018958	0.0005615	0.0035	1.6042		0	0	0		No
SLV 4	2.09	-4449.55	-4166	-0.0001205	0.0005615	0.0035	2.0053		22030.33	22030.33	4.95		Si
SLV 4	3.99	1845.05	1933	0.0027279	0.0005615	0.0035	1.6042		0	0	0		No
SLV 8	2.09	-3886.05	-4727	-0.0000719	0.0005615	0.0035	2.0053		22554.01	22554.01	5.8		Si
SLV 8	3.99	3225.48	2040	0.0025434	0.0005615	0.0035	1.6042		0	0	0		No
SLV 15	2.09	-365.88	-3873	-0.0000123	0.0005615	0.0035	2.0053		21751.53	21751.53	59.45		Si
SLV 15	3.99	2812.85	-48	-0.000281	0.0005615	0.0035	2.0053		15946.77	15946.77	5.67		Si
SLV 2	2.09	-3633.54	-3472	-0.0000948	0.0005615	0.0035	2.0053		21363.81	21363.81	5.88		Si
SLV 2	3.99	857.35	1195	0.0016711	0.0005615	0.0035	1.6042		2111.46	2111.46	2.46		Si
SLV 11	2.09	-2833.39	-4931	-0.000038	0.0005615	0.0035	2.0053		22741.74	22741.74	8.03		Si
SLV 11	3.99	3737.07	1565	0.0016126	0.0005615	0.0035	1.6042		0	0	0		No
SLV 16	2.09	-124.76	-3464	-0.0000095	0.0005615	0.0035	2.0053		21356.23	21356.23	171.18		Si
SLV 16	3.99	2503.5	-215	-0.000211	0.0005615	0.0035	2.0053		16376.44	16376.44	6.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 76	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 74	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 74	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 73	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 73	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 82	2.09	-2956.32	-5902	-4970	-5027	2.0053	1.5054	-11043	8420	3802	15901	18014	5114	19704	No	3.92	Si
SLU 82	3.99	2880.63	587	495	-5024	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.16	Si
SLU 78	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 78	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 81	2.09	-2956.32	-5902	-4970	-5027	2.0053	1.5054	-11043	8420	3802	15901	18014	5114	19704	No	3.92	Si
SLU 81	3.99	2880.63	587	495	-5024	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.16	Si
SLU 84	2.09	-2956.32	-5902	-4970	-5027	2.0053	1.5054	-11043	8420	3802	15901	18014	5114	19704	No	3.92	Si
SLU 84	3.99	2880.63	587	495	-5024	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.16	Si
SLU 79	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 79	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 75	2.09	-2837.53	-5514	-4643	-4701	2.0053	1.464	-10590	8360	3672	15901	18014	5114	19573	No	4.16	Si
SLU 75	3.99	2710.62	647	545	-4699	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.38	Si
SLU 83	2.09	-2956.32	-5902	-4970	-5027	2.0053	1.5054	-11043	8420	3802	15901	18014	5114	19704	No	3.92	Si
SLU 83	3.99	2880.63	587	495	-5024	1.6042	0	0	0	0	15901	14411	4091	15901	No	3.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	2.09	-3633.54	-3472	-2924	-2539	2.0053	0	-20024	15051	0	15901	27021	5114	15901		6.26	Si
SLV 2	3.99	857.35	1195	1006	-3051	1.6042	0.8559	0	0	0	15901	21617	4091	15901		5.21	Si
SLV 7	2.09	-4130.83	-5142	-4330	-6983	2.0053	0.5979	-19044	14387	2581	15901	27021	5114	18482		2.65	Si
SLV 7	3.99	3539.53	2210	1861	-6194	1.6042	0	0	0	0	15901	21617	4091	15901		2.57	Si
SLV 8	2.09	-3886.05	-4727	-3981	-6381	2.0053	0.5417	-18267	14247	2315	15901	27021	5114	18216		2.85	Si
SLV 8	3.99	3225.48	2040	1718	-5592	1.6042	0	0	0	0	15901	21617	4091	15901		2.84	Si
SLV 16	2.09	-124.76	-3464	-2917	-3136	2.0053	2.0053	-4849	11387	6850	15901	27021	5114	22751		7.26	Si
SLV 16	3.99	2503.5	-215	-181	-2620	2.0053	0	0	0	0	15901	27021	5114	15901		6.07	Si
SLV 3	2.09	-4690.67	-4575	-3852	-5134	2.0053	0	-25551	16250	0	15901	27021	5114	15901		3.1	Si
SLV 3	3.99	2154.4	2100	1768	-5128	1.6042	0	0	0	0	15901	21617	4091	15901		3.1	Si
SLV 15	2.09	-365.88	-3873	-3262	-3729	2.0053	2.0053	-5421	11501	6919	15901	27021	5114	22820		6.12	Si
SLV 15	3.99	2812.85	-48	-41	-3214	2.0053	0	0	7940	0	15901	27021	5114	15901		4.95	Si
SLV 1	2.09	-3874.66	-3881	-3268	-3132	2.0053	0.0127	-20888	15137	58	15901	27021	5114	15959		5.1	Si
SLV 1	3.99	1166.7	1362	1147	-3645	1.6042	0.4382	0	0	0	15901	21617	4091	15901		4.36	Si
SLV 12	2.09	-2588.61	-4516	-3803	-5959	2.0053	1.2885	-9747	12375	4784	15901	27021	5114	20685		3.47	Si
SLV 12	3.99	3423.01	1396	1176	-5017	1.6042	0	0	0	0	15901	21617	4091	15901		3.17	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	2.09	-4449.55	-4166	-3508	-4541	2.0053	0	-24646	16188	0	15901	27021	5114	15901		3.5	Si
SLV 4	3.99	1845.05	1933	1628	-4535	1.6042	0.1441	0	0	0	15901	21617	4091	15901		3.51	Si
SLV 11	2.09	-2833.39	-4931	-4153	-6562	2.0053	1.2843	-10679	12563	4840	15901	27021	5114	20741		3.16	Si
SLV 11	3.99	3737.07	1565	1318	-5620	1.6042	0	0	0	0	15901	21617	4091	15901		2.83	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.47	0	-1294	317.52	0	0	No, e>t/2
SLV 11	179667	0.47	0	-1360	317.52	0	0	No, e>t/2
SLV 3	179667	0.47	0	-836	317.52	0	0	No, e>t/2
SLV 1	179667	0.47	0	-1112	317.52	0	0	No, e>t/2
SLV 8	179667	0.47	0	-904	317.52	0	0	No, e>t/2
SLV 4	179667	0.47	0	-771	317.52	0	0	No, e>t/2
SLV 7	179667	0.47	0	-970	317.52	0	0	No, e>t/2
SLV 6	179667	0.47	0	-1823	317.52	0	0	No, e>t/2
SLV 2	179667	0.47	0	-1047	317.52	0	0	No, e>t/2
SLV 5	179667	0.47	0	-1889	317.52	0	0	No, e>t/2

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-109	-1785	-87	5.223	421.6	0.977	77.71707	15.2945	Si
SLV 13	-69	-1979	-86	5.32	421	0.985	78.53059	15.2945	Si
SLV 16	47	-1835	-133	5.537	420.6	1	80.47544	15.2945	Si, Trazione
SLV 15	87	-2030	-132	5.591	420.6	1	81.25967	15.2945	Si, Trazione
SLV 10	-87	-2251	44	5.297	421.2	0.981	78.47198	13.84785	Si
SLV 9	-46	-2448	44	5.398	420.8	0.989	79.28685	13.84785	Si
SLV 2	478	-3288	134	6.181	420.6	1	89.82372	15.2945	Si, Trazione
SLV 6	89	-2702	110	5.605	420.6	1	81.46628	13.84785	Si, Trazione
SLV 1	517	-3483	134	6.248	420.6	1	90.80085	15.2945	Si, Trazione
SLV 5	130	-2899	110	5.661	420.6	1	82.27748	13.84785	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	3.99	SLU 64	Si
V_SLU	3.165	SLU 81	Si
PF_SLV	0	SLV 1	No
V_SLV	2.567	SLV 7	Si
PFFP_SLV	0	SLV 1	No
R_SLV	5.081	SLV 14	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
12.819	2.899	12.819	-0.751	L2	L3	3.65	0.3	3.81	3.81	3.81			

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 FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 65	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 72	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 72	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 49	2.09	-5414.14	-8695	-0.0000242	0.0003743	0.0035	3.65	14630.09	18624.6	18624.6	3.44	No	Si
SLU 49	3.99	3118.67	-5765	-0.0000148	0.0003743	0.0035	3.65	9977.76	10764.59	10764.59	3.45	No	Si
SLU 68	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 68	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 70	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 70	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 71	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 71	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 69	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 69	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 64	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 64	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 67	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 67	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si
SLU 66	2.09	-6129.62	-10213	-0.0000281	0.0003743	0.0035	3.65	16930.49	21018.94	21018.94	3.43	No	Si
SLU 66	3.99	3434.24	-6953	-0.0000172	0.0003743	0.0035	3.65	11898.34	12746.92	12746.92	3.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	2.09	-11248.29	-7524	-0.0000766	0.0005615	0.0035	2.92		16905.74	16905.74	1.5		Si
SLV 11	3.99	7234.07	-5602	-0.0000351	0.0005615	0.0035	3.65		10606.38	10606.38	1.47		Si
SLV 7	2.09	-11342.09	-7909	-0.0000684	0.0005615	0.0035	2.92		17550.45	17550.45	1.55		Si
SLV 7	3.99	8519.47	-4980	-0.0001538	0.0005615	0.0035	3.65		9528.92	9528.92	1.12		Si
SLV 3	2.09	-7285.63	-8712	-0.0000294	0.0005615	0.0035	3.65		18871.48	18871.48	2.59		Si
SLV 3	3.99	6703.76	-4511	-0.0000449	0.0005615	0.0035	3.65		8715.47	8715.47	1.3		Si
SLV 15	2.09	-6972.97	-7427	-0.0000279	0.0005615	0.0035	3.65		16742.85	16742.85	2.4		Si
SLV 15	3.99	2419.09	-6583	-0.0000143	0.0005615	0.0035	3.65		12292.14	12292.14	5.08		Si
SLV 2	2.09	-2735.95	-9040	-0.0000185	0.0005615	0.0035	3.65		19412.53	19412.53	7.1		Si
SLV 2	3.99	2930.21	-4740	-0.0000129	0.0005615	0.0035	3.65		9112.91	9112.91	3.11		Si
SLV 4	2.09	-6300.29	-8738	-0.0000263	0.0005615	0.0035	3.65		18914.41	18914.41	3		Si
SLV 4	3.99	5765.83	-4521	-0.0000274	0.0005615	0.0035	3.65		8732.5	8732.5	1.51		Si
SLV 16	2.09	-5987.63	-7453	-0.0000242	0.0005615	0.0035	3.65		16786.68	16786.68	2.8		Si
SLV 16	3.99	1481.16	-6593	-0.0000123	0.0005615	0.0035	3.65		12309.01	12309.01	8.31		Si
SLV 12	2.09	-10247.98	-7550	-0.0000544	0.0005615	0.0035	2.92		16950.16	16950.16	1.65		Si
SLV 12	3.99	6281.89	-5612	-0.0000264	0.0005615	0.0035	3.65		10623.58	10623.58	1.69		Si
SLV 1	2.09	-3721.29	-9014	-0.0000206	0.0005615	0.0035	3.65		19369.51	19369.51	5.21		Si
SLV 1	3.99	3868.14	-4731	-0.0000155	0.0005615	0.0035	3.65		9095.87	9095.87	2.35		Si
SLV 8	2.09	-10341.77	-7936	-0.0000513	0.0005615	0.0035	2.92		17594.56	17594.56	1.7		Si
SLV 8	3.99	7567.29	-4990	-0.0000549	0.0005615	0.0035	3.65		9546.25	9546.25	1.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 80	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si
SLU 82	2.09	-7612.7	-13769	-11595	-6179	3.65	3.65	-10589	8356	9150	42820	32789	9308	42097	No	6.81	Si
SLU 82	3.99	3945.67	-9824	-8273	-6179	3.65	3.65	-7555	7952	8707	42820	32789	9308	42097	No	6.81	Si
SLU 76	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 76	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si
SLU 75	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 75	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si
SLU 77	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 77	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si
SLU 79	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 79	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si
SLU 84	2.09	-7612.7	-13769	-11595	-6179	3.65	3.65	-10589	8356	9150	42820	32789	9308	42097	No	6.81	Si
SLU 84	3.99	3945.67	-9824	-8273	-6179	3.65	3.65	-7555	7952	8707	42820	32789	9308	42097	No	6.81	Si
SLU 83	2.09	-7612.7	-13769	-11595	-6179	3.65	3.65	-10589	8356	9150	42820	32789	9308	42097	No	6.81	Si
SLU 83	3.99	3945.67	-9824	-8273	-6179	3.65	3.65	-7555	7952	8707	42820	32789	9308	42097	No	6.81	Si
SLU 81	2.09	-7612.7	-13769	-11595	-6179	3.65	3.65	-10589	8356	9150	42820	32789	9308	42097	No	6.81	Si
SLU 81	3.99	3945.67	-9824	-8273	-6179	3.65	3.65	-7555	7952	8707	42820	32789	9308	42097	No	6.81	Si
SLU 78	2.09	-7167.78	-12702	-10696	-5882	3.65	3.65	-9768	8247	9030	42820	32789	9308	42097	No	7.16	Si
SLU 78	3.99	3792.24	-8963	-7548	-5882	3.65	3.65	-6893	7864	8611	42820	32789	9308	42097	No	7.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	2.09	-11342.09	-7909	-6660	-10923	2.92	1.1729	0	0	0	42820	39347	7446	42820		3.92	Si
SLV 7	3.99	8519.47	-4980	-4194	-10246	3.65	0.3429	-40100	16250	1672	42820	49184	9308	44492		4.34	Si
SLV 12	2.09	-10247.98	-7550	-6358	-9820	2.92	1.4031	0	0	0	42820	39347	7446	42820		4.36	Si
SLV 12	3.99	6281.89	-5612	-4726	-8225	3.65	2.1168	-4316	11280	7163	42820	49184	9308	49983		6.08	Si
SLV 15	2.09	-6972.97	-7427	-6254	-6346	3.65	2.6583	-7869	11991	9562	42820	49184	9308	52382		8.25	Si
SLV 15	3.99	2419.09	-6583	-5544	-4478	3.65	3.65	-5063	11429	12515	42820	49184	9308	55335		12.36	Si
SLV 11	2.09	-11248.29	-7524	-6336	-10849	2.92	0.9899	0	0	0	42820	39347	7446	42820		3.95	Si
SLV 11	3.99	7234.07	-5602	-4717	-9254	3.65	1.6009	-4308	11278	5416	42820	49184	9308	48236		5.21	Si
SLV 3	2.09	-7285.63	-8712	-7336	-6595	3.65	2.9661	-8274	12072	10742	42820	49184	9308	53562		8.12	Si
SLV 3	3.99	6703.76	-4511	-3799	-7782	3.65	1.0168	-12527	12922	3942	42820	49184	9308	46762		6.01	Si
SLV 2	2.09	-2735.95	-9040	-7613	-1803	3.65	3.65	-6952	11807	12929	42820	49184	9308	55749		30.91	Si
SLV 2	3.99	2930.21	-4740	-3992	-3672	3.65	3.6206	-3646	11146	12106	42820	49184	9308	54926		14.96	Si
SLV 4	2.09	-6300.29	-8738	-7358	-5581	3.65	3.3119	-7425	11902	11825	42820	49184	9308	54645		9.79	Si
SLV 4	3.99	5765.83	-4521	-3807	-6768	3.65	1.6489	-3477	11112	5497	42820	49184	9308	48317		7.14	Si
SLV 8	2.09	-10341.77	-7936	-6683	-9894	2.92	1.5655	0	0	0	42820	39347	7446	42820		4.33	Si
SLV 8	3.99	7567.29	-4990	-4202	-9217	3.65	0.9256	-15241	13465	3739	42820	49184	9308	46559		5.05	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	2.09	-5987.63	-7453	-6276	-5332	3.65	3.0648	-6846	11786	10837	42820	49184	9308	53656		10.06	Si
SLV 16	3.99	1481.16	-6593	-5552	-3464	3.65	3.65	-5070	11431	12517	42820	49184	9308	55337		15.98	Si
SLV 1	2.09	-3721.29	-9014	-7591	-2817	3.65	3.65	-6932	11803	12924	42820	49184	9308	55744		19.79	Si
SLV 1	3.99	3868.14	-4731	-3984	-4685	3.65	3.0219	-3638	11144	10103	42820	49184	9308	52923		11.3	Si

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

quota 2.995 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.47	6877	-7531	577.94	1078.75	1.87	Si
SLV 4	179667	0.47	6889	-7544	577.94	1080.51	1.87	Si
SLV 7	179667	0.47	6937	-7596	577.94	1087.68	1.88	Si
SLV 8	179667	0.47	6949	-7609	577.94	1089.47	1.89	Si
SLV 1	179667	0.47	7111	-7786	577.94	1113.56	1.93	Si
SLV 2	179667	0.47	7123	-7799	577.94	1115.31	1.93	Si
SLV 11	179667	0.47	7222	-7908	577.94	1130.09	1.96	Si
SLV 12	179667	0.47	7234	-7921	577.94	1131.87	1.96	Si
SLV 5	179667	0.47	7715	-8448	577.94	1203.15	2.08	Si
SLV 6	179667	0.47	7727	-8461	577.94	1204.92	2.08	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1068	-12137	-124	4.295	805	0.921	67.80892	15.2945	Si
SLV 15	-1059	-11822	-126	4.303	804.4	0.921	67.90249	15.2945	Si
SLV 14	-1059	-12150	-124	4.303	804.4	0.921	67.90565	15.2945	Si
SLV 16	-1050	-11836	-126	4.311	803.9	0.921	67.99935	15.2945	Si
SLV 1	-815	-10166	130	4.53	790.6	0.932	70.65957	15.2945	Si
SLV 2	-806	-10180	131	4.539	790.2	0.932	70.75906	15.2945	Si
SLV 3	-806	-9852	128	4.539	790.1	0.932	70.77041	15.2945	Si
SLV 4	-797	-9865	128	4.548	789.7	0.933	70.87	15.2945	Si
SLV 9	-990	-11814	-33	4.385	800.3	0.924	68.98657	13.84785	Si
SLV 10	-981	-11828	-33	4.393	799.8	0.924	69.08642	13.84785	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	3.429	SLU 64	Si
V_SLU	6.813	SLU 81	Si
PF_SLV	1.118	SLV 7	Si
V_SLV	3.92	SLV 7	Si
PFFP_SLV	1.867	SLV 3	Si
R_SLV	4.434	SLV 13	Si

Maschio 27

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

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
12.819	5.99	12.819	3.899	L2	L3	2.091	0.3	3.81	3.81	3.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?				
									αt	α	elim,conv	e,fd	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	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	2.09	-1508.36	-8769	-0.000032	0.0003743	0.0035	2.0906	7907.62	9326.12	9326.12	6.18	No	Si
SLU 37	3.99	168.23	-3104	-0.000085	0.0003743	0.0035	2.0906	3086.58	3352.18	3352.18	19.93	No	Si
SLU 40	2.09	-1675.47	-9510	-0.0000351	0.0003743	0.0035	2.0906	8460.7	9945.11	9945.11	5.94	No	Si
SLU 40	3.99	175.38	-3411	-0.0000093	0.0003743	0.0035	2.0906	3375.38	3649.09	3649.09	20.81	No	Si
SLU 38	2.09	-1508.36	-8769	-0.000032	0.0003743	0.0035	2.0906	7907.62	9326.12	9326.12	6.18	No	Si
SLU 38	3.99	168.23	-3104	-0.000085	0.0003743	0.0035	2.0906	3086.58	3352.18	3352.18	19.93	No	Si
SLU 41	2.09	-1675.47	-9510	-0.0000351	0.0003743	0.0035	2.0906	8460.7	9945.11	9945.11	5.94	No	Si
SLU 41	3.99	175.38	-3411	-0.0000093	0.0003743	0.0035	2.0906	3375.38	3649.09	3649.09	20.81	No	Si
SLU 42	2.09	-1675.47	-9510	-0.0000351	0.0003743	0.0035	2.0906	8460.7	9945.11	9945.11	5.94	No	Si
SLU 42	3.99	175.38	-3411	-0.0000093	0.0003743	0.0035	2.0906	3375.38	3649.09	3649.09	20.81	No	Si
SLU 83	2.09	-1862.32	-10954	-0.0000402	0.0003743	0.0035	2.0906	9486.42	11104.36	11104.36	5.96	No	Si
SLU 83	3.99	198.53	-3850	-0.0000105	0.0003743	0.0035	2.0906	3781.43	4070.28	4070.28	20.5	No	Si
SLU 81	2.09	-1862.32	-10954	-0.0000402	0.0003743	0.0035	2.0906	9486.42	11104.36	11104.36	5.96	No	Si
SLU 81	3.99	198.53	-3850	-0.0000105	0.0003743	0.0035	2.0906	3781.43	4070.28	4070.28	20.5	No	Si
SLU 39	2.09	-1675.47	-9510	-0.0000351	0.0003743	0.0035	2.0906	8460.7	9945.11	9945.11	5.94	No	Si
SLU 39	3.99	175.38	-3411	-0.0000093	0.0003743	0.0035	2.0906	3375.38	3649.09	3649.09	20.81	No	Si
SLU 84	2.09	-1862.32	-10954	-0.0000402	0.0003743	0.0035	2.0906	9486.42	11104.36	11104.36	5.96	No	Si
SLU 84	3.99	198.53	-3850	-0.0000105	0.0003743	0.0035	2.0906	3781.43	4070.28	4070.28	20.5	No	Si
SLU 82	2.09	-1862.32	-10954	-0.0000402	0.0003743	0.0035	2.0906	9486.42	11104.36	11104.36	5.96	No	Si
SLU 82	3.99	198.53	-3850	-0.0000105	0.0003743	0.0035	2.0906	3781.43	4070.28	4070.28	20.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	2.09	-2497.43	-4957	-0.0000305	0.0005615	0.0035	2.0906		6044.11	6044.11	2.42		Si
SLV 4	3.99	1157.61	-3258	-0.0000156	0.0005615	0.0035	2.0906		3539.98	3539.98	3.06		Si
SLV 12	2.09	-3465.88	-8308	-0.0000446	0.0005615	0.0035	2.0906		9178.31	9178.31	2.65		Si
SLV 12	3.99	1331.7	-2938	-0.0000164	0.0005615	0.0035	2.0906		3224.3	3224.3	2.42		Si
SLV 8	2.09	-3899.85	-6972	-0.0000485	0.0005615	0.0035	2.0906		7948.87	7948.87	2.04		Si
SLV 8	3.99	1748.27	-3407	-0.0000212	0.0005615	0.0035	2.0906		3686.59	3686.59	2.11		Si
SLV 9	2.09	1770.56	-6611	-0.000028	0.0005615	0.0035	2.0906		6766.79	6766.79	3.82		Si
SLV 9	3.99	-1485.25	-1159	-0.0001625	0.0005615	0.0035	1.6725		2309.55	2309.55	1.55		Si
SLV 3	2.09	-2715.94	-4565	-0.0000339	0.0005615	0.0035	1.6725		5672.5	5672.5	2.09		Si
SLV 3	3.99	1418.5	-3465	-0.000018	0.0005615	0.0035	2.0906		3743.78	3743.78	2.64		Si
SLV 6	2.09	1558.42	-5674	-0.0000242	0.0005615	0.0035	2.0906		5882.69	5882.69	3.77		Si
SLV 6	3.99	-1333.53	-1417	-0.0000404	0.0005615	0.0035	1.6725		2570.56	2570.56	1.93		Si
SLV 10	2.09	1992.39	-7009	-0.0000305	0.0005615	0.0035	2.0906		7140.04	7140.04	3.58		Si
SLV 10	3.99	-1750.1	-949	-0.0003178	0.0005615	0.0035	1.6725		2097.57	2097.57	1.2		Si
SLV 14	2.09	586.65	-9018	-0.0000257	0.0005615	0.0035	2.0906		8976.2	8976.2	15.3		Si
SLV 14	3.99	-1155.48	-1101	-0.0000655	0.0005615	0.0035	1.6725		2251.01	2251.01	1.95		Si
SLV 7	2.09	-4121.69	-6574	-0.0000533	0.0005615	0.0035	1.6725		7585.94	7585.94	1.84		Si
SLV 7	3.99	2013.12	-3616	-0.0000246	0.0005615	0.0035	2.0906		3893.37	3893.37	1.93		Si
SLV 11	2.09	-3687.71	-7909	-0.0000461	0.0005615	0.0035	2.0906		8809.8	8809.8	2.39		Si
SLV 11	3.99	1596.55	-3148	-0.0000193	0.0005615	0.0035	2.0906		3431.51	3431.51	2.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	2.09	-1862.32	-10954	-9225	1191	2.0906	2.0906	-14708	8905	5585	42820	18781	5331	24112	No	20.24	Si
SLU 83	3.99	198.53	-3850	-3242	1239	2.0906	2.0906	-5169	7634	4788	42820	18781	5331	24112	No	19.46	Si
SLU 82	2.09	-1862.32	-10954	-9225	1191	2.0906	2.0906	-14708	8905	5585	42820	18781	5331	24112	No	20.24	Si
SLU 82	3.99	198.53	-3850	-3242	1239	2.0906	2.0906	-5169	7634	4788	42820	18781	5331	24112	No	19.46	Si
SLU 42	2.09	-1675.47	-9510	-8009	1108	2.0906	2.0906	-12769	8647	5423	42820	18781	5331	24112	No	21.76	Si
SLU 42	3.99	175.38	-3411	-2873	1150	2.0906	2.0906	-4580	7555	4739	42820	18781	5331	24112	No	20.97	Si
SLU 41	2.09	-1675.47	-9510	-8009	1108	2.0906	2.0906	-12769	8647	5423	42820	18781	5331	24112	No	21.76	Si
SLU 41	3.99	175.38	-3411	-2873	1150	2.0906	2.0906	-4580	7555	4739	42820	18781	5331	24112	No	20.97	Si
SLU 81	2.09	-1862.32	-10954	-9225	1191	2.0906	2.0906	-14708	8905	5585	42820	18781	5331	24112	No	20.24	Si
SLU 81	3.99	198.53	-3850	-3242	1239	2.0906	2.0906	-5169	7634	4788	42820	18781	5331	24112	No	19.46	Si
SLU 84	2.09	-1862.32	-10954	-9225	1191	2.0906	2.0906	-14708	8905	5585	42820	18781	5331	24112	No	20.24	Si
SLU 84	3.99	198.53	-3850	-3242	1239	2.0906	2.0906	-5169	7634	4788	42820	18781	5331	24112	No	19.46	Si
SLU 40	2.09	-1675.47	-9510	-8009	1108	2.0906	2.0906	-12769	8647	5423	42820	18781	5331	24112	No	21.76	Si
SLU 40	3.99	175.38	-3411	-2873	1150	2.0906	2.0906	-4580	7555	4739	42820	18781	5331	24112	No	20.97	Si
SLU 77	2.09	-1695.21	-10213	-8600	1047	2.0906	2.0906	-13712	8773	5502	42820	18781	5331	24112	No	23.04	Si
SLU 77	3.99	191.37	-3542	-2983	1091	2.0906	2.0906	-4756	7579	4753	42820	18781	5331	24112	No	22.1	Si
SLU 75	2.09	-1695.21	-10213	-8600	1047	2.0906	2.0906	-13712	8773	5502	42820	18781	5331	24112	No	23.04	Si
SLU 75	3.99	191.37	-3542	-2983	1091	2.0906	2.0906	-4756	7579	4753	42820	18781	5331	24112	No	22.1	Si
SLU 39	2.09	-1675.47	-9510	-8009	1108	2.0906	2.0906	-12769	8647	5423	42820	18781	5331	24112	No	21.76	Si
SLU 39	3.99	175.38	-3411	-2873	1150	2.0906	2.0906	-4580	7555	4739	42820	18781	5331	24112	No	20.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	2.09	-2715.94	-4565	-3844	-2512	1.6725	1.3511	0	0	0	42820	22537	4265	26802		10.67	Si
SLV 3	3.99	1418.5	-3465	-2918	-2566	2.0906	1.9077	-4652	11347	6494	42820	28172	5331	33503		13.06	Si
SLV 10	2.09	1992.39	-7009	-5902	4821	2.0906	2.0906	-9410	12299	7714	42820	28172	5331	33503		6.95	Si
SLV 10	3.99	-1750.1	-949	-799	4194	1.6725	0	0	0	0	42820	22537	4265	26802		6.39	Si
SLV 8	2.09	-3899.85	-6972	-5871	-3017	2.0906	1.458	-13508	13119	5738	42820	28172	5331	33503		11.1	Si
SLV 8	3.99	1748.27	-3407	-2869	-2332	2.0906	1.5964	-4574	11331	5427	42820	28172	5331	33503		14.37	Si
SLV 9	2.09	1770.56	-6611	-5567	4230	2.0906	2.0906	-8876	12192	7647	42820	28172	5331	33503		7.92	Si
SLV 9	3.99	-1485.25	-1159	-976	3603	1.6725	0	0	0	0	42820	22537	4265	26802		7.44	Si
SLV 11	2.09	-3687.71	-7909	-6661	-2518	2.0906	1.7372	-12858	12988	6769	42820	28172	5331	33503		13.3	Si
SLV 11	3.99	1596.55	-3148	-2651	-1648	2.0906	1.6145	-4227	11262	5455	42820	28172	5331	33503		20.33	Si
SLV 14	2.09	586.65	-9018	-7594	3725	2.0906	2.0906	-12108	12838	8052	42820	28172	5331	33503		8.99	Si
SLV 14	3.99	-1155.48	-1101	-927	3837	1.6725	0	0	0	0	42820	22537	4265	26802		6.98	Si
SLV 7	2.09	-4121.69	-6574	-5536	-3608	1.6725	1.2551	0	0	0	42820	22537	4265	26802		7.43	Si
SLV 7	3.99	2013.12	-3616	-3045	-2922	2.0906	1.4659	-4855	11388	5008	42820	28172	5331	33503		11.47	Si
SLV 6	2.09	1558.42	-5674	-4778	3731	2.0906	2.0906	-7618	11940	7489	42820	28172	5331	33503		8.98	Si
SLV 6	3.99	-1333.53	-1417	-1193	2920	1.6725	0.3127	0	0	0	42820	22537	4265	26802		9.18	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	2.09	368.13	-8626	-7264	3144	2.0906	2.0906	-11582	12733	7986	42820	28172	5331	33503		10.66	Si
SLV 13	3.99	-894.6	-1307	-1101	3256	1.6725	1.0828	0	0	0	42820	22537	4265	26802		8.23	Si
SLV 5	2.09	1336.58	-5276	-4443	3141	2.0906	2.0906	-7083	11833	7422	42820	28172	5331	33503		10.67	Si
SLV 5	3.99	-1068.69	-1627	-1370	2329	1.6725	1.1651	0	0	0	42820	22537	4265	26802		11.51	Si

