GeoForschungsZentrum Potsdam
STIFTUNG DES ÖFFENTLICHEN RECHTS

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Solution for the Terrestrial Reference Frame Based on LAGEOS Laser Ranging Data

Scientific Technical Report STR95/11

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H. Montag, Ch. Reigber, W. Sommerfeld
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SUMMARY

The solution for the set of station coordinates SSC(GFZ) 95 L01 is based on SLR data of Lageos 1 and Lageos 2 since Jan.,1986 and Oct.,1992, respectively. The gravity field used is JGM-3.
The orientation was obtained by fixing two latitudes (Herstmonceux and Greenbelt) and one longitude (Herstmonceux). Additionally, no common net rotations were permitted in relation to ITRF92. For the most stations the motion were adjusted; for the remaining ones the NUVEL1 model was accepted.
The estimated EOP are x, y and LOD at 5-day (EOP(GFZ) 95 L01) and 3-day intervals (EOP(GFZ) 95 L02). The EOP series beginning in 1980 are continued till the end of August, 1994.

1. STATION COORDINATES

Using Satellite Laser Ranging (SLR) data of Lageos 1 and Lageos 2 the new Set of Station Coordinates SSC(GFZ) 95 L01 was determined. The constants and model parameters implemented in the software package EPOS.PV1 used conform to the IERS Standards (McCarthy (Ed.), 1992) with the exception, that the tidal variations in UT1 caused by zonal tides with periods bigger than 35 days are not considered, the nutation corrections derived by VLBI were included, and instead of GEM-T1 the gravity model JGM-3 was applied. The gravity model also differs from the last year solution. Therefore a new homogeneous set of station coordinates using the data from 1986, January (MJD: 46443) until September, 1994 (MJD: 49599) was derived. Generally, the SLR data were weighted according to their estimated accuracy. In addition, several non-permanent stations were included with smaller weights in order to reduce the influence of a changing station distribution. The SSC(GFZ) 95 L 01 contains 77 marker positions at 69 stations. For 45 stations the data distibution allowed to adjust the site motions simultaneously (co-located markers at one station were constraint with weight of 10^5 to have the same velocity). For the other stations the velocities were held fixed to those of the NUVEL-1 no net rotation model (de Mets et al., 1990).
The Technical Description in Attachment 1 contains more details on the adopted model for the terrestrial system. The reference epoch is 1988.0. The origin of the reference system was defined by $C_{10} = C_{11} = S_{11} = 0$. The orientation was constraint by fixing the latitude and longitude for station 7840 and the latitude for 7105. Additionally, no common net rotation was permitted in relation to the ITRF92. Corrections due to the permanent tidal deformation of the Earth were applied. The time evolution of the station coordinates is constrained by adopting velocities from the NUVEL1 model for the above mentioned components of the two stations.
In Attachment 4 the geocentric station coordinates together with their temporal changes were

compiled. Here the errors of the velocities were defined to be zero for all stations which were fixed to the NUVEL-1 velocity model.

2. Earth Orientation Parameters

Based on the described SSC(GFZ) 95 L 01 two sets of Earth Orientation Parameters (pole coordinates and length of day - LOD) with different time resolutions were determined. The main solution EOP(GFZ) 95 L 01 has a time resolution of 5 days; the time resolution of EOP(GFZ) 95 L 02 is three days. Both series beginning in 1980 were continued till September 1994.
The estimated standard deviations are about ± 0.1 mas for the pole coordinates and ± 0.006 ms for LOD. The accuracy is mostly influenced by the data distribution; therefore it could be improved by including of LAGEOS 2 data since its launch in October, 1992. The accuracies are estimated to be about ±0.3 mas and ±0.05 ms, respectively.

References

DeMets, C., R.G. Gordon, D.F. Argus and S. Stein (1990): Current plate motions. Geophys. J. Int., 101, 425-478

McCarthy, D. (Ed.) (1992): International Earth Rotation Service Standards. IERS Technical Notes No. 13, Paris

Montag, H. Ch. Reigber, W. Sommerfeld, G. Dick (1994): Station coordinates and Earth rotation parameters based on Lageos laser ranging data. IERS Technical Note No. 17, Observatoire de Paris, Paris, L25-L30.

compiled. Here the errors of the velocities were assumed to be zero for all stations which were fixed to the NUVEL-1 velocity model.

2. Earth Orientation Parameters

Based on the described SSC(GFZ) 95 L 02 two sets of Earth Orientation Parameters (pole coordinates and length of day - LOD) with different time resolutions were determined. The main solution EOP(GFZ) 95 L 01 has a time resolution of 5 days, the time resolution of EOP(GFZ) 95 L 02 is three days. Both series beginning in 1980 were continued till September 1994.
The estimated standard deviations are about ± 0.5 mas for the pole coordinates and ± 0.006 ms for LOD. The accuracy is mainly influenced by the data distribution, therefore it could be improved by including of LAGEOS 2 data since its launch in October, 1992. The accuracies are estimated to be about ±0.3 mas and ±0.05 ms, respectively.

References

DeMets, C., R.G. Gordon, D.F. Argus and S. Stein (1990): Current plate motions, Geophys. J. Int., 101, 425-478

McCarthy, D. (Ed.) (1992): International Earth Rotation Service Standards, IERS Technical Notes No. 13, Paris

Montag, H. Ch. Reigber, W. Sommerfeld, G. Dick (1994): Station coordinates and Earth rotation parameters based on Lageos laser ranging data, IERS Technical Note No. 17, Observatoire de Paris, Paris, L25-L30.

ATTACHMENT 1

TECHNICAL DESCRIPTION OF SOLUTION GFZ 95 L 01

1 - Technique:
Observing technique: SLR

2 - Analysis Centre:
GeoForschungsZentrum (GFZ)

3 - Software used:
EPOS.P.V1

4 - Data span:
Nov 79 - Aug 94 for EOP
Jan 86 - Aug 94 for new SSC

5 - Celestial Reference Frame:
RSC(GFZ) 95 L 01
a - Nature: Dynamical, LAGEOS-1 and LAGEOS-2.
b - Definition of the orientation by fixing the foregoing EOP series of GFZ.

6 - Terrestrial Reference Frame:

SSC(GFZ) 95 L 01 (Attachment 4)
a - Relativity scale: LE
b - Velocity of light: 299 792 458 m/s
c - Geogravitational constant GM = 3.986004417 *10**14 m**3/s**2 (adjusted)

d - Permanent tidal correction on station: Yes

e - Definition of the origin: C10 = 0, C11 = 0, S11 = 0.

f - Definition of the orientation:
By fixing two latitudes (7840, 7105) and one longitude (7840).
Additionally no common net rotation in relation to ITRF92

g - Reference Epoch: 1988.0
h - Tectonic plate motion model:
Generally adjusted motions using NNR-NUVEL1 as initial model;
for several sites NNR-NUVEL1 model.

i - Constraint for time evolution:
Fixed NUVEL1 plate motion model for 7840 (latitude and longitude) and 7105 (latitude).

7 - Earth Orientation:

EOP(GFZ) 95 L 01 with resolution of 5 days (Attachment 2),
EOP(GFZ) 95 L 02 with resolution of 3 days (Attachment 3).

a - A priori nutation model:
IAU(1980), nutation corrections derived by VLBI included.

b - Short-periodic tidal variations in x, y, UT1:
Tidal variations in UT1 caused by zonal tides up-to periods of 35 days considered.

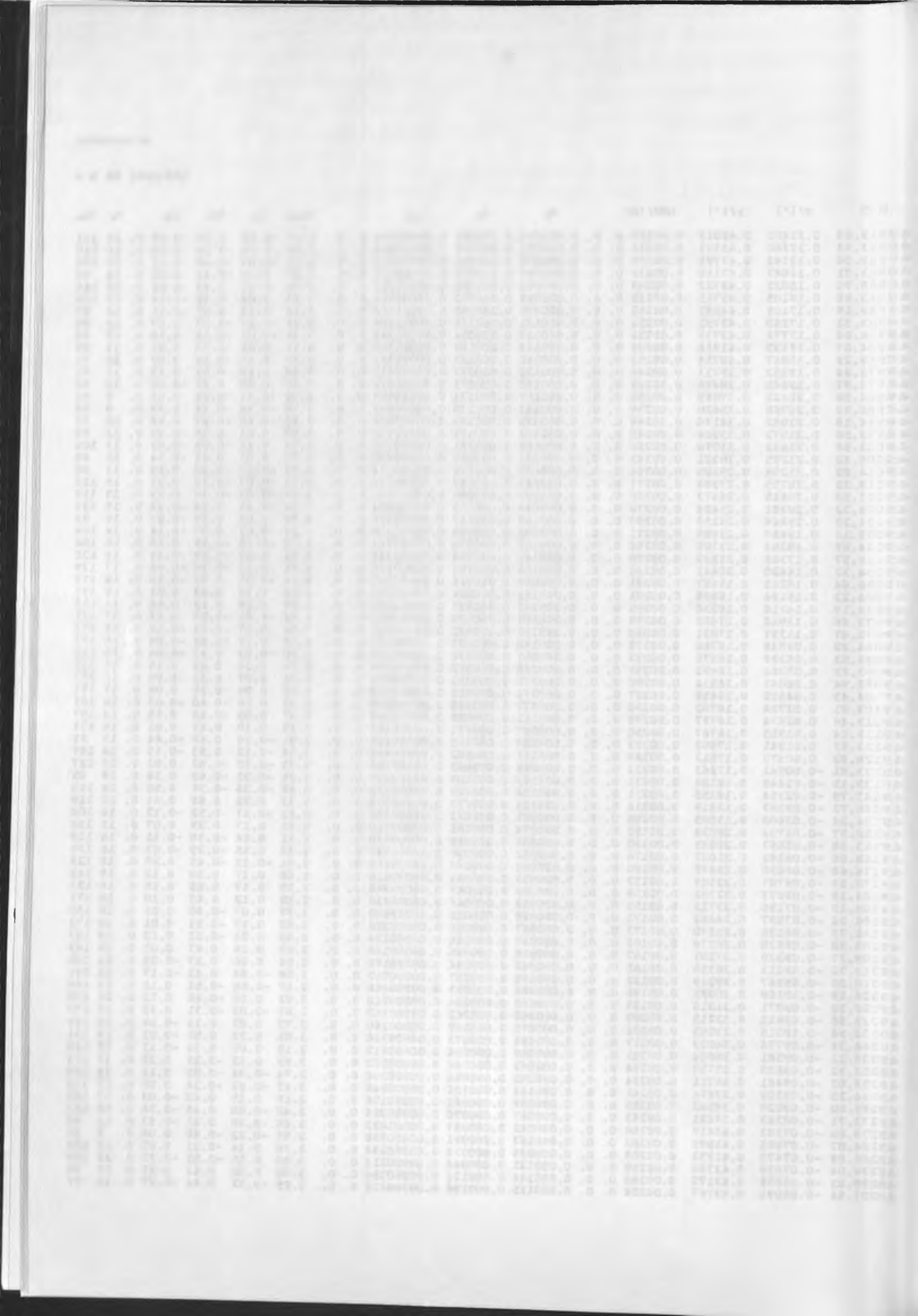
8 - Estimated Parameters:

a - Celestial frame: -
b - Terrestrial frame: lambda0, phi0, h0, lambdadot, phidot, hdot.
c - Earth orientation: x, y, LOD (for L 02 solution via UT1, therefore the epoch for LOD of L02 has to be shifted by -1.5d).
d - Others:
Correction to the Geogravitational constant GM
Correction to the radiation pressure coefficient
Along-track acceleration
Range bias for single stations.