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

quota 2.995 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 13	179667	0.47	6192	-3884	331.03	558.92	1.69	Si
SLV 14	179667	0.47	6235	-3911	331.03	562.63	1.7	Si
SLV 15	179667	0.47	6298	-3950	331.03	568.11	1.72	Si
SLV 16	179667	0.47	6341	-3977	331.03	571.81	1.73	Si
SLV 9	179667	0.47	6738	-4226	331.03	605.92	1.83	Si
SLV 10	179667	0.47	6781	-4253	331.03	609.66	1.84	Si
SLV 11	179667	0.47	7092	-4448	331.03	636.25	1.92	Si
SLV 12	179667	0.47	7136	-4476	331.03	639.98	1.93	Si
SLV 5	179667	0.47	7312	-4586	331.03	654.99	1.98	Si
SLV 6	179667	0.47	7356	-4614	331.03	658.7	1.99	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 2.995 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 3	-540	-9423	158	4.377	456.8	0.926	68.71651	15.2945	Si
SLV 4	-485	-9608	158	4.467	453.8	0.93	69.79534	15.2945	Si
SLV 1	-408	-8223	117	4.616	449.9	0.937	71.58746	15.2945	Si
SLV 2	-353	-8408	117	4.716	447.4	0.943	72.6947	15.2945	Si
SLV 7	-584	-10188	112	4.324	459.4	0.923	68.11574	13.84785	Si
SLV 15	-227	-7611	-111	4.968	442.5	0.959	75.31063	15.2945	Si
SLV 16	-172	-7796	-111	5.083	440.9	0.967	76.41485	15.2945	Si
SLV 8	-529	-10375	112	4.412	456.2	0.927	69.20372	13.84785	Si
SLV 13	-95	-6411	-152	5.238	439.2	0.98	77.6713	15.2945	Si
SLV 11	-490	-9644	31	4.507	454.1	0.93	70.44652	13.84785	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	5.936	SLU 39	Si
V_SLU	19.46	SLU 81	Si
PF_SLV	1.199	SLV 10	Si
V_SLV	6.391	SLV 10	Si
PFFP_SLV	1.688	SLV 13	Si
R_SLV	4.493	SLV 3	Si

1.5 Verifiche travi di accoppiamento in muratura

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

X ini.: coordinata punto iniziale. [m]

Y ini.: coordinata punto iniziale. [m]

Z ini.inf.: coordinata punto iniziale. [m]

Z ini.sup.: coordinata punto iniziale. [m]

H ini.: altezza della sezione iniziale. [m]

X fin.: coordinata punto finale. [m]

Y fin.: coordinata punto finale. [m]

Z fin.inf.: coordinata punto finale. [m]

Z fin.sup.: coordinata punto finale. [m]

H fin.: altezza della sezione finale. [m]

Luce: lunghezza della trave. [m]

Spessore: spessore. [m]

R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]

fb_o: resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]

f_{hk}: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]

f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]

f_{hmedio}: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]

τ_0 : resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]

f_{vo}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]

μ : coefficiente di attrito [C8.7.1.17].

ϕ : coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

f_{vk,lim}: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]



E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]

G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]

FC: fattore di confidenza della muratura.

Materiale: descrizione del materiale.

Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]

t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.

t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.

E: modulo di elasticità longitudinale. [daN/m²]

eu: dilatazione a rottura.

Tipo fibra: natura della fibra.

materiale: materiale fibra del rinforzo.

lato applicazione: lato di applicazione del rinforzo.

esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.

ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.

ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.

ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.

ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.

strati: numero strati del rinforzo.

verifica taglio: tipo di verifica a taglio.

elim,conv / ε_{CNR DT-200}: dati relativi ai parametri per il calcolo della deformazione di progetto.

α: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.

α: coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.

elim,conv: deformazione limite convenzionale del rinforzo FRCCM.

ε_{fd}: deformazione di progetto del rinforzo FRCCM ovvero CRM.

γ_{FD}: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.

connettori: presenza di connettori per la prevenzione del distacco del rinforzo.

tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.

CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.

CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.

intonaco: materiale intonaco FRCCM ovvero CRM.

spessore intonaco: spessore intonaco. [m]

tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.

Comb.: combinazione.

Sez.: sezione di verifica.

M: momento flettente nel piano. [daN*m]

N: sforzo normale. [daN]

em: deformazione della muratura.

em_u: deformazione elastica della muratura.

emu: deformazione ultima della muratura.

df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]

M_{0d}: momento resistente della sezione non rinforzata. [daN*m]

M_{1d}: momento resistente della sezione rinforzata. [daN*m]

M_{Rd}: momento resistente della sezione. [daN*m]

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]

f_{vd}: resistenza a taglio di calcolo. [daN/m²]

V_t: resistenza a taglio della muratura non rinforzata. [daN]

V_{t,f}: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]

V_{t,c}: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]

V_{t,c int.}: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]

V_{t,R}: resistenza a taglio della sezione rinforzata. [daN]

Stato limite: p_{F_SLV}=Presso flessione per azioni sismiche; V=Taglio per azioni sismiche.

Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 3

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
8.664	1.239	0.58	1.09	0.51	7.664	1.239	0.58	1.09	0.51	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_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{vd}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / $\epsilon_{\text{CNR DT-200}}$							CRM / Fibrenet?			
									αt	α	elim,conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 80	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 78	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 78	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 75	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 75	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 79	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 79	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 84	ini.	-720.81	-1614	-0.0018517	0.0002246	0.0035	0.51		975.58	975.58	No	1.35	Si
SLU 84	fin.	-343.23	-1145	-0.0006607	0.0002246	0.0035	0.51		975.58	975.58	No	2.84	Si
SLU 77	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 77	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 76	ini.	-660.86	-1492	-0.0016053	0.0002246	0.0035	0.51		975.58	975.58	No	1.48	Si
SLU 76	fin.	-309.23	-1034	-0.0005806	0.0002246	0.0035	0.51		975.58	975.58	No	3.15	Si
SLU 81	ini.	-720.81	-1614	-0.0018517	0.0002246	0.0035	0.51		975.58	975.58	No	1.35	Si
SLU 81	fin.	-343.23	-1145	-0.0006607	0.0002246	0.0035	0.51		975.58	975.58	No	2.84	Si
SLU 82	ini.	-720.81	-1614	-0.0018517	0.0002246	0.0035	0.51		975.58	975.58	No	1.35	Si
SLU 82	fin.	-343.23	-1145	-0.0006607	0.0002246	0.0035	0.51		975.58	975.58	No	2.84	Si
SLU 83	ini.	-720.81	-1614	-0.0018517	0.0002246	0.0035	0.51		975.58	975.58	No	1.35	Si
SLU 83	fin.	-343.23	-1145	-0.0006607	0.0002246	0.0035	0.51		975.58	975.58	No	2.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-720.81	2821	0.51	0	283	4044	2749	1301	4050	No	1.44	Si
SLU 83	fin.	-343.23	-3266	0.51	0	251	4044	2749	1301	4050	No	1.24	Si
SLU 82	ini.	-720.81	2821	0.51	0	283	4044	2749	1301	4050	No	1.44	Si
SLU 82	fin.	-343.23	-3266	0.51	0	251	4044	2749	1301	4050	No	1.24	Si
SLU 39	ini.	-647.59	2534	0.51	0	271	4044	2749	1301	4050	No	1.6	Si
SLU 39	fin.	-316.85	-3001	0.51	0	245	4044	2749	1301	4050	No	1.35	Si
SLU 84	ini.	-720.81	2821	0.51	0	283	4044	2749	1301	4050	No	1.44	Si
SLU 84	fin.	-343.23	-3266	0.51	0	251	4044	2749	1301	4050	No	1.24	Si
SLU 81	ini.	-720.81	2821	0.51	0	283	4044	2749	1301	4050	No	1.44	Si
SLU 81	fin.	-343.23	-3266	0.51	0	251	4044	2749	1301	4050	No	1.24	Si
SLU 41	ini.	-647.59	2534	0.51	0	271	4044	2749	1301	4050	No	1.6	Si
SLU 41	fin.	-316.85	-3001	0.51	0	245	4044	2749	1301	4050	No	1.35	Si
SLU 42	ini.	-647.59	2534	0.51	0	271	4044	2749	1301	4050	No	1.6	Si
SLU 42	fin.	-316.85	-3001	0.51	0	245	4044	2749	1301	4050	No	1.35	Si
SLU 77	ini.	-660.86	2586	0.51	0	275	4044	2749	1301	4050	No	1.57	Si
SLU 77	fin.	-309.23	-2950	0.51	0	243	4044	2749	1301	4050	No	1.37	Si
SLU 75	ini.	-660.86	2586	0.51	0	275	4044	2749	1301	4050	No	1.57	Si
SLU 75	fin.	-309.23	-2950	0.51	0	243	4044	2749	1301	4050	No	1.37	Si
SLU 40	ini.	-647.59	2534	0.51	0	271	4044	2749	1301	4050	No	1.6	Si
SLU 40	fin.	-316.85	-3001	0.51	0	245	4044	2749	1301	4050	No	1.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-762.31	-1787	-0.0018806	0.0003369	0.0035	0.51		962.99	962.99		1.26	Si
SLV 11	fin.	-95.03	-609	-0.0001494	0.0003369	0.0035	0.51		962.99	962.99		10.13	Si
SLV 3	ini.	167.94	443	-0.0002743	0.0003369	0.0035	0.51		959.5	959.5		5.71	Si
SLV 3	fin.	-728.64	-2892	-0.00174	0.0003369	0.0035	0.51		962.99	962.99		1.32	Si
SLV 2	ini.	257.99	658	-0.0004439	0.0003369	0.0035	0.51		959.5	959.5		3.72	Si
SLV 2	fin.	-688.92	-2525	-0.0015887	0.0003369	0.0035	0.51		962.99	962.99		1.4	Si
SLV 1	ini.	260.2	663	-0.0004484	0.0003369	0.0035	0.51		959.5	959.5		3.69	Si
SLV 1	fin.	-691.07	-2534	-0.0015965	0.0003369	0.0035	0.51		962.99	962.99		1.39	Si
SLV 13	ini.	-1005.39	-2373	-0.0033548	0.0003369	0.0035	0.51		962.99	962.99		0.96	No
SLV 13	fin.	351.18	1620	-0.000642	0.0003369	0.0035	0.51		959.5	959.5		2.73	Si
SLV 12	ini.	-764.54	-1792	-0.0018904	0.0003369	0.0035	0.51		962.99	962.99		1.26	Si
SLV 12	fin.	-92.85	-600	-0.0001458	0.0003369	0.0035	0.51		962.99	962.99		10.37	Si
SLV 14	ini.	-1007.59	-2377	-0.0033706	0.0003369	0.0035	0.51		962.99	962.99		0.96	No
SLV 14	fin.	353.33	1629	-0.0006468	0.0003369	0.0035	0.51		959.5	959.5		2.72	Si
SLV 16	ini.	-1099.85	-2597	-0.0039912	0.0003369	0.0035	0.51		962.99	962.99		0.88	No
SLV 16	fin.	315.76	1271	-0.000564	0.0003369	0.0035	0.51		959.5	959.5		3.04	Si
SLV 15	ini.	-1097.64	-2593	-0.0039771	0.0003369	0.0035	0.51		962.99	962.99		0.88	No
SLV 15	fin.	313.61	1262	-0.0005593	0.0003369	0.0035	0.51		959.5	959.5		3.06	Si
SLV 4	ini.	165.74	438	-0.0002704	0.0003369	0.0035	0.51		959.5	959.5		5.79	Si
SLV 4	fin.	-726.49	-2883	-0.0017314	0.0003369	0.0035	0.51		962.99	962.99		1.33	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1005.39	3665	0.51	0	421	4044	4124	1301	4465		1.22	Si
SLV 13	fin.	351.18	992	0.51	0	0	4044	4124	1301	4044		4.08	Si
SLV 8	ini.	-384.87	1443	0.51	0	311	4044	4124	1301	4355		3.02	Si
SLV 8	fin.	-405.52	-3219	0.51	0	386	4044	4124	1301	4430		1.38	Si
SLV 3	ini.	167.94	-385	0.51	0	159	4044	4124	1301	4203		10.91	Si
SLV 3	fin.	-728.64	-4611	0.51	0	454	4044	4124	1301	4498		0.98	No
SLV 1	ini.	260.2	-651	0.51	0	115	4044	4124	1301	4159		6.39	Si
SLV 1	fin.	-691.07	-4228	0.51	0	432	4044	4124	1301	4476		1.06	Si
SLV 4	ini.	165.74	-377	0.51	0	160	4044	4124	1301	4204		11.14	Si
SLV 4	fin.	-726.49	-4599	0.51	0	453	4044	4124	1301	4497		0.98	No
SLV 2	ini.	257.99	-643	0.51	0	116	4044	4124	1301	4160		6.47	Si
SLV 2	fin.	-688.92	-4216	0.51	0	431	4044	4124	1301	4475		1.06	Si
SLV 7	ini.	-382.63	1435	0.51	0	311	4044	4124	1301	4355		3.03	Si
SLV 7	fin.	-407.7	-3231	0.51	0	387	4044	4124	1301	4431		1.37	Si
SLV 15	ini.	-1097.64	3931	0.51	0	435	4044	4124	1301	4479		1.14	Si
SLV 15	fin.	313.61	609	0.51	0	0	4044	4124	1301	4044		6.64	Si
SLV 14	ini.	-1007.59	3673	0.51	0	422	4044	4124	1301	4466		1.22	Si
SLV 14	fin.	353.33	1004	0.51	0	0	4044	4124	1301	4044		4.03	Si
SLV 16	ini.	-1099.85	3938	0.51	0	436	4044	4124	1301	4480		1.14	Si
SLV 16	fin.	315.76	621	0.51	0	0	4044	4124	1301	4044		6.51	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.876	SLV 16	No
V_SLV	0.975	SLV 3	No
PF_SLU	1.353	SLU 81	Si
V_SLU	1.24	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
5.239	5.915	-1.59	-0.2	1.39	6.239	5.915	-1.59	-0.2	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 FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 75	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si
SLU 79	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 79	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si
SLU 77	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 77	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si
SLU 84	ini.	84.22	-749	-0.0000173	0.0001872	0.0035	1.39		5230.97	5230.97	No	62.11	Si
SLU 84	fin.	379.45	-982	-0.0000801	0.0001872	0.0035	1.39		5230.97	5230.97	No	13.79	Si
SLU 82	ini.	84.22	-749	-0.0000173	0.0001872	0.0035	1.39		5230.97	5230.97	No	62.11	Si
SLU 82	fin.	379.45	-982	-0.0000801	0.0001872	0.0035	1.39		5230.97	5230.97	No	13.79	Si
SLU 78	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 78	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si
SLU 81	ini.	84.22	-749	-0.0000173	0.0001872	0.0035	1.39		5230.97	5230.97	No	62.11	Si
SLU 81	fin.	379.45	-982	-0.0000801	0.0001872	0.0035	1.39		5230.97	5230.97	No	13.79	Si
SLU 80	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 80	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si
SLU 83	ini.	84.22	-749	-0.0000173	0.0001872	0.0035	1.39		5230.97	5230.97	No	62.11	Si
SLU 83	fin.	379.45	-982	-0.0000801	0.0001872	0.0035	1.39		5230.97	5230.97	No	13.79	Si
SLU 76	ini.	79.66	-700	-0.0000164	0.0001872	0.0035	1.39		5230.97	5230.97	No	65.66	Si
SLU 76	fin.	349.13	-912	-0.0000735	0.0001872	0.0035	1.39		5230.97	5230.97	No	14.98	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	Incremento > 50%	c.s.	Verifica
SLU 77	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 77	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 84	ini.	84.22	-987	1.39	0	1041	7930	9365	3545	8971	No	9.09	Si
SLU 84	fin.	379.45	3037	1.39	0	1080	7930	9365	3545	9009	No	2.97	Si
SLU 76	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 76	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 80	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 80	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 81	ini.	84.22	-987	1.39	0	1041	7930	9365	3545	8971	No	9.09	Si
SLU 81	fin.	379.45	3037	1.39	0	1080	7930	9365	3545	9009	No	2.97	Si
SLU 78	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 78	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 75	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 75	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 83	ini.	84.22	-987	1.39	0	1041	7930	9365	3545	8971	No	9.09	Si
SLU 83	fin.	379.45	3037	1.39	0	1080	7930	9365	3545	9009	No	2.97	Si
SLU 79	ini.	79.66	-903	1.39	0	1033	7930	9365	3545	8963	No	9.93	Si
SLU 79	fin.	349.13	2812	1.39	0	1068	7930	9365	3545	8998	No	3.2	Si
SLU 82	ini.	84.22	-987	1.39	0	1041	7930	9365	3545	8971	No	9.09	Si
SLU 82	fin.	379.45	3037	1.39	0	1080	7930	9365	3545	9009	No	2.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	Incremento > 50%	c.s.	Verifica
SLV 5	ini.	-694.33	3110	-0.0001482	0.0002807	0.0035	1.39		7578.45	7578.45		10.91	Si
SLV 5	fin.	1572.69	2291	-0.000361	0.0002807	0.0035	1.39		7569.61	7569.61		4.81	Si
SLV 15	ini.	1042.91	-2802	-0.0002287	0.0002807	0.0035	1.39		7569.61	7569.61		7.26	Si
SLV 15	fin.	-1057.88	-1097	-0.0002319	0.0002807	0.0035	1.39		7578.45	7578.45		7.16	Si
SLV 2	ini.	-927.87	1846	-0.0002014	0.0002807	0.0035	1.39		7578.45	7578.45		8.17	Si
SLV 2	fin.	1499.85	-114	-0.0003419	0.0002807	0.0035	1.39		7569.61	7569.61		5.05	Si
SLV 4	ini.	-674.7	74	-0.0001438	0.0002807	0.0035	1.39		7578.45	7578.45		11.23	Si
SLV 4	fin.	931.76	-1924	-0.0002026	0.0002807	0.0035	1.39		7569.61	7569.61		8.12	Si
SLV 16	ini.	1152.77	-3111	-0.000255	0.0002807	0.0035	1.39		7569.61	7569.61		6.57	Si
SLV 16	fin.	-1219.74	-1100	-0.0002709	0.0002807	0.0035	1.39		7578.45	7578.45		6.21	Si
SLV 6	ini.	-582.79	2796	-0.0001234	0.0002807	0.0035	1.39		7578.45	7578.45		13	Si
SLV 6	fin.	1408.38	2287	-0.0003184	0.0002807	0.0035	1.39		7569.61	7569.61		5.37	Si
SLV 1	ini.	-1037.74	2155	-0.0002271	0.0002807	0.0035	1.39		7578.45	7578.45		7.3	Si
SLV 1	fin.	1661.71	-111	-0.0003846	0.0002807	0.0035	1.39		7569.61	7569.61		4.56	Si
SLV 3	ini.	-784.56	383	-0.0001685	0.0002807	0.0035	1.39		7578.45	7578.45		9.66	Si
SLV 3	fin.	1093.62	-1921	-0.0002407	0.0002807	0.0035	1.39		7569.61	7569.61		6.92	Si
SLV 11	ini.	697.83	-3752	-0.0001492	0.0002807	0.0035	1.39		7569.61	7569.61		10.85	Si
SLV 11	fin.	-966.41	-3498	-0.0002104	0.0002807	0.0035	1.39		7578.45	7578.45		7.84	Si
SLV 12	ini.	809.36	-4066	-0.0001744	0.0002807	0.0035	1.39		7569.61	7569.61		9.35	Si
SLV 12	fin.	-1130.72	-3501	-0.0002493	0.0002807	0.0035	1.39		7578.45	7578.45		6.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	Incremento > 50%	c.s.	Verifica
SLV 14	ini.	899.6	-3483	1.39	0	1598	7930	14048	3545	9527		2.74	Si
SLV 14	fin.	-651.64	-1452	1.39	0	1215	7930	14048	3545	9144		6.3	Si
SLV 3	ini.	-784.56	2325	1.39	0	1284	7930	14048	3545	9213		3.96	Si
SLV 3	fin.	1093.62	5091	1.39	0	1691	7930	14048	3545	9620		1.89	Si
SLV 2	ini.	-927.87	2692	1.39	0	938	7930	14048	3545	8867		3.29	Si
SLV 2	fin.	1499.85	5329	1.39	0	1382	7930	14048	3545	9311		1.75	Si
SLV 12	ini.	809.36	-3159	1.39	0	1996	7930	14048	3545	9926		3.14	Si
SLV 12	fin.	-1130.72	-628	1.39	0	1921	7930	14048	3545	9850		15.68	Si
SLV 5	ini.	-694.33	2001	1.39	0	463	7930	14048	3545	8393		4.2	Si
SLV 5	fin.	1572.69	4266	1.39	0	803	7930	14048	3545	8733		2.05	Si
SLV 4	ini.	-674.7	1846	1.39	0	1345	7930	14048	3545	9275		5.02	Si
SLV 4	fin.	931.76	4616	1.39	0	1691	7930	14048	3545	9621		2.08	Si
SLV 16	ini.	1152.77	-4329	1.39	0	1867	7930	14048	3545	9796		2.26	Si
SLV 16	fin.	-1219.74	-2166	1.39	0	1558	7930	14048	3545	9487		4.38	Si
SLV 15	ini.	1042.91	-3850	1.39	0	1822	7930	14048	3545	9752		2.53	Si
SLV 15	fin.	-1057.88	-1691	1.39	0	1557	7930	14048	3545	9487		5.61	Si
SLV 1	ini.	-1037.74	3171	1.39	0	847	7930	14048	3545	8776		2.77	Si
SLV 1	fin.	1661.71	5804	1.39	0	1381	7930	14048	3545	9311		1.6	Si
SLV 6	ini.	-582.79	1515	1.39	0	616	7930	14048	3545	8546		5.64	Si
SLV 6	fin.	1408.38	3784	1.39	0	804	7930	14048	3545	8734		2.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.555	SLV 1	Si
V_SLV	1.604	SLV 1	Si
PF_SLU	13.786	SLU 81	Si
V_SLU	2.966	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
5.239	5.915	0.2	1.09	0.89	6.239	5.915	0.2	1.09	0.89	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?				
									α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	Incremento > 50%	c.s.	Verifica
SLU 83	ini.	-280.61	-838	-0.0001488	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.02	Si
SLU 83	fin.	-163.86	-713	-0.0000846	0.0001872	0.0035	0.89		2250.63	2250.63	No	13.73	Si
SLU 41	ini.	-256.54	-766	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 41	fin.	-138.58	-632	-0.0000711	0.0001872	0.0035	0.89		2250.63	2250.63	No	16.24	Si
SLU 39	ini.	-256.54	-766	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 39	fin.	-138.58	-632	-0.0000711	0.0001872	0.0035	0.89		2250.63	2250.63	No	16.24	Si
SLU 81	ini.	-280.61	-838	-0.0001488	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.02	Si
SLU 81	fin.	-163.86	-713	-0.0000846	0.0001872	0.0035	0.89		2250.63	2250.63	No	13.73	Si
SLU 82	ini.	-280.61	-838	-0.0001488	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.02	Si
SLU 82	fin.	-163.86	-713	-0.0000846	0.0001872	0.0035	0.89		2250.63	2250.63	No	13.73	Si
SLU 42	ini.	-256.54	-766	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 42	fin.	-138.58	-632	-0.0000711	0.0001872	0.0035	0.89		2250.63	2250.63	No	16.24	Si
SLU 40	ini.	-256.54	-766	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 40	fin.	-138.58	-632	-0.0000711	0.0001872	0.0035	0.89		2250.63	2250.63	No	16.24	Si
SLU 77	ini.	-256.5	-760	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 77	fin.	-154.03	-654	-0.0000793	0.0001872	0.0035	0.89		2250.63	2250.63	No	14.61	Si
SLU 84	ini.	-280.61	-838	-0.0001488	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.02	Si
SLU 84	fin.	-163.86	-713	-0.0000846	0.0001872	0.0035	0.89		2250.63	2250.63	No	13.73	Si
SLU 75	ini.	-256.5	-760	-0.0001352	0.0001872	0.0035	0.89		2250.63	2250.63	No	8.77	Si
SLU 75	fin.	-154.03	-654	-0.0000793	0.0001872	0.0035	0.89		2250.63	2250.63	No	14.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	Incremento > 50%	c.s.	Verifica
SLU 78	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 78	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si
SLU 81	ini.	-280.61	2819	0.89	0	645	7057	5996	2270	7702	No	2.73	Si
SLU 81	fin.	-163.86	-2361	0.89	0	627	7057	5996	2270	7685	No	3.26	Si
SLU 82	ini.	-280.61	2819	0.89	0	645	7057	5996	2270	7702	No	2.73	Si
SLU 82	fin.	-163.86	-2361	0.89	0	627	7057	5996	2270	7685	No	3.26	Si
SLU 83	ini.	-280.61	2819	0.89	0	645	7057	5996	2270	7702	No	2.73	Si
SLU 83	fin.	-163.86	-2361	0.89	0	627	7057	5996	2270	7685	No	3.26	Si
SLU 76	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 76	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si
SLU 77	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 77	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si
SLU 75	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 75	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si
SLU 84	ini.	-280.61	2819	0.89	0	645	7057	5996	2270	7702	No	2.73	Si
SLU 84	fin.	-163.86	-2361	0.89	0	627	7057	5996	2270	7685	No	3.26	Si
SLU 80	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 80	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si
SLU 79	ini.	-256.5	2634	0.89	0	634	7057	5996	2270	7691	No	2.92	Si
SLU 79	fin.	-154.03	-2215	0.89	0	619	7057	5996	2270	7676	No	3.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	Incremento > 50%	c.s.	Verifica
SLV 14	ini.	297.07	536	-0.0001555	0.0002807	0.0035	0.89		3112.21	3112.21		10.48	Si
SLV 14	fin.	-701.14	-1310	-0.0003978	0.0002807	0.0035	0.89		3117.87	3117.87		4.45	Si
SLV 16	ini.	488.17	875	-0.0002648	0.0002807	0.0035	0.89		3112.21	3112.21		6.38	Si
SLV 16	fin.	-1018.81	-2024	-0.0006225	0.0002807	0.0035	0.89		3117.87	3117.87		3.06	Si
SLV 2	ini.	-732.02	-1657	-0.0004184	0.0002807	0.0035	0.89		3117.87	3117.87		4.26	Si
SLV 2	fin.	1020	1020	-0.0004065	0.0002807	0.0035	0.89		3112.21	3112.21		4.37	Si
SLV 13	ini.	220.4	379	-0.0001139	0.0002807	0.0035	0.89		3112.21	3112.21		14.12	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	fin.	-605.65	-1147	-0.0003362	0.0002807	0.0035	0.89		3117.87	3117.87		5.15	Si
SLV 5	ini.	-672.04	-1443	-0.0003788	0.0002807	0.0035	0.89		3117.87	3117.87		4.64	Si
SLV 5	fin.	684.85	1202	-0.000388	0.0002807	0.0035	0.89		3112.21	3112.21		4.54	Si
SLV 3	ini.	-617.6	-1474	-0.0003438	0.0002807	0.0035	0.89		3117.87	3117.87		5.05	Si
SLV 3	fin.	490.79	469	-0.0002664	0.0002807	0.0035	0.89		3112.21	3112.21		6.34	Si
SLV 12	ini.	351.51	504	-0.0001858	0.0002807	0.0035	0.89		3112.21	3112.21		8.85	Si
SLV 12	fin.	-895.2	-2043	-0.0005315	0.0002807	0.0035	0.89		3117.87	3117.87		3.48	Si
SLV 1	ini.	-808.69	-1813	-0.0004706	0.0002807	0.0035	0.89		3117.87	3117.87		3.86	Si
SLV 1	fin.	808.46	1183	-0.0004714	0.0002807	0.0035	0.89		3112.21	3112.21		3.85	Si
SLV 15	ini.	411.49	718	-0.0002199	0.0002807	0.0035	0.89		3112.21	3112.21		7.56	Si
SLV 15	fin.	-923.31	-1861	-0.0005518	0.0002807	0.0035	0.89		3117.87	3117.87		3.38	Si
SLV 11	ini.	273.67	345	-0.0001427	0.0002807	0.0035	0.89		3112.21	3112.21		11.37	Si
SLV 11	fin.	-798.26	-1877	-0.0004633	0.0002807	0.0035	0.89		3117.87	3117.87		3.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	411.49	-1407	0.89	0	640	7057	8995	2270	7697		5.47	Si
SLV 15	fin.	-923.31	-4285	0.89	0	1047	7057	8995	2270	8104		1.89	Si
SLV 12	ini.	351.51	-1304	0.89	0	683	7057	8995	2270	7740		5.94	Si
SLV 12	fin.	-895.2	-4281	0.89	0	1070	7057	8995	2270	8127		1.9	Si
SLV 16	ini.	488.17	-1711	0.89	0	606	7057	8995	2270	7663		4.48	Si
SLV 16	fin.	-1018.81	-4602	0.89	0	1068	7057	8995	2270	8125		1.77	Si
SLV 3	ini.	-617.6	3939	0.89	0	997	7057	8995	2270	8054		2.04	Si
SLV 3	fin.	490.79	477	0.89	0	689	7057	8995	2270	7747		16.24	Si
SLV 2	ini.	-732.02	4888	0.89	0	1021	7057	8995	2270	8078		1.65	Si
SLV 2	fin.	712.97	1312	0.89	0	573	7057	8995	2270	7631		5.82	Si
SLV 5	ini.	-672.04	4785	0.89	0	992	7057	8995	2270	8050		1.68	Si
SLV 5	fin.	684.85	1308	0.89	0	529	7057	8995	2270	7587		5.8	Si
SLV 11	ini.	273.67	-996	0.89	0	713	7057	8995	2270	7770		7.8	Si
SLV 11	fin.	-798.26	-3960	0.89	0	1049	7057	8995	2270	8106		2.05	Si
SLV 1	ini.	-808.69	5192	0.89	0	1041	7057	8995	2270	8098		1.56	Si
SLV 1	fin.	808.46	1629	0.89	0	534	7057	8995	2270	7591		4.66	Si
SLV 6	ini.	-594.2	4477	0.89	0	971	7057	8995	2270	8028		1.79	Si
SLV 6	fin.	587.91	986	0.89	0	569	7057	8995	2270	7627		7.73	Si
SLV 4	ini.	-540.92	3635	0.89	0	976	7057	8995	2270	8033		2.21	Si
SLV 4	fin.	395.3	160	0.89	0	720	7057	8995	2270	7778		48.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		3.06	SLV 16
V_SLV		1.56	SLV 1
PF_SLU		8.021	SLU 81
V_SLU		2.732	SLU 81

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
9.889	5.915	-1.59	-0.2	1.39	10.889	5.915	-1.59	-0.2	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 FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 80	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	Si
SLU 77	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 77	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	Si
SLU 82	ini.	345.38	-2165	-0.0000727	0.0001872	0.0035	1.39		5230.97	5230.97	No	15.15	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	fin.	175.1	-379	-0.0000363	0.0001872	0.0035	1.39		5230.97	5230.97	No	29.87	Si
SLU 81	ini.	345.38	-2165	-0.0000727	0.0001872	0.0035	1.39		5230.97	5230.97	No	15.15	Si
SLU 81	fin.	175.1	-379	-0.0000363	0.0001872	0.0035	1.39		5230.97	5230.97	No	29.87	Si
SLU 78	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 78	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	Si
SLU 79	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 79	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	Si
SLU 83	ini.	345.38	-2165	-0.0000727	0.0001872	0.0035	1.39		5230.97	5230.97	No	15.15	Si
SLU 83	fin.	175.1	-379	-0.0000363	0.0001872	0.0035	1.39		5230.97	5230.97	No	29.87	Si
SLU 84	ini.	345.38	-2165	-0.0000727	0.0001872	0.0035	1.39		5230.97	5230.97	No	15.15	Si
SLU 84	fin.	175.1	-379	-0.0000363	0.0001872	0.0035	1.39		5230.97	5230.97	No	29.87	Si
SLU 76	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 76	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	Si
SLU 75	ini.	320.99	-2025	-0.0000674	0.0001872	0.0035	1.39		5230.97	5230.97	No	16.3	Si
SLU 75	fin.	165.36	-351	-0.0000343	0.0001872	0.0035	1.39		5230.97	5230.97	No	31.63	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.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 75	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 73	ini.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 73	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 79	ini.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 79	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 81	ini.	345.38	-6735	1.39	0	1257	7930	9365	3545	9187	No	1.36	Si
SLU 81	fin.	175.1	1130	1.39	0	977	7930	9365	3545	8907	No	7.88	Si
SLU 84	ini.	345.38	-6735	1.39	0	1257	7930	9365	3545	9187	No	1.36	Si
SLU 84	fin.	175.1	1130	1.39	0	977	7930	9365	3545	8907	No	7.88	Si
SLU 82	ini.	345.38	-6735	1.39	0	1257	7930	9365	3545	9187	No	1.36	Si
SLU 82	fin.	175.1	1130	1.39	0	977	7930	9365	3545	8907	No	7.88	Si
SLU 76	ini.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 76	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 74	ini.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 74	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 78	ini.	320.99	-6313	1.39	0	1237	7930	9365	3545	9167	No	1.45	Si
SLU 78	fin.	165.36	1050	1.39	0	972	7930	9365	3545	8902	No	8.48	Si
SLU 83	ini.	345.38	-6735	1.39	0	1257	7930	9365	3545	9187	No	1.36	Si
SLU 83	fin.	175.1	1130	1.39	0	977	7930	9365	3545	8907	No	7.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-600.45	-174	-0.0001273	0.0002807	0.0035	1.39		7578.45	7578.45		12.62	Si
SLV 4	fin.	985.46	-2245	-0.0002151	0.0002807	0.0035	1.39		7569.61	7569.61		7.68	Si
SLV 13	ini.	1017.87	-2533	-0.0002227	0.0002807	0.0035	1.39		7569.61	7569.61		7.44	Si
SLV 13	fin.	-753.49	1759	-0.0001615	0.0002807	0.0035	1.39		7578.45	7578.45		10.06	Si
SLV 9	ini.	1453.62	106	-0.00033	0.0002807	0.0035	1.39		7569.61	7569.61		5.21	Si
SLV 9	fin.	-783.29	2467	-0.0001682	0.0002807	0.0035	1.39		7578.45	7578.45		9.68	Si
SLV 6	ini.	1248.66	1125	-0.0002784	0.0002807	0.0035	1.39		7569.61	7569.61		6.06	Si
SLV 6	fin.	-451.81	1956	-0.0000949	0.0002807	0.0035	1.39		7578.45	7578.45		16.77	Si
SLV 14	ini.	1122.59	-2595	-0.0002477	0.0002807	0.0035	1.39		7569.61	7569.61		6.74	Si
SLV 14	fin.	-834.82	2107	-0.00018	0.0002807	0.0035	1.39		7578.45	7578.45		9.08	Si
SLV 3	ini.	-705.17	-113	-0.0001506	0.0002807	0.0035	1.39		7578.45	7578.45		10.75	Si
SLV 3	fin.	1066.8	-2593	-0.0002343	0.0002807	0.0035	1.39		7569.61	7569.61		7.1	Si
SLV 7	ini.	-1142.51	-2751	-0.0002522	0.0002807	0.0035	1.39		7578.45	7578.45		6.63	Si
SLV 7	fin.	1097.83	-3305	-0.0002418	0.0002807	0.0035	1.39		7569.61	7569.61		6.9	Si
SLV 8	ini.	-1036.2	-2814	-0.0002268	0.0002807	0.0035	1.39		7578.45	7578.45		7.31	Si
SLV 8	fin.	1015.26	-2952	-0.0002221	0.0002807	0.0035	1.39		7569.61	7569.61		7.46	Si
SLV 10	ini.	1559.93	44	-0.0003576	0.0002807	0.0035	1.39		7569.61	7569.61		4.85	Si
SLV 10	fin.	-865.86	2820	-0.0001871	0.0002807	0.0035	1.39		7578.45	7578.45		8.75	Si
SLV 5	ini.	1142.34	1187	-0.0002525	0.0002807	0.0035	1.39		7569.61	7569.61		6.63	Si
SLV 5	fin.	-369.24	1603	-0.0000771	0.0002807	0.0035	1.39		7578.45	7578.45		20.52	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 16	ini.	437.14	-7708	1.39	0	1958	7930	14048	3545	9888		1.28	Si
SLV 16	fin.	-394.7	-1744	1.39	0	1231	7930	14048	3545	9161		5.25	Si
SLV 13	ini.	1017.87	-8107	1.39	0	1783	7930	14048	3545	9713		1.2	Si
SLV 13	fin.	-753.49	-2798	1.39	0	962	7930	14048	3545	8891		3.18	Si
SLV 10	ini.	1559.93	-6998	1.39	0	1351	7930	14048	3545	9281		1.33	Si
SLV 10	fin.	-865.86	-2947	1.39	0	606	7930	14048	3545	8536		2.9	Si
SLV 15	ini.	332.41	-7244	1.39	0	1950	7930	14048	3545	9879		1.36	Si
SLV 15	fin.	-313.37	-1284	1.39	0	1303	7930	14048	3545	9233		7.19	Si
SLV 5	ini.	1142.34	-4312	1.39	0	1107	7930	14048	3545	9036		2.1	Si
SLV 5	fin.	-369.24	-696	1.39	0	1003	7930	14048	3545	8933		12.83	Si
SLV 14	ini.	1122.59	-8571	1.39	0	1792	7930	14048	3545	9722		1.13	Si
SLV 14	fin.	-834.82	-3258	1.39	0	861	7930	14048	3545	8791		2.7	Si
SLV 3	ini.	-705.17	137	1.39	0	1381	7930	14048	3545	9311		68.17	Si
SLV 3	fin.	1066.8	4661	1.39	0	1792	7930	14048	3545	9722		2.09	Si
SLV 9	ini.	1453.62	-6527	1.39	0	1339	7930	14048	3545	9269		1.42	Si
SLV 9	fin.	-783.29	-2480	1.39	0	743	7930	14048	3545	8673		3.5	Si
SLV 7	ini.	-1142.51	-1437	1.39	0	1815	7930	14048	3545	9745		6.78	Si
SLV 7	fin.	1097.83	4350	1.39	0	1894	7930	14048	3545	9823		2.26	Si
SLV 6	ini.	1248.66	-4783	1.39	0	1122	7930	14048	3545	9051		1.89	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	fin.	-451.81	-1163	1.39	0	906	7930	14048	3545	8836		7,6	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.853	SLV 10	Si
V_SLV	1.134	SLV 14	Si
PF_SLU	15.145	SLU 81	Si
V_SLU	1.364	SLU 81	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
9.889	5.915	0.2	1.09	0.89	10.889	5.915	0.2	1.09	0.89	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	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 78	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si
SLU 84	ini.	138.87	-294	-0.0000714	0.0001872	0.0035	0.89		2244.13	2244.13	No	16.16	Si
SLU 84	fin.	-492.3	-2386	-0.0002772	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.57	Si
SLU 76	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 76	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si
SLU 79	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 79	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si
SLU 83	ini.	138.87	-294	-0.0000714	0.0001872	0.0035	0.89		2244.13	2244.13	No	16.16	Si
SLU 83	fin.	-492.3	-2386	-0.0002772	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.57	Si
SLU 74	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 74	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si
SLU 82	ini.	138.87	-294	-0.0000714	0.0001872	0.0035	0.89		2244.13	2244.13	No	16.16	Si
SLU 82	fin.	-492.3	-2386	-0.0002772	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.57	Si
SLU 81	ini.	138.87	-294	-0.0000714	0.0001872	0.0035	0.89		2244.13	2244.13	No	16.16	Si
SLU 81	fin.	-492.3	-2386	-0.0002772	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.57	Si
SLU 73	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 73	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si
SLU 75	ini.	129.83	-259	-0.0000666	0.0001872	0.0035	0.89		2244.13	2244.13	No	17.28	Si
SLU 75	fin.	-458.7	-2221	-0.0002557	0.0001872	0.0035	0.89		2250.63	2250.63	No	4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 76	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 79	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 79	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 80	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 80	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 82	ini.	138.87	2808	0.89	0	565	7057	5996	2270	7622	No	2.71	Si
SLU 82	fin.	-492.3	-4900	0.89	0	831	7057	5996	2270	7889	No	1.61	Si
SLU 78	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 78	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 75	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 75	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 77	ini.	129.83	2592	0.89	0	559	7057	5996	2270	7617	No	2.94	Si
SLU 77	fin.	-458.7	-4572	0.89	0	813	7057	5996	2270	7871	No	1.72	Si
SLU 81	ini.	138.87	2808	0.89	0	565	7057	5996	2270	7622	No	2.71	Si
SLU 81	fin.	-492.3	-4900	0.89	0	831	7057	5996	2270	7889	No	1.61	Si
SLU 84	ini.	138.87	2808	0.89	0	565	7057	5996	2270	7622	No	2.71	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-492.3	-4900	0.89	0	831	7057	5996	2270	7889	No	1.61	Si
SLU 83	ini.	138.87	2808	0.89	0	565	7057	5996	2270	7622	No	2.71	Si
SLU 83	fin.	-492.3	-4900	0.89	0	831	7057	5996	2270	7889	No	1.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	338.08	1115	-0.0001783	0.0002807	0.0035	0.89		3112.21	3112.21		9.21	Si
SLV 16	fin.	-652.09	-2711	-0.0003658	0.0002807	0.0035	0.89		3117.87	3117.87		4.78	Si
SLV 10	ini.	602.33	2395	-0.0003348	0.0002807	0.0035	0.89		3112.21	3112.21		5.17	Si
SLV 10	fin.	-801.01	-3094	-0.0004652	0.0002807	0.0035	0.89		3117.87	3117.87		3.89	Si
SLV 13	ini.	516.88	1989	-0.0002821	0.0002807	0.0035	0.89		3112.21	3112.21		6.02	Si
SLV 13	fin.	-795.91	-3142	-0.0004617	0.0002807	0.0035	0.89		3117.87	3117.87		3.92	Si
SLV 5	ini.	342.44	1102	-0.0001807	0.0002807	0.0035	0.89		3112.21	3112.21		9.09	Si
SLV 5	fin.	-485.91	-1994	-0.000263	0.0002807	0.0035	0.89		3117.87	3117.87		6.42	Si
SLV 3	ini.	-400.41	-2559	-0.0002131	0.0002807	0.0035	0.89		3117.87	3117.87		7.79	Si
SLV 3	fin.	252.79	437	-0.0001314	0.0002807	0.0035	0.89		3112.21	3112.21		12.31	Si
SLV 6	ini.	396.87	1373	-0.0002115	0.0002807	0.0035	0.89		3112.21	3112.21		7.84	Si
SLV 6	fin.	-547.85	-2215	-0.0003003	0.0002807	0.0035	0.89		3117.87	3117.87		5.69	Si
SLV 7	ini.	-432.25	-2698	-0.0002315	0.0002807	0.0035	0.89		3117.87	3117.87		7.21	Si
SLV 7	fin.	196.88	171	-0.0001014	0.0002807	0.0035	0.89		3112.21	3112.21		15.81	Si
SLV 14	ini.	570.49	2256	-0.0003149	0.0002807	0.0035	0.89		3112.21	3112.21		5.46	Si
SLV 14	fin.	-856.93	-3360	-0.0005043	0.0002807	0.0035	0.89		3117.87	3117.87		3.64	Si
SLV 9	ini.	547.91	2125	-0.000301	0.0002807	0.0035	0.89		3112.21	3112.21		5.68	Si
SLV 9	fin.	-739.07	-2873	-0.0004231	0.0002807	0.0035	0.89		3117.87	3117.87		4.22	Si
SLV 15	ini.	284.47	849	-0.0001486	0.0002807	0.0035	0.89		3112.21	3112.21		10.94	Si
SLV 15	fin.	-591.08	-2493	-0.0003271	0.0002807	0.0035	0.89		3117.87	3117.87		5.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	547.91	-1093	0.89	0	185	7057	8995	2270	7242		6.62	Si
SLV 9	fin.	-739.07	-5989	0.89	0	1169	7057	8995	2270	8226		1.37	Si
SLV 13	ini.	516.88	-1007	0.89	0	265	7057	8995	2270	7323		7.27	Si
SLV 13	fin.	-795.91	-5827	0.89	0	1199	7057	8995	2270	8256		1.42	Si
SLV 8	ini.	-377.83	4441	0.89	0	1117	7057	8995	2270	8174		1.84	Si
SLV 8	fin.	134.94	-46	0.89	0	783	7057	8995	2270	7841		171.71	Si
SLV 6	ini.	396.87	-121	0.89	0	484	7057	8995	2270	7542		62.45	Si
SLV 6	fin.	-547.85	-4979	0.89	0	1091	7057	8995	2270	8149		1.64	Si
SLV 14	ini.	570.49	-1323	0.89	0	0	7057	8995	2270	7057		5.33	Si
SLV 14	fin.	-856.93	-6152	0.89	0	1223	7057	8995	2270	8280		1.35	Si
SLV 16	ini.	338.08	46	0.89	0	551	7057	8995	2270	7608		166.6	Si
SLV 16	fin.	-652.09	-4672	0.89	0	1150	7057	8995	2270	8208		1.76	Si
SLV 5	ini.	342.44	200	0.89	0	554	7057	8995	2270	7611		38.13	Si
SLV 5	fin.	-485.91	-4650	0.89	0	1064	7057	8995	2270	8121		1.75	Si
SLV 3	ini.	-400.41	4671	0.89	0	1132	7057	8995	2270	8190		1.75	Si
SLV 3	fin.	252.79	117	0.89	0	696	7057	8995	2270	7753		66.07	Si
SLV 10	ini.	602.33	-1414	0.89	0	0	7057	8995	2270	7057		4.99	Si
SLV 10	fin.	-801.01	-6319	0.89	0	1194	7057	8995	2270	8251		1.31	Si
SLV 7	ini.	-432.25	4761	0.89	0	1149	7057	8995	2270	8206		1.72	Si
SLV 7	fin.	196.88	284	0.89	0	745	7057	8995	2270	7802		27.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 14	Si
V_SLV		SLV 10	Si
PF_SLU		SLU 81	Si
V_SLU		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
8.964	-3.756	0.61	1.09	0.48	7.964	-3.756	0.61	1.09	0.48	1	0.45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ϵ ,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ϵ ,fd	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 80	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 83	ini.	-120.6	-1659	-0.0002242	0.0002246	0.0035	0.48		630.51	630.51	No	5.23	Si
SLU 83	fin.	36.07	322	-0.0000634	0.0002246	0.0035	0.48		627	627	No	17.38	Si
SLU 78	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 78	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 82	ini.	-120.6	-1659	-0.0002242	0.0002246	0.0035	0.48		630.51	630.51	No	5.23	Si
SLU 82	fin.	36.07	322	-0.0000634	0.0002246	0.0035	0.48		627	627	No	17.38	Si
SLU 79	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 79	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 84	ini.	-120.6	-1659	-0.0002242	0.0002246	0.0035	0.48		630.51	630.51	No	5.23	Si
SLU 84	fin.	36.07	322	-0.0000634	0.0002246	0.0035	0.48		627	627	No	17.38	Si
SLU 75	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 75	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 76	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 76	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 77	ini.	-110.03	-1517	-0.0002028	0.0002246	0.0035	0.48		630.51	630.51	No	5.73	Si
SLU 77	fin.	35.7	307	-0.0000627	0.0002246	0.0035	0.48		627	627	No	17.56	Si
SLU 81	ini.	-120.6	-1659	-0.0002242	0.0002246	0.0035	0.48		630.51	630.51	No	5.23	Si
SLU 81	fin.	36.07	322	-0.0000634	0.0002246	0.0035	0.48		627	627	No	17.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 75	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si
SLU 82	ini.	-120.6	3488	0.48	0	364	3806	3881	1224	4171	No	1.2	Si
SLU 82	fin.	36.07	-911	0.48	0	162	3806	3881	1224	3968	No	4.36	Si
SLU 76	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 76	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si
SLU 79	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 79	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si
SLU 80	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 80	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si
SLU 83	ini.	-120.6	3488	0.48	0	364	3806	3881	1224	4171	No	1.2	Si
SLU 83	fin.	36.07	-911	0.48	0	162	3806	3881	1224	3968	No	4.36	Si
SLU 77	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 77	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si
SLU 81	ini.	-120.6	3488	0.48	0	364	3806	3881	1224	4171	No	1.2	Si
SLU 81	fin.	36.07	-911	0.48	0	162	3806	3881	1224	3968	No	4.36	Si
SLU 84	ini.	-120.6	3488	0.48	0	364	3806	3881	1224	4171	No	1.2	Si
SLU 84	fin.	36.07	-911	0.48	0	162	3806	3881	1224	3968	No	4.36	Si
SLU 78	ini.	-110.03	3195	0.48	0	354	3806	3881	1224	4160	No	1.3	Si
SLU 78	fin.	35.7	-836	0.48	0	164	3806	3881	1224	3971	No	4.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	103.68	369	-0.0001873	0.0003369	0.0035	0.48		768.06	768.06		7.41	Si
SLV 2	fin.	-316.24	-1331	-0.0006556	0.0003369	0.0035	0.48		771.26	771.26		2.44	Si
SLV 4	ini.	135.12	639	-0.0002483	0.0003369	0.0035	0.48		768.06	768.06		5.68	Si
SLV 4	fin.	-254.94	-1053	-0.0005051	0.0003369	0.0035	0.48		771.26	771.26		3.03	Si
SLV 1	ini.	83.58	213	-0.0001494	0.0003369	0.0035	0.48		768.06	768.06		9.19	Si
SLV 1	fin.	-270.33	-1122	-0.0005417	0.0003369	0.0035	0.48		771.26	771.26		2.85	Si
SLV 11	ini.	-80.54	-1004	-0.0001432	0.0003369	0.0035	0.48		771.26	771.26		9.58	Si
SLV 11	fin.	239.61	1175	-0.0004714	0.0003369	0.0035	0.48		768.06	768.06		3.21	Si
SLV 16	ini.	-221.94	-2132	-0.0004294	0.0003369	0.0035	0.48		771.26	771.26		3.48	Si
SLV 16	fin.	324.71	1551	-0.0006803	0.0003369	0.0035	0.48		768.06	768.06		2.37	Si
SLV 15	ini.	-242.04	-2288	-0.0004751	0.0003369	0.0035	0.48		771.26	771.26		3.19	Si
SLV 15	fin.	370.62	1761	-0.0008035	0.0003369	0.0035	0.48		768.06	768.06		2.07	Si
SLV 3	ini.	115.02	483	-0.000209	0.0003369	0.0035	0.48		768.06	768.06		6.68	Si
SLV 3	fin.	-209.03	-843	-0.0004008	0.0003369	0.0035	0.48		771.26	771.26		3.69	Si
SLV 14	ini.	-253.38	-2402	-0.0005015	0.0003369	0.0035	0.48		771.26	771.26		3.04	Si
SLV 14	fin.	263.41	1273	-0.0005273	0.0003369	0.0035	0.48		768.06	768.06		2.92	Si
SLV 13	ini.	-273.48	-2558	-0.0005493	0.0003369	0.0035	0.48		771.26	771.26		2.82	Si
SLV 13	fin.	309.32	1482	-0.0006407	0.0003369	0.0035	0.48		768.06	768.06		2.48	Si
SLV 12	ini.	-60.14	-845	-0.0001059	0.0003369	0.0035	0.48		771.26	771.26		12.82	Si
SLV 12	fin.	193.01	963	-0.0003675	0.0003369	0.0035	0.48		768.06	768.06		3.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-273.48	4133	0.48	0	552	3806	5822	1224	4358		1.05	Si
SLV 13	fin.	309.32	999	0.48	0	0	3806	5822	1224	3806		3.81	Si
SLV 2	ini.	103.68	233	0.48	0	261	3806	5822	1224	4067		17.47	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	fin.	-316.24	-2366	0.48	0	453	3806	5822	1224	4259		1.8	Si
SLV 15	ini.	-242.04	3816	0.48	0	532	3806	5822	1224	4338		1.14	Si
SLV 15	fin.	370.62	1305	0.48	0	0	3806	5822	1224	3806		2.92	Si
SLV 5	ini.	-78.22	2108	0.48	0	430	3806	5822	1224	4236		2.01	Si
SLV 5	fin.	-138.63	-1381	0.48	0	376	3806	5822	1224	4182		3.03	Si
SLV 1	ini.	83.58	447	0.48	0	284	3806	5822	1224	4091		9.16	Si
SLV 1	fin.	-270.33	-2118	0.48	0	434	3806	5822	1224	4240		2	Si
SLV 9	ini.	-185.34	3214	0.48	0	502	3806	5822	1224	4308		1.34	Si
SLV 9	fin.	35.27	-446	0.48	0	279	3806	5822	1224	4085		9.15	Si
SLV 16	ini.	-221.94	3602	0.48	0	520	3806	5822	1224	4326		1.2	Si
SLV 16	fin.	324.71	1057	0.48	0	0	3806	5822	1224	3806		3.6	Si
SLV 11	ini.	-80.54	2157	0.48	0	423	3806	5822	1224	4229		1.96	Si
SLV 11	fin.	239.61	573	0.48	0	56	3806	5822	1224	3863		6.74	Si
SLV 10	ini.	-164.94	2997	0.48	0	489	3806	5822	1224	4295		1.43	Si
SLV 10	fin.	-11.34	-698	0.48	0	309	3806	5822	1224	4115		5.89	Si
SLV 14	ini.	-253.38	3919	0.48	0	540	3806	5822	1224	4346		1.11	Si
SLV 14	fin.	263.41	751	0.48	0	0	3806	5822	1224	3806		5.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		2.072	SLV 15
V_SLV		1.054	SLV 13
PF_SLU		5.228	SLU 81
V_SLU		1.196	SLU 81