Attachment

EOP(GFZ) 95 L 0

MJD	x/["]	y/["]	LOD/[s]	s_x	s_y	s_{LOD}	s_{orbit}	r_{xy}	r_{xL}	r_{yL}	n_p	n_{obs}
48919.68	0.11421	0.49018	0.00259 0. 0.	0.000074	0.000063	0.00001464 0. 0.	2.99	-0.04	0.34	-0.07 0.	15	131
48923.93	0.12280	0.48521	0.00244 0. 0.	0.000089	0.000068	0.00000644 0. 0.	2.62	-0.28	-0.39	0.14 0.	16	116
48929.58	0.13349	0.47795	0.00239 0. 0.	0.000070	0.000052	0.00000204 0. 0.	2.16	-0.03	-0.49	0.11 0.	10	104
48933.61	0.14047	0.47118	0.00239 0. 0.	0.000097	0.000073	0.00000176 0. 0.	2.85	0.10	-0.49	0.00 0.	14	86
48938.75	0.15025	0.46322	0.00203 0. 0.	0.000099	0.000082	0.00000212 0. 0.	4.00	0.12	0.43	-0.01 0.	16	144
48943.96	0.16105	0.45715	0.00215 0. 0.	0.000093	0.000092	0.00000364 0. 0.	3.23	0.08	0.38	-0.16 0.	17	105
48949.18	0.17109	0.44987	0.00212 0. 0.	0.000090	0.000095	0.00001092 0. 0.	3.16	0.14	0.27	-0.11 0.	16	87
48953.51	0.17280	0.43791	0.00212 0. 0.	0.000121	0.000116	0.00001284 0. 0.	3.23	-0.17	-0.33	0.47 0.	16	80
48958.66	0.17779	0.42735	0.00220 0. 0.	0.000118	0.000084	0.00000392 0. 0.	3.21	-0.07	-0.54	0.18 0.	17	88
48964.07	0.18332	0.41918	0.00229 0. 0.	0.000146	0.000144	0.00000320 0. 0.	4.19	0.02	-0.33	0.21 0.	14	85
48969.29	0.18817	0.40754	0.00253 0. 0.	0.000160	0.000132	0.00000348 0. 0.	4.29	0.15	0.44	0.07 0.	15	71
48973.84	0.19352	0.39713	0.00246 0. 0.	0.000130	0.000093	0.00000412 0. 0.	3.20	0.16	0.52	0.13 0.	13	91
48978.97	0.19642	0.38426	0.00229 0. 0.	0.000102	0.000073	0.00000972 0. 0.	2.80	0.00	0.47	-0.06 0.	13	90
48984.58	0.20422	0.37099	0.00250 0. 0.	0.000107	0.000134	0.00000868 0. 0.	3.05	-0.31	-0.24	0.54 0.	7	55
48988.92	0.20958	0.35620	0.00270 0. 0.	0.000143	0.000138	0.00000508 0. 0.	3.78	-0.18	-0.34	0.39 0.	9	58
48994.18	0.21092	0.34176	0.00268 0. 0.	0.000278	0.000199	0.00000504 0. 0.	3.98	-0.42	-0.47	0.46 0.	10	39
48999.58	0.21572	0.33004	0.00240 0. 0.	0.000104	0.000114	0.00000264 0. 0.	3.08	0.04	0.26	-0.22 0.	13	70
49003.93	0.21432	0.31778	0.00250 0. 0.	0.000059	0.000091	0.00000332 0. 0.	2.16	0.12	-0.05	-0.63 0.	13	102
49008.62	0.21225	0.30221	0.00243 0. 0.	0.000099	0.000085	0.00000860 0. 0.	2.72	0.01	0.41	-0.14 0.	11	68
49013.82	0.21258	0.29185	0.00264 0. 0.	0.000087	0.000074	0.00000672 0. 0.	2.53	-0.07	-0.46	0.10 0.	11	66
49019.22	0.20755	0.27996	0.00271 0. 0.	0.000061	0.000057	0.00000204 0. 0.	2.13	-0.07	-0.33	0.23 0.	15	115
49023.53	0.20615	0.26572	0.00269 0. 0.	0.000087	0.000085	0.00000172 0. 0.	3.07	-0.05	-0.30	0.23 0.	15	119
49029.32	0.20381	0.25424	0.00270 0. 0.	0.000094	0.000083	0.00000204 0. 0.	3.54	-0.11	0.34	-0.22 0.	15	131
49034.29	0.19844	0.24150	0.00260 0. 0.	0.000160	0.000117	0.00000576 0. 0.	4.45	-0.08	0.27	-0.07 0.	16	93
49039.14	0.19486	0.23085	0.00271 0. 0.	0.000082	0.000088	0.00000928 0. 0.	3.34	0.03	0.07	-0.14 0.	14	104
49044.06	0.18354	0.22196	0.00266 0. 0.	0.000102	0.000078	0.00000764 0. 0.	3.10	-0.15	-0.36	0.18 0.	14	104
49049.57	0.17389	0.21232	0.00255 0. 0.	0.000142	0.000093	0.00000348 0. 0.	4.21	0.38	-0.59	-0.33 0.	16	125
49054.32	0.16620	0.20461	0.00246 0. 0.	0.000138	0.000104	0.00000256 0. 0.	4.66	0.14	-0.36	-0.04 0.	17	139
49058.64	0.16285	0.19687	0.00281 0. 0.	0.000087	0.000076	0.00000192 0. 0.	3.26	-0.01	0.30	-0.20 0.	18	173
49064.22	0.15194	0.18898	0.00281 0. 0.	0.000126	0.000086	0.00000408 0. 0.	4.48	0.11	0.43	0.04 0.	18	171
49069.19	0.14216	0.18230	0.00282 0. 0.	0.000108	0.000093	0.00001264 0. 0.	3.97	0.20	0.12	0.04 0.	14	123
49073.66	0.12862	0.17605	0.00272 0. 0.	0.000109	0.000090	0.00000932 0. 0.	3.64	-0.09	-0.29	0.17 0.	16	102
49078.67	0.11397	0.17031	0.00260 0. 0.	0.000112	0.000082	0.00000316 0. 0.	3.54	0.27	-0.52	-0.12 0.	17	137
49084.22	0.09849	0.16786	0.00278 0. 0.	0.000130	0.000095	0.00000232 0. 0.	4.53	0.17	-0.53	-0.04 0.	15	129
49089.52	0.08299	0.16575	0.00293 0. 0.	0.000097	0.000086	0.00000228 0. 0.	2.90	-0.03	0.31	-0.05 0.	16	91
49093.89	0.07365	0.16492	0.00289 0. 0.	0.000080	0.000068	0.00000284 0. 0.	2.73	0.26	0.43	0.15 0.	17	117
49098.94	0.06062	0.16534	0.00290 0. 0.	0.000078	0.000063	0.00000820 0. 0.	3.21	0.07	0.33	-0.06 0.	19	183
49104.43	0.04692	0.16459	0.00287 0. 0.	0.000074	0.000062	0.00000508 0. 0.	2.69	0.04	-0.35	0.08 0.	17	141
49109.01	0.03724	0.16702	0.00290 0. 0.	0.000077	0.000066	0.00000260 0. 0.	2.63	0.10	-0.40	-0.02 0.	16	109
49113.46	0.02874	0.16797	0.00270 0. 0.	0.000122	0.000085	0.00000240 0. 0.	3.67	0.09	-0.48	0.15 0.	12	107
49119.04	0.01955	0.16767	0.00250 0. 0.	0.000097	0.000071	0.00000180 0. 0.	3.32	0.10	0.47	0.01 0.	16	131
49123.93	0.01241	0.17086	0.00253 0. 0.	0.000126	0.000096	0.00000408 0. 0.	2.81	-0.36	0.48	-0.44 0.	15	99
49128.82	0.00579	0.17513	0.00249 0. 0.	0.000114	0.000082	0.00000968 0. 0.	3.24	-0.12	0.53	-0.10 0.	14	107
49133.81	-0.00541	0.17963	0.00234 0. 0.	0.000094	0.000063	0.00000744 0. 0.	2.83	-0.10	-0.52	0.03 0.	17	127
49139.12	-0.01448	0.18106	0.00231 0. 0.	0.000183	0.000103	0.00000480 0. 0.	3.96	-0.21	-0.65	0.24 0.	19	95
49143.79	-0.02354	0.18355	0.00211 0. 0.	0.000156	0.000120	0.00000328 0. 0.	3.92	-0.26	-0.38	0.50 0.	14	110
49148.72	-0.03287	0.18819	0.00214 0. 0.	0.000124	0.000079	0.00000236 0. 0.	3.33	0.22	0.60	0.26 0.	15	118
49154.24	-0.03800	0.19505	0.00206 0. 0.	0.000091	0.000072	0.00000320 0. 0.	2.93	-0.17	0.52	-0.12 0.	16	100
49158.97	-0.04798	0.20034	0.00195 0. 0.	0.000074	0.000065	0.00000720 0. 0.	2.41	0.17	0.39	0.07 0.	13	118
49163.58	-0.05567	0.20565	0.00180 0. 0.	0.000066	0.000049	0.00000540 0. 0.	2.31	0.04	-0.38	-0.11 0.	14	118
49168.86	-0.06162	0.21027	0.00176 0. 0.	0.000062	0.000050	0.00000196 0. 0.	2.39	0.15	-0.39	-0.03 0.	15	170
49174.48	-0.06690	0.21679	0.00160 0. 0.	0.000092	0.000068	0.00000164 0. 0.	2.81	-0.12	-0.45	0.20 0.	16	129
49178.69	-0.06707	0.22109	0.00152 0. 0.	0.000053	0.000044	0.00000116 0. 0.	1.88	0.17	0.38	0.12 0.	19	142
49184.18	-0.06977	0.22782	0.00159 0. 0.	0.000069	0.000046	0.00000248 0. 0.	2.25	0.17	0.55	0.15 0.	16	133
49189.19	-0.07156	0.23713	0.00155 0. 0.	0.000059	0.000046	0.00000636 0. 0.	2.32	0.12	0.40	0.10 0.	18	171
49194.24	-0.07597	0.24462	0.00171 0. 0.	0.000068	0.000055	0.00000480 0. 0.	2.37	0.07	-0.40	0.03 0.	19	150
49198.79	-0.08138	0.25330	0.00177 0. 0.	0.000067	0.000058	0.00000228 0. 0.	2.92	0.17	-0.33	0.01 0.	18	172
49203.88	-0.08628	0.26276	0.00186 0. 0.	0.000060	0.000056	0.00000124 0. 0.	2.50	0.03	-0.32	0.12 0.	18	187
49209.37	-0.09329	0.27257	0.00187 0. 0.	0.000066	0.000056	0.00000160 0. 0.	2.59	0.18	0.47	0.03 0.	19	162
49213.72	-0.09613	0.28358	0.00185 0. 0.	0.000045	0.000044	0.00000168 0. 0.	2.04	0.00	0.27	-0.28 0.	21	200
49218.85	-0.09967	0.29249	0.00192 0. 0.	0.000066	0.000057	0.00000712 0. 0.	3.08	-0.04	0.41	-0.17 0.	21	241
49224.19	-0.10109	0.30095	0.00198 0. 0.	0.000068	0.000053	0.00000468 0. 0.	2.17	-0.05	-0.51	0.15 0.	19	146
49229.39	-0.09871	0.31316	0.00185 0. 0.	0.000068	0.000054	0.00000212 0. 0.	2.53	0.09	-0.45	0.15 0.	21	170
49233.56	-0.09812	0.32213	0.00208 0. 0.	0.000065	0.000062	0.00000152 0. 0.	2.67	-0.02	-0.31	0.33 0.	19	172
49238.96	-0.10015	0.33003	0.00206 0. 0.	0.000073	0.000069	0.00000160 0. 0.	2.77	0.07	0.14	-0.24 0.	18	149
49244.34	-0.09774	0.34029	0.00217 0. 0.	0.000094	0.000073	0.00000344 0. 0.	3.01	0.23	0.51	-0.01 0.	18	131
49249.21	-0.09581	0.35054	0.00221 0. 0.	0.000069	0.000056	0.00000812 0. 0.	2.19	0.09	0.34	-0.11 0.	19	142
49253.92	-0.09625	0.35730	0.00234 0. 0.	0.000069	0.000064	0.00000592 0. 0.	2.99	0.12	-0.29	0.23 0.	19	175
49259.02	-0.09481	0.36711	0.00234 0. 0.	0.000085	0.000066	0.00000264 0. 0.	2.74	-0.04	-0.50	0.14 0.	18	168
49264.25	-0.09309	0.37674	0.00241 0. 0.	0.000146	0.000106	0.00000248 0. 0.	3.95	-0.02	-0.34	0.29 0.	17	125
49269.00	-0.09020	0.38582	0.00255 0. 0.	0.000089	0.000061	0.00000176 0. 0.	2.18	0.15	0.45	-0.08 0.	13	108
49273.71	-0.08349	0.39621	0.00263 0. 0.	0.000087	0.000070	0.00000284 0. 0.	2.40	-0.08	0.45	-0.28 0.	16	123
49278.86	-0.07983	0.40417	0.00260 0. 0.	0.000082	0.000087	0.00001092 0. 0.	2.66	-0.20	0.21	-0.53 0.	11	96
49284.07	-0.07855	0.41099	0.00262 0. 0.	0.000167	0.000091	0.00000968 0. 0.	2.57	-0.22	-0.68	0.08 0.	9	55
49289.09	-0.07475	0.41952	0.00268 0. 0.	0.000096	0.000076	0.00000284 0. 0.	2.78	0.14	-0.31	0.02 0.	13	104
49294.04	-0.07034	0.42380	0.00258 0. 0.	0.000121	0.000084	0.00000216 0. 0.	3.00	0.15	-0.55	-0.23 0.	15	100
49299.03	-0.05859	0.43175	0.00250 0. 0.	0.000144	0.000123	0.00000284 0. 0.	3.90	0.12	0.43	0.21 0.	12	74
49303.54	-0.05091	0.43767	0.00254 0. 0.	0.000119	0.000104	0.00000416 0. 0.	2.99	-0.12	0.44	-0.27 0.	14	87