Trave di accoppiamento 9

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.744	-0.751	-1.59	-0.2	1.39	12.744	-1.751	-1.59	-0.2	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	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-699.8	-589	-0.0001521	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.49	Si
SLU 84	fin.	1112.08	-5032	-0.0002538	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.7	Si
SLU 79	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 79	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si
SLU 80	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 80	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si
SLU 76	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 76	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si
SLU 78	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 78	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si
SLU 81	ini.	-699.8	-589	-0.0001521	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.49	Si
SLU 81	fin.	1112.08	-5032	-0.0002538	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.7	Si
SLU 83	ini.	-699.8	-589	-0.0001521	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.49	Si
SLU 83	fin.	1112.08	-5032	-0.0002538	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.7	Si
SLU 75	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 75	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si
SLU 82	ini.	-699.8	-589	-0.0001521	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.49	Si
SLU 82	fin.	1112.08	-5032	-0.0002538	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.7	Si
SLU 77	ini.	-679.81	-487	-0.0001475	0.0001872	0.0035	1.39		5240.94	5240.94	No	7.71	Si
SLU 77	fin.	1075.33	-4763	-0.0002443	0.0001872	0.0035	1.39		5230.97	5230.97	No	4.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-699.8	3344	1.39	0	1014	7930	9365	3545	8944	No	2.67	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	1112.08	7405	1.39	0	1608	7930	9365	3545	9537	No	1.29	Si
SLU 76	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 76	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si
SLU 84	ini.	-699.8	3344	1.39	0	1014	7930	9365	3545	8944	No	2.67	Si
SLU 84	fin.	1112.08	7405	1.39	0	1608	7930	9365	3545	9537	No	1.29	Si
SLU 75	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 75	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si
SLU 80	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 80	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si
SLU 79	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 79	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si
SLU 82	ini.	-699.8	3344	1.39	0	1014	7930	9365	3545	8944	No	2.67	Si
SLU 82	fin.	1112.08	7405	1.39	0	1608	7930	9365	3545	9537	No	1.29	Si
SLU 81	ini.	-699.8	3344	1.39	0	1014	7930	9365	3545	8944	No	2.67	Si
SLU 81	fin.	1112.08	7405	1.39	0	1608	7930	9365	3545	9537	No	1.29	Si
SLU 78	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 78	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si
SLU 77	ini.	-679.81	3281	1.39	0	996	7930	9365	3545	8926	No	2.72	Si
SLU 77	fin.	1075.33	7055	1.39	0	1578	7930	9365	3545	9508	No	1.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	M1d	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-670.6	2995	-0.0001429	0.0002807	0.0035	1.39		7578.45	7578.45		11.3	Si
SLV 4	fin.	822.93	-739	-0.0001775	0.0002807	0.0035	1.39		7569.61	7569.61		9.2	Si
SLV 14	ini.	-187.53	-3606	-0.0000387	0.0002807	0.0035	1.39		7578.45	7578.45		40.41	Si
SLV 14	fin.	631.79	-5303	-0.0001344	0.0002807	0.0035	1.39		7569.61	7569.61		11.98	Si
SLV 15	ini.	-807.33	-1997	-0.0001737	0.0002807	0.0035	1.39		7578.45	7578.45		9.39	Si
SLV 15	fin.	1172.98	-7212	-0.0002599	0.0002807	0.0035	1.39		7569.61	7569.61		6.45	Si
SLV 13	ini.	-313.41	-3445	-0.0000652	0.0002807	0.0035	1.39		7578.45	7578.45		24.18	Si
SLV 13	fin.	719.76	-5779	-0.0001541	0.0002807	0.0035	1.39		7569.61	7569.61		10.52	Si
SLV 12	ini.	-1252.93	1335	-0.0002791	0.0002807	0.0035	1.39		7578.45	7578.45		6.05	Si
SLV 12	fin.	1521.36	-6305	-0.0003475	0.0002807	0.0035	1.39		7569.61	7569.61		4.98	Si
SLV 8	ini.	-1249.68	2880	-0.0002783	0.0002807	0.0035	1.39		7578.45	7578.45		6.06	Si
SLV 8	fin.	1442.74	-4506	-0.0003272	0.0002807	0.0035	1.39		7569.61	7569.61		5.25	Si
SLV 3	ini.	-796.48	3156	-0.0001712	0.0002807	0.0035	1.39		7578.45	7578.45		9.51	Si
SLV 3	fin.	910.91	-1215	-0.0001977	0.0002807	0.0035	1.39		7569.61	7569.61		8.31	Si
SLV 16	ini.	-681.45	-2158	-0.0001453	0.0002807	0.0035	1.39		7578.45	7578.45		11.12	Si
SLV 16	fin.	1085	-6736	-0.0002387	0.0002807	0.0035	1.39		7569.61	7569.61		6.98	Si
SLV 7	ini.	-1377.48	3044	-0.0003101	0.0002807	0.0035	1.39		7578.45	7578.45		5.5	Si
SLV 7	fin.	1532.05	-4990	-0.0003503	0.0002807	0.0035	1.39		7569.61	7569.61		4.94	Si
SLV 11	ini.	-1380.73	1498	-0.000311	0.0002807	0.0035	1.39		7578.45	7578.45		5.49	Si
SLV 11	fin.	1610.67	-6789	-0.000371	0.0002807	0.0035	1.39		7569.61	7569.61		4.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1377.48	7820	1.39	0	500	7930	14048	3545	8429		1.08	Si
SLV 7	fin.	1532.05	8705	1.39	0	2115	7930	14048	3545	10044		1.15	Si
SLV 4	ini.	-670.6	3571	1.39	0	524	7930	14048	3545	8454		2.37	Si
SLV 4	fin.	822.93	3932	1.39	0	1496	7930	14048	3545	9425		2.4	Si
SLV 13	ini.	-313.41	1275	1.39	0	1913	7930	14048	3545	9843		7.72	Si
SLV 13	fin.	719.76	5865	1.39	0	2210	7930	14048	3545	10140		1.73	Si
SLV 16	ini.	-681.45	3685	1.39	0	1727	7930	14048	3545	9657		2.62	Si
SLV 16	fin.	1085	7656	1.39	0	2321	7930	14048	3545	10251		1.34	Si
SLV 3	ini.	-796.48	4213	1.39	0	436	7930	14048	3545	8366		1.99	Si
SLV 3	fin.	910.91	4566	1.39	0	1577	7930	14048	3545	9507		2.08	Si
SLV 8	ini.	-1249.68	7168	1.39	0	579	7930	14048	3545	8509		1.19	Si
SLV 8	fin.	1442.74	8061	1.39	0	2054	7930	14048	3545	9983		1.24	Si
SLV 15	ini.	-807.33	4328	1.39	0	1702	7930	14048	3545	9632		2.23	Si
SLV 15	fin.	1172.98	8291	1.39	0	2375	7930	14048	3545	10304		1.24	Si
SLV 14	ini.	-187.53	632	1.39	0	1935	7930	14048	3545	9865		15.6	Si
SLV 14	fin.	631.79	5230	1.39	0	2153	7930	14048	3545	10083		1.93	Si
SLV 11	ini.	-1380.73	7854	1.39	0	1030	7930	14048	3545	8960		1.14	Si
SLV 11	fin.	1610.67	9823	1.39	0	2327	7930	14048	3545	10257		1.04	Si
SLV 12	ini.	-1252.93	7202	1.39	0	1071	7930	14048	3545	9001		1.25	Si
SLV 12	fin.	1521.36	9178	1.39	0	2272	7930	14048	3545	10202		1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.7	SLV 11	Si
V_SLV	1.044	SLV 11	Si
PF_SLU	4.704	SLU 81	Si
V_SLU	1.288	SLU 81	Si

Trave di accoppiamento 10

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.744	-0.751	0.2	1.09	0.89	12.744	-1.751	0.2	1.09	0.89	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

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

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.	-812.14	-4249	-0.000501	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.77	Si
SLU 82	fin.	456.23	2072	-0.0002546	0.0001872	0.0035	0.89		2244.13	2244.13	No	4.92	Si
SLU 84	ini.	-812.14	-4249	-0.000501	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.77	Si
SLU 84	fin.	456.23	2072	-0.0002546	0.0001872	0.0035	0.89		2244.13	2244.13	No	4.92	Si
SLU 83	ini.	-812.14	-4249	-0.000501	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.77	Si
SLU 83	fin.	456.23	2072	-0.0002546	0.0001872	0.0035	0.89		2244.13	2244.13	No	4.92	Si
SLU 78	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 78	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	Si
SLU 76	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 76	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	Si
SLU 79	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 79	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	Si
SLU 75	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 75	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	Si
SLU 81	ini.	-812.14	-4249	-0.000501	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.77	Si
SLU 81	fin.	456.23	2072	-0.0002546	0.0001872	0.0035	0.89		2244.13	2244.13	No	4.92	Si
SLU 80	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 80	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	Si
SLU 77	ini.	-777.24	-4066	-0.0004751	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.9	Si
SLU 77	fin.	444.22	2012	-0.000247	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.05	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.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 77	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 83	ini.	-812.14	5658	0.89	0	1011	7057	5996	2270	8068	No	1.43	Si
SLU 83	fin.	456.23	2556	0.89	0	0	7057	5996	2270	7057	No	2.76	Si
SLU 78	ini.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 78	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 75	ini.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 75	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 80	ini.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 80	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 79	ini.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 79	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 76	ini.	-777.24	5429	0.89	0	995	7057	5996	2270	8052	No	1.48	Si
SLU 76	fin.	444.22	2468	0.89	0	0	7057	5996	2270	7057	No	2.86	Si
SLU 84	ini.	-812.14	5658	0.89	0	1011	7057	5996	2270	8068	No	1.43	Si
SLU 84	fin.	456.23	2556	0.89	0	0	7057	5996	2270	7057	No	2.76	Si
SLU 82	ini.	-812.14	5658	0.89	0	1011	7057	5996	2270	8068	No	1.43	Si
SLU 82	fin.	456.23	2556	0.89	0	0	7057	5996	2270	7057	No	2.76	Si
SLU 81	ini.	-812.14	5658	0.89	0	1011	7057	5996	2270	8068	No	1.43	Si
SLU 81	fin.	456.23	2556	0.89	0	0	7057	5996	2270	7057	No	2.76	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 14	ini.	-474.59	-3782	-0.0002563	0.0002807	0.0035	0.89		3117.87	3117.87		6.57	Si
SLV 14	fin.	302.31	1300	-0.0001584	0.0002807	0.0035	0.89		3112.21	3112.21		10.29	Si
SLV 8	ini.	-990.49	-4483	-0.0006012	0.0002807	0.0035	0.89		3117.87	3117.87		3.15	Si
SLV 8	fin.	755.9	3469	-0.0004354	0.0002807	0.0035	0.89		3112.21	3112.21		4.12	Si
SLV 11	ini.	-1139.48	-5895	-0.0007156	0.0002807	0.0035	0.89		3117.87	3117.87		2.74	Si
SLV 11	fin.	920.13	4192	-0.0005508	0.0002807	0.0035	0.89		3112.21	3112.21		3.38	Si
SLV 15	ini.	-860.82	-5514	-0.000507	0.0002807	0.0035	0.89		3117.87	3117.87		3.62	Si
SLV 15	fin.	675.14	3021	-0.0003816	0.0002807	0.0035	0.89		3112.21	3112.21		4.61	Si
SLV 12	ini.	-1064.01	-5561	-0.0006569	0.0002807	0.0035	0.89		3117.87	3117.87		2.93	Si
SLV 12	fin.	855.3	3893	-0.0005043	0.0002807	0.0035	0.89		3112.21	3112.21		3.64	Si
SLV 13	ini.	-548.93	-4112	-0.000301	0.0002807	0.0035	0.89		3117.87	3117.87		5.68	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	fin.	366.17	1594	-0.0001941	0.0002807	0.0035	0.89		3112.21	3112.21		8.5	Si
SLV 16	ini.	-786.48	-5184	-0.0004552	0.0002807	0.0035	0.89		3117.87	3117.87		3.96	Si
SLV 16	fin.	611.28	2726	-0.0003405	0.0002807	0.0035	0.89		3112.21	3112.21		5.09	Si
SLV 4	ini.	-541.4	-1593	-0.0002964	0.0002807	0.0035	0.89		3117.87	3117.87		5.76	Si
SLV 4	fin.	279.95	1312	-0.0001462	0.0002807	0.0035	0.89		3112.21	3112.21		11.12	Si
SLV 3	ini.	-615.75	-1922	-0.0003426	0.0002807	0.0035	0.89		3117.87	3117.87		5.06	Si
SLV 3	fin.	343.81	1606	-0.0001815	0.0002807	0.0035	0.89		3112.21	3112.21		9.05	Si
SLV 7	ini.	-1065.96	-4818	-0.0006584	0.0002807	0.0035	0.89		3117.87	3117.87		2.92	Si
SLV 7	fin.	820.73	3767	-0.00048	0.0002807	0.0035	0.89		3112.21	3112.21		3.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-990.49	6286	0.89	0	1340	7057	8995	2270	8397		1.34	Si
SLV 8	fin.	755.9	4223	0.89	0	0	7057	8995	2270	7057		1.67	Si
SLV 7	ini.	-1065.96	6702	0.89	0	1373	7057	8995	2270	8430		1.26	Si
SLV 7	fin.	820.73	4621	0.89	0	0	7057	8995	2270	7057		1.53	Si
SLV 4	ini.	-541.4	3638	0.89	0	1012	7057	8995	2270	8070		2.22	Si
SLV 4	fin.	279.95	792	0.89	0	501	7057	8995	2270	7558		9.54	Si
SLV 11	ini.	-1139.48	7221	0.89	0	1474	7057	8995	2270	8531		1.18	Si
SLV 11	fin.	920.13	5658	0.89	0	0	7057	8995	2270	7057		1.25	Si
SLV 16	ini.	-786.48	5369	0.89	0	1408	7057	8995	2270	8465		1.58	Si
SLV 16	fin.	611.28	4248	0.89	0	0	7057	8995	2270	7057		1.66	Si
SLV 3	ini.	-615.75	4048	0.89	0	1055	7057	8995	2270	8112		2	Si
SLV 3	fin.	343.81	1185	0.89	0	415	7057	8995	2270	7472		6.31	Si
SLV 13	ini.	-548.93	4025	0.89	0	1302	7057	8995	2270	8360		2.08	Si
SLV 13	fin.	366.17	2734	0.89	0	419	7057	8995	2270	7476		2.73	Si
SLV 15	ini.	-860.82	5778	0.89	0	1439	7057	8995	2270	8496		1.47	Si
SLV 15	fin.	675.14	4640	0.89	0	0	7057	8995	2270	7057		1.52	Si
SLV 14	ini.	-474.59	3615	0.89	0	1268	7057	8995	2270	8326		2.3	Si
SLV 14	fin.	302.31	2341	0.89	0	504	7057	8995	2270	7561		3.23	Si
SLV 12	ini.	-1064.01	6805	0.89	0	1443	7057	8995	2270	8500		1.25	Si
SLV 12	fin.	855.3	5260	0.89	0	0	7057	8995	2270	7057		1.34	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.736	SLV 11	Si
V_SLV	1.181	SLV 11	Si
PF_SLU	2.771	SLU 81	Si
V_SLU	1.426	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
12.744	3.899	-1.59	-0.2	1.39	12.744	2.899	-1.59	-0.2	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	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1612.79	-4301	-0.0003912	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.24	Si
SLU 81	fin.	-817.84	-2787	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 78	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 78	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	Si
SLU 82	ini.	1612.79	-4301	-0.0003912	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.24	Si
SLU 82	fin.	-817.84	-2787	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 75	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 75	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	Si
SLU 83	ini.	1612.79	-4301	-0.0003912	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.24	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-817.84	-2787	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 84	ini.	1612.79	-4301	-0.0003912	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.24	Si
SLU 84	fin.	-817.84	-2787	-0.00018	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.41	Si
SLU 76	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 76	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	Si
SLU 80	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 80	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	Si
SLU 77	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 77	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	Si
SLU 79	ini.	1552.98	-4081	-0.000374	0.0001872	0.0035	1.39		5230.97	5230.97	No	3.37	Si
SLU 79	fin.	-807.99	-2598	-0.0001777	0.0001872	0.0035	1.39		5240.94	5240.94	No	6.49	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 79	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 79	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 76	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 76	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 77	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 77	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 83	ini.	1612.79	-5331	1.39	0	1526	7930	9365	3545	9456	No	1.77	Si
SLU 83	fin.	-817.84	-2928	1.39	0	1341	7930	9365	3545	9271	No	3.17	Si
SLU 80	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 80	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 78	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 78	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 84	ini.	1612.79	-5331	1.39	0	1526	7930	9365	3545	9456	No	1.77	Si
SLU 84	fin.	-817.84	-2928	1.39	0	1341	7930	9365	3545	9271	No	3.17	Si
SLU 81	ini.	1612.79	-5331	1.39	0	1526	7930	9365	3545	9456	No	1.77	Si
SLU 81	fin.	-817.84	-2928	1.39	0	1341	7930	9365	3545	9271	No	3.17	Si
SLU 75	ini.	1552.98	-5096	1.39	0	1501	7930	9365	3545	9430	No	1.85	Si
SLU 75	fin.	-807.99	-2901	1.39	0	1316	7930	9365	3545	9246	No	3.19	Si
SLU 82	ini.	1612.79	-5331	1.39	0	1526	7930	9365	3545	9456	No	1.77	Si
SLU 82	fin.	-817.84	-2928	1.39	0	1341	7930	9365	3545	9271	No	3.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1568.78	-5653	-0.0003599	0.0002807	0.0035	1.39		7569.61	7569.61		4.83	Si
SLV 14	fin.	-1094.92	-3495	-0.0002407	0.0002807	0.0035	1.39		7578.45	7578.45		6.92	Si
SLV 6	ini.	2563.24	-8348	-0.0006465	0.0002807	0.0035	1.39		7569.61	7569.61		2.95	Si
SLV 6	fin.	-1935.33	841	-0.0004592	0.0002807	0.0035	1.39		7578.45	7578.45		3.92	Si
SLV 16	ini.	749.51	-4729	-0.0001608	0.0002807	0.0035	1.39		7569.61	7569.61		10.1	Si
SLV 16	fin.	-349.73	-4582	-0.000073	0.0002807	0.0035	1.39		7578.45	7578.45		21.67	Si
SLV 13	ini.	1403.76	-5344	-0.0003172	0.0002807	0.0035	1.39		7569.61	7569.61		5.39	Si
SLV 13	fin.	-907.43	-3568	-0.0001967	0.0002807	0.0035	1.39		7578.45	7578.45		8.35	Si
SLV 5	ini.	2395.72	-3525	-0.0005948	0.0002807	0.0035	1.39		7569.61	7569.61		3.16	Si
SLV 5	fin.	-1744.99	767	-0.0004065	0.0002807	0.0035	1.39		7578.45	7578.45		4.34	Si
SLV 9	ini.	2378.46	-4861	-0.0005895	0.0002807	0.0035	1.39		7569.61	7569.61		3.18	Si
SLV 9	fin.	-1759.03	-649	-0.0004103	0.0002807	0.0035	1.39		7578.45	7578.45		4.31	Si
SLV 1	ini.	1461.29	-890	-0.000332	0.0002807	0.0035	1.39		7569.61	7569.61		5.18	Si
SLV 1	fin.	-860.65	1150	-0.0001859	0.0002807	0.0035	1.39		7578.45	7578.45		8.81	Si
SLV 10	ini.	2545.99	-5174	-0.0006411	0.0002807	0.0035	1.39		7569.61	7569.61		2.97	Si
SLV 10	fin.	-1949.37	-575	-0.0004631	0.0002807	0.0035	1.39		7578.45	7578.45		3.89	Si
SLV 2	ini.	1626.31	-1199	-0.0003751	0.0002807	0.0035	1.39		7569.61	7569.61		4.65	Si
SLV 2	fin.	-1048.14	1224	-0.0002296	0.0002807	0.0035	1.39		7578.45	7578.45		7.23	Si
SLV 4	ini.	807.04	-275	-0.0001738	0.0002807	0.0035	1.39		7569.61	7569.61		9.38	Si
SLV 4	fin.	-302.95	137	-0.000063	0.0002807	0.0035	1.39		7578.45	7578.45		25.02	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 7	ini.	-335.18	1401	1.39	0	1443	7930	14048	3545	9373		6.69	Si
SLV 7	fin.	738.99	2754	1.39	0	1830	7930	14048	3545	9760		3.54	Si
SLV 6	ini.	2563.24	-8348	1.39	0	1966	7930	14048	3545	9896		1.19	Si
SLV 6	fin.	-1935.33	-7647	1.39	0	1186	7930	14048	3545	9116		1.19	Si
SLV 5	ini.	2395.72	-7732	1.39	0	1924	7930	14048	3545	9853		1.27	Si
SLV 5	fin.	-1744.99	-7030	1.39	0	1203	7930	14048	3545	9132		1.3	Si
SLV 14	ini.	1568.78	-5556	1.39	0	2195	7930	14048	3545	10125		1.82	Si
SLV 14	fin.	-1094.92	-3096	1.39	0	1920	7930	14048	3545	9849		3.18	Si
SLV 13	ini.	1403.76	-4949	1.39	0	2158	7930	14048	3545	10088		2.04	Si
SLV 13	fin.	-907.43	-2488	1.39	0	1930	7930	14048	3545	9859		3.96	Si
SLV 9	ini.	2378.46	-7921	1.39	0	2098	7930	14048	3545	10028		1.27	Si
SLV 9	fin.	-1759.03	-6512	1.39	0	1480	7930	14048	3545	9409		1.44	Si
SLV 11	ini.	-352.44	1212	1.39	0	1669	7930	14048	3545	9598		7.92	Si
SLV 11	fin.	724.95	3272	1.39	0	2023	7930	14048	3545	9953		3.04	Si
SLV 10	ini.	2545.99	-8537	1.39	0	2137	7930	14048	3545	10067		1.18	Si
SLV 10	fin.	-1949.37	-7129	1.39	0	1467	7930	14048	3545	9396		1.32	Si
SLV 1	ini.	1461.29	-4320	1.39	0	1522	7930	14048	3545	9452		2.19	Si
SLV 1	fin.	-860.65	-4215	1.39	0	1116	7930	14048	3545	9045		2.15	Si
SLV 2	ini.	1626.31	-4926	1.39	0	1574	7930	14048	3545	9504		1.93	Si
SLV 2	fin.	-1048.14	-4823	1.39	0	1098	7930	14048	3545	9028		1.87	Si



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.953	SLV 6	Si
V_SLV	1.179	SLV 10	Si
PF_SLU	3.243	SLU 81	Si
V_SLU	1.774	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
12.744	3.899	0.2	1.09	0.89	12.744	2.899	0.2	1.09	0.89	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	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv / ε,CNR DT-200					CRM / Fibrenet?			
											elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	394.84	-235	-0.0002164	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.68	Si
SLU 81	fin.	-1043.77	-2915	-0.0006826	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.16	Si
SLU 84	ini.	394.84	-235	-0.0002164	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.68	Si
SLU 84	fin.	-1043.77	-2915	-0.0006826	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.16	Si
SLU 78	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 78	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 80	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 80	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 75	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 75	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 79	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 79	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 76	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 76	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 82	ini.	394.84	-235	-0.0002164	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.68	Si
SLU 82	fin.	-1043.77	-2915	-0.0006826	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.16	Si
SLU 77	ini.	396.39	-179	-0.0002173	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.66	Si
SLU 77	fin.	-1005.6	-2788	-0.0006516	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.24	Si
SLU 83	ini.	394.84	-235	-0.0002164	0.0001872	0.0035	0.89		2244.13	2244.13	No	5.68	Si
SLU 83	fin.	-1043.77	-2915	-0.0006826	0.0001872	0.0035	0.89		2250.63	2250.63	No	2.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 77	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si
SLU 76	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 76	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si
SLU 84	ini.	394.84	-1059	0.89	0	556	7057	5996	2270	7613	No	7.19	Si
SLU 84	fin.	-1043.77	-4351	0.89	0	886	7057	5996	2270	7943	No	1.83	Si
SLU 75	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 75	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si
SLU 80	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 80	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si
SLU 81	ini.	394.84	-1059	0.89	0	556	7057	5996	2270	7613	No	7.19	Si
SLU 81	fin.	-1043.77	-4351	0.89	0	886	7057	5996	2270	7943	No	1.83	Si
SLU 83	ini.	394.84	-1059	0.89	0	556	7057	5996	2270	7613	No	7.19	Si
SLU 83	fin.	-1043.77	-4351	0.89	0	886	7057	5996	2270	7943	No	1.83	Si
SLU 82	ini.	394.84	-1059	0.89	0	556	7057	5996	2270	7613	No	7.19	Si
SLU 82	fin.	-1043.77	-4351	0.89	0	886	7057	5996	2270	7943	No	1.83	Si
SLU 78	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 78	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si
SLU 79	ini.	396.39	-1058	0.89	0	546	7057	5996	2270	7604	No	7.19	Si
SLU 79	fin.	-1005.6	-4216	0.89	0	873	7057	5996	2270	7930	No	1.88	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	745.54	561	-0.0004284	0.0002807	0.0035	0.89		3112.21	3112.21		4.17	Si
SLV 13	fin.	-951.31	-3414	-0.0005723	0.0002807	0.0035	0.89		3117.87	3117.87		3.28	Si
SLV 14	ini.	860.04	731	-0.0005076	0.0002807	0.0035	0.89		3112.21	3112.21		3.62	Si
SLV 14	fin.	-1058.21	-3642	-0.0006524	0.0002807	0.0035	0.89		3117.87	3117.87		2.95	Si
SLV 2	ini.	408.2	173	-0.000218	0.0002807	0.0035	0.89		3112.21	3112.21		7.62	Si
SLV 2	fin.	-953.24	-1488	-0.0005737	0.0002807	0.0035	0.89		3117.87	3117.87		3.27	Si
SLV 5	ini.	1083.57	1186	-0.0006735	0.0002807	0.0035	0.89		3112.21	3112.21		2.87	Si
SLV 5	fin.	-1433.3	-3167	-0.0009617	0.0002807	0.0035	0.89		3117.87	3117.87		2.18	Si
SLV 10	ini.	1335.36	1526	-0.0008785	0.0002807	0.0035	0.89		3112.21	3112.21		2.33	Si
SLV 10	fin.	-1573.32	-4045	-0.0010897	0.0002807	0.0035	0.89		3117.87	3117.87		1.98	Si
SLV 6	ini.	1199.81	1358	-0.0007656	0.0002807	0.0035	0.89		3112.21	3112.21		2.59	Si
SLV 6	fin.	-1541.83	-3399	-0.0010602	0.0002807	0.0035	0.89		3117.87	3117.87		2.02	Si
SLV 9	ini.	1219.12	1354	-0.0007814	0.0002807	0.0035	0.89		3112.21	3112.21		2.55	Si
SLV 9	fin.	-1464.79	-3813	-0.0009898	0.0002807	0.0035	0.89		3117.87	3117.87		2.13	Si
SLV 1	ini.	293.71	4	-0.0001537	0.0002807	0.0035	0.89		3112.21	3112.21		10.6	Si
SLV 1	fin.	-846.34	-1259	-0.0004968	0.0002807	0.0035	0.89		3117.87	3117.87		3.68	Si
SLV 8	ini.	-607.6	-1467	-0.0003375	0.0002807	0.0035	0.89		3117.87	3117.87		5.13	Si
SLV 8	fin.	32.57	-99	-0.0000164	0.0002807	0.0035	0.89		3112.21	3112.21		95.56	Si
SLV 7	ini.	-723.83	-1639	-0.0004129	0.0002807	0.0035	0.89		3117.87	3117.87		4.31	Si
SLV 7	fin.	141.09	133	-0.000072	0.0002807	0.0035	0.89		3112.21	3112.21		22.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	1219.12	-4170	0.89	0	490	7057	8995	2270	7547		1.81	Si
SLV 9	fin.	-1464.79	-5992	0.89	0	1271	7057	8995	2270	8329		1.39	Si
SLV 2	ini.	408.2	-343	0.89	0	745	7057	8995	2270	7802		22.72	Si
SLV 2	fin.	-953.24	-3636	0.89	0	999	7057	8995	2270	8056		2.22	Si
SLV 5	ini.	1083.57	-3219	0.89	0	533	7057	8995	2270	7591		2.36	Si
SLV 5	fin.	-1433.3	-5689	0.89	0	1202	7057	8995	2270	8259		1.45	Si
SLV 6	ini.	1199.81	-3613	0.89	0	488	7057	8995	2270	7546		2.09	Si
SLV 6	fin.	-1541.83	-6093	0.89	0	1227	7057	8995	2270	8285		1.36	Si
SLV 10	ini.	1335.36	-4563	0.89	0	440	7057	8995	2270	7498		1.64	Si
SLV 10	fin.	-1573.32	-6395	0.89	0	1296	7057	8995	2270	8353		1.31	Si
SLV 1	ini.	293.71	44	0.89	0	774	7057	8995	2270	7832		176.32	Si
SLV 1	fin.	-846.34	-3239	0.89	0	968	7057	8995	2270	8025		2.48	Si
SLV 14	ini.	860.04	-3511	0.89	0	637	7057	8995	2270	7694		2.19	Si
SLV 14	fin.	-1058.21	-4644	0.89	0	1253	7057	8995	2270	8311		1.79	Si
SLV 7	ini.	-723.83	2947	0.89	0	1018	7057	8995	2270	8076		2.74	Si
SLV 7	fin.	141.09	313	0.89	0	752	7057	8995	2270	7809		24.94	Si
SLV 13	ini.	745.54	-3123	0.89	0	671	7057	8995	2270	7729		2.47	Si
SLV 13	fin.	-951.31	-4247	0.89	0	1229	7057	8995	2270	8286		1.95	Si
SLV 16	ini.	317.82	-1661	0.89	0	795	7057	8995	2270	7852		4.73	Si
SLV 16	fin.	-585.89	-2843	0.89	0	1143	7057	8995	2270	8201		2.88	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.982	SLV 10	Si
V_SLV	1.306	SLV 10	Si
PF_SLU	2.156	SLU 81	Si
V_SLU	1.826	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
3.872	-3.659	3.09	4.9	1.81	3.201	-2.917	3.09	4.9	1.81	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 FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em _u	em _u	df	M _{0d}	M _{1d}	M _{Rd}	incremento > 50%	c.s.	Verifica
SLU 83	ini.	180.51	-84	-0.000022	0.0001872	0.0035	1.81		11711.37	11711.37	No	64.88	Si
SLU 83	fin.	183.76	95	-0.0000224	0.0001872	0.0035	1.81		11711.37	11711.37	No	63.73	Si
SLU 84	ini.	180.51	-84	-0.000022	0.0001872	0.0035	1.81		11711.37	11711.37	No	64.88	Si
SLU 84	fin.	183.76	95	-0.0000224	0.0001872	0.0035	1.81		11711.37	11711.37	No	63.73	Si
SLU 78	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 78	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 79	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 79	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 80	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 80	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 77	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 77	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 76	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 76	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 82	ini.	180.51	-84	-0.000022	0.0001872	0.0035	1.81		11711.37	11711.37	No	64.88	Si
SLU 82	fin.	183.76	95	-0.0000224	0.0001872	0.0035	1.81		11711.37	11711.37	No	63.73	Si
SLU 75	ini.	160.1	-77	-0.0000195	0.0001872	0.0035	1.81		11711.37	11711.37	No	73.15	Si
SLU 75	fin.	169.66	88	-0.0000206	0.0001872	0.0035	1.81		11711.37	11711.37	No	69.03	Si
SLU 81	ini.	180.51	-84	-0.000022	0.0001872	0.0035	1.81		11711.37	11711.37	No	64.88	Si
SLU 81	fin.	183.76	95	-0.0000224	0.0001872	0.0035	1.81		11711.37	11711.37	No	63.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c,int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 81	ini.	180.51	1911	1.81	0	802	7930	8130	4616	8732	No	4.57	Si
SLU 81	fin.	183.76	-1607	1.81	0	769	7930	8130	4616	8699	No	5.41	Si
SLU 84	ini.	180.51	1911	1.81	0	802	7930	8130	4616	8732	No	4.57	Si
SLU 84	fin.	183.76	-1607	1.81	0	769	7930	8130	4616	8699	No	5.41	Si
SLU 73	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 73	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si
SLU 75	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 75	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si
SLU 74	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 74	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si
SLU 78	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 78	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si
SLU 82	ini.	180.51	1911	1.81	0	802	7930	8130	4616	8732	No	4.57	Si
SLU 82	fin.	183.76	-1607	1.81	0	769	7930	8130	4616	8699	No	5.41	Si
SLU 83	ini.	180.51	1911	1.81	0	802	7930	8130	4616	8732	No	4.57	Si
SLU 83	fin.	183.76	-1607	1.81	0	769	7930	8130	4616	8699	No	5.41	Si
SLU 79	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 79	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si
SLU 76	ini.	160.1	1757	1.81	0	801	7930	8130	4616	8731	No	4.97	Si
SLU 76	fin.	169.66	-1462	1.81	0	771	7930	8130	4616	8700	No	5.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em _u	em _u	df	M _{0d}	M _{1d}	M _{Rd}	incremento > 50%	c.s.	Verifica
SLV 2	ini.	238.85	333	-0.0000291	0.0002807	0.0035	1.81		11509.01	11509.01		48.19	Si
SLV 2	fin.	593	1507	-0.0000731	0.0002807	0.0035	1.81		11509.01	11509.01		19.41	Si
SLV 8	ini.	-483.85	-1414	-0.0000594	0.0002807	0.0035	1.81		11521.09	11521.09		23.81	Si
SLV 8	fin.	494.72	-248	-0.0000608	0.0002807	0.0035	1.81		11509.01	11509.01		23.26	Si
SLV 6	ini.	657.79	1304	-0.0000813	0.0002807	0.0035	1.81		11509.01	11509.01		17.5	Si
SLV 6	fin.	63.86	1110	-0.0000077	0.0002807	0.0035	1.81		11509.01	11509.01		180.23	Si
SLV 13	ini.	293.42	385	-0.0000358	0.0002807	0.0035	1.81		11509.01	11509.01		39.22	Si
SLV 13	fin.	-500.89	-984	-0.0000615	0.0002807	0.0035	1.81		11521.09	11521.09		23	Si
SLV 5	ini.	657.02	1299	-0.0000812	0.0002807	0.0035	1.81		11509.01	11509.01		17.52	Si
SLV 5	fin.	51.02	1111	-0.0000062	0.0002807	0.0035	1.81		11509.01	11509.01		225.59	Si
SLV 4	ini.	-103.65	-482	-0.0000125	0.0002807	0.0035	1.81		11521.09	11521.09		111.16	Si
SLV 4	fin.	722.26	1099	-0.0000895	0.0002807	0.0035	1.81		11509.01	11509.01		15.93	Si
SLV 3	ini.	-104.4	-487	-0.0000126	0.0002807	0.0035	1.81		11521.09	11521.09		110.35	Si
SLV 3	fin.	709.61	1100	-0.0000879	0.0002807	0.0035	1.81		11509.01	11509.01		16.22	Si
SLV 1	ini.	238.09	329	-0.000029	0.0002807	0.0035	1.81		11509.01	11509.01		48.34	Si
SLV 1	fin.	580.35	1507	-0.0000715	0.0002807	0.0035	1.81		11509.01	11509.01		19.83	Si
SLV 10	ini.	674.39	1321	-0.0000834	0.0002807	0.0035	1.81		11509.01	11509.01		17.07	Si
SLV 10	fin.	-260.51	363	-0.0000317	0.0002807	0.0035	1.81		11521.09	11521.09		44.22	Si
SLV 9	ini.	673.62	1316	-0.0000833	0.0002807	0.0035	1.81		11509.01	11509.01		17.09	Si
SLV 9	fin.	-273.36	363	-0.0000333	0.0002807	0.0035	1.81		11521.09	11521.09		42.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c,int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLV 14	ini.	294.18	-1194	1.81	0	1107	7930	12195	4616	9037		7.57	Si
SLV 14	fin.	-488.24	-3174	1.81	0	1349	7930	12195	4616	9278		2.92	Si
SLV 11	ini.	-468.01	2861	1.81	0	1414	7930	12195	4616	9343		3.27	Si
SLV 11	fin.	157.51	490	1.81	0	1350	7930	12195	4616	9280		18.95	Si
SLV 7	ini.	-484.61	3860	1.81	0	1416	7930	12195	4616	9346		2.42	Si
SLV 7	fin.	481.88	1497	1.81	0	1225	7930	12195	4616	9154		6.11	Si
SLV 13	ini.	293.42	-1201	1.81	0	1108	7930	12195	4616	9037		7.52	Si
SLV 13	fin.	-500.89	-3182	1.81	0	1349	7930	12195	4616	9278		2.92	Si
SLV 3	ini.	-104.4	3466	1.81	0	1266	7930	12195	4616	9196		2.65	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	fin.	709.61	1329	1.81	0	958	7930	12195	4616	8888		6.69	Si
SLV 10	ini.	674.39	-1588	1.81	0	907	7930	12195	4616	8837		5.57	Si
SLV 10	fin.	-260.51	-3343	1.81	0	1112	7930	12195	4616	9042		2.7	Si
SLV 12	ini.	-467.25	2868	1.81	0	1413	7930	12195	4616	9343		3.26	Si
SLV 12	fin.	170.35	497	1.81	0	1350	7930	12195	4616	9280		18.66	Si
SLV 8	ini.	-483.85	3867	1.81	0	1416	7930	12195	4616	9345		2.42	Si
SLV 8	fin.	494.72	1505	1.81	0	1225	7930	12195	4616	9155		6.08	Si
SLV 9	ini.	673.62	-1595	1.81	0	908	7930	12195	4616	8838		5.54	Si
SLV 9	fin.	-273.36	-3350	1.81	0	1112	7930	12195	4616	9042		2.7	Si
SLV 4	ini.	-103.65	3473	1.81	0	1266	7930	12195	4616	9195		2.65	Si
SLV 4	fin.	722.26	1336	1.81	0	958	7930	12195	4616	8888		6.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	15.935	SLV 4	Si
V_SLV	2.416	SLV 8	Si
PF_SLU	63.732	SLU 81	Si
V_SLU	4.569	SLU 81	Si

Trave di accoppiamento 14

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
4.239	1.239	3.19	4.9	1.71	3.339	1.239	3.19	4.9	1.71	0.9	0.16	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	M1d	M1d	incremento > 50%	c.s.	Verifica
SLU 50	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 50	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 49	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 49	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 45	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 45	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 42	ini.	939.47	1034	-0.000133	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	11.74	Si
SLU 42	fin.	797.2	539	-0.000112	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	13.84	Si
SLU 46	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 46	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 44	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 44	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 51	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 51	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 47	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 47	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 48	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 48	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si
SLU 43	ini.	-1050.97	-1192	-0.0001496	0.0002246	0.0035	1.71		11044.14	11044.14	11044.14	No	10.51	Si
SLU 43	fin.	237.92	98	-0.0000325	0.0002246	0.0035	1.71		11033.64	11033.64	11033.64	No	46.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 41	ini.	939.47	1103	1.71	0	159	7137	4916	4361	7296	No	6.62	Si
SLU 41	fin.	797.2	-3602	1.71	0	298	7137	4916	4361	7434	No	2.06	Si
SLU 47	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si
SLU 47	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 46	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si
SLU 46	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 49	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 49	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 43	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si
SLU 43	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 39	ini.	939.47	1103	1.71	0	159	7137	4916	4361	7296	No	6.62	Si
SLU 39	fin.	797.2	-3602	1.71	0	298	7137	4916	4361	7434	No	2.06	Si
SLU 44	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si
SLU 44	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 45	ini.	-1050.97	3387	1.71	0	556	7137	4916	4361	7693	No	2.27	Si
SLU 45	fin.	237.92	1602	1.71	0	381	7137	4916	4361	7517	No	4.69	Si
SLU 42	ini.	939.47	1103	1.71	0	159	7137	4916	4361	7296	No	6.62	Si
SLU 42	fin.	797.2	-3602	1.71	0	298	7137	4916	4361	7434	No	2.06	Si
SLU 40	ini.	939.47	1103	1.71	0	159	7137	4916	4361	7296	No	6.62	Si
SLU 40	fin.	797.2	-3602	1.71	0	298	7137	4916	4361	7434	No	2.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-970.62	-1923	-0.0001358	0.0003369	0.0035	1.71		11278.84	11278.84		11.62	Si
SLV 15	fin.	-468.79	-1227	-0.0000644	0.0003369	0.0035	1.71		11278.84	11278.84		24.06	Si
SLV 3	ini.	580.38	1462	-0.0000801	0.0003369	0.0035	1.71		11267.98	11267.98		19.41	Si
SLV 3	fin.	1076.87	1516	-0.0001514	0.0003369	0.0035	1.71		11267.98	11267.98		10.46	Si
SLV 16	ini.	-967.6	-1921	-0.0001353	0.0003369	0.0035	1.71		11278.84	11278.84		11.66	Si
SLV 16	fin.	-474.65	-1233	-0.0000652	0.0003369	0.0035	1.71		11278.84	11278.84		23.76	Si
SLV 9	ini.	-1012.07	-1386	-0.0001418	0.0003369	0.0035	1.71		11278.84	11278.84		11.14	Si
SLV 9	fin.	291.29	-3	-0.0000398	0.0003369	0.0035	1.71		11267.98	11267.98		38.68	Si
SLV 1	ini.	310.71	1163	-0.0000425	0.0003369	0.0035	1.71		11267.98	11267.98		36.26	Si
SLV 1	fin.	1177.98	1638	-0.0001663	0.0003369	0.0035	1.71		11267.98	11267.98		9.57	Si
SLV 14	ini.	-1237.27	-2220	-0.0001749	0.0003369	0.0035	1.71		11278.84	11278.84		9.12	Si
SLV 14	fin.	-373.55	-1111	-0.0000511	0.0003369	0.0035	1.71		11278.84	11278.84		30.19	Si
SLV 13	ini.	-1240.29	-2221	-0.0001753	0.0003369	0.0035	1.71		11278.84	11278.84		9.09	Si
SLV 13	fin.	-367.69	-1105	-0.0000503	0.0003369	0.0035	1.71		11278.84	11278.84		30.67	Si
SLV 2	ini.	313.74	1164	-0.0000429	0.0003369	0.0035	1.71		11267.98	11267.98		35.92	Si
SLV 2	fin.	1172.12	1633	-0.0001654	0.0003369	0.0035	1.71		11267.98	11267.98		9.61	Si
SLV 4	ini.	583.4	1463	-0.0000805	0.0003369	0.0035	1.71		11267.98	11267.98		19.31	Si
SLV 4	fin.	1071.01	1511	-0.0001505	0.0003369	0.0035	1.71		11267.98	11267.98		10.52	Si
SLV 10	ini.	-1009	-1384	-0.0001413	0.0003369	0.0035	1.71		11278.84	11278.84		11.18	Si
SLV 10	fin.	285.34	-8	-0.000039	0.0003369	0.0035	1.71		11267.98	11267.98		39.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1240.29	3131	1.71	0	883	7137	7374	4361	8019		2.56	Si
SLV 13	fin.	-367.69	466	1.71	0	752	7137	7374	4361	7888		16.92	Si
SLV 16	ini.	-967.6	2566	1.71	0	849	7137	7374	4361	7986		3.11	Si
SLV 16	fin.	-474.65	-127	1.71	0	768	7137	7374	4361	7905		62.4	Si
SLV 5	ini.	-546.77	2914	1.71	0	652	7137	7374	4361	7788		2.67	Si
SLV 5	fin.	754.99	798	1.71	0	444	7137	7374	4361	7580		9.5	Si
SLV 2	ini.	313.74	1797	1.71	0	362	7137	7374	4361	7499		4.17	Si
SLV 2	fin.	1172.12	-74	1.71	0	203	7137	7374	4361	7340		98.75	Si
SLV 14	ini.	-1237.27	3114	1.71	0	882	7137	7374	4361	8019		2.57	Si
SLV 14	fin.	-373.55	450	1.71	0	753	7137	7374	4361	7889		17.53	Si
SLV 6	ini.	-543.7	2897	1.71	0	651	7137	7374	4361	7788		2.69	Si
SLV 6	fin.	749.04	782	1.71	0	445	7137	7374	4361	7581		9.7	Si
SLV 10	ini.	-1009	3292	1.71	0	787	7137	7374	4361	7923		2.41	Si
SLV 10	fin.	285.34	939	1.71	0	596	7137	7374	4361	7733		8.23	Si
SLV 15	ini.	-970.62	2582	1.71	0	849	7137	7374	4361	7986		3.09	Si
SLV 15	fin.	-468.79	-110	1.71	0	767	7137	7374	4361	7904		71.59	Si
SLV 1	ini.	310.71	1813	1.71	0	362	7137	7374	4361	7499		4.14	Si
SLV 1	fin.	1177.98	-58	1.71	0	201	7137	7374	4361	7337		126.37	Si
SLV 9	ini.	-1012.07	3309	1.71	0	787	7137	7374	4361	7923		2.39	Si
SLV 9	fin.	291.29	956	1.71	0	595	7137	7374	4361	7732		8.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	9.094	SLV 13	Si
V_SLV	2.394	SLV 9	Si
PF_SLU	10.509	SLU 43	Si
V_SLU	2.064	SLU 39	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
12.519	1.239	3.19	4.9	1.71	11.519	1.239	3.19	4.9	1.71	1	0.16	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε_fd	γ_F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	832.35	591	-0.0001172	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.26	Si
SLU 77	fin.	495.7	-108	-0.0000686	0.0002246	0.0035	1.71		11033.64	11033.64	No	22.26	Si
SLU 84	ini.	961.85	692	-0.0001363	0.0002246	0.0035	1.71		11033.64	11033.64	No	11.47	Si
SLU 84	fin.	794.2	281	-0.0001116	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.89	Si
SLU 73	ini.	832.35	591	-0.0001172	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.26	Si
SLU 73	fin.	495.7	-108	-0.0000686	0.0002246	0.0035	1.71		11033.64	11033.64	No	22.26	Si
SLU 42	ini.	919.03	674	-0.00013	0.0002246	0.0035	1.71		11033.64	11033.64	No	12.01	Si
SLU 42	fin.	1023.3	766	-0.0001456	0.0002246	0.0035	1.71		11033.64	11033.64	No	10.78	Si
SLU 82	ini.	961.85	692	-0.0001363	0.0002246	0.0035	1.71		11033.64	11033.64	No	11.47	Si
SLU 82	fin.	794.2	281	-0.0001116	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.89	Si
SLU 83	ini.	961.85	692	-0.0001363	0.0002246	0.0035	1.71		11033.64	11033.64	No	11.47	Si
SLU 83	fin.	794.2	281	-0.0001116	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.89	Si
SLU 39	ini.	919.03	674	-0.00013	0.0002246	0.0035	1.71		11033.64	11033.64	No	12.01	Si
SLU 39	fin.	1023.3	766	-0.0001456	0.0002246	0.0035	1.71		11033.64	11033.64	No	10.78	Si
SLU 40	ini.	919.03	674	-0.00013	0.0002246	0.0035	1.71		11033.64	11033.64	No	12.01	Si
SLU 40	fin.	1023.3	766	-0.0001456	0.0002246	0.0035	1.71		11033.64	11033.64	No	10.78	Si
SLU 81	ini.	961.85	692	-0.0001363	0.0002246	0.0035	1.71		11033.64	11033.64	No	11.47	Si
SLU 81	fin.	794.2	281	-0.0001116	0.0002246	0.0035	1.71		11033.64	11033.64	No	13.89	Si
SLU 41	ini.	919.03	674	-0.00013	0.0002246	0.0035	1.71		11033.64	11033.64	No	12.01	Si
SLU 41	fin.	1023.3	766	-0.0001456	0.0002246	0.0035	1.71		11033.64	11033.64	No	10.78	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 60	ini.	800.99	1894	1.71	0	292	7930	4916	4361	8222	No	4.34	Si
SLU 60	fin.	424.63	-4180	1.71	0	431	7930	4916	4361	8361	No	2	Si
SLU 62	ini.	800.99	1894	1.71	0	292	7930	4916	4361	8222	No	4.34	Si
SLU 62	fin.	424.63	-4180	1.71	0	431	7930	4916	4361	8361	No	2	Si
SLU 80	ini.	832.35	2108	1.71	0	286	7930	4916	4361	8216	No	3.9	Si
SLU 80	fin.	495.7	-4165	1.71	0	414	7930	4916	4361	8343	No	2	Si
SLU 82	ini.	961.85	3043	1.71	0	263	7930	4916	4361	8192	No	2.69	Si
SLU 82	fin.	794.2	-4302	1.71	0	348	7930	4916	4361	8278	No	1.92	Si
SLU 73	ini.	832.35	2108	1.71	0	286	7930	4916	4361	8216	No	3.9	Si
SLU 73	fin.	495.7	-4165	1.71	0	414	7930	4916	4361	8343	No	2	Si
SLU 61	ini.	800.99	1894	1.71	0	292	7930	4916	4361	8222	No	4.34	Si
SLU 61	fin.	424.63	-4180	1.71	0	431	7930	4916	4361	8361	No	2	Si
SLU 81	ini.	961.85	3043	1.71	0	263	7930	4916	4361	8192	No	2.69	Si
SLU 81	fin.	794.2	-4302	1.71	0	348	7930	4916	4361	8278	No	1.92	Si
SLU 83	ini.	961.85	3043	1.71	0	263	7930	4916	4361	8192	No	2.69	Si
SLU 83	fin.	794.2	-4302	1.71	0	348	7930	4916	4361	8278	No	1.92	Si
SLU 84	ini.	961.85	3043	1.71	0	263	7930	4916	4361	8192	No	2.69	Si
SLU 84	fin.	794.2	-4302	1.71	0	348	7930	4916	4361	8278	No	1.92	Si
SLU 63	ini.	800.99	1894	1.71	0	292	7930	4916	4361	8222	No	4.34	Si
SLU 63	fin.	424.63	-4180	1.71	0	431	7930	4916	4361	8361	No	2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	913.54	1685	-0.0001276	0.0003369	0.0035	1.71		11267.98	11267.98		12.33	Si
SLV 15	fin.	237.81	460	-0.0000324	0.0003369	0.0035	1.71		11267.98	11267.98		47.38	Si
SLV 10	ini.	549.94	738	-0.0000758	0.0003369	0.0035	1.71		11267.98	11267.98		20.49	Si
SLV 10	fin.	486.06	623	-0.0000668	0.0003369	0.0035	1.71		11267.98	11267.98		23.18	Si
SLV 12	ini.	636.28	718	-0.000088	0.0003369	0.0035	1.71		11267.98	11267.98		17.71	Si
SLV 12	fin.	-300.27	-1033	-0.000041	0.0003369	0.0035	1.71		11278.84	11278.84		37.56	Si
SLV 13	ini.	887.63	1691	-0.0001239	0.0003369	0.0035	1.71		11267.98	11267.98		12.69	Si
SLV 13	fin.	473.71	957	-0.0000651	0.0003369	0.0035	1.71		11267.98	11267.98		23.79	Si
SLV 9	ini.	547.22	734	-0.0000754	0.0003369	0.0035	1.71		11267.98	11267.98		20.59	Si
SLV 9	fin.	467.76	583	-0.0000643	0.0003369	0.0035	1.71		11267.98	11267.98		24.09	Si
SLV 16	ini.	916.21	1689	-0.000128	0.0003369	0.0035	1.71		11267.98	11267.98		12.3	Si
SLV 16	fin.	255.83	499	-0.0000349	0.0003369	0.0035	1.71		11267.98	11267.98		44.04	Si
SLV 11	ini.	633.57	713	-0.0000876	0.0003369	0.0035	1.71		11267.98	11267.98		17.78	Si
SLV 11	fin.	-318.57	-1073	-0.0000435	0.0003369	0.0035	1.71		11278.84	11278.84		35.41	Si
SLV 3	ini.	27.35	-1071	-0.0000037	0.0003369	0.0035	1.71		11267.98	11267.98		412.03	Si
SLV 3	fin.	-565.11	-2263	-0.0000778	0.0003369	0.0035	1.71		11278.84	11278.84		19.96	Si
SLV 14	ini.	890.3	1695	-0.0001243	0.0003369	0.0035	1.71		11267.98	11267.98		12.66	Si
SLV 14	fin.	491.73	996	-0.0000676	0.0003369	0.0035	1.71		11267.98	11267.98		22.92	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	367.71	-113	-0.0000503	0.0003369	0.0035	1.71		11267.98	11267.98		30.64	Si
SLV 7	fin.	-559.44	-1890	-0.000077	0.0003369	0.0035	1.71		11278.84	11278.84		20.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	913.54	109	1.71	0	177	7930	7374	4361	8107		74.47	Si
SLV 15	fin.	237.81	-3442	1.71	0	515	7930	7374	4361	8445		2.45	Si
SLV 14	ini.	890.3	697	1.71	0	171	7930	7374	4361	8101		11.62	Si
SLV 14	fin.	491.73	-2878	1.71	0	404	7930	7374	4361	8334		2.9	Si
SLV 3	ini.	27.35	-69	1.71	0	747	7930	7374	4361	8677		125.12	Si
SLV 3	fin.	-565.11	-3167	1.71	0	887	7930	7374	4361	8817		2.78	Si
SLV 16	ini.	916.21	154	1.71	0	175	7930	7374	4361	8104		52.5	Si
SLV 16	fin.	255.83	-3396	1.71	0	508	7930	7374	4361	8438		2.48	Si
SLV 13	ini.	887.63	652	1.71	0	174	7930	7374	4361	8103		12.43	Si
SLV 13	fin.	473.71	-2923	1.71	0	413	7930	7374	4361	8343		2.85	Si
SLV 4	ini.	30.02	-24	1.71	0	747	7930	7374	4361	8677		364.06	Si
SLV 4	fin.	-547.09	-3121	1.71	0	883	7930	7374	4361	8812		2.82	Si
SLV 11	ini.	633.57	-587	1.71	0	466	7930	7374	4361	8396		14.3	Si
SLV 11	fin.	-318.57	-3951	1.71	0	748	7930	7374	4361	8677		2.2	Si
SLV 8	ini.	370.43	-594	1.71	0	612	7930	7374	4361	8542		14.37	Si
SLV 8	fin.	-541.15	-3822	1.71	0	841	7930	7374	4361	8771		2.29	Si
SLV 12	ini.	636.28	-541	1.71	0	465	7930	7374	4361	8395		15.52	Si
SLV 12	fin.	-300.27	-3905	1.71	0	743	7930	7374	4361	8672		2.22	Si
SLV 7	ini.	367.71	-641	1.71	0	613	7930	7374	4361	8542		13.33	Si
SLV 7	fin.	-559.44	-3869	1.71	0	846	7930	7374	4361	8775		2.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.299	SLV 16	Si
V_SLV	2.196	SLV 11	Si
PF_SLU	10.782	SLU 39	Si
V_SLU	1.924	SLU 81	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
5.239	5.99	1.09	2.09	1	6.239	5.99	1.09	2.09	1	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmed	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	57.96	-452	-0.0000231	0.0001872	0.0035	1		3643.26	3643.26	No	62.86	Si
SLU 84	fin.	212.71	-900	-0.000087	0.0001872	0.0035	1		3643.26	3643.26	No	17.13	Si
SLU 82	ini.	57.96	-452	-0.0000231	0.0001872	0.0035	1		3643.26	3643.26	No	62.86	Si
SLU 82	fin.	212.71	-900	-0.000087	0.0001872	0.0035	1		3643.26	3643.26	No	17.13	Si
SLU 18	ini.	35.34	-331	-0.000014	0.0001872	0.0035	1		3643.26	3643.26	No	103.09	Si
SLU 18	fin.	176.66	-715	-0.0000718	0.0001872	0.0035	1		3643.26	3643.26	No	20.62	Si
SLU 83	ini.	57.96	-452	-0.0000231	0.0001872	0.0035	1		3643.26	3643.26	No	62.86	Si
SLU 83	fin.	212.71	-900	-0.000087	0.0001872	0.0035	1		3643.26	3643.26	No	17.13	Si
SLU 42	ini.	21.23	-334	-0.0000084	0.0001872	0.0035	1		3643.26	3643.26	No	171.59	Si
SLU 42	fin.	217.75	-827	-0.0000891	0.0001872	0.0035	1		3643.26	3643.26	No	16.73	Si
SLU 41	ini.	21.23	-334	-0.0000084	0.0001872	0.0035	1		3643.26	3643.26	No	171.59	Si
SLU 41	fin.	217.75	-827	-0.0000891	0.0001872	0.0035	1		3643.26	3643.26	No	16.73	Si
SLU 39	ini.	21.23	-334	-0.0000084	0.0001872	0.0035	1		3643.26	3643.26	No	171.59	Si
SLU 39	fin.	217.75	-827	-0.0000891	0.0001872	0.0035	1		3643.26	3643.26	No	16.73	Si
SLU 40	ini.	21.23	-334	-0.0000084	0.0001872	0.0035	1		3643.26	3643.26	No	171.59	Si
SLU 40	fin.	217.75	-827	-0.0000891	0.0001872	0.0035	1		3643.26	3643.26	No	16.73	Si



Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	57.96	-452	-0.0000231	0.0001872	0.0035	1		3643.26	3643.26	No	62.86	Si
SLU 81	fin.	212.71	-900	-0.000087	0.0001872	0.0035	1		3643.26	3643.26	No	17.13	Si
SLU 21	ini.	35.34	-331	-0.000014	0.0001872	0.0035	1		3643.26	3643.26	No	103.09	Si
SLU 21	fin.	176.66	-715	-0.0000718	0.0001872	0.0035	1		3643.26	3643.26	No	20.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	57.96	31	1	0	511	7930	4492	2550	7042	No	225.28	Si
SLU 82	fin.	212.71	1012	1	0	576	7930	4492	2550	7042	No	6.96	Si
SLU 21	ini.	35.34	52	1	0	492	7930	4492	2550	7042	No	136.7	Si
SLU 21	fin.	176.66	836	1	0	550	7930	4492	2550	7042	No	8.42	Si
SLU 20	ini.	35.34	52	1	0	492	7930	4492	2550	7042	No	136.7	Si
SLU 20	fin.	176.66	836	1	0	550	7930	4492	2550	7042	No	8.42	Si
SLU 40	ini.	21.23	88	1	0	492	7930	4492	2550	7042	No	80.02	Si
SLU 40	fin.	217.75	1035	1	0	566	7930	4492	2550	7042	No	6.8	Si
SLU 39	ini.	21.23	88	1	0	492	7930	4492	2550	7042	No	80.02	Si
SLU 39	fin.	217.75	1035	1	0	566	7930	4492	2550	7042	No	6.8	Si
SLU 84	ini.	57.96	31	1	0	511	7930	4492	2550	7042	No	225.28	Si
SLU 84	fin.	212.71	1012	1	0	576	7930	4492	2550	7042	No	6.96	Si
SLU 81	ini.	57.96	31	1	0	511	7930	4492	2550	7042	No	225.28	Si
SLU 81	fin.	212.71	1012	1	0	576	7930	4492	2550	7042	No	6.96	Si
SLU 83	ini.	57.96	31	1	0	511	7930	4492	2550	7042	No	225.28	Si
SLU 83	fin.	212.71	1012	1	0	576	7930	4492	2550	7042	No	6.96	Si
SLU 41	ini.	21.23	88	1	0	492	7930	4492	2550	7042	No	80.02	Si
SLU 41	fin.	217.75	1035	1	0	566	7930	4492	2550	7042	No	6.8	Si
SLU 42	ini.	21.23	88	1	0	492	7930	4492	2550	7042	No	80.02	Si
SLU 42	fin.	217.75	1035	1	0	566	7930	4492	2550	7042	No	6.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-634.89	1323	-0.0002725	0.0002807	0.0035	1		3671.29	3671.29		5.78	Si
SLV 1	fin.	654.51	-775	-0.0002823	0.0002807	0.0035	1		3664.83	3664.83		5.6	Si
SLV 14	ini.	539.06	-929	-0.0002284	0.0002807	0.0035	1		3664.83	3664.83		6.8	Si
SLV 14	fin.	-638.08	739	-0.000274	0.0002807	0.0035	1		3671.29	3671.29		5.75	Si
SLV 4	ini.	-215.75	-122	-0.0000873	0.0002807	0.0035	1		3671.29	3671.29		17.02	Si
SLV 4	fin.	629.58	-1491	-0.0002705	0.0002807	0.0035	1		3664.83	3664.83		5.82	Si
SLV 3	ini.	-362.89	160	-0.0001497	0.0002807	0.0035	1		3671.29	3671.29		10.12	Si
SLV 3	fin.	780.49	-1686	-0.0003441	0.0002807	0.0035	1		3664.83	3664.83		4.7	Si
SLV 7	ini.	312.72	-1884	-0.0001283	0.0002807	0.0035	1		3664.83	3664.83		11.72	Si
SLV 7	fin.	529.02	-2288	-0.0002238	0.0002807	0.0035	1		3664.83	3664.83		6.93	Si
SLV 11	ini.	620.76	-2475	-0.0002663	0.0002807	0.0035	1		3664.83	3664.83		5.9	Si
SLV 11	fin.	186.51	-1892	-0.0000753	0.0002807	0.0035	1		3664.83	3664.83		19.65	Si
SLV 12	ini.	770.13	-2762	-0.0003389	0.0002807	0.0035	1		3664.83	3664.83		4.76	Si
SLV 12	fin.	33.32	-1695	-0.0000132	0.0002807	0.0035	1		3664.83	3664.83		110	Si
SLV 5	ini.	-593.97	1993	-0.0002533	0.0002807	0.0035	1		3671.29	3671.29		6.18	Si
SLV 5	fin.	109.09	748	-0.0000437	0.0002807	0.0035	1		3664.83	3664.83		33.59	Si
SLV 15	ini.	663.93	-1810	-0.0002869	0.0002807	0.0035	1		3664.83	3664.83		5.52	Si
SLV 15	fin.	-361.2	-366	-0.0001489	0.0002807	0.0035	1		3671.29	3671.29		10.16	Si
SLV 16	ini.	811.06	-2092	-0.0003595	0.0002807	0.0035	1		3664.83	3664.83		4.52	Si
SLV 16	fin.	-512.1	-172	-0.0002157	0.0002807	0.0035	1		3671.29	3671.29		7.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	462.09	2871	1	0	971	7930	6738	2550	8901		3.1	Si
SLV 8	fin.	375.82	2045	1	0	962	7930	6738	2550	8891		4.35	Si
SLV 10	ini.	-136.55	-3621	1	0	399	7930	6738	2550	8328		2.3	Si
SLV 10	fin.	-386.61	-1900	1	0	324	7930	6738	2550	8254		4.34	Si
SLV 6	ini.	-444.6	-2319	1	0	133	7930	6738	2550	8063		3.48	Si
SLV 6	fin.	-44.1	-558	1	0	447	7930	6738	2550	8376		15.01	Si
SLV 1	ini.	-634.89	1568	1	0	331	7930	6738	2550	8260		5.27	Si
SLV 1	fin.	654.51	2456	1	0	781	7930	6738	2550	8711		3.55	Si
SLV 13	ini.	391.92	-2773	1	0	761	7930	6738	2550	8691		3.13	Si
SLV 13	fin.	-487.17	-2016	1	0	543	7930	6738	2550	8473		4.2	Si
SLV 4	ini.	-215.75	2578	1	0	674	7930	6738	2550	8604		3.34	Si
SLV 4	fin.	629.58	2703	1	0	884	7930	6738	2550	8814		3.26	Si
SLV 7	ini.	312.72	3427	1	0	936	7930	6738	2550	8865		2.59	Si
SLV 7	fin.	529.02	2587	1	0	986	7930	6738	2550	8915		3.45	Si
SLV 3	ini.	-362.89	3125	1	0	622	7930	6738	2550	8552		2.74	Si
SLV 3	fin.	780.49	3237	1	0	910	7930	6738	2550	8839		2.73	Si
SLV 9	ini.	-285.92	-3066	1	0	301	7930	6738	2550	8230		2.68	Si
SLV 9	fin.	-233.41	-1358	1	0	390	7930	6738	2550	8320		6.13	Si
SLV 14	ini.	539.06	-3319	1	0	804	7930	6738	2550	8734		2.63	Si
SLV 14	fin.	-638.08	-2550	1	0	499	7930	6738	2550	8428		3.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.519	SLV 16	Si
V_SLV	2.3	SLV 10	Si
PF_SLU	16.731	SLU 39	Si
V_SLU	6.8	SLU 39	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
5.239	5.99	3.99	4.9	0.91	6.239	5.99	3.99	4.9	0.91	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 42	ini.	-134.67	-408	-0.0000658	0.0001872	0.0035	0.91		3035.45	3035.45	No	22.54	Si
SLU 42	fin.	-61.46	-145	-0.0000296	0.0001872	0.0035	0.91		3035.45	3035.45	No	49.39	Si
SLU 84	ini.	-119.03	-368	-0.000058	0.0001872	0.0035	0.91		3035.45	3035.45	No	25.5	Si
SLU 84	fin.	-85.78	-162	-0.0000415	0.0001872	0.0035	0.91		3035.45	3035.45	No	35.38	Si
SLU 41	ini.	-134.67	-408	-0.0000658	0.0001872	0.0035	0.91		3035.45	3035.45	No	22.54	Si
SLU 41	fin.	-61.46	-145	-0.0000296	0.0001872	0.0035	0.91		3035.45	3035.45	No	49.39	Si
SLU 39	ini.	-134.67	-408	-0.0000658	0.0001872	0.0035	0.91		3035.45	3035.45	No	22.54	Si
SLU 39	fin.	-61.46	-145	-0.0000296	0.0001872	0.0035	0.91		3035.45	3035.45	No	49.39	Si
SLU 69	ini.	-0.51	-29	-0.0000002	0.0001872	0.0035	0.91		3035.45	3035.45	No	5939.3	Si
SLU 69	fin.	-108.15	-120	-0.0000526	0.0001872	0.0035	0.91		3035.45	3035.45	No	28.07	Si
SLU 71	ini.	-0.51	-29	-0.0000002	0.0001872	0.0035	0.91		3035.45	3035.45	No	5939.3	Si
SLU 71	fin.	-108.15	-120	-0.0000526	0.0001872	0.0035	0.91		3035.45	3035.45	No	28.07	Si
SLU 81	ini.	-119.03	-368	-0.000058	0.0001872	0.0035	0.91		3035.45	3035.45	No	25.5	Si
SLU 81	fin.	-85.78	-162	-0.0000415	0.0001872	0.0035	0.91		3035.45	3035.45	No	35.38	Si
SLU 83	ini.	-119.03	-368	-0.000058	0.0001872	0.0035	0.91		3035.45	3035.45	No	25.5	Si
SLU 83	fin.	-85.78	-162	-0.0000415	0.0001872	0.0035	0.91		3035.45	3035.45	No	35.38	Si
SLU 40	ini.	-134.67	-408	-0.0000658	0.0001872	0.0035	0.91		3035.45	3035.45	No	22.54	Si
SLU 40	fin.	-61.46	-145	-0.0000296	0.0001872	0.0035	0.91		3035.45	3035.45	No	49.39	Si
SLU 82	ini.	-119.03	-368	-0.000058	0.0001872	0.0035	0.91		3035.45	3035.45	No	25.5	Si
SLU 82	fin.	-85.78	-162	-0.0000415	0.0001872	0.0035	0.91		3035.45	3035.45	No	35.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _t f	V _t c	V _t c int.	V _t R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-119.03	1738	0.91	0	417	7216	4087	2321	6408	No	3.69	Si
SLU 83	fin.	-85.78	-1254	0.91	0	386	7216	4087	2321	6408	No	5.11	Si
SLU 84	ini.	-119.03	1738	0.91	0	417	7216	4087	2321	6408	No	3.69	Si
SLU 84	fin.	-85.78	-1254	0.91	0	386	7216	4087	2321	6408	No	5.11	Si
SLU 40	ini.	-134.67	1707	0.91	0	423	7216	4087	2321	6408	No	3.75	Si
SLU 40	fin.	-61.46	-1093	0.91	0	383	7216	4087	2321	6408	No	5.86	Si
SLU 42	ini.	-134.67	1707	0.91	0	423	7216	4087	2321	6408	No	3.75	Si
SLU 42	fin.	-61.46	-1093	0.91	0	383	7216	4087	2321	6408	No	5.86	Si
SLU 41	ini.	-134.67	1707	0.91	0	423	7216	4087	2321	6408	No	3.75	Si
SLU 41	fin.	-61.46	-1093	0.91	0	383	7216	4087	2321	6408	No	5.86	Si
SLU 81	ini.	-119.03	1738	0.91	0	417	7216	4087	2321	6408	No	3.69	Si
SLU 81	fin.	-85.78	-1254	0.91	0	386	7216	4087	2321	6408	No	5.11	Si
SLU 77	ini.	-83.47	1451	0.91	0	402	7216	4087	2321	6408	No	4.42	Si
SLU 77	fin.	-92.49	-1170	0.91	0	384	7216	4087	2321	6408	No	5.48	Si
SLU 39	ini.	-134.67	1707	0.91	0	423	7216	4087	2321	6408	No	3.75	Si
SLU 39	fin.	-61.46	-1093	0.91	0	383	7216	4087	2321	6408	No	5.86	Si
SLU 82	ini.	-119.03	1738	0.91	0	417	7216	4087	2321	6408	No	3.69	Si
SLU 82	fin.	-85.78	-1254	0.91	0	386	7216	4087	2321	6408	No	5.11	Si
SLU 78	ini.	-83.47	1451	0.91	0	402	7216	4087	2321	6408	No	4.42	Si
SLU 78	fin.	-92.49	-1170	0.91	0	384	7216	4087	2321	6408	No	5.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	488.37	1217	-0.0002516	0.0002807	0.0035	0.91		3029.87	3029.87		6.2	Si
SLV 9	fin.	-566.13	-654	-0.0002956	0.0002807	0.0035	0.91		3035.74	3035.74		5.36	Si
SLV 6	ini.	390.84	995	-0.0001979	0.0002807	0.0035	0.91		3029.87	3029.87		7.75	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	fin.	-465.02	-510	-0.0002381	0.0002807	0.0035	0.91		3035.74	3035.74		6.53	Si
SLV 4	ini.	-478.24	-1191	-0.0002455	0.0002807	0.0035	0.91		3035.74	3035.74		6.35	Si
SLV 4	fin.	372.62	453	-0.000188	0.0002807	0.0035	0.91		3029.87	3029.87		8.13	Si
SLV 11	ini.	-425.02	-1134	-0.000216	0.0002807	0.0035	0.91		3035.74	3035.74		7.14	Si
SLV 11	fin.	308.14	319	-0.0001538	0.0002807	0.0035	0.91		3029.87	3029.87		9.83	Si
SLV 13	ini.	444.06	1052	-0.0002269	0.0002807	0.0035	0.91		3029.87	3029.87		6.82	Si
SLV 13	fin.	-529.5	-644	-0.0002744	0.0002807	0.0035	0.91		3035.74	3035.74		5.73	Si
SLV 3	ini.	-613.81	-1526	-0.0003236	0.0002807	0.0035	0.91		3035.74	3035.74		4.95	Si
SLV 3	fin.	499.63	589	-0.000258	0.0002807	0.0035	0.91		3029.87	3029.87		6.06	Si
SLV 7	ini.	-660.18	-1696	-0.0003516	0.0002807	0.0035	0.91		3035.74	3035.74		4.6	Si
SLV 7	fin.	538.2	601	-0.00028	0.0002807	0.0035	0.91		3029.87	3029.87		5.63	Si
SLV 8	ini.	-522.55	-1357	-0.0002705	0.0002807	0.0035	0.91		3035.74	3035.74		5.81	Si
SLV 8	fin.	409.25	463	-0.0002079	0.0002807	0.0035	0.91		3029.87	3029.87		7.4	Si
SLV 14	ini.	579.63	1387	-0.0003041	0.0002807	0.0035	0.91		3029.87	3029.87		5.23	Si
SLV 14	fin.	-656.51	-780	-0.0003493	0.0002807	0.0035	0.91		3035.74	3035.74		4.62	Si
SLV 10	ini.	626	1557	-0.0003316	0.0002807	0.0035	0.91		3029.87	3029.87		4.84	Si
SLV 10	fin.	-695.07	-792	-0.000373	0.0002807	0.0035	0.91		3035.74	3035.74		4.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-660.18	3034	0.91	0	773	7216	6131	2321	7989		2.63	Si
SLV 7	fin.	538.2	1535	0.91	0	428	7216	6131	2321	7644		4.98	Si
SLV 13	ini.	444.06	-889	0.91	0	320	7216	6131	2321	7536		8.47	Si
SLV 13	fin.	-529.5	-2397	0.91	0	638	7216	6131	2321	7854		3.28	Si
SLV 4	ini.	-478.24	2340	0.91	0	711	7216	6131	2321	7927		3.39	Si
SLV 4	fin.	372.62	841	0.91	0	459	7216	6131	2321	7674		9.12	Si
SLV 6	ini.	390.84	-771	0.91	0	336	7216	6131	2321	7551		9.8	Si
SLV 6	fin.	-465.02	-2276	0.91	0	619	7216	6131	2321	7835		3.44	Si
SLV 14	ini.	579.63	-1366	0.91	0	205	7216	6131	2321	7421		5.43	Si
SLV 14	fin.	-656.51	-2874	0.91	0	657	7216	6131	2321	7873		2.74	Si
SLV 11	ini.	-425.02	2221	0.91	0	704	7216	6131	2321	7920		3.57	Si
SLV 11	fin.	308.14	720	0.91	0	484	7216	6131	2321	7700		10.69	Si
SLV 9	ini.	488.37	-1100	0.91	0	269	7216	6131	2321	7485		6.81	Si
SLV 9	fin.	-566.13	-2607	0.91	0	640	7216	6131	2321	7856		3.01	Si
SLV 3	ini.	-613.81	2817	0.91	0	752	7216	6131	2321	7968		2.83	Si
SLV 3	fin.	499.63	1318	0.91	0	431	7216	6131	2321	7647		5.8	Si
SLV 10	ini.	626	-1584	0.91	0	107	7216	6131	2321	7323		4.62	Si
SLV 10	fin.	-695.07	-3091	0.91	0	659	7216	6131	2321	7875		2.55	Si
SLV 8	ini.	-522.55	2550	0.91	0	732	7216	6131	2321	7948		3.12	Si
SLV 8	fin.	409.25	1051	0.91	0	456	7216	6131	2321	7672		7.3	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.367	SLV 10	Si
V_SLV	2.548	SLV 10	Si
PF_SLU	22.54	SLU 39	Si
V_SLU	3.687	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
6.789	5.99	1.09	3.09	2	7.289	5.99	1.09	3.09	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_	fthk	fvk0	fthmedio	τ0	fν0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,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 FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 72	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 72	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 68	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 68	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 76	ini.	121.79	-1477	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 76	fin.	-286.14	-1423	-0.0000286	0.0001872	0.0035	2		14219.44	14219.44	No	49.69	Si
SLU 69	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 69	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 66	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 66	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 70	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 70	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 67	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 67	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 71	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 71	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si
SLU 65	ini.	121.79	-976	-0.0000121	0.0001872	0.0035	2		14206.68	14206.68	No	116.65	Si
SLU 65	fin.	-289.07	-902	-0.0000289	0.0001872	0.0035	2		14219.44	14219.44	No	49.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 73	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 77	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 77	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 81	ini.	121.79	-823	2	0	1138	3965	8983	5100	5103	No	6.2	Si
SLU 81	fin.	-284.89	-99	2	0	1131	3965	8983	5100	5096	No	51.37	Si
SLU 75	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 75	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 74	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 74	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 82	ini.	121.79	-823	2	0	1138	3965	8983	5100	5103	No	6.2	Si
SLU 82	fin.	-284.89	-99	2	0	1131	3965	8983	5100	5096	No	51.37	Si
SLU 80	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 80	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 83	ini.	121.79	-823	2	0	1138	3965	8983	5100	5103	No	6.2	Si
SLU 83	fin.	-284.89	-99	2	0	1131	3965	8983	5100	5096	No	51.37	Si
SLU 78	ini.	121.79	-812	2	0	1107	3965	8983	5100	5072	No	6.25	Si
SLU 78	fin.	-286.14	-199	2	0	1100	3965	8983	5100	5064	No	25.42	Si
SLU 84	ini.	121.79	-823	2	0	1138	3965	8983	5100	5103	No	6.2	Si
SLU 84	fin.	-284.89	-99	2	0	1131	3965	8983	5100	5096	No	51.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	823.56	623	-0.0000835	0.0002807	0.0035	2		13920.08	13920.08		16.9	Si
SLV 14	fin.	-942.17	981	-0.0000958	0.0002807	0.0035	2		13933.43	13933.43		14.79	Si
SLV 15	ini.	460.13	-259	-0.0000461	0.0002807	0.0035	2		13920.08	13920.08		30.25	Si
SLV 15	fin.	-547.2	55	-0.0000549	0.0002807	0.0035	2		13933.43	13933.43		25.46	Si
SLV 4	ini.	-487.64	-2007	-0.0000489	0.0002807	0.0035	2		13933.43	13933.43		28.57	Si
SLV 4	fin.	367.47	-2193	-0.0000367	0.0002807	0.0035	2		13920.08	13920.08		37.88	Si
SLV 16	ini.	613.77	43	-0.0000618	0.0002807	0.0035	2		13920.08	13920.08		22.68	Si
SLV 16	fin.	-685.16	425	-0.0000691	0.0002807	0.0035	2		13933.43	13933.43		20.34	Si
SLV 10	ini.	683.99	585	-0.000069	0.0002807	0.0035	2		13920.08	13920.08		20.35	Si
SLV 10	fin.	-874.65	716	-0.0000887	0.0002807	0.0035	2		13933.43	13933.43		15.93	Si
SLV 9	ini.	528.01	279	-0.000053	0.0002807	0.0035	2		13920.08	13920.08		26.36	Si
SLV 9	fin.	-734.59	340	-0.0000742	0.0002807	0.0035	2		13933.43	13933.43		18.97	Si
SLV 13	ini.	669.92	321	-0.0000676	0.0002807	0.0035	2		13920.08	13920.08		20.78	Si
SLV 13	fin.	-804.21	611	-0.0000814	0.0002807	0.0035	2		13933.43	13933.43		17.33	Si
SLV 3	ini.	-641.28	-2309	-0.0000646	0.0002807	0.0035	2		13933.43	13933.43		21.73	Si
SLV 3	fin.	505.44	-2563	-0.0000507	0.0002807	0.0035	2		13920.08	13920.08		27.54	Si
SLV 7	ini.	-501.7	-2271	-0.0000503	0.0002807	0.0035	2		13933.43	13933.43		27.77	Si
SLV 7	fin.	437.91	-2298	-0.0000439	0.0002807	0.0035	2		13920.08	13920.08		31.79	Si
SLV 6	ini.	353.56	-30	-0.0000353	0.0002807	0.0035	2		13920.08	13920.08		39.37	Si
SLV 6	fin.	-558.86	-70	-0.0000561	0.0002807	0.0035	2		13933.43	13933.43		24.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	613.77	-3396	2	0	1297	3965	13475	5100	5261		1.55	Si
SLV 16	fin.	-685.16	-3073	2	0	1224	3965	13475	5100	5189		1.69	Si
SLV 13	ini.	669.92	-4239	2	0	1244	3965	13475	5100	5209		1.23	Si
SLV 13	fin.	-804.21	-3791	2	0	1187	3965	13475	5100	5152		1.36	Si
SLV 14	ini.	823.56	-4954	2	0	1185	3965	13475	5100	5150		1.04	Si
SLV 14	fin.	-942.17	-4518	2	0	1110	3965	13475	5100	5075		1.12	Si
SLV 9	ini.	528.01	-3795	2	0	1252	3965	13475	5100	5217		1.37	Si
SLV 9	fin.	-734.59	-3262	2	0	1241	3965	13475	5100	5205		1.6	Si
SLV 6	ini.	353.56	-2588	2	0	1310	3965	13475	5100	5275		2.04	Si
SLV 6	fin.	-558.86	-2107	2	0	1317	3965	13475	5100	5282		2.51	Si
SLV 7	ini.	-501.7	3334	2	0	1669	3965	13475	5100	5634		1.69	Si
SLV 7	fin.	437.91	3449	2	0	1673	3965	13475	5100	5638		1.63	Si
SLV 15	ini.	460.13	-2680	2	0	1351	3965	13475	5100	5316		1.98	Si
SLV 15	fin.	-547.2	-2346	2	0	1294	3965	13475	5100	5259		2.24	Si
SLV 10	ini.	683.99	-4522	2	0	1192	3965	13475	5100	5157		1.14	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	fin.	-874.65	-4000	2	0	1166	3965	13475	5100	5131		1.28	Si
SLV 4	ini.	-487.64	3051	2	0	1631	3965	13475	5100	5596		1.83	Si
SLV 4	fin.	367.47	3240	2	0	1658	3965	13475	5100	5623		1.74	Si
SLV 3	ini.	-641.28	3767	2	0	1675	3965	13475	5100	5639		1.5	Si
SLV 3	fin.	505.44	3967	2	0	1710	3965	13475	5100	5675		1.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	14.789	SLV 14	Si
V_SLV	1.039	SLV 14	Si
PF_SLU	49.19	SLU 64	Si
V_SLU	6.201	SLU 81	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
6.789	5.99	3.89	4.9	1.01	7.289	5.99	3.89	4.9	1.01	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 FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 79	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 78	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 78	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 81	ini.	194.61	-515	-0.0000778	0.0001872	0.0035	1.01		3710.51	3710.51	No	19.07	Si
SLU 81	fin.	-214.14	-1051	-0.0000857	0.0001872	0.0035	1.01		3716.96	3716.96	No	17.36	Si
SLU 76	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 76	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 73	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 73	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 82	ini.	194.61	-515	-0.0000778	0.0001872	0.0035	1.01		3710.51	3710.51	No	19.07	Si
SLU 82	fin.	-214.14	-1051	-0.0000857	0.0001872	0.0035	1.01		3716.96	3716.96	No	17.36	Si
SLU 75	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 75	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 74	ini.	175.7	-470	-0.00007	0.0001872	0.0035	1.01		3710.51	3710.51	No	21.12	Si
SLU 74	fin.	-203.44	-955	-0.0000813	0.0001872	0.0035	1.01		3716.96	3716.96	No	18.27	Si
SLU 84	ini.	194.61	-515	-0.0000778	0.0001872	0.0035	1.01		3710.51	3710.51	No	19.07	Si
SLU 84	fin.	-214.14	-1051	-0.0000857	0.0001872	0.0035	1.01		3716.96	3716.96	No	17.36	Si
SLU 83	ini.	194.61	-515	-0.0000778	0.0001872	0.0035	1.01		3710.51	3710.51	No	19.07	Si
SLU 83	fin.	-214.14	-1051	-0.0000857	0.0001872	0.0035	1.01		3716.96	3716.96	No	17.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	194.61	-745	1.01	0	525	3965	4537	2576	4490	No	6.03	Si
SLU 84	fin.	-214.14	-2224	1.01	0	601	3965	4537	2576	4566	No	2.05	Si
SLU 83	ini.	194.61	-745	1.01	0	525	3965	4537	2576	4490	No	6.03	Si
SLU 83	fin.	-214.14	-2224	1.01	0	601	3965	4537	2576	4566	No	2.05	Si
SLU 81	ini.	194.61	-745	1.01	0	525	3965	4537	2576	4490	No	6.03	Si
SLU 81	fin.	-214.14	-2224	1.01	0	601	3965	4537	2576	4566	No	2.05	Si
SLU 77	ini.	175.7	-700	1.01	0	518	3965	4537	2576	4483	No	6.41	Si
SLU 77	fin.	-203.44	-1993	1.01	0	589	3965	4537	2576	4553	No	2.28	Si
SLU 41	ini.	176.3	-649	1.01	0	517	3965	4537	2576	4482	No	6.91	Si
SLU 41	fin.	-183.62	-2036	1.01	0	588	3965	4537	2576	4553	No	2.24	Si
SLU 82	ini.	194.61	-745	1.01	0	525	3965	4537	2576	4490	No	6.03	Si
SLU 82	fin.	-214.14	-2224	1.01	0	601	3965	4537	2576	4566	No	2.05	Si
SLU 75	ini.	175.7	-700	1.01	0	518	3965	4537	2576	4483	No	6.41	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.	-203.44	-1993	1.01	0	589	3965	4537	2576	4553	No	2.28	Si
SLU 40	ini.	176.3	-649	1.01	0	517	3965	4537	2576	4482	No	6.91	Si
SLU 40	fin.	-183.62	-2036	1.01	0	588	3965	4537	2576	4553	No	2.24	Si
SLU 39	ini.	176.3	-649	1.01	0	517	3965	4537	2576	4482	No	6.91	Si
SLU 39	fin.	-183.62	-2036	1.01	0	588	3965	4537	2576	4553	No	2.24	Si
SLU 42	ini.	176.3	-649	1.01	0	517	3965	4537	2576	4482	No	6.91	Si
SLU 42	fin.	-183.62	-2036	1.01	0	588	3965	4537	2576	4553	No	2.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	121.56	-1027	-0.0000478	0.0002807	0.0035	1.01		3738.29	3738.29		30.75	Si
SLV 16	fin.	-454.99	-1577	-0.0001861	0.0002807	0.0035	1.01		3744.81	3744.81		8.23	Si
SLV 13	ini.	73.55	-1240	-0.0000287	0.0002807	0.0035	1.01		3738.29	3738.29		50.83	Si
SLV 13	fin.	-500.5	-1695	-0.0002061	0.0002807	0.0035	1.01		3744.81	3744.81		7.48	Si
SLV 7	ini.	174.72	880	-0.0000691	0.0002807	0.0035	1.01		3738.29	3738.29		21.4	Si
SLV 7	fin.	269.27	665	-0.0001077	0.0002807	0.0035	1.01		3738.29	3738.29		13.88	Si
SLV 6	ini.	48.78	-965	-0.000019	0.0002807	0.0035	1.01		3738.29	3738.29		76.64	Si
SLV 6	fin.	-345.76	-1235	-0.0001394	0.0002807	0.0035	1.01		3744.81	3744.81		10.83	Si
SLV 3	ini.	135.55	912	-0.0000534	0.0002807	0.0035	1.01		3738.29	3738.29		27.58	Si
SLV 3	fin.	327.71	848	-0.000132	0.0002807	0.0035	1.01		3738.29	3738.29		11.41	Si
SLV 14	ini.	81.39	-1501	-0.0000318	0.0002807	0.0035	1.01		3738.29	3738.29		45.93	Si
SLV 14	fin.	-607.05	-2042	-0.0002539	0.0002807	0.0035	1.01		3744.81	3744.81		6.17	Si
SLV 15	ini.	113.72	-766	-0.0000446	0.0002807	0.0035	1.01		3738.29	3738.29		32.87	Si
SLV 15	fin.	-348.44	-1231	-0.0001405	0.0002807	0.0035	1.01		3744.81	3744.81		10.75	Si
SLV 5	ini.	40.82	-700	-0.0000159	0.0002807	0.0035	1.01		3738.29	3738.29		91.59	Si
SLV 5	fin.	-237.6	-883	-0.0000945	0.0002807	0.0035	1.01		3744.81	3744.81		15.76	Si
SLV 9	ini.	34.26	-1203	-0.0000133	0.0002807	0.0035	1.01		3738.29	3738.29		109.1	Si
SLV 9	fin.	-440.44	-1507	-0.0001798	0.0002807	0.0035	1.01		3744.81	3744.81		8.5	Si
SLV 10	ini.	42.22	-1469	-0.0000164	0.0002807	0.0035	1.01		3738.29	3738.29		88.53	Si
SLV 10	fin.	-548.61	-1858	-0.0002275	0.0002807	0.0035	1.01		3744.81	3744.81		6.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	73.55	-1424	1.01	0	856	3965	6805	2576	4821		3.39	Si
SLV 13	fin.	-500.5	-2170	1.01	0	918	3965	6805	2576	4883		2.25	Si
SLV 10	ini.	42.22	-1524	1.01	0	888	3965	6805	2576	4853		3.18	Si
SLV 10	fin.	-548.61	-2279	1.01	0	939	3965	6805	2576	4904		2.15	Si
SLV 14	ini.	81.39	-1739	1.01	0	892	3965	6805	2576	4857		2.79	Si
SLV 14	fin.	-607.05	-2485	1.01	0	962	3965	6805	2576	4927		1.98	Si
SLV 9	ini.	34.26	-1204	1.01	0	851	3965	6805	2576	4816		4	Si
SLV 9	fin.	-440.44	-1960	1.01	0	893	3965	6805	2576	4858		2.48	Si
SLV 12	ini.	176.12	-291	1.01	0	638	3965	6805	2576	4603		15.83	Si
SLV 12	fin.	-41.74	-1014	1.01	0	713	3965	6805	2576	4678		4.61	Si
SLV 16	ini.	121.56	-1369	1.01	0	826	3965	6805	2576	4790		3.5	Si
SLV 16	fin.	-454.99	-2105	1.01	0	902	3965	6805	2576	4867		2.31	Si
SLV 3	ini.	135.55	800	1.01	0	462	3965	6805	2576	4427		5.53	Si
SLV 3	fin.	327.71	69	1.01	0	479	3965	6805	2576	4444		64.06	Si
SLV 6	ini.	48.78	-967	1.01	0	816	3965	6805	2576	4781		4.94	Si
SLV 6	fin.	-345.76	-1721	1.01	0	855	3965	6805	2576	4820		2.8	Si
SLV 5	ini.	40.82	-648	1.01	0	776	3965	6805	2576	4741		7.32	Si
SLV 5	fin.	-237.6	-1402	1.01	0	804	3965	6805	2576	4769		3.4	Si
SLV 15	ini.	113.72	-1054	1.01	0	786	3965	6805	2576	4751		4.51	Si
SLV 15	fin.	-348.44	-1790	1.01	0	855	3965	6805	2576	4820		2.69	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.169	SLV 14	Si
V_SLV	1.983	SLV 14	Si
PF_SLU	17.357	SLU 81	Si
V_SLU	2.054	SLU 81	Si