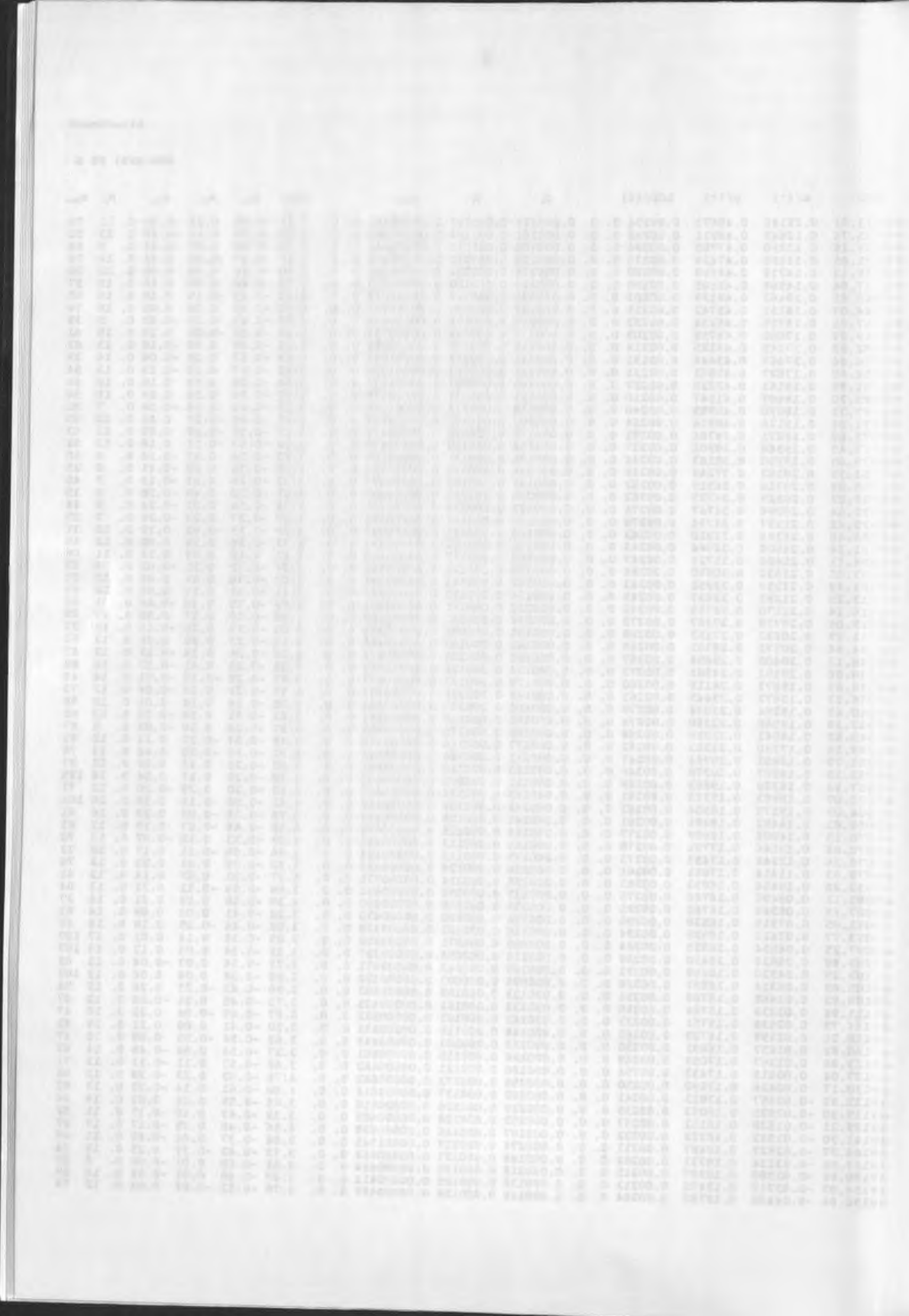


49309.40	-0.04562	0.44209	0.00242	0.	0.	0.000083	0.000077	0.00001056	0.	0.	3.08	0.04	0.21	-0.10	0.	16	127
49314.24	-0.04254	0.44764	0.00239	0.	0.	0.000102	0.000080	0.00000648	0.	0.	3.24	0.00	-0.42	-0.11	0.	15	112
49318.30	-0.03823	0.45210	0.00236	0.	0.	0.000140	0.000164	0.00000520	0.	0.	4.03	-0.08	-0.14	0.36	0.	11	77
49323.94	-0.03318	0.45459	0.00208	0.	0.	0.000106	0.000082	0.00000204	0.	0.	3.47	-0.16	-0.43	0.22	0.	15	120
49329.24	-0.02552	0.46030	0.00224	0.	0.	0.000088	0.000065	0.00000192	0.	0.	2.66	-0.12	0.48	-0.14	0.	16	113
49333.94	-0.01865	0.46508	0.00234	0.	0.	0.000097	0.000082	0.00000328	0.	0.	3.38	-0.11	0.35	-0.29	0.	14	98
49338.43	-0.01380	0.47087	0.00250	0.	0.	0.000103	0.000077	0.00001028	0.	0.	3.09	-0.06	0.35	-0.24	0.	19	106
49343.75	-0.00383	0.47524	0.00258	0.	0.	0.000076	0.000061	0.00000576	0.	0.	2.35	0.37	-0.34	-0.22	0.	14	98
49349.86	0.00524	0.47694	0.00247	0.	0.	0.000100	0.000096	0.00000296	0.	0.	2.93	-0.11	-0.27	0.35	0.	12	80
49353.73	0.01385	0.47691	0.00236	0.	0.	0.000100	0.000095	0.00000240	0.	0.	2.75	-0.40	-0.54	0.57	0.	12	94
49358.75	0.02796	0.48079	0.00228	0.	0.	0.000073	0.000052	0.00000140	0.	0.	2.56	-0.06	0.48	-0.07	0.	15	121
49364.06	0.03961	0.48035	0.00223	0.	0.	0.000079	0.000057	0.00000268	0.	0.	2.66	0.13	0.48	-0.01	0.	16	129
49369.31	0.05145	0.48013	0.00215	0.	0.	0.000069	0.000055	0.00000688	0.	0.	2.39	-0.15	0.31	-0.31	0.	17	114
49373.51	0.06148	0.47815	0.00224	0.	0.	0.000058	0.000053	0.00000528	0.	0.	2.08	0.03	-0.19	0.27	0.	13	96
49379.05	0.07439	0.47623	0.00234	0.	0.	0.000083	0.000070	0.00000276	0.	0.	2.44	-0.29	-0.38	0.42	0.	14	81
49384.06	0.08808	0.47219	0.00226	0.	0.	0.000097	0.000072	0.00000184	0.	0.	2.72	0.04	-0.46	0.14	0.	14	84
49389.03	0.10173	0.46805	0.00215	0.	0.	0.000087	0.000064	0.00000172	0.	0.	2.21	-0.23	0.46	-0.43	0.	13	85
49393.64	0.11102	0.46341	0.00218	0.	0.	0.000085	0.000078	0.00000304	0.	0.	2.06	-0.33	0.43	-0.53	0.	13	75
49399.24	0.12011	0.45804	0.00231	0.	0.	0.000060	0.000048	0.00000736	0.	0.	1.56	-0.07	0.39	-0.37	0.	14	110
49403.83	0.13008	0.45088	0.00245	0.	0.	0.000110	0.000097	0.00001008	0.	0.	2.50	-0.19	-0.47	0.50	0.	15	79
49409.04	0.14143	0.44893	0.00275	0.	0.	0.000160	0.000166	0.00000480	0.	0.	4.04	0.32	-0.38	-0.06	0.	14	74
49414.46	0.14703	0.44264	0.00286	0.	0.	0.000096	0.000090	0.00000176	0.	0.	3.11	0.13	-0.40	-0.01	0.	16	91
49419.23	0.15108	0.43338	0.00265	0.	0.	0.000087	0.000061	0.00000172	0.	0.	2.44	-0.01	0.52	-0.14	0.	16	99
49423.67	0.15726	0.42493	0.00249	0.	0.	0.000100	0.000084	0.00000328	0.	0.	3.26	-0.06	0.38	-0.08	0.	17	111
49428.67	0.16402	0.41807	0.00249	0.	0.	0.000096	0.000088	0.00000944	0.	0.	3.15	-0.12	0.29	-0.36	0.	16	108
49434.12	0.16570	0.40936	0.00255	0.	0.	0.000074	0.000059	0.00000564	0.	0.	2.00	-0.14	-0.29	0.34	0.	16	88
49439.06	0.17095	0.39993	0.00262	0.	0.	0.000087	0.000089	0.00000292	0.	0.	3.09	0.01	-0.32	0.10	0.	20	119
49443.51	0.17627	0.39055	0.00260	0.	0.	0.000078	0.000067	0.00000156	0.	0.	2.68	0.00	-0.43	0.14	0.	23	131
49448.97	0.18227	0.38228	0.00255	0.	0.	0.000069	0.000057	0.00000144	0.	0.	2.72	-0.14	0.41	-0.25	0.	19	139
49453.88	0.18469	0.37463	0.00257	0.	0.	0.000095	0.000091	0.00000336	0.	0.	2.92	-0.04	0.31	-0.24	0.	18	97
49458.83	0.18484	0.36330	0.00251	0.	0.	0.000082	0.000063	0.00000768	0.	0.	2.39	0.01	0.50	0.00	0.	14	80
49463.91	0.18555	0.35543	0.00250	0.	0.	0.000078	0.000068	0.00000676	0.	0.	2.44	0.01	-0.34	0.14	0.	17	98
49468.96	0.18376	0.34551	0.00261	0.	0.	0.000099	0.000088	0.00000328	0.	0.	3.06	-0.21	-0.36	0.44	0.	16	108
49474.50	0.18576	0.33292	0.00257	0.	0.	0.000054	0.000049	0.00000104	0.	0.	1.82	-0.13	-0.32	0.36	0.	18	133
49479.06	0.18691	0.32214	0.00253	0.	0.	0.000054	0.000050	0.00000120	0.	0.	1.72	0.03	0.23	-0.28	0.	21	124
49483.92	0.19033	0.31116	0.00258	0.	0.	0.000063	0.000050	0.00000204	0.	0.	2.10	-0.03	0.39	-0.14	0.	17	139
49489.04	0.18982	0.30081	0.00245	0.	0.	0.000079	0.000070	0.00000724	0.	0.	2.03	-0.03	0.27	-0.09	0.	17	87
49494.18	0.18762	0.29189	0.00225	0.	0.	0.000126	0.000110	0.00000988	0.	0.	2.85	-0.23	-0.48	0.30	0.	20	77
49498.64	0.18175	0.28259	0.00200	0.	0.	0.000135	0.000105	0.00000380	0.	0.	3.54	0.07	-0.47	-0.03	0.	15	105
49504.21	0.17616	0.27053	0.00189	0.	0.	0.000061	0.000062	0.00000144	0.	0.	2.09	-0.12	-0.38	0.36	0.	21	144
49509.07	0.17044	0.26016	0.00184	0.	0.	0.000092	0.000081	0.00000192	0.	0.	2.65	0.12	0.37	-0.09	0.	16	111
49514.00	0.16484	0.25116	0.00180	0.	0.	0.000085	0.000084	0.00000316	0.	0.	2.72	0.00	0.31	-0.29	0.	15	99
49518.86	0.16080	0.24021	0.00175	0.	0.	0.000090	0.000078	0.00001016	0.	0.	2.99	0.10	0.31	-0.10	0.	17	148
49524.43	0.15519	0.23088	0.00153	0.	0.	0.000102	0.000084	0.00000632	0.	0.	3.09	0.16	-0.51	-0.04	0.	17	129
49528.46	0.14641	0.22059	0.00119	0.	0.	0.000122	0.000093	0.00000424	0.	0.	2.87	-0.21	-0.59	0.20	0.	15	102
49533.99	0.13873	0.21210	0.00111	0.	0.	0.000093	0.000090	0.00000192	0.	0.	2.96	-0.18	-0.39	0.17	0.	16	109
49539.20	0.12912	0.20610	0.00123	0.	0.	0.000100	0.000100	0.00000276	0.	0.	3.30	0.04	0.39	-0.17	0.	16	114
49544.11	0.12007	0.19929	0.00142	0.	0.	0.000111	0.000082	0.00000380	0.	0.	3.24	-0.08	0.45	-0.27	0.	18	131
49548.47	0.11143	0.19379	0.00156	0.	0.	0.000101	0.000089	0.00000948	0.	0.	3.20	-0.03	0.30	-0.01	0.	16	97
49553.96	0.10212	0.18447	0.00142	0.	0.	0.000107	0.000091	0.00000868	0.	0.	2.65	-0.55	-0.58	0.57	0.	15	112
49558.98	0.09277	0.17817	0.00130	0.	0.	0.000106	0.000089	0.00000308	0.	0.	2.90	-0.17	-0.42	0.27	0.	18	114
49563.94	0.08149	0.17514	0.00148	0.	0.	0.000103	0.000086	0.00000184	0.	0.	2.79	-0.12	-0.37	0.07	0.	14	96
49568.70	0.07292	0.17388	0.00147	0.	0.	0.000089	0.000082	0.00000192	0.	0.	2.92	-0.01	0.42	0.04	0.	22	121
49573.93	0.06493	0.17213	0.00133	0.	0.	0.000110	0.000097	0.00000440	0.	0.	3.17	0.00	0.40	-0.10	0.	20	94
49579.32	0.05593	0.17102	0.00136	0.	0.	0.000123	0.000109	0.00001364	0.	0.	2.69	-0.41	0.35	-0.32	0.	17	73
49583.93	0.04376	0.16874	0.00147	0.	0.	0.000174	0.000131	0.00001348	0.	0.	3.12	-0.47	-0.50	0.53	0.	15	66
49589.06	0.02949	0.16854	0.00167	0.	0.	0.000146	0.000096	0.00000412	0.	0.	2.61	-0.53	-0.60	0.56	0.	16	91
49594.25	0.02092	0.17024	0.00184	0.	0.	0.000184	0.000131	0.00000340	0.	0.	2.46	-0.37	-0.56	0.60	0.	17	71
0.00	0.00000	0.00000	0.00000	0.	0.	0.000000	0.000000	0.00000000	0.	0.	0.00	0.00	0.00	0.00	0.	0	0