Trave di accoppiamento 20

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
9.889	5.99	1.09	2.09	1	10.889	5.99	1.09	2.09	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	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	859.49	-3902	-0.000405	0.0001872	0.0035	1		3643.26	3643.26	No	4.24	Si
SLU 84	fin.	-742.09	1218	-0.0003398	0.0001872	0.0035	1		3649.64	3649.64	No	4.92	Si
SLU 83	ini.	859.49	-3902	-0.000405	0.0001872	0.0035	1		3643.26	3643.26	No	4.24	Si
SLU 83	fin.	-742.09	1218	-0.0003398	0.0001872	0.0035	1		3649.64	3649.64	No	4.92	Si
SLU 81	ini.	859.49	-3902	-0.000405	0.0001872	0.0035	1		3643.26	3643.26	No	4.24	Si
SLU 81	fin.	-742.09	1218	-0.0003398	0.0001872	0.0035	1		3649.64	3649.64	No	4.92	Si
SLU 82	ini.	859.49	-3902	-0.000405	0.0001872	0.0035	1		3643.26	3643.26	No	4.24	Si
SLU 82	fin.	-742.09	1218	-0.0003398	0.0001872	0.0035	1		3649.64	3649.64	No	4.92	Si
SLU 78	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 78	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si
SLU 73	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 73	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si
SLU 76	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 76	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si
SLU 74	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 74	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si
SLU 75	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 75	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si
SLU 79	ini.	790.67	-3587	-0.0003669	0.0001872	0.0035	1		3643.26	3643.26	No	4.61	Si
SLU 79	fin.	-676.85	1090	-0.0003052	0.0001872	0.0035	1		3649.64	3649.64	No	5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	859.49	-5972	1	0	900	7930	4492	2550	7042	No	1.18	Si
SLU 83	fin.	-742.09	-2967	1	0	0	7930	4492	2550	7042	No	2.37	Si
SLU 79	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 79	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si
SLU 82	ini.	859.49	-5972	1	0	900	7930	4492	2550	7042	No	1.18	Si
SLU 82	fin.	-742.09	-2967	1	0	0	7930	4492	2550	7042	No	2.37	Si
SLU 76	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 76	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si
SLU 75	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 75	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si
SLU 81	ini.	859.49	-5972	1	0	900	7930	4492	2550	7042	No	1.18	Si
SLU 81	fin.	-742.09	-2967	1	0	0	7930	4492	2550	7042	No	2.37	Si
SLU 78	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 78	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si
SLU 84	ini.	859.49	-5972	1	0	900	7930	4492	2550	7042	No	1.18	Si
SLU 84	fin.	-742.09	-2967	1	0	0	7930	4492	2550	7042	No	2.37	Si
SLU 77	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 77	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si
SLU 80	ini.	790.67	-5454	1	0	872	7930	4492	2550	7042	No	1.29	Si
SLU 80	fin.	-676.85	-2715	1	0	124	7930	4492	2550	7042	No	2.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-70.21	-1278	-0.0000279	0.0002807	0.0035	1		3671.29	3671.29		52.29	Si
SLV 9	fin.	-456.07	3804	-0.0001905	0.0002807	0.0035	1		3671.29	3671.29		8.05	Si
SLV 14	ini.	663.55	-3215	-0.0002867	0.0002807	0.0035	1		3664.83	3664.83		5.52	Si
SLV 14	fin.	-943.52	2969	-0.0004277	0.0002807	0.0035	1		3671.29	3671.29		3.89	Si
SLV 15	ini.	956.3	-3634	-0.0004353	0.0002807	0.0035	1		3664.83	3664.83		3.83	Si
SLV 15	fin.	-868.98	935	-0.0003885	0.0002807	0.0035	1		3671.29	3671.29		4.22	Si
SLV 16	ini.	1039.95	-3941	-0.0004808	0.0002807	0.0035	1		3664.83	3664.83		3.52	Si
SLV 16	fin.	-978.91	1225	-0.0004466	0.0002807	0.0035	1		3671.29	3671.29		3.75	Si
SLV 8	ini.	1089.11	-3341	-0.0005082	0.0002807	0.0035	1		3664.83	3664.83		3.36	Si
SLV 8	fin.	-398.16	-2492	-0.000165	0.0002807	0.0035	1		3671.29	3671.29		9.22	Si
SLV 10	ini.	14.7	-1589	-0.0000058	0.0002807	0.0035	1		3664.83	3664.83		249.23	Si
SLV 10	fin.	-567.66	4099	-0.0002411	0.0002807	0.0035	1		3671.29	3671.29		6.47	Si
SLV 7	ini.	1004.19	-3030	-0.0004612	0.0002807	0.0035	1		3664.83	3664.83		3.65	Si
SLV 7	fin.	-286.56	-2786	-0.000117	0.0002807	0.0035	1		3671.29	3671.29		12.81	Si
SLV 13	ini.	579.9	-2908	-0.0002472	0.0002807	0.0035	1		3664.83	3664.83		6.32	Si
SLV 13	fin.	-833.59	2679	-0.0003703	0.0002807	0.0035	1		3671.29	3671.29		4.4	Si
SLV 12	ini.	1269.39	-4010	-0.0006122	0.0002807	0.0035	1		3664.83	3664.83		2.89	Si
SLV 12	fin.	-685.64	-1714	-0.0002968	0.0002807	0.0035	1		3671.29	3671.29		5.35	Si
SLV 11	ini.	1184.48	-3699	-0.0005625	0.0002807	0.0035	1		3664.83	3664.83		3.09	Si
SLV 11	fin.	-574.04	-2008	-0.000244	0.0002807	0.0035	1		3671.29	3671.29		6.4	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	579.9	-5609	1	0	1058	7930	6738	2550	8988		1.6	Si
SLV 13	fin.	-833.59	-2683	1	0	0	7930	6738	2550	7930		2.96	Si
SLV 16	ini.	1039.95	-5778	1	0	1169	7930	6738	2550	9099		1.57	Si
SLV 16	fin.	-978.91	-5018	1	0	364	7930	6738	2550	8294		1.65	Si
SLV 14	ini.	663.55	-6115	1	0	1092	7930	6738	2550	9022		1.48	Si
SLV 14	fin.	-943.52	-3180	1	0	0	7930	6738	2550	7930		2.49	Si
SLV 7	ini.	1004.19	-1973	1	0	1072	7930	6738	2550	9001		4.56	Si
SLV 7	fin.	-286.56	-3896	1	0	1044	7930	6738	2550	8974		2.3	Si
SLV 12	ini.	1269.39	-3826	1	0	1176	7930	6738	2550	9106		2.38	Si
SLV 12	fin.	-685.64	-5677	1	0	914	7930	6738	2550	8843		1.56	Si
SLV 15	ini.	956.3	-5271	1	0	1137	7930	6738	2550	9067		1.72	Si
SLV 15	fin.	-868.98	-4521	1	0	449	7930	6738	2550	8379		1.85	Si
SLV 11	ini.	1184.48	-3311	1	0	1144	7930	6738	2550	9074		2.74	Si
SLV 11	fin.	-574.04	-5172	1	0	951	7930	6738	2550	8881		1.72	Si
SLV 10	ini.	14.7	-4951	1	0	897	7930	6738	2550	8827		1.78	Si
SLV 10	fin.	-567.66	450	1	0	0	7930	6738	2550	7930		17.64	Si
SLV 8	ini.	1089.11	-2487	1	0	1106	7930	6738	2550	9036		3.63	Si
SLV 8	fin.	-398.16	-4401	1	0	1010	7930	6738	2550	8940		2.03	Si
SLV 9	ini.	-70.21	-4437	1	0	855	7930	6738	2550	8784		1.98	Si
SLV 9	fin.	-456.07	955	1	0	0	7930	6738	2550	7930		8.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.887	SLV 12	Si
V_SLV	1.475	SLV 14	Si
PF_SLU	4.239	SLU 81	Si
V_SLU	1.179	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
9.889	5.99	3.99	4.9	0.91	10.889	5.99	3.99	4.9	0.91	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 FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$y_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 76	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si
SLU 74	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 74	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si
SLU 83	ini.	625.25	2023	-0.0003472	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.85	Si
SLU 83	fin.	-798.29	-3233	-0.0004635	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.8	Si
SLU 82	ini.	625.25	2023	-0.0003472	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.85	Si
SLU 82	fin.	-798.29	-3233	-0.0004635	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.8	Si
SLU 78	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 78	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si
SLU 75	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 75	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si
SLU 81	ini.	625.25	2023	-0.0003472	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.85	Si
SLU 81	fin.	-798.29	-3233	-0.0004635	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.8	Si
SLU 84	ini.	625.25	2023	-0.0003472	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.85	Si
SLU 84	fin.	-798.29	-3233	-0.0004635	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.8	Si
SLU 73	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 73	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si
SLU 79	ini.	577.4	1908	-0.0003163	0.0001872	0.0035	0.91		3029.71	3029.71	No	5.25	Si
SLU 79	fin.	-735.44	-2959	-0.00042	0.0001872	0.0035	0.91		3035.45	3035.45	No	4.13	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	Incremento > 50%	c.s.	Verifica
SLU 40	ini.	551.92	-1369	0.91	0	0	7216	4087	2321	6408	No	4.68	Si
SLU 40	fin.	-706.48	-5246	0.91	0	690	7216	4087	2321	6408	No	1.22	Si
SLU 75	ini.	577.4	-1723	0.91	0	0	7216	4087	2321	6408	No	3.72	Si
SLU 75	fin.	-735.44	-5235	0.91	0	696	7216	4087	2321	6408	No	1.22	Si
SLU 83	ini.	625.25	-1725	0.91	0	0	7216	4087	2321	6408	No	3.71	Si
SLU 83	fin.	-798.29	-5793	0.91	0	719	7216	4087	2321	6408	No	1.11	Si
SLU 77	ini.	577.4	-1723	0.91	0	0	7216	4087	2321	6408	No	3.72	Si
SLU 77	fin.	-735.44	-5235	0.91	0	696	7216	4087	2321	6408	No	1.22	Si
SLU 84	ini.	625.25	-1725	0.91	0	0	7216	4087	2321	6408	No	3.71	Si
SLU 84	fin.	-798.29	-5793	0.91	0	719	7216	4087	2321	6408	No	1.11	Si
SLU 41	ini.	551.92	-1369	0.91	0	0	7216	4087	2321	6408	No	4.68	Si
SLU 41	fin.	-706.48	-5246	0.91	0	690	7216	4087	2321	6408	No	1.22	Si
SLU 39	ini.	551.92	-1369	0.91	0	0	7216	4087	2321	6408	No	4.68	Si
SLU 39	fin.	-706.48	-5246	0.91	0	690	7216	4087	2321	6408	No	1.22	Si
SLU 42	ini.	551.92	-1369	0.91	0	0	7216	4087	2321	6408	No	4.68	Si
SLU 42	fin.	-706.48	-5246	0.91	0	690	7216	4087	2321	6408	No	1.22	Si
SLU 82	ini.	625.25	-1725	0.91	0	0	7216	4087	2321	6408	No	3.71	Si
SLU 82	fin.	-798.29	-5793	0.91	0	719	7216	4087	2321	6408	No	1.11	Si
SLU 81	ini.	625.25	-1725	0.91	0	0	7216	4087	2321	6408	No	3.71	Si
SLU 81	fin.	-798.29	-5793	0.91	0	719	7216	4087	2321	6408	No	1.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	Incremento > 50%	c.s.	Verifica
SLV 12	ini.	-2.89	470	-0.0000014	0.0002807	0.0035	0.91		3035.74	3035.74		1050.54	Si
SLV 12	fin.	-1226.36	-3855	-0.0007399	0.0002807	0.0035	0.91		3035.74	3035.74		2.48	Si
SLV 9	ini.	941.03	2857	-0.0005345	0.0002807	0.0035	0.91		3029.87	3029.87		3.22	Si
SLV 9	fin.	121.36	-432	-0.0000589	0.0002807	0.0035	0.91		3029.87	3029.87		24.97	Si
SLV 10	ini.	1033.3	3231	-0.0005991	0.0002807	0.0035	0.91		3029.87	3029.87		2.93	Si
SLV 10	fin.	28.07	-778	-0.0000134	0.0002807	0.0035	0.91		3029.87	3029.87		107.93	Si
SLV 11	ini.	-95.16	97	-0.0000459	0.0002807	0.0035	0.91		3035.74	3035.74		31.9	Si
SLV 11	fin.	-1133.07	-3509	-0.0006699	0.0002807	0.0035	0.91		3035.74	3035.74		2.68	Si
SLV 14	ini.	889.46	3121	-0.0004995	0.0002807	0.0035	0.91		3029.87	3029.87		3.41	Si
SLV 14	fin.	-590.59	-2458	-0.0003099	0.0002807	0.0035	0.91		3035.74	3035.74		5.14	Si
SLV 15	ini.	487.72	1925	-0.0002513	0.0002807	0.0035	0.91		3029.87	3029.87		6.21	Si
SLV 15	fin.	-875.03	-3041	-0.0004887	0.0002807	0.0035	0.91		3035.74	3035.74		3.47	Si
SLV 8	ini.	-191.05	-266	-0.0000935	0.0002807	0.0035	0.91		3035.74	3035.74		15.89	Si
SLV 8	fin.	-1071.81	-3335	-0.0006253	0.0002807	0.0035	0.91		3035.74	3035.74		2.83	Si
SLV 16	ini.	578.6	2293	-0.0003035	0.0002807	0.0035	0.91		3029.87	3029.87		5.24	Si
SLV 16	fin.	-966.92	-3381	-0.0005512	0.0002807	0.0035	0.91		3035.74	3035.74		3.14	Si
SLV 7	ini.	-283.32	-640	-0.0001406	0.0002807	0.0035	0.91		3035.74	3035.74		10.71	Si
SLV 7	fin.	-978.52	-2990	-0.0005593	0.0002807	0.0035	0.91		3035.74	3035.74		3.1	Si
SLV 6	ini.	845.14	2494	-0.0004699	0.0002807	0.0035	0.91		3029.87	3029.87		3.59	Si
SLV 6	fin.	182.62	-258	-0.0000894	0.0002807	0.0035	0.91		3029.87	3029.87		16.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	Incremento > 50%	c.s.	Verifica
SLV 13	ini.	798.57	-1912	0.91	0	0	7216	6131	2321	7216		3.77	Si
SLV 13	fin.	-498.7	-4194	0.91	0	820	7216	6131	2321	8036		1.92	Si
SLV 8	ini.	-191.05	-3085	0.91	0	583	7216	6131	2321	7799		2.53	Si
SLV 8	fin.	-1071.81	-3853	0.91	0	944	7216	6131	2321	8160		2.12	Si
SLV 12	ini.	-2.89	-3952	0.91	0	455	7216	6131	2321	7671		1.94	Si
SLV 12	fin.	-1226.36	-4722	0.91	0	993	7216	6131	2321	8209		1.74	Si
SLV 16	ini.	578.6	-3591	0.91	0	0	7216	6131	2321	7216		2.01	Si
SLV 16	fin.	-966.92	-5176	0.91	0	949	7216	6131	2321	8165		1.58	Si
SLV 11	ini.	-95.16	-3440	0.91	0	524	7216	6131	2321	7740		2.25	Si
SLV 11	fin.	-1133.07	-4209	0.91	0	961	7216	6131	2321	8177		1.94	Si
SLV 9	ini.	941.03	474	0.91	0	0	7216	6131	2321	7216		15.24	Si
SLV 9	fin.	121.36	-2622	0.91	0	608	7216	6131	2321	7824		2.98	Si
SLV 14	ini.	889.46	-2418	0.91	0	0	7216	6131	2321	7216		2.98	Si
SLV 14	fin.	-590.59	-4700	0.91	0	857	7216	6131	2321	8073		1.72	Si
SLV 10	ini.	1033.3	-39	0.91	0	0	7216	6131	2321	7216		183.8	Si
SLV 10	fin.	28.07	-3135	0.91	0	657	7216	6131	2321	7873		2.51	Si
SLV 7	ini.	-283.32	-2572	0.91	0	638	7216	6131	2321	7854		3.05	Si
SLV 7	fin.	-978.52	-3340	0.91	0	911	7216	6131	2321	8127		2.43	Si
SLV 15	ini.	487.72	-3086	0.91	0	0	7216	6131	2321	7216		2.34	Si
SLV 15	fin.	-875.03	-4671	0.91	0	916	7216	6131	2321	8132		1.74	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.475	SLV 12	Si
V_SLV	1.577	SLV 16	Si
PF_SLU	3.802	SLU 81	Si
V_SLU	1.106	SLU 81	Si

Trave di accoppiamento 22

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



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.819	-0.751	1.09	2.09	1	12.819	-1.751	1.09	2.09	1	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-653.15	1673	-0.0002929	0.0001872	0.0035	1		3649.64	3649.64	No	5.59	Si
SLU 81	fin.	899.99	-3363	-0.000428	0.0001872	0.0035	1		3643.26	3643.26	No	4.05	Si
SLU 80	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 80	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 83	ini.	-653.15	1673	-0.0002929	0.0001872	0.0035	1		3649.64	3649.64	No	5.59	Si
SLU 83	fin.	899.99	-3363	-0.000428	0.0001872	0.0035	1		3643.26	3643.26	No	4.05	Si
SLU 84	ini.	-653.15	1673	-0.0002929	0.0001872	0.0035	1		3649.64	3649.64	No	5.59	Si
SLU 84	fin.	899.99	-3363	-0.000428	0.0001872	0.0035	1		3643.26	3643.26	No	4.05	Si
SLU 77	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 77	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 79	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 79	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 78	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 78	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 76	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 76	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si
SLU 82	ini.	-653.15	1673	-0.0002929	0.0001872	0.0035	1		3649.64	3649.64	No	5.59	Si
SLU 82	fin.	899.99	-3363	-0.000428	0.0001872	0.0035	1		3643.26	3643.26	No	4.05	Si
SLU 75	ini.	-630.21	1636	-0.000281	0.0001872	0.0035	1		3649.64	3649.64	No	5.79	Si
SLU 75	fin.	855.61	-3183	-0.0004029	0.0001872	0.0035	1		3643.26	3643.26	No	4.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-653.15	3250	1	0	0	7930	4492	2550	7042	No	2.17	Si
SLU 83	fin.	899.99	4828	1	0	851	7930	4492	2550	7042	No	1.46	Si
SLU 75	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 75	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si
SLU 81	ini.	-653.15	3250	1	0	0	7930	4492	2550	7042	No	2.17	Si
SLU 81	fin.	899.99	4828	1	0	851	7930	4492	2550	7042	No	1.46	Si
SLU 82	ini.	-653.15	3250	1	0	0	7930	4492	2550	7042	No	2.17	Si
SLU 82	fin.	899.99	4828	1	0	851	7930	4492	2550	7042	No	1.46	Si
SLU 78	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 78	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si
SLU 79	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 79	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si
SLU 84	ini.	-653.15	3250	1	0	0	7930	4492	2550	7042	No	2.17	Si
SLU 84	fin.	899.99	4828	1	0	851	7930	4492	2550	7042	No	1.46	Si
SLU 77	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 77	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si
SLU 76	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 76	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si
SLU 80	ini.	-630.21	3147	1	0	0	7930	4492	2550	7042	No	2.24	Si
SLU 80	fin.	855.61	4585	1	0	834	7930	4492	2550	7042	No	1.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-887.2	2826	-0.000398	0.0002807	0.0035	1		3671.29	3671.29		4.14	Si
SLV 11	fin.	1161.34	-4181	-0.0005491	0.0002807	0.0035	1		3664.83	3664.83		3.16	Si
SLV 14	ini.	-131.85	494	-0.0000528	0.0002807	0.0035	1		3671.29	3671.29		27.84	Si
SLV 14	fin.	620.11	-2344	-0.000266	0.0002807	0.0035	1		3664.83	3664.83		5.91	Si
SLV 12	ini.	-807.89	2564	-0.0003572	0.0002807	0.0035	1		3671.29	3671.29		4.54	Si
SLV 12	fin.	1079.4	-3884	-0.0005027	0.0002807	0.0035	1		3664.83	3664.83		3.4	Si
SLV 16	ini.	-397.2	1414	-0.0001646	0.0002807	0.0035	1		3671.29	3671.29		9.24	Si



Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	fin.	899.58	-3312	-0.0004052	0.0002807	0.0035	1		3664.83	3664.83		4.07	Si
SLV 13	ini.	-209.98	752	-0.0000849	0.0002807	0.0035	1		3671.29	3671.29		17.48	Si
SLV 13	fin.	700.83	-2637	-0.0003047	0.0002807	0.0035	1		3664.83	3664.83		5.23	Si
SLV 8	ini.	-895.07	2631	-0.0004021	0.0002807	0.0035	1		3671.29	3671.29		4.1	Si
SLV 8	fin.	954.59	-3408	-0.0004344	0.0002807	0.0035	1		3664.83	3664.83		3.84	Si
SLV 3	ini.	-765.93	1897	-0.0003361	0.0002807	0.0035	1		3671.29	3671.29		4.79	Si
SLV 3	fin.	564.27	-2020	-0.00024	0.0002807	0.0035	1		3664.83	3664.83		6.49	Si
SLV 15	ini.	-475.33	1672	-0.0001991	0.0002807	0.0035	1		3671.29	3671.29		7.72	Si
SLV 15	fin.	980.3	-3604	-0.0004483	0.0002807	0.0035	1		3664.83	3664.83		3.74	Si
SLV 4	ini.	-687.8	1639	-0.0002978	0.0002807	0.0035	1		3671.29	3671.29		5.34	Si
SLV 4	fin.	483.55	-1728	-0.0002032	0.0002807	0.0035	1		3664.83	3664.83		7.58	Si
SLV 7	ini.	-974.38	2894	-0.0004442	0.0002807	0.0035	1		3671.29	3671.29		3.77	Si
SLV 7	fin.	1036.53	-3705	-0.0004789	0.0002807	0.0035	1		3664.83	3664.83		3.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-475.33	4973	1	0	161	7930	6738	2550	8091		1.63	Si
SLV 15	fin.	980.3	2586	1	0	1134	7930	6738	2550	9064		3.5	Si
SLV 11	ini.	-887.2	5754	1	0	0	7930	6738	2550	7930		1.38	Si
SLV 11	fin.	1161.34	5409	1	0	1193	7930	6738	2550	9123		1.69	Si
SLV 4	ini.	-687.8	1210	1	0	185	7930	6738	2550	8114		6.71	Si
SLV 4	fin.	483.55	5228	1	0	915	7930	6738	2550	8845		1.69	Si
SLV 3	ini.	-765.93	1650	1	0	0	7930	6738	2550	7930		4.8	Si
SLV 3	fin.	564.27	5686	1	0	953	7930	6738	2550	8882		1.56	Si
SLV 16	ini.	-397.2	4533	1	0	296	7930	6738	2550	8226		1.81	Si
SLV 16	fin.	899.58	2128	1	0	1103	7930	6738	2550	9032		4.24	Si
SLV 7	ini.	-974.38	4757	1	0	0	7930	6738	2550	7930		1.67	Si
SLV 7	fin.	1036.53	6339	1	0	1145	7930	6738	2550	9074		1.43	Si
SLV 8	ini.	-895.07	4310	1	0	0	7930	6738	2550	7930		1.84	Si
SLV 8	fin.	954.59	5874	1	0	1113	7930	6738	2550	9043		1.54	Si
SLV 1	ini.	-500.58	-12	1	0	438	7930	6738	2550	8368		682.94	Si
SLV 1	fin.	284.81	4198	1	0	823	7930	6738	2550	8752		2.08	Si
SLV 12	ini.	-807.89	5306	1	0	0	7930	6738	2550	7930		1.49	Si
SLV 12	fin.	1079.4	4944	1	0	1163	7930	6738	2550	9093		1.84	Si
SLV 2	ini.	-422.45	-453	1	0	504	7930	6738	2550	8433		18.63	Si
SLV 2	fin.	204.09	3741	1	0	779	7930	6738	2550	8709		2.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 11	Si
V_SLV		SLV 11	Si
PF_SLU		SLU 81	Si
V_SLU		SLU 81	Si

Trave di accoppiamento 23

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.819	-0.751	3.99	4.9	0.91	12.819	-1.751	3.99	4.9	0.91	1	0.3	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ0	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _c ,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-807.43	-3255	-0.0004699	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.76	Si
SLU 81	fin.	628.44	2529	-0.0003493	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.82	Si
SLU 77	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si
SLU 77	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si
SLU 78	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si
SLU 75	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si
SLU 75	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si
SLU 82	ini.	-807.43	-3255	-0.0004699	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.76	Si
SLU 82	fin.	628.44	2529	-0.0003493	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.82	Si
SLU 79	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si
SLU 79	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si
SLU 84	ini.	-807.43	-3255	-0.0004699	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.76	Si
SLU 84	fin.	628.44	2529	-0.0003493	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.82	Si
SLU 80	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si
SLU 80	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si
SLU 83	ini.	-807.43	-3255	-0.0004699	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.76	Si
SLU 83	fin.	628.44	2529	-0.0003493	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.82	Si
SLU 76	ini.	-766.67	-3093	-0.0004415	0.0001872	0.0035	0.91		3035.45	3035.45	No	3.96	Si
SLU 76	fin.	608.02	2444	-0.000336	0.0001872	0.0035	0.91		3029.71	3029.71	No	4.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-807.43	4367	0.91	0	721	7216	4087	2321	6408	No	1.47	Si
SLU 83	fin.	628.44	3764	0.91	0	0	7216	4087	2321	6408	No	1.7	Si
SLU 84	ini.	-807.43	4367	0.91	0	721	7216	4087	2321	6408	No	1.47	Si
SLU 84	fin.	628.44	3764	0.91	0	0	7216	4087	2321	6408	No	1.7	Si
SLU 75	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 75	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si
SLU 77	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 77	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si
SLU 79	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 79	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si
SLU 80	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 80	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si
SLU 81	ini.	-807.43	4367	0.91	0	721	7216	4087	2321	6408	No	1.47	Si
SLU 81	fin.	628.44	3764	0.91	0	0	7216	4087	2321	6408	No	1.7	Si
SLU 76	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 76	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si
SLU 82	ini.	-807.43	4367	0.91	0	721	7216	4087	2321	6408	No	1.47	Si
SLU 82	fin.	628.44	3764	0.91	0	0	7216	4087	2321	6408	No	1.7	Si
SLU 78	ini.	-766.67	4193	0.91	0	708	7216	4087	2321	6408	No	1.53	Si
SLU 78	fin.	608.02	3590	0.91	0	0	7216	4087	2321	6408	No	1.78	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-572.17	-2218	-0.0002991	0.0002807	0.0035	0.91		3035.74	3035.74		5.31	Si
SLV 13	fin.	233.84	742	-0.0001154	0.0002807	0.0035	0.91		3029.87	3029.87		12.96	Si
SLV 11	ini.	-990.68	-3885	-0.0005677	0.0002807	0.0035	0.91		3035.74	3035.74		3.06	Si
SLV 11	fin.	782.67	3018	-0.0004291	0.0002807	0.0035	0.91		3029.87	3029.87		3.87	Si
SLV 7	ini.	-917.6	-3659	-0.0005174	0.0002807	0.0035	0.91		3035.74	3035.74		3.31	Si
SLV 7	fin.	861.17	3463	-0.0004805	0.0002807	0.0035	0.91		3029.87	3029.87		3.52	Si
SLV 3	ini.	-560.83	-2355	-0.0002925	0.0002807	0.0035	0.91		3035.74	3035.74		5.41	Si
SLV 3	fin.	706.31	3035	-0.0003807	0.0002807	0.0035	0.91		3029.87	3029.87		4.29	Si
SLV 8	ini.	-841.37	-3358	-0.0004664	0.0002807	0.0035	0.91		3035.74	3035.74		3.61	Si
SLV 8	fin.	791	3175	-0.0004345	0.0002807	0.0035	0.91		3029.87	3029.87		3.83	Si
SLV 14	ini.	-497.09	-1922	-0.000256	0.0002807	0.0035	0.91		3035.74	3035.74		6.11	Si
SLV 14	fin.	164.73	458	-0.0000804	0.0002807	0.0035	0.91		3029.87	3029.87		18.39	Si
SLV 4	ini.	-485.74	-2059	-0.0002497	0.0002807	0.0035	0.91		3035.74	3035.74		6.25	Si
SLV 4	fin.	637.19	2751	-0.0003383	0.0002807	0.0035	0.91		3029.87	3029.87		4.76	Si
SLV 12	ini.	-914.45	-3584	-0.0005152	0.0002807	0.0035	0.91		3035.74	3035.74		3.32	Si
SLV 12	fin.	712.5	2730	-0.0003846	0.0002807	0.0035	0.91		3029.87	3029.87		4.25	Si
SLV 15	ini.	-804.41	-3108	-0.0004422	0.0002807	0.0035	0.91		3035.74	3035.74		3.77	Si
SLV 15	fin.	444.64	1552	-0.0002273	0.0002807	0.0035	0.91		3029.87	3029.87		6.81	Si
SLV 16	ini.	-729.33	-2811	-0.0003943	0.0002807	0.0035	0.91		3035.74	3035.74		4.16	Si
SLV 16	fin.	375.52	1268	-0.0001896	0.0002807	0.0035	0.91		3029.87	3029.87		8.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-729.33	2720	0.91	0	893	7216	6131	2321	8109		2.98	Si
SLV 16	fin.	375.52	2250	0.91	0	252	7216	6131	2321	7468		3.32	Si
SLV 15	ini.	-804.41	3128	0.91	0	922	7216	6131	2321	8138		2.6	Si
SLV 15	fin.	444.64	2658	0.91	0	111	7216	6131	2321	7327		2.76	Si
SLV 4	ini.	-485.74	3968	0.91	0	814	7216	6131	2321	8030		2.02	Si
SLV 4	fin.	637.19	3517	0.91	0	0	7216	6131	2321	7216		2.05	Si
SLV 12	ini.	-914.45	4524	0.91	0	968	7216	6131	2321	8184		1.81	Si
SLV 12	fin.	712.5	4061	0.91	0	0	7216	6131	2321	7216		1.78	Si
SLV 1	ini.	-328.59	3202	0.91	0	745	7216	6131	2321	7961		2.49	Si
SLV 1	fin.	495.52	2750	0.91	0	0	7216	6131	2321	7216		2.62	Si
SLV 3	ini.	-560.83	4376	0.91	0	846	7216	6131	2321	8062		1.84	Si
SLV 3	fin.	706.31	3925	0.91	0	0	7216	6131	2321	7216		1.84	Si
SLV 11	ini.	-990.68	4938	0.91	0	995	7216	6131	2321	8211		1.66	Si
SLV 11	fin.	782.67	4475	0.91	0	0	7216	6131	2321	7216		1.61	Si
SLV 8	ini.	-841.37	4898	0.91	0	947	7216	6131	2321	8162		1.67	Si
SLV 8	fin.	791	4441	0.91	0	0	7216	6131	2321	7216		1.62	Si
SLV 7	ini.	-917.6	5312	0.91	0	975	7216	6131	2321	8191		1.54	Si
SLV 7	fin.	861.17	4855	0.91	0	0	7216	6131	2321	7216		1.49	Si
SLV 2	ini.	-253.5	2793	0.91	0	709	7216	6131	2321	7925		2.84	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	fin.	426.4	2342	0.91	0	0	7216	6131	2321	7216		3.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.064	SLV 11	Si
V_SLV	1.486	SLV 7	Si
PF_SLU	3.759	SLU 81	Si
V_SLU	1.467	SLU 81	Si

Trave di accoppiamento 24

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.819	3.899	1.09	2.09	1	12.819	2.899	1.09	2.09	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 FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,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 FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 40	ini.	182	-1214	-0.0000741	0.0001872	0.0035	1		3643.26	3643.26	No	20.02	Si
SLU 40	fin.	232.78	-1206	-0.0000956	0.0001872	0.0035	1		3643.26	3643.26	No	15.65	Si
SLU 42	ini.	182	-1214	-0.0000741	0.0001872	0.0035	1		3643.26	3643.26	No	20.02	Si
SLU 42	fin.	232.78	-1206	-0.0000956	0.0001872	0.0035	1		3643.26	3643.26	No	15.65	Si
SLU 82	ini.	228.11	-1422	-0.0000936	0.0001872	0.0035	1		3643.26	3643.26	No	15.97	Si
SLU 82	fin.	242.18	-1346	-0.0000996	0.0001872	0.0035	1		3643.26	3643.26	No	15.04	Si
SLU 41	ini.	182	-1214	-0.0000741	0.0001872	0.0035	1		3643.26	3643.26	No	20.02	Si
SLU 41	fin.	232.78	-1206	-0.0000956	0.0001872	0.0035	1		3643.26	3643.26	No	15.65	Si
SLU 39	ini.	182	-1214	-0.0000741	0.0001872	0.0035	1		3643.26	3643.26	No	20.02	Si
SLU 39	fin.	232.78	-1206	-0.0000956	0.0001872	0.0035	1		3643.26	3643.26	No	15.65	Si
SLU 81	ini.	228.11	-1422	-0.0000936	0.0001872	0.0035	1		3643.26	3643.26	No	15.97	Si
SLU 81	fin.	242.18	-1346	-0.0000996	0.0001872	0.0035	1		3643.26	3643.26	No	15.04	Si
SLU 60	ini.	224.2	-1311	-0.0000919	0.0001872	0.0035	1		3643.26	3643.26	No	16.25	Si
SLU 60	fin.	196.38	-1181	-0.0000801	0.0001872	0.0035	1		3643.26	3643.26	No	18.55	Si
SLU 84	ini.	228.11	-1422	-0.0000936	0.0001872	0.0035	1		3643.26	3643.26	No	15.97	Si
SLU 84	fin.	242.18	-1346	-0.0000996	0.0001872	0.0035	1		3643.26	3643.26	No	15.04	Si
SLU 83	ini.	228.11	-1422	-0.0000936	0.0001872	0.0035	1		3643.26	3643.26	No	15.97	Si
SLU 83	fin.	242.18	-1346	-0.0000996	0.0001872	0.0035	1		3643.26	3643.26	No	15.04	Si
SLU 61	ini.	224.2	-1311	-0.0000919	0.0001872	0.0035	1		3643.26	3643.26	No	16.25	Si
SLU 61	fin.	196.38	-1181	-0.0000801	0.0001872	0.0035	1		3643.26	3643.26	No	18.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	228.11	-735	1	0	645	7930	4492	2550	7042	No	9.58	Si
SLU 84	fin.	242.18	610	1	0	635	7930	4492	2550	7042	No	11.54	Si
SLU 82	ini.	228.11	-735	1	0	645	7930	4492	2550	7042	No	9.58	Si
SLU 82	fin.	242.18	610	1	0	635	7930	4492	2550	7042	No	11.54	Si
SLU 81	ini.	228.11	-735	1	0	645	7930	4492	2550	7042	No	9.58	Si
SLU 81	fin.	242.18	610	1	0	635	7930	4492	2550	7042	No	11.54	Si
SLU 79	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si
SLU 79	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 78	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si
SLU 78	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 80	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si
SLU 80	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 75	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si
SLU 75	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 76	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si
SLU 76	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 77	ini.	222.11	-708	1	0	634	7930	4492	2550	7042	No	9.95	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	211.19	503	1	0	621	7930	4492	2550	7042	No	13.99	Si
SLU 83	ini.	228.11	-735	1	0	645	7930	4492	2550	7042	No	9.58	Si
SLU 83	fin.	242.18	610	1	0	635	7930	4492	2550	7042	No	11.54	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	814.53	-1803	-0.0003613	0.0002807	0.0035	1		3664.83	3664.83		4.5	Si
SLV 6	fin.	-475.62	58	-0.0001993	0.0002807	0.0035	1		3671.29	3671.29		7.72	Si
SLV 7	ini.	-718.4	483	-0.0003127	0.0002807	0.0035	1		3671.29	3671.29		5.11	Si
SLV 7	fin.	910.99	-1897	-0.0004112	0.0002807	0.0035	1		3664.83	3664.83		4.02	Si
SLV 5	ini.	691.36	-1618	-0.0003001	0.0002807	0.0035	1		3664.83	3664.83		5.3	Si
SLV 5	fin.	-361.75	-111	-0.0001492	0.0002807	0.0035	1		3671.29	3671.29		10.15	Si
SLV 9	ini.	921.71	-2119	-0.0004169	0.0002807	0.0035	1		3664.83	3664.83		3.98	Si
SLV 9	fin.	-562.27	165	-0.0002386	0.0002807	0.0035	1		3671.29	3671.29		6.53	Si
SLV 14	ini.	819.28	-2150	-0.0003637	0.0002807	0.0035	1		3664.83	3664.83		4.47	Si
SLV 14	fin.	-463.76	30	-0.000194	0.0002807	0.0035	1		3671.29	3671.29		7.92	Si
SLV 10	ini.	1044.88	-2303	-0.0004835	0.0002807	0.0035	1		3664.83	3664.83		3.51	Si
SLV 10	fin.	-676.14	334	-0.0002922	0.0002807	0.0035	1		3671.29	3671.29		5.43	Si
SLV 11	ini.	-488.05	-17	-0.0002048	0.0002807	0.0035	1		3671.29	3671.29		7.52	Si
SLV 11	fin.	710.48	-1621	-0.0003094	0.0002807	0.0035	1		3664.83	3664.83		5.16	Si
SLV 13	ini.	697.95	-1968	-0.0003033	0.0002807	0.0035	1		3664.83	3664.83		5.25	Si
SLV 13	fin.	-351.6	-137	-0.0001448	0.0002807	0.0035	1		3671.29	3671.29		10.44	Si
SLV 3	ini.	-492.8	330	-0.000207	0.0002807	0.0035	1		3671.29	3671.29		7.45	Si
SLV 3	fin.	698.62	-1593	-0.0003036	0.0002807	0.0035	1		3664.83	3664.83		5.25	Si
SLV 8	ini.	-595.23	299	-0.0002539	0.0002807	0.0035	1		3671.29	3671.29		6.17	Si
SLV 8	fin.	797.12	-1728	-0.0003524	0.0002807	0.0035	1		3664.83	3664.83		4.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-488.05	1553	1	0	655	7930	6738	2550	8585		5.53	Si
SLV 11	fin.	710.48	2365	1	0	901	7930	6738	2550	8831		3.73	Si
SLV 8	ini.	-595.23	2336	1	0	595	7930	6738	2550	8525		3.65	Si
SLV 8	fin.	797.12	2902	1	0	915	7930	6738	2550	8845		3.05	Si
SLV 14	ini.	819.28	-3466	1	0	969	7930	6738	2550	8898		2.57	Si
SLV 14	fin.	-463.76	-2281	1	0	647	7930	6738	2550	8576		3.76	Si
SLV 9	ini.	921.71	-3352	1	0	965	7930	6738	2550	8895		2.65	Si
SLV 9	fin.	-562.27	-2440	1	0	621	7930	6738	2550	8551		3.5	Si
SLV 6	ini.	814.53	-2569	1	0	925	7930	6738	2550	8855		3.45	Si
SLV 6	fin.	-475.62	-1903	1	0	641	7930	6738	2550	8571		4.5	Si
SLV 10	ini.	1044.88	-3777	1	0	988	7930	6738	2550	8917		2.36	Si
SLV 10	fin.	-676.14	-2855	1	0	588	7930	6738	2550	8517		2.98	Si
SLV 13	ini.	697.95	-3048	1	0	946	7930	6738	2550	8876		2.91	Si
SLV 13	fin.	-351.6	-1872	1	0	677	7930	6738	2550	8606		4.6	Si
SLV 3	ini.	-492.8	2450	1	0	589	7930	6738	2550	8518		3.48	Si
SLV 3	fin.	698.62	2743	1	0	898	7930	6738	2550	8827		3.22	Si
SLV 7	ini.	-718.4	2761	1	0	557	7930	6738	2550	8486		3.07	Si
SLV 7	fin.	910.99	3317	1	0	937	7930	6738	2550	8867		2.67	Si
SLV 4	ini.	-371.47	2032	1	0	624	7930	6738	2550	8554		4.21	Si
SLV 4	fin.	586.45	2334	1	0	875	7930	6738	2550	8805		3.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 10	Si
V_SLV		SLV 10	Si
PF_SLU		SLU 81	Si
V_SLU		SLU 81	Si

Trave di accoppiamento 25

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

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
12.819	3.899	3.99	4.9	0.91	12.819	2.899	3.99	4.9	0.91	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 FRCC

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



materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ϵ ,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ϵ ,fd	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-197.73	-548	-0.0000979	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.35	Si
SLU 84	fin.	-30.14	-268	-0.0000144	0.0001872	0.0035	0.91		3035.45	3035.45	No	100.7	Si
SLU 40	ini.	-193.21	-530	-0.0000955	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.71	Si
SLU 40	fin.	-9.53	-222	-0.0000045	0.0001872	0.0035	0.91		3035.45	3035.45	No	318.59	Si
SLU 78	ini.	-170.17	-474	-0.0000837	0.0001872	0.0035	0.91		3035.45	3035.45	No	17.84	Si
SLU 78	fin.	-38.49	-254	-0.0000185	0.0001872	0.0035	0.91		3035.45	3035.45	No	78.86	Si
SLU 83	ini.	-197.73	-548	-0.0000979	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.35	Si
SLU 83	fin.	-30.14	-268	-0.0000144	0.0001872	0.0035	0.91		3035.45	3035.45	No	100.7	Si
SLU 82	ini.	-197.73	-548	-0.0000979	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.35	Si
SLU 82	fin.	-30.14	-268	-0.0000144	0.0001872	0.0035	0.91		3035.45	3035.45	No	100.7	Si
SLU 81	ini.	-197.73	-548	-0.0000979	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.35	Si
SLU 81	fin.	-30.14	-268	-0.0000144	0.0001872	0.0035	0.91		3035.45	3035.45	No	100.7	Si
SLU 41	ini.	-193.21	-530	-0.0000955	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.71	Si
SLU 41	fin.	-9.53	-222	-0.0000045	0.0001872	0.0035	0.91		3035.45	3035.45	No	318.59	Si
SLU 42	ini.	-193.21	-530	-0.0000955	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.71	Si
SLU 42	fin.	-9.53	-222	-0.0000045	0.0001872	0.0035	0.91		3035.45	3035.45	No	318.59	Si
SLU 77	ini.	-170.17	-474	-0.0000837	0.0001872	0.0035	0.91		3035.45	3035.45	No	17.84	Si
SLU 77	fin.	-38.49	-254	-0.0000185	0.0001872	0.0035	0.91		3035.45	3035.45	No	78.86	Si
SLU 39	ini.	-193.21	-530	-0.0000955	0.0001872	0.0035	0.91		3035.45	3035.45	No	15.71	Si
SLU 39	fin.	-9.53	-222	-0.0000045	0.0001872	0.0035	0.91		3035.45	3035.45	No	318.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-197.73	647	0.91	0	442	7216	4087	2321	6408	No	9.9	Si
SLU 81	fin.	-30.14	-151	0.91	0	402	7216	4087	2321	6408	No	42.57	Si
SLU 82	ini.	-197.73	647	0.91	0	442	7216	4087	2321	6408	No	9.9	Si
SLU 82	fin.	-30.14	-151	0.91	0	402	7216	4087	2321	6408	No	42.57	Si
SLU 41	ini.	-193.21	597	0.91	0	440	7216	4087	2321	6408	No	10.74	Si
SLU 41	fin.	-9.53	-21	0.91	0	395	7216	4087	2321	6408	No	300.47	Si
SLU 76	ini.	-170.17	584	0.91	0	432	7216	4087	2321	6408	No	10.97	Si
SLU 76	fin.	-38.49	-214	0.91	0	400	7216	4087	2321	6408	No	29.97	Si
SLU 42	ini.	-193.21	597	0.91	0	440	7216	4087	2321	6408	No	10.74	Si
SLU 42	fin.	-9.53	-21	0.91	0	395	7216	4087	2321	6408	No	300.47	Si
SLU 40	ini.	-193.21	597	0.91	0	440	7216	4087	2321	6408	No	10.74	Si
SLU 40	fin.	-9.53	-21	0.91	0	395	7216	4087	2321	6408	No	300.47	Si
SLU 83	ini.	-197.73	647	0.91	0	442	7216	4087	2321	6408	No	9.9	Si
SLU 83	fin.	-30.14	-151	0.91	0	402	7216	4087	2321	6408	No	42.57	Si
SLU 84	ini.	-197.73	647	0.91	0	442	7216	4087	2321	6408	No	9.9	Si
SLU 84	fin.	-30.14	-151	0.91	0	402	7216	4087	2321	6408	No	42.57	Si
SLU 39	ini.	-193.21	597	0.91	0	440	7216	4087	2321	6408	No	10.74	Si
SLU 39	fin.	-9.53	-21	0.91	0	395	7216	4087	2321	6408	No	300.47	Si
SLU 77	ini.	-170.17	584	0.91	0	432	7216	4087	2321	6408	No	10.97	Si
SLU 77	fin.	-38.49	-214	0.91	0	400	7216	4087	2321	6408	No	29.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	460.05	690	-0.0002358	0.0002807	0.0035	0.91		3029.87	3029.87		6.59	Si
SLV 9	fin.	-592.07	-1205	-0.0003108	0.0002807	0.0035	0.91		3035.74	3035.74		5.13	Si
SLV 13	ini.	354.68	552	-0.0001784	0.0002807	0.0035	0.91		3029.87	3029.87		8.54	Si
SLV 13	fin.	-448.6	-865	-0.000229	0.0002807	0.0035	0.91		3035.74	3035.74		6.77	Si
SLV 7	ini.	-751.12	-1401	-0.0004081	0.0002807	0.0035	0.91		3035.74	3035.74		4.04	Si
SLV 7	fin.	615.79	1043	-0.0003255	0.0002807	0.0035	0.91		3029.87	3029.87		4.92	Si
SLV 8	ini.	-641.97	-1205	-0.0003405	0.0002807	0.0035	0.91		3035.74	3035.74		4.73	Si
SLV 8	fin.	507.58	852	-0.0002625	0.0002807	0.0035	0.91		3029.87	3029.87		5.97	Si
SLV 14	ini.	462.2	745	-0.000237	0.0002807	0.0035	0.91		3029.87	3029.87		6.56	Si
SLV 14	fin.	-555.18	-1054	-0.0002892	0.0002807	0.0035	0.91		3035.74	3035.74		5.47	Si
SLV 4	ini.	-536.59	-1067	-0.0002785	0.0002807	0.0035	0.91		3035.74	3035.74		5.66	Si
SLV 4	fin.	364.11	512	-0.0001835	0.0002807	0.0035	0.91		3029.87	3029.87		8.32	Si
SLV 3	ini.	-644.11	-1260	-0.0003418	0.0002807	0.0035	0.91		3035.74	3035.74		4.71	Si
SLV 3	fin.	470.69	700	-0.0002417	0.0002807	0.0035	0.91		3029.87	3029.87		6.44	Si
SLV 6	ini.	359.72	495	-0.0001811	0.0002807	0.0035	0.91		3029.87	3029.87		8.42	Si
SLV 6	fin.	-516.67	-1103	-0.0002671	0.0002807	0.0035	0.91		3035.74	3035.74		5.88	Si
SLV 11	ini.	-541.64	-1011	-0.0002814	0.0002807	0.0035	0.91		3035.74	3035.74		5.6	Si
SLV 11	fin.	432.18	750	-0.0002204	0.0002807	0.0035	0.91		3029.87	3029.87		7.01	Si
SLV 10	ini.	569.21	886	-0.000298	0.0002807	0.0035	0.91		3029.87	3029.87		5.32	Si
SLV 10	fin.	-700.27	-1397	-0.0003762	0.0002807	0.0035	0.91		3035.74	3035.74		4.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	460.05	-1612	0.91	0	409	7216	6131	2321	7625		4.73	Si
SLV 9	fin.	-592.07	-2217	0.91	0	713	7216	6131	2321	7929		3.58	Si
SLV 14	ini.	462.2	-1590	0.91	0	397	7216	6131	2321	7613		4.79	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	fin.	-555.18	-2194	0.91	0	694	7216	6131	2321	7910		3.6	Si
SLV 6	ini.	359.72	-1279	0.91	0	450	7216	6131	2321	7666		5.99	Si
SLV 6	fin.	-516.67	-1887	0.91	0	700	7216	6131	2321	7916		4.19	Si
SLV 3	ini.	-644.11	2301	0.91	0	720	7216	6131	2321	7936		3.45	Si
SLV 3	fin.	470.69	1682	0.91	0	407	7216	6131	2321	7623		4.53	Si
SLV 11	ini.	-541.64	1990	0.91	0	688	7216	6131	2321	7904		3.97	Si
SLV 11	fin.	432.18	1375	0.91	0	396	7216	6131	2321	7612		5.54	Si
SLV 13	ini.	354.68	-1202	0.91	0	439	7216	6131	2321	7655		6.37	Si
SLV 13	fin.	-448.6	-1806	0.91	0	669	7216	6131	2321	7885		4.37	Si
SLV 10	ini.	569.21	-2006	0.91	0	364	7216	6131	2321	7580		3.78	Si
SLV 10	fin.	-700.27	-2610	0.91	0	737	7216	6131	2321	7953		3.05	Si
SLV 8	ini.	-641.97	2323	0.91	0	713	7216	6131	2321	7929		3.41	Si
SLV 8	fin.	507.58	1704	0.91	0	372	7216	6131	2321	7588		4.45	Si
SLV 4	ini.	-536.59	1913	0.91	0	695	7216	6131	2321	7911		4.14	Si
SLV 4	fin.	364.11	1294	0.91	0	447	7216	6131	2321	7663		5.92	Si
SLV 7	ini.	-751.12	2717	0.91	0	737	7216	6131	2321	7953		2.93	Si
SLV 7	fin.	615.79	2098	0.91	0	322	7216	6131	2321	7538		3.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.042	SLV 7	Si
V_SLV	2.928	SLV 7	Si
PF_SLU	15.351	SLU 81	Si
V_SLU	9.901	SLU 81	Si