Attachment

EOP(GFZ) 95 L (

MJD	x/["]	y/["]	LOD/[s]			s_x	s_y	s_{LOD}			s_{orbit}	r_{xy}	r_{xL}	r_{yL}		n_p	n_{obs}
48923.03	0.12146	0.48673	0.00254	0.	0.	0.000139	0.000097	0.00000381	0.	0.	2.97	-0.55	0.32	-0.39	0.	13	73
48925.74	0.12645	0.48211	0.00244	0.	0.	0.000151	0.000104	0.00000380	0.	0.	2.85	-0.45	0.12	-0.29	0.	13	52
48929.25	0.13280	0.47785	0.00244	0.	0.	0.000104	0.000078	0.00000341	0.	0.	2.43	-0.56	0.07	-0.03	0.	8	64
48931.85	0.13806	0.47416	0.00236	0.	0.	0.000114	0.000094	0.00000352	0.	0.	3.15	-0.47	-0.06	0.21	0.	14	78
48935.13	0.14219	0.46988	0.00260	0.	0.	0.000378	0.000254	0.00001283	0.	0.	6.40	-0.49	0.00	0.05	0.	12	38
48937.94	0.14908	0.46505	0.00198	0.	0.	0.000213	0.000180	0.00000813	0.	0.	6.75	-0.40	0.09	0.13	0.	15	97
48940.85	0.15463	0.46139	0.00203	0.	0.	0.000328	0.000322	0.00001079	0.	0.	9.22	-0.49	-0.15	0.19	0.	14	65
48944.07	0.16131	0.45742	0.00211	0.	0.	0.000203	0.000204	0.00000791	0.	0.	6.05	-0.30	0.25	0.05	0.	16	74
48947.01	0.16755	0.45234	0.00223	0.	0.	0.000255	0.000276	0.00000935	0.	0.	6.03	-0.41	0.20	-0.02	0.	9	39
48949.99	0.17050	0.44758	0.00209	0.	0.	0.000212	0.000208	0.00000736	0.	0.	5.60	-0.38	-0.06	0.19	0.	15	61
48952.82	0.17245	0.44125	0.00214	0.	0.	0.000215	0.000259	0.00000981	0.	0.	5.38	-0.30	0.50	-0.16	0.	13	63
48956.64	0.17469	0.43444	0.00191	0.	0.	0.000341	0.000264	0.00001241	0.	0.	5.43	-0.57	0.18	-0.08	0.	14	39
48958.80	0.17827	0.42663	0.00221	0.	0.	0.000335	0.000187	0.00001010	0.	0.	5.83	-0.67	0.18	-0.13	0.	13	54
48961.96	0.18161	0.42228	0.00227	0.	0.	0.000260	0.000261	0.00001171	0.	0.	5.84	-0.26	0.19	0.10	0.	10	44
48965.20	0.18407	0.41547	0.00210	0.	0.	0.000131	0.000131	0.00000475	0.	0.	2.97	-0.36	0.14	0.03	0.	11	56
48967.71	0.18690	0.40993	0.00260	0.	0.	0.000318	0.000233	0.00001198	0.	0.	5.29	-0.48	0.16	-0.18	0.	7	32
48971.06	0.19128	0.40314	0.00254	0.	0.	0.000202	0.000162	0.00000599	0.	0.	4.47	-0.46	-0.27	0.41	0.	12	55
48973.89	0.19271	0.39761	0.00251	0.	0.	0.000175	0.000122	0.00000476	0.	0.	3.17	-0.53	-0.07	0.03	0.	12	63
48977.45	0.19548	0.38902	0.00237	0.	0.	0.000164	0.000122	0.00000437	0.	0.	3.34	-0.57	-0.11	0.16	0.	11	52
48979.85	0.19650	0.38183	0.00234	0.	0.	0.000191	0.000131	0.00000506	0.	0.	3.63	-0.54	0.27	-0.14	0.	9	50
48983.38	0.20182	0.37249	0.00239	0.	0.	0.000234	0.000339	0.00000928	0.	0.	4.20	-0.34	0.68	-0.41	0.	6	25
48986.08	0.20714	0.36519	0.00252	0.	0.	0.000129	0.000146	0.00000477	0.	0.	3.32	-0.26	0.53	-0.19	0.	7	45
48989.22	0.20929	0.35735	0.00262	0.	0.	0.000200	0.000215	0.00000800	0.	0.	4.21	-0.28	0.48	-0.28	0.	5	35
48992.04	0.20896	0.34747	0.00276	0.	0.	0.000402	0.000274	0.00001265	0.	0.	5.38	-0.54	0.21	-0.24	0.	9	24
48995.42	0.21197	0.33734	0.00270	0.	0.	0.000155	0.000135	0.00000611	0.	0.	1.80	-0.37	0.23	-0.24	0.	7	23
48998.40	0.21391	0.33210	0.00243	0.	0.	0.000186	0.000293	0.00000910	0.	0.	3.98	-0.19	-0.02	0.19	0.	10	31
49001.14	0.21608	0.32544	0.00243	0.	0.	0.000102	0.000102	0.00000332	0.	0.	2.73	-0.26	0.36	0.00	0.	12	65
49004.11	0.21408	0.31723	0.00247	0.	0.	0.000084	0.000177	0.00000606	0.	0.	2.21	0.10	0.83	0.13	0.	11	58
49007.05	0.21330	0.30890	0.00246	0.	0.	0.000125	0.000121	0.00000380	0.	0.	3.27	-0.32	0.21	-0.02	0.	13	56
49009.99	0.21259	0.29952	0.00242	0.	0.	0.000162	0.000143	0.00000394	0.	0.	3.08	-0.36	0.01	0.08	0.	7	30
49013.25	0.21282	0.29437	0.00249	0.	0.	0.000116	0.000120	0.00000350	0.	0.	3.11	-0.34	0.15	0.06	0.	10	48
49016.14	0.21170	0.28758	0.00265	0.	0.	0.000228	0.000131	0.00000604	0.	0.	2.69	-0.75	0.46	-0.46	0.	9	35
49019.06	0.20778	0.27987	0.00272	0.	0.	0.000076	0.000081	0.00000283	0.	0.	2.20	-0.32	0.17	0.00	0.	15	70
49021.97	0.20632	0.27153	0.00268	0.	0.	0.000101	0.000086	0.00000335	0.	0.	3.05	-0.32	0.22	-0.11	0.	15	92
49024.84	0.20571	0.26301	0.00268	0.	0.	0.000142	0.000150	0.00000486	0.	0.	3.19	-0.23	0.20	0.09	0.	12	54
49028.12	0.20400	0.25654	0.00267	0.	0.	0.000151	0.000124	0.00000472	0.	0.	4.06	-0.36	0.12	-0.12	0.	12	67
49030.86	0.20101	0.24901	0.00272	0.	0.	0.000124	0.000126	0.00000489	0.	0.	3.55	-0.25	0.41	-0.12	0.	14	80
49034.03	0.19873	0.24118	0.00260	0.	0.	0.000170	0.000137	0.00000497	0.	0.	3.47	-0.28	-0.10	-0.01	0.	14	49
49036.93	0.19677	0.23445	0.00263	0.	0.	0.000144	0.000126	0.00000433	0.	0.	4.38	-0.21	0.15	-0.04	0.	12	73
49040.42	0.19264	0.23034	0.00270	0.	0.	0.000102	0.000105	0.00000341	0.	0.	3.05	-0.16	0.14	0.01	0.	12	59
49043.16	0.18568	0.22360	0.00274	0.	0.	0.000199	0.000110	0.00000484	0.	0.	3.61	-0.61	0.18	-0.23	0.	12	65
49045.82	0.18061	0.21819	0.00264	0.	0.	0.000160	0.000175	0.00000592	0.	0.	3.97	-0.24	0.30	-0.03	0.	8	47
49049.15	0.17330	0.21253	0.00262	0.	0.	0.000177	0.000114	0.00000476	0.	0.	4.49	-0.57	-0.27	0.31	0.	12	81
49051.79	0.16951	0.20794	0.00247	0.	0.	0.000211	0.000146	0.00000628	0.	0.	4.97	-0.59	-0.39	0.42	0.	13	78
49055.18	0.16507	0.20270	0.00249	0.	0.	0.000158	0.000118	0.00000561	0.	0.	3.83	-0.29	0.13	0.03	0.	15	97
49057.94	0.16329	0.19853	0.00269	0.	0.	0.000111	0.000095	0.00000405	0.	0.	3.58	-0.29	0.17	0.04	0.	18	125
49061.07	0.15953	0.19373	0.00281	0.	0.	0.000148	0.000134	0.00000460	0.	0.	3.39	-0.30	0.29	-0.20	0.	12	77
49064.09	0.15172	0.18904	0.00283	0.	0.	0.000164	0.000109	0.00000462	0.	0.	4.61	-0.50	-0.14	0.19	0.	16	101
49066.61	0.14492	0.18491	0.00281	0.	0.	0.000161	0.000126	0.00000443	0.	0.	3.79	-0.28	-0.09	0.22	0.	16	81
49070.15	0.14008	0.18099	0.00277	0.	0.	0.000166	0.000125	0.00000459	0.	0.	4.56	-0.46	-0.07	0.18	0.	12	83
49072.86	0.13146	0.17791	0.00278	0.	0.	0.000140	0.000113	0.00000411	0.	0.	4.09	-0.33	0.10	-0.07	0.	13	70
49076.36	0.12249	0.17453	0.00273	0.	0.	0.000175	0.000115	0.00000444	0.	0.	3.64	-0.56	-0.11	0.17	0.	15	73
49078.93	0.11414	0.17051	0.00261	0.	0.	0.000156	0.000124	0.00000436	0.	0.	3.90	-0.35	0.01	0.25	0.	16	79
49082.26	0.10456	0.16852	0.00263	0.	0.	0.000255	0.000214	0.00000771	0.	0.	6.37	-0.51	0.07	0.14	0.	12	61
49085.11	0.09490	0.16786	0.00275	0.	0.	0.000137	0.000092	0.00000451	0.	0.	3.88	-0.55	-0.11	0.21	0.	13	84
49087.89	0.08586	0.16762	0.00295	0.	0.	0.000232	0.000269	0.00000880	0.	0.	4.39	-0.18	0.02	0.01	0.	14	37
49091.05	0.07919	0.16538	0.00290	0.	0.	0.000124	0.000100	0.00000430	0.	0.	3.24	-0.41	0.03	0.08	0.	14	81
49093.77	0.07412	0.16528	0.00294	0.	0.	0.000116	0.000102	0.00000338	0.	0.	3.00	-0.46	-0.25	0.28	0.	15	66
49097.25	0.06554	0.16555	0.00284	0.	0.	0.000090	0.000071	0.00000290	0.	0.	2.85	-0.36	0.14	0.01	0.	17	100
49099.88	0.05826	0.16490	0.00289	0.	0.	0.000110	0.000094	0.00000327	0.	0.	3.39	-0.34	0.04	0.12	0.	19	107
49103.25	0.04920	0.16459	0.00291	0.	0.	0.000160	0.000143	0.00000471	0.	0.	3.72	-0.34	0.07	-0.04	0.	15	65
49105.89	0.04314	0.16597	0.00288	0.	0.	0.000098	0.000083	0.00000320	0.	0.	2.99	-0.38	0.08	0.06	0.	12	103
49108.92	0.03668	0.16706	0.00291	0.	0.	0.000123	0.000108	0.00000403	0.	0.	2.88	-0.43	-0.23	0.26	0.	12	54
49111.94	0.03238	0.16744	0.00285	0.	0.	0.000132	0.000101	0.00000425	0.	0.	3.73	-0.45	0.21	-0.06	0.	12	87
49114.79	0.02638	0.16751	0.00273	0.	0.	0.000162	0.000105	0.00000582	0.	0.	2.87	-0.46	-0.04	0.23	0.	10	47
49118.21	0.02199	0.16729	0.00265	0.	0.	0.000148	0.000118	0.00000433	0.	0.	3.90	-0.41	0.00	0.11	0.	15	82
49120.82	0.01657	0.16891	0.00250	0.	0.	0.000159	0.000101	0.00000443	0.	0.	3.68	-0.54	-0.03	0.08	0.	15	67
49123.86	0.01267	0.17059	0.00249	0.	0.	0.000186	0.000155	0.00000601	0.	0.	3.27	-0.54	0.54	-0.48	0.	14	62
49127.04	0.00818	0.17433	0.00254	0.	0.	0.000180	0.000121	0.00000482	0.	0.	3.60	-0.57	0.11	-0.11	0.	13	71
49130.17	0.00426	0.17590	0.00250	0.	0.	0.000255	0.000173	0.00000682	0.	0.	4.78	-0.62	0.20	-0.20	0.	12	55
49132.92	-0.00357	0.17813	0.00241	0.	0.	0.000202	0.000137	0.00000614	0.	0.	4.80	-0.61	0.14	-0.22	0.	13	82
49135.90	-0.00925	0.18052	0.00239	0.	0.	0.000228	0.000126	0.00000610	0.	0.	3.86	-0.59	0.00	0.00	0.	16	66
49139.21	-0.01528	0.18152	0.00237	0.	0.	0.000252	0.000128	0.00000665	0.	0.	3.39	-0.69	0.10	-0.17	0.	11	52
49141.90	-0.01992	0.18222	0.00222	0.	0.	0.000187	0.000136	0.00000628	0.	0.	4.56	-0.48	0.35	-0.17	0.	13	67
49144.97	-0.02627	0.18497	0.00211	0.	0.	0.000276	0.000217	0.00001345	0.	0.	2.88	-0.37	0.64	-0.40	0.	11	66
49147.99	-0.03134	0.18723	0.00202	0.	0.	0.000188	0.000123	0.00000563	0.	0.	3.73	-0.62	-0.27	0.25	0.	15	84
49150.99	-0.03550	0.18967	0.00215	0.	0.	0.000216	0.000135	0.00000654	0.	0.	4.51	-0.59	0.01	-0.09	0.	9	50
49154.07	-0.03749	0.19475	0.00213	0.	0.	0.000136	0.000105	0.00000411	0.	0.	3.47	-0.49	0.01	-0.09	0.	13	58
49156.84	-0.04445	0.19792	0.00204	0.	0.	0.000148	0.000124	0.00000467	0.	0.	3.78	-0.53	-0.03	0.03	0.	12	75



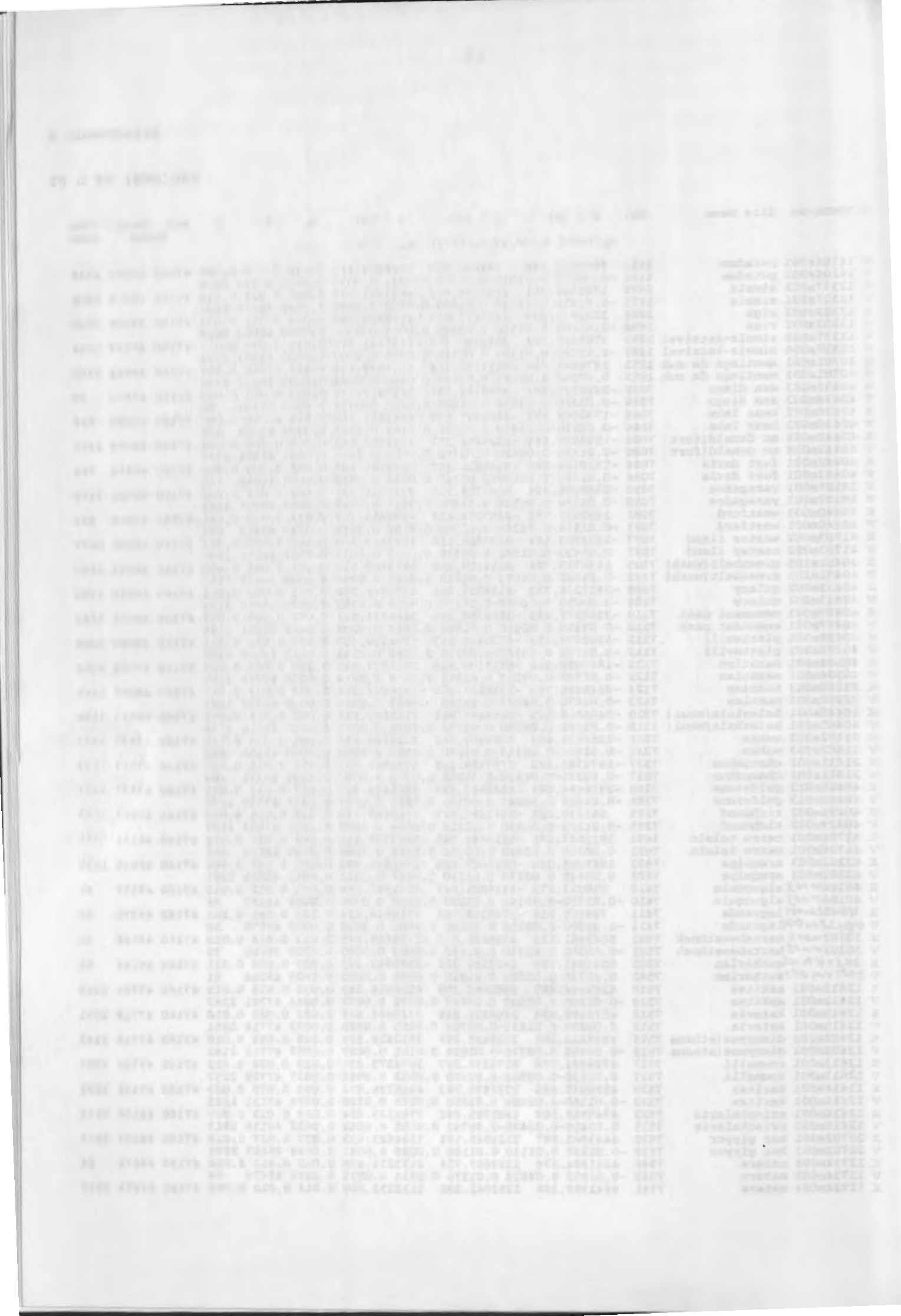
49160.07	-0.04977	0.20151	0.00196	0.	0.	0.000107	0.000078	0.00000297	0.	0.	2.13	-0.47	-0.18	0.30	0.	12	69
49162.74	-0.05437	0.20462	0.00188	0.	0.	0.000071	0.000046	0.00000207	0.	0.	1.84	-0.56	-0.07	0.04	0.	13	83
49166.30	-0.05761	0.20699	0.00178	0.	0.	0.000138	0.000115	0.00000412	0.	0.	3.62	-0.36	-0.10	0.11	0.	11	67
49168.88	-0.06195	0.21047	0.00179	0.	0.	0.000092	0.000076	0.00000285	0.	0.	2.81	-0.41	0.00	0.12	0.	14	110
49171.79	-0.06501	0.21483	0.00172	0.	0.	0.000183	0.000123	0.00000524	0.	0.	3.48	-0.45	0.04	0.04	0.	13	70
49175.49	-0.06673	0.21768	0.00160	0.	0.	0.000073	0.000053	0.00000260	0.	0.	1.97	-0.47	0.18	-0.11	0.	14	87
49177.75	-0.06704	0.22045	0.00148	0.	0.	0.000071	0.000055	0.00000253	0.	0.	1.94	-0.44	-0.02	0.10	0.	16	94
49181.04	-0.06787	0.22324	0.00153	0.	0.	0.000087	0.000068	0.00000281	0.	0.	2.10	-0.46	-0.34	0.31	0.	14	73
49184.14	-0.07011	0.22797	0.00162	0.	0.	0.000095	0.000064	0.00000293	0.	0.	2.36	-0.56	-0.06	0.14	0.	13	76
49186.98	-0.07070	0.23320	0.00155	0.	0.	0.000105	0.000080	0.00000304	0.	0.	2.73	-0.48	-0.04	0.11	0.	14	85
49189.93	-0.07234	0.23919	0.00153	0.	0.	0.000111	0.000079	0.00000304	0.	0.	3.36	-0.51	0.00	0.06	0.	17	118
49193.07	-0.07498	0.24402	0.00171	0.	0.	0.000169	0.000136	0.00000527	0.	0.	4.02	-0.39	-0.01	0.14	0.	16	78
49196.04	-0.07834	0.24752	0.00171	0.	0.	0.000069	0.000053	0.00000212	0.	0.	2.13	-0.47	-0.03	0.09	0.	19	114
49198.83	-0.08131	0.25315	0.00174	0.	0.	0.000066	0.000056	0.00000227	0.	0.	2.26	-0.40	-0.07	0.23	0.	15	97
49201.99	-0.08371	0.25872	0.00179	0.	0.	0.000119	0.000128	0.00000481	0.	0.	3.79	-0.21	0.28	0.01	0.	16	112
49204.97	-0.08797	0.26482	0.00185	0.	0.	0.000058	0.000052	0.00000222	0.	0.	1.87	-0.34	0.04	0.10	0.	16	108
49208.36	-0.09260	0.27092	0.00190	0.	0.	0.000108	0.000108	0.00000451	0.	0.	3.31	-0.40	0.10	0.08	0.	17	87
49211.24	-0.09472	0.27695	0.00185	0.	0.	0.000077	0.000063	0.00000256	0.	0.	2.80	-0.43	0.01	0.15	0.	19	136
49213.76	-0.09610	0.28332	0.00178	0.	0.	0.000078	0.000087	0.00000288	0.	0.	2.39	-0.21	0.34	0.03	0.	18	95
49217.13	-0.09748	0.28947	0.00189	0.	0.	0.000070	0.000057	0.00000217	0.	0.	2.33	-0.52	0.29	-0.20	0.	19	148
49219.77	-0.10001	0.29378	0.00191	0.	0.	0.000093	0.000079	0.00000314	0.	0.	3.16	-0.45	0.18	0.00	0.	20	137
49223.18	-0.10180	0.29893	0.00205	0.	0.	0.000113	0.000083	0.00000310	0.	0.	2.53	-0.47	0.07	0.10	0.	17	88
49226.08	-0.09978	0.30551	0.00193	0.	0.	0.000093	0.000074	0.00000310	0.	0.	2.38	-0.54	0.28	-0.17	0.	17	81
49229.22	-0.09913	0.31252	0.00184	0.	0.	0.000095	0.000078	0.00000336	0.	0.	2.76	-0.45	0.14	0.11	0.	19	103
49231.97	-0.09829	0.31887	0.00196	0.	0.	0.000073	0.000061	0.00000257	0.	0.	2.52	-0.41	0.16	0.07	0.	20	133
49234.78	-0.09837	0.32386	0.00206	0.	0.	0.000103	0.000099	0.00000486	0.	0.	2.95	-0.19	0.35	-0.04	0.	16	83
49238.19	-0.10042	0.32856	0.00209	0.	0.	0.000109	0.000105	0.00000389	0.	0.	3.46	-0.12	0.18	0.07	0.	16	99
49240.89	-0.09876	0.33376	0.00211	0.	0.	0.000161	0.000156	0.00000601	0.	0.	4.07	-0.33	0.07	0.19	0.	13	67
49244.19	-0.09764	0.34062	0.00211	0.	0.	0.000111	0.000079	0.00000335	0.	0.	2.70	-0.57	-0.04	0.18	0.	14	82
49246.85	-0.09626	0.34686	0.00221	0.	0.	0.000159	0.000113	0.00000440	0.	0.	3.15	-0.41	0.07	0.23	0.	15	81
49250.15	-0.09621	0.35158	0.00222	0.	0.	0.000112	0.000089	0.00000342	0.	0.	2.73	-0.46	0.29	-0.10	0.	18	93
49253.14	-0.09579	0.35583	0.00227	0.	0.	0.000088	0.000073	0.00000271	0.	0.	2.96	-0.42	0.18	0.10	0.	17	115
49255.95	-0.09501	0.36111	0.00234	0.	0.	0.000129	0.000132	0.00000428	0.	0.	3.79	-0.23	0.24	0.04	0.	15	91
49258.96	-0.09514	0.36724	0.00234	0.	0.	0.000139	0.000112	0.00000430	0.	0.	3.79	-0.45	0.21	-0.05	0.	17	103
49261.85	-0.09491	0.37356	0.00236	0.	0.	0.000234	0.000151	0.00000650	0.	0.	3.92	-0.49	-0.20	0.26	0.	15	78
49265.23	-0.09216	0.37851	0.00237	0.	0.	0.000112	0.000091	0.00000429	0.	0.	2.82	-0.35	0.35	-0.05	0.	15	82
49267.88	-0.09065	0.38438	0.00257	0.	0.	0.000191	0.000107	0.00000585	0.	0.	2.58	-0.63	-0.21	0.32	0.	11	59
49271.01	-0.08725	0.38967	0.00255	0.	0.	0.000112	0.000092	0.00000384	0.	0.	2.47	-0.23	0.34	-0.03	0.	14	81
49274.03	-0.08335	0.39593	0.00260	0.	0.	0.000124	0.000087	0.00000337	0.	0.	2.57	-0.59	0.11	-0.01	0.	13	76
49277.04	-0.08143	0.40117	0.00266	0.	0.	0.000137	0.000143	0.00000545	0.	0.	3.14	-0.32	0.54	-0.28	0.	12	52
49279.69	-0.07941	0.40524	0.00264	0.	0.	0.000099	0.000088	0.00000341	0.	0.	2.22	-0.33	0.41	-0.14	0.	8	59
49283.17	-0.07728	0.40998	0.00262	0.	0.	0.000249	0.000100	0.00000611	0.	0.	2.35	-0.85	0.15	-0.28	0.	7	35
49286.21	-0.07605	0.41432	0.00265	0.	0.	0.000206	0.000129	0.00000467	0.	0.	2.33	-0.62	0.08	-0.03	0.	10	32
49288.99	-0.07465	0.41961	0.00271	0.	0.	0.000093	0.000072	0.00000272	0.	0.	2.33	-0.33	0.02	0.10	0.	10	74
49292.03	-0.07297	0.42160	0.00269	0.	0.	0.000135	0.000107	0.00000414	0.	0.	2.75	-0.39	-0.07	0.14	0.	11	56
49294.96	-0.06739	0.42521	0.00258	0.	0.	0.000167	0.000112	0.00000540	0.	0.	3.04	-0.59	-0.05	0.07	0.	14	62
49298.04	-0.06084	0.42988	0.00247	0.	0.	0.000219	0.000204	0.00000726	0.	0.	5.08	-0.39	-0.17	0.09	0.	10	48
49301.41	-0.05442	0.43445	0.00250	0.	0.	0.000261	0.000170	0.00000690	0.	0.	4.35	-0.66	-0.10	0.11	0.	11	51
49303.66	-0.05086	0.43766	0.00258	0.	0.	0.000159	0.000149	0.00000611	0.	0.	3.28	-0.27	0.27	-0.10	0.	13	49
49307.06	-0.04695	0.43993	0.00250	0.	0.	0.000199	0.000195	0.00000610	0.	0.	4.22	-0.30	0.07	0.07	0.	12	43
49309.98	-0.04491	0.44317	0.00245	0.	0.	0.000092	0.000087	0.00000319	0.	0.	2.94	-0.23	0.28	-0.01	0.	15	97
49313.11	-0.04342	0.44656	0.00238	0.	0.	0.000163	0.000121	0.00000442	0.	0.	3.23	-0.46	0.17	-0.27	0.	13	62
49316.03	-0.04054	0.44936	0.00242	0.	0.	0.000137	0.000119	0.00000416	0.	0.	3.82	-0.33	-0.02	0.07	0.	12	75
49318.51	-0.03828	0.45221	0.00242	0.	0.	0.000208	0.000242	0.00000714	0.	0.	4.72	-0.17	0.34	-0.07	0.	8	41
49322.13	-0.03453	0.45445	0.00221	0.	0.	0.000205	0.000152	0.00000625	0.	0.	4.07	-0.54	0.18	-0.22	0.	11	56
49324.88	-0.03133	0.45559	0.00211	0.	0.	0.000096	0.000075	0.00000362	0.	0.	2.59	-0.44	0.20	-0.14	0.	14	76
49328.11	-0.02731	0.45902	0.00211	0.	0.	0.000143	0.000100	0.00000464	0.	0.	2.85	-0.47	0.11	0.05	0.	13	61
49331.04	-0.02251	0.46226	0.00228	0.	0.	0.000116	0.000092	0.00000351	0.	0.	3.27	-0.43	0.29	-0.28	0.	14	79
49334.14	-0.01867	0.46470	0.00238	0.	0.	0.000162	0.000132	0.00000495	0.	0.	3.95	-0.45	0.21	-0.10	0.	10	49
49337.03	-0.01543	0.46898	0.00243	0.	0.	0.000137	0.000098	0.00000421	0.	0.	3.51	-0.45	0.23	-0.15	0.	14	80
49339.71	-0.01178	0.47101	0.00251	0.	0.	0.000182	0.000132	0.00000498	0.	0.	3.49	-0.43	0.05	0.11	0.	13	48
49343.07	-0.00635	0.47425	0.00251	0.	0.	0.000094	0.000079	0.00000287	0.	0.	2.56	-0.34	-0.12	0.36	0.	11	67
49345.50	0.00098	0.47652	0.00257	0.	0.	0.000137	0.000091	0.00000349	0.	0.	2.14	-0.37	-0.23	0.24	0.	11	36
49349.35	0.00528	0.47690	0.00249	0.	0.	0.000171	0.000166	0.00000585	0.	0.	2.90	-0.36	0.54	-0.18	0.	12	41
49351.63	0.01022	0.47642	0.00242	0.	0.	0.000100	0.000102	0.00000384	0.	0.	3.11	-0.35	0.39	-0.17	0.	11	74
49354.93	0.01668	0.47777	0.00239	0.	0.	0.000094	0.000086	0.00000411	0.	0.	1.91	-0.47	0.53	-0.39	0.	9	54
49357.99	0.02468	0.48009	0.00230	0.	0.	0.000090	0.000062	0.00000275	0.	0.	2.47	-0.53	0.01	-0.06	0.	13	81
49360.79	0.03336	0.48105	0.00225	0.	0.	0.000112	0.000085	0.00000351	0.	0.	2.84	-0.45	0.00	0.03	0.	16	59
49363.92	0.04036	0.48012	0.00220	0.	0.	0.000110	0.000075	0.00000311	0.	0.	2.88	-0.46	0.12	0.12	0.	11	82
49366.74	0.04680	0.48002	0.00226	0.	0.	0.000101	0.000083	0.00000317	0.	0.	2.72	-0.43	0.30	-0.14	0.	13	67
49370.31	0.05343	0.48006	0.00218	0.	0.	0.000106	0.000074	0.00000279	0.	0.	2.47	-0.53	0.34	-0.22	0.	15	75
49372.58	0.05934	0.47848	0.00215	0.	0.	0.000076	0.000062	0.00000239	0.	0.	2.00	-0.41	0.05	0.14	0.	12	66
49375.89	0.06614	0.47680	0.00224	0.	0.	0.000122	0.000111	0.00000416	0.	0.	2.64	-0.32	0.45	-0.22	0.	9	42
49378.95	0.07412	0.47623	0.00232	0.	0.	0.000120	0.000101	0.00000400	0.	0.	2.93	-0.41	0.43	-0.34	0.	13	51
49381.77	0.08261	0.47340	0.00231	0.	0.	0.000138	0.000099	0.00000454	0.	0.	2.75	-0.47	0.27	-0.12	0.	9	48
49384.99	0.09091	0.47162	0.00227	0.	0.	0.000104	0.000080	0.00000393	0.	0.	2.37	-0.45	0.10	0.05	0.	13	54
49388.03	0.09942	0.46905	0.00219	0.	0.	0.000132	0.000100	0.00000464	0.	0.	2.60	-0.45	0.42	-0.19	0.	10	50
49390.97	0.10492	0.46602	0.00216	0.	0.	0.000146	0.000103	0.00000434	0.	0.	2.85	-0.47	0.36	-0.29	0.	10	52
49393.87	0.11069	0.46307	0.00217	0.	0.	0.000127	0.000134	0.00000477	0.	0.	2.43	-0.40	0.67	-0.33	0.	11	51
49397.22	0.11685	0.45959	0.00222	0.	0.	0.000119	0.000170	0.00000601	0.	0.	1.84	-0.27	0.74	-0.13	0.	8	37
49399.88	0.12252	0.45673	0.00228	0.	0.	0.000128	0.000078	0.00000380	0.	0.	2.23	-0.67	0.30	-0.14	0.	12	80
49402.79	0.12703	0.45217	0.00238	0.	0.	0.000231	0.000167	0.00000647	0.	0.	3.14	-0.66	0.65	-0.45	0.	9	48
49405.95	0.13448	0.45006	0.00248	0.	0.	0.000261	0.000255	0.00000825	0.	0.	4.30	-0.46	0.07	0.21	0.	12	45
49409.12	0.14122	0.44992	0.00253	0.	0.	0.000197	0.000206	0.00000597	0.	0.	4.16	-0.27	0.07	0.28	0.	10	46
49411.99	0.14497	0.44539	0.00283	0.	0.	0.000208	0.000218	0.00000728	0.	0.	4.11	-0.48	-0.17	0.33	0.	10	39
49415.17	0.14818	0.44031	0.00286	0.	0.	0.000102	0.000095	0.00000354	0.	0.	2.87	-0.35	-0.06	0.10	0.	13	66
49417.98	0.15040	0.43487	0.00273	0.	0.	0.000109	0.000071	0.00000345	0.	0.	2.09	-0.51	0.11	0.04	0.	15	51

49421.07	0.15332	0.43051	0.00262	0.	0.	0.000102	0.000084	0.00000309	0.	0.	2.59	-0.41	0.05	0.01	0.	15	79
49423.93	0.15681	0.42479	0.00253	0.	0.	0.000130	0.000096	0.00000363	0.	0.	3.13	-0.51	0.07	-0.10	0.	13	63
49427.14	0.16170	0.42058	0.00245	0.	0.	0.000117	0.000104	0.00000376	0.	0.	2.76	-0.39	0.53	-0.22	0.	13	68
49429.71	0.16381	0.41687	0.00250	0.	0.	0.000163	0.000150	0.00000517	0.	0.	3.55	-0.32	0.19	-0.07	0.	14	57
49433.01	0.16554	0.41126	0.00247	0.	0.	0.000107	0.000076	0.00000309	0.	0.	1.82	-0.44	0.39	-0.20	0.	12	48
49436.04	0.16796	0.40512	0.00260	0.	0.	0.000090	0.000093	0.00000321	0.	0.	2.47	-0.30	0.34	-0.15	0.	15	64
49438.99	0.17111	0.40027	0.00264	0.	0.	0.000121	0.000120	0.00000416	0.	0.	3.04	-0.27	0.12	0.02	0.	16	67
49441.93	0.17355	0.39394	0.00259	0.	0.	0.000113	0.000093	0.00000355	0.	0.	2.98	-0.48	-0.10	0.20	0.	21	95
49444.72	0.17778	0.38884	0.00260	0.	0.	0.000094	0.000084	0.00000338	0.	0.	2.53	-0.33	0.19	-0.09	0.	15	63
49447.96	0.18112	0.38400	0.00253	0.	0.	0.000079	0.000063	0.00000258	0.	0.	2.27	-0.44	0.24	-0.13	0.	16	81
49450.78	0.18354	0.37893	0.00255	0.	0.	0.000110	0.000101	0.00000377	0.	0.	3.35	-0.36	0.23	-0.16	0.	14	77
49453.88	0.18458	0.37467	0.00258	0.	0.	0.000140	0.000131	0.00000440	0.	0.	3.16	-0.32	0.30	-0.10	0.	15	61
49456.89	0.18408	0.36800	0.00257	0.	0.	0.000143	0.000115	0.00000424	0.	0.	3.22	-0.53	-0.07	0.20	0.	11	48
49459.84	0.18544	0.36145	0.00251	0.	0.	0.000177	0.000126	0.00000431	0.	0.	3.37	-0.54	0.17	-0.20	0.	14	49
49463.21	0.18500	0.35717	0.00250	0.	0.	0.000108	0.000083	0.00000301	0.	0.	2.67	-0.43	0.01	0.04	0.	13	65
49466.08	0.18448	0.35171	0.00255	0.	0.	0.000164	0.000190	0.00000604	0.	0.	4.01	-0.16	0.24	0.12	0.	16	58
49468.90	0.18401	0.34452	0.00262	0.	0.	0.000169	0.000132	0.00000487	0.	0.	3.20	-0.46	0.48	-0.41	0.	13	58
49471.88	0.18501	0.33736	0.00260	0.	0.	0.000104	0.000094	0.00000412	0.	0.	2.45	-0.34	0.51	-0.23	0.	12	58
49475.13	0.18601	0.33078	0.00257	0.	0.	0.000053	0.000047	0.00000192	0.	0.	1.41	-0.36	0.27	-0.07	0.	18	100
49477.93	0.18678	0.32465	0.00255	0.	0.	0.000083	0.000071	0.00000301	0.	0.	1.69	-0.33	0.17	0.05	0.	16	65
49480.92	0.18843	0.31726	0.00252	0.	0.	0.000076	0.000075	0.00000248	0.	0.	2.15	-0.27	0.32	0.01	0.	17	86
49483.93	0.19009	0.31112	0.00256	0.	0.	0.000096	0.000079	0.00000279	0.	0.	2.63	-0.36	0.06	-0.04	0.	15	87
49486.94	0.19010	0.30509	0.00254	0.	0.	0.000121	0.000105	0.00000371	0.	0.	2.66	-0.38	0.23	-0.04	0.	14	62
49490.10	0.18964	0.29884	0.00250	0.	0.	0.000115	0.000095	0.00000312	0.	0.	2.08	-0.15	0.23	-0.11	0.	13	50
49492.86	0.18811	0.29311	0.00230	0.	0.	0.000173	0.000153	0.00000535	0.	0.	2.94	-0.46	0.29	-0.18	0.	14	36
49496.06	0.18498	0.28832	0.00227	0.	0.	0.000171	0.000138	0.00000590	0.	0.	3.23	-0.56	0.27	-0.22	0.	13	66
49498.96	0.18186	0.28252	0.00215	0.	0.	0.000150	0.000118	0.00000430	0.	0.	3.22	-0.48	-0.06	0.10	0.	14	71
49502.35	0.17865	0.27570	0.00195	0.	0.	0.000191	0.000217	0.00000761	0.	0.	3.79	-0.23	0.55	-0.26	0.	13	52
49504.87	0.17540	0.26823	0.00184	0.	0.	0.000062	0.000056	0.00000283	0.	0.	1.79	-0.36	0.10	0.06	0.	21	101
49508.00	0.17172	0.26187	0.00187	0.	0.	0.000151	0.000123	0.00000487	0.	0.	3.26	-0.42	0.12	0.03	0.	13	65
49510.96	0.16820	0.25751	0.00180	0.	0.	0.000148	0.000145	0.00000503	0.	0.	3.27	-0.36	0.15	0.12	0.	12	65
49513.94	0.16482	0.25187	0.00182	0.	0.	0.000143	0.000149	0.00000493	0.	0.	3.89	-0.29	0.28	0.00	0.	12	59
49517.21	0.16228	0.24426	0.00179	0.	0.	0.000130	0.000120	0.00000452	0.	0.	3.30	-0.32	0.14	0.08	0.	16	85
49519.81	0.16019	0.23840	0.00178	0.	0.	0.000134	0.000109	0.00000361	0.	0.	3.15	-0.43	-0.11	0.15	0.	15	84
49523.09	0.15618	0.23274	0.00167	0.	0.	0.000171	0.000164	0.00000497	0.	0.	3.22	-0.51	-0.24	0.37	0.	15	60
49526.04	0.15091	0.22668	0.00147	0.	0.	0.000120	0.000082	0.00000354	0.	0.	3.04	-0.59	0.03	0.01	0.	14	105
49528.71	0.14672	0.22056	0.00128	0.	0.	0.000331	0.000204	0.00000743	0.	0.	2.39	-0.74	0.60	-0.59	0.	13	50
49532.06	0.14164	0.21472	0.00113	0.	0.	0.000159	0.000156	0.00000596	0.	0.	3.34	-0.48	0.49	-0.40	0.	11	59
49535.07	0.13670	0.21077	0.00111	0.	0.	0.000110	0.000105	0.00000364	0.	0.	2.65	-0.41	0.03	-0.08	0.	16	66
49538.07	0.13064	0.20783	0.00122	0.	0.	0.000150	0.000198	0.00000793	0.	0.	3.85	-0.18	0.39	-0.09	0.	14	59
49540.86	0.12608	0.20301	0.00123	0.	0.	0.000148	0.000117	0.00000494	0.	0.	3.64	-0.53	0.02	0.10	0.	13	77
49543.96	0.12008	0.19978	0.00135	0.	0.	0.000177	0.000139	0.00000537	0.	0.	4.21	-0.45	0.29	-0.07	0.	16	78
49546.96	0.11474	0.19523	0.00147	0.	0.	0.000139	0.000110	0.00000397	0.	0.	3.73	-0.41	-0.06	0.09	0.	16	86
49549.71	0.10853	0.19159	0.00158	0.	0.	0.000229	0.000206	0.00000698	0.	0.	4.44	-0.38	0.27	-0.23	0.	11	42
49553.18	0.10320	0.18736	0.00156	0.	0.	0.000203	0.000150	0.00000561	0.	0.	3.60	-0.64	0.64	-0.63	0.	12	72
49556.02	0.09793	0.18230	0.00142	0.	0.	0.000122	0.000138	0.00000477	0.	0.	2.91	-0.35	0.55	-0.36	0.	14	66
49559.14	0.09263	0.17801	0.00128	0.	0.	0.000216	0.000177	0.00000619	0.	0.	3.68	-0.53	0.33	-0.22	0.	15	67
49561.97	0.08503	0.17671	0.00140	0.	0.	0.000120	0.000100	0.00000349	0.	0.	2.55	-0.43	0.08	-0.10	0.	12	62
49565.15	0.07977	0.17497	0.00147	0.	0.	0.000105	0.000094	0.00000359	0.	0.	2.37	-0.34	0.07	-0.08	0.	14	55
49567.99	0.07469	0.17399	0.00150	0.	0.	0.000099	0.000094	0.00000338	0.	0.	2.79	-0.42	-0.06	0.06	0.	21	85
49570.89	0.06945	0.17401	0.00148	0.	0.	0.000164	0.000144	0.00000535	0.	0.	3.29	-0.48	0.14	-0.30	0.	18	52
49574.03	0.06517	0.17261	0.00141	0.	0.	0.000158	0.000140	0.00000530	0.	0.	3.98	-0.37	0.09	0.03	0.	15	67
49577.11	0.05987	0.17240	0.00134	0.	0.	0.000229	0.000181	0.00000745	0.	0.	3.45	-0.49	0.28	-0.34	0.	12	34
49580.20	0.05393	0.16983	0.00131	0.	0.	0.000131	0.000167	0.00000569	0.	0.	2.23	-0.42	0.67	-0.42	0.	14	50
49582.99	0.04677	0.16836	0.00140	0.	0.	0.000209	0.000131	0.00000539	0.	0.	2.24	-0.73	0.58	-0.54	0.	12	42
49586.07	0.03798	0.16922	0.00152	0.	0.	0.000321	0.000273	0.00001076	0.	0.	4.00	-0.46	0.67	-0.55	0.	13	36
49588.92	0.02975	0.16836	0.00157	0.	0.	0.000249	0.000144	0.00000640	0.	0.	3.27	-0.71	0.58	-0.60	0.	12	63
49591.68	0.02400	0.16944	0.00174	0.	0.	0.000187	0.000154	0.00000641	0.	0.	2.49	-0.46	0.62	-0.33	0.	11	39
49595.18	0.01819	0.17078	0.00183	0.	0.	0.000303	0.000173	0.00001014	0.	0.	2.66	-0.64	0.57	-0.41	0.	16	48
49597.86	0.00940	0.17125	0.00185	0.	0.	0.000079	0.000046	0.00000283	0.	0.	1.33	-0.60	0.34	-0.34	0.	14	64

Attachment 4

SSC(GFZ) 95 L 01

X	DOMES-No.	Site Name	No.	x / [m]	y / [m]	z / [m]	s_x	s_y	s_z	Ref. Epoch	Centr. Epoch	Time span
V				v_x/[m/y]	v_y/[m/y]	v_z/[m/y]	s_{vx}	s_{vy}	s_{vz}			
X	14106s001	potsdam	1181	3800621.248	882005.337	5028859.413	0.028	0.022	0.005	47160	47571	2238
V	14106s001	potsdam	1181	-0.02810	0.02510	-0.01360	0.0031	0.0037	0.0017	47571	2238	
X	12337s001	simeiz	1873	3783902.791	2551404.972	4441257.597	0.030	0.025	0.014	47160	48676	1804
V	12337s001	simeiz	1873	-0.01950	0.01700	0.00680	0.0000	0.0000	0.0000	48676	1804	
X	12302s002	riga	1884	3183896.034	1421496.885	5322803.552	0.016	0.012	0.006	47160	48580	2028
V	12302s002	riga	1884	-0.01800	0.01590	0.00650	0.0000	0.0000	0.0000	48580	2028	
X	12337s006	simeiz-katzivel	1893	3785945.012	2550780.559	4439461.574	0.044	0.035	0.017	47160	48323	1554
V	12337s006	simeiz-katzivel	1893	-0.01950	0.01700	0.00690	0.0000	0.0000	0.0000	48323	1554	
X	40701s001	santiago de cub	1953	1474548.259	-5811242.324	2168944.955	0.023	0.010	0.027	47160	48412	2362
V	40701s001	santiago de cub	1953	0.00200	0.00280	0.00630	0.0000	0.0000	0.0000	48412	2362	
X	40436m003	san diego	7035	-2428826.593	-4799754.351	3417267.078	0.027	0.023	0.025	47160	47404	38
V	40436m003	san diego	7035	-0.03320	0.02620	0.01880	0.0012	0.0013	0.0003	47404	38	
X	40438m002	bear lake	7046	-1736002.952	-4425049.650	4241427.168	0.019	0.019	0.023	47160	48325	438
V	40438m002	bear lake	7046	-0.00310	-0.01800	0.00510	0.0142	0.0129	0.0094	48325	438	
X	40442m006	mc donald(fort	7080	-1330020.946	-5328401.857	3236480.852	0.003	0.002	0.004	47160	48399	2391
V	40442m006	mc donald(fort	7080	-0.01330	0.00620	-0.00760	0.0015	0.0012	0.0007	48399	2391	
X	40442m001	fort davis	7086	-1330125.286	-5328526.637	3236150.309	0.008	0.005	0.009	47160	46818	742
V	40442m001	fort davis	7086	-0.01360	0.00630	-0.00740	0.0014	0.0015	0.0004	46818	742	
X	50107m001	yaragadee	7090	-2389006.494	5043329.256	-3078525.351	0.004	0.001	0.004	47160	48021	3149
V	50107m001	yaragadee	7090	-0.04390	0.00780	0.04880	0.0011	0.0013	0.0004	48021	3149	
X	40440m001	westford	7091	1492453.751	-4457278.814	4296815.967	0.033	0.032	0.041	47160	47820	832
V	40440m001	westford	7091	-0.01910	-0.01290	0.01760	0.0160	0.0149	0.0117	47820	832	
X	41703m002	easter iland	7097	-1884984.444	-5357608.156	-2892853.325	0.008	0.005	0.013	47160	48262	2277
V	41703m002	easter iland	7097	0.06530	-0.01540	-0.00630	0.0035	0.0035	0.0026	48262	2277	
X	40451m105	greenbelt(washi	7105	1130719.784	-4831350.566	3994106.516	0.001	0.001	0.002	47160	48023	3143
V	40451m105	greenbelt(washi	7105	-0.01640	0.00070	0.00130	0.0012	0.0000	0.0005	48023	3143	
X	40433m002	quincy	7109	-2517234.723	-4198556.201	4076569.750	0.003	0.003	0.003	47160	48015	3122
V	40433m002	quincy	7109	-0.02090	0.00680	-0.00150	0.0013	0.0009	0.0005	48015	3122	
X	40497m001	monument peak	7110	-2386277.918	-4802354.389	3444881.451	0.002	0.003	0.003	47160	48021	3149
V	40497m001	monument peak	7110	-0.03310	0.02580	0.01860	0.0013	0.0008	0.0004	48021	3149	
X	40496m001	plattevill	7112	-1240678.153	-4720463.367	4094480.653	0.037	0.033	0.031	47160	48009	1209
V	40496m001	plattevill	7112	-0.01750	0.00360	-0.00230	0.0140	0.0134	0.0111	48009	1209	
X	40504m001	mazatlan	7122	-1660089.320	-5619100.446	2511637.943	0.006	0.003	0.007	47160	47722	2550
V	40504m001	mazatlan	7122	-0.01590	-0.00380	0.00010	0.0018	0.0014	0.0009	47722	2550	
X	92202m003	huahine	7123	-5345866.783	-2958247.451	-1824624.291	0.020	0.023	0.017	47160	48207	1869
V	92202m003	huahine	7123	-0.04670	0.06030	0.03230	0.0097	0.0095	0.0068	48207	1869	
X	40445m001	haleakala/maui(	7210	-5466006.525	-2404427.981	2242187.519	0.002	0.004	0.002	47160	48010	3128
V	40445m001	haleakala/maui(	7210	-0.02180	0.06010	0.03500	0.0015	0.0013	0.0005	48010	3128	
X	21602s003	wuhan	7236	-2266555.453	5009079.252	3222266.138	0.091	0.070	0.112	47160	49255	450
V	21602s003	wuhan	7236	-0.02460	-0.00410	-0.01090	0.0000	0.0000	0.0000	49255	450	
X	21611s001	changchun	7237	-2674386.405	3757189.309	4391508.422	0.019	0.018	0.022	47160	49331	486
V	21611s001	changchun	7237	-0.02340	-0.00430	-0.01060	0.0000	0.0000	0.0000	49331	486	
X	40405m013	goldstone	7288	-2356494.024	-4646607.688	3668426.712	0.017	0.015	0.020	47160	47759	1070
V	40405m013	goldstone	7288	-0.01400	0.00240	0.00160	0.0063	0.0057	0.0037	47759	1070	
X	40499m002	richmond	7295	961319.025	-5674090.977	2740489.595	0.015	0.008	0.020	47160	47808	1107
V	40499m002	richmond	7295	-0.01120	-0.00090	0.00210	0.0000	0.0000	0.0000	47808	1107	
X	41706m001	cerro tololo	7401	1815517.291	-5213464.740	-3187999.245	0.064	0.042	0.094	47160	48131	385
V	41706m001	cerro tololo	7401	0.00350	0.02940	0.02050	0.0328	0.0288	0.0245	48131	385	
X	42202m003	arequipa	7403	1942808.068	-5804069.686	-1796915.561	0.003	0.002	0.004	47160	48835	1521
V	42202m003	arequipa	7403	0.00840	0.00170	0.01390	0.0024	0.0022	0.0012	48835	1521	
X	40104m003	algonquin	7410	918213.179	-4346066.547	4561957.658	0.011	0.012	0.016	47160	49197	96
V	40104m003	algonquin	7410	-0.01790	-0.00140	0.00230	0.0000	0.0000	0.0000	49197	96	
X	40432m001	lagrande	7411	749865.019	-3709310.743	5116946.024	0.123	0.191	0.241	47160	49570	50
V	40432m001	lagrande	7411	-0.01990	-0.00150	0.00180	0.0000	0.0000	0.0000	49570	50	
X	30302m003	hartebeesthoek	7501	5085401.115	2668329.877	-2768689.045	0.013	0.016	0.010	47160	49186	35
V	30302m003	hartebeesthoek	7501	-0.00200	0.02340	0.01890	0.0000	0.0000	0.0000	49186	35	
X	30314m001	sutherlan	7502	5041543.325	1915352.901	-3396942.473	0.037	0.050	0.021	47160	49244	51
V	30314m001	sutherlan	7502	0.00320	0.02380	0.01810	0.0000	0.0000	0.0000	49244	51	
X	12612m001	askites	7510	4353444.885	2082666.299	4156506.660	0.036	0.038	0.015	47160	47701	2243
V	12612m001	askites	7510	-0.02100	0.02050	0.00640	0.0076	0.0072	0.0044	47701	2243	
X	12615m001	katavia	7512	4573400.034	2409322.218	3723881.829	0.022	0.025	0.010	47160	47718	2051
V	12615m001	katavia	7512	0.00230	0.01830	-0.00720	0.0055	0.0050	0.0033	47718	2051	
X	12602m002	dionysos(athens	7515	4595216.386	2039435.299	3912629.529	0.046	0.054	0.018	47160	47712	2142
V	12602m002	dionysos(athens	7515	-0.00460	0.00770	-0.01030	0.0101	0.0087	0.0057	47712	2142	
X	12613m001	roumelli	7517	4728694.776	2174373.297	3674573.030	0.018	0.028	0.012	47160	47709	2257
V	12613m001	roumelli	7517	0.02630	-0.00260	-0.00320	0.0052	0.0051	0.0037	47709	2257	
X	12614m001	karitsa	7520	4596042.645	1733476.543	4055720.874	0.060	0.079	0.023	47160	47131	1222
V	12614m001	karitsa	7520	-0.01160	-0.02650	0.01090	0.0125	0.0108	0.0074	47131	1222	
X	12616m001	xrisokalaria	7525	4745949.508	1905705.960	3799169.094	0.018	0.023	0.007	47160	48138	2913
V	12616m001	xrisokalaria	7525	0.00400	-0.00420	-0.00740	0.0055	0.0048	0.0032	48138	2913	
X	20702m001	bar giyyor	7530	4443965.987	3121945.181	3334693.633	0.027	0.027	0.018	47160	48107	2972
V	20702m001	bar giyyor	7530	-0.02230	0.01110	0.01160	0.0088	0.0081	0.0049	48107	2972	
X	12734m005	matera	7540	4641984.574	1393057.724	4133233.499	0.012	0.012	0.004	47160	46474	54
V	12734m005	matera	7540	-0.01950	0.02010	0.01370	0.0034	0.0035	0.0019	46474	54	
X	12734m004	matera	7541	4641990.308	1393042.300	4133231.900	0.012	0.012	0.004	47160	47979	3065



V	12734m004	matera	7541	-0.01950	0.02110	0.01380	0.0031	0.0033	0.0018	47979	3065		
X	12749m001	monte venda	7542	4399363.624	910506.415	4512940.922	0.069	0.059	0.014	47160	48489	37	
V	12749m001	monte venda	7542	-0.01430	0.01910	0.01010	0.0000	0.0000	0.0000	48489	37		
X	12717m001	noto	7543	4934529.012	1321133.178	3806522.587	0.014	0.016	0.003	47160	48743	1061	
V	12717m001	noto	7543	-0.01390	0.02020	0.01100	0.0000	0.0000	0.0000	48743	1061		
X	12706m001	lampedusa	7544	5072832.053	1130886.273	3684837.036	0.044	0.054	0.011	47160	47975	1840	
V	12706m001	lampedusa	7544	-0.00750	0.02450	0.03010	0.0124	0.0119	0.0061	47975	1840		
X	12725m002	cagliari(punta	7545	4893398.086	772673.283	4004140.984	0.022	0.024	0.003	47160	48298	2247	
V	12725m002	cagliari(punta	7545	-0.01610	0.01860	0.01200	0.0074	0.0060	0.0040	48298	2247		
X	12711m002	bologne	7546	4461399.672	919566.894	4449510.524	0.102	0.102	0.017	47160	47310	9	
V	12711m002	bologne	7546	-0.01420	0.01920	0.01020	0.0000	0.0000	0.0000	47310	9		
X	12718m002	trieste(basoviz	7550	4336738.549	1071271.362	4537911.096	0.251	0.287	0.058	47160	47126	1162	
V	12718m002	trieste(basoviz	7550	-0.02050	-0.00370	0.01480	0.0407	0.0385	0.0164	47126	1162		
X	12302m001	riga	7560	3183914.387	1421473.386	5322796.753	0.097	0.039	0.017	47160	48507	46	
V	12302m001	riga	7560	-0.01800	0.01590	0.00650	0.0000	0.0000	0.0000	48507	46		
X	12337m001	simeiz	7561	3783746.674	2551362.513	4441445.048	0.013	0.013	0.007	47160	48563	36	
V	12337m001	simeiz	7561	-0.01950	0.01700	0.00680	0.0000	0.0000	0.0000	48563	36		
X	20801m001	diyarbakir	7575	3848635.888	3251760.922	3898909.162	0.067	0.070	0.045	47160	47351	887	
V	20801m001	diyarbakir	7575	-0.03800	0.00400	0.00310	0.0196	0.0174	0.0104	47351	887		
X	20803m001	melengiclick	7580	4247620.483	2778638.870	3851607.515	0.021	0.028	0.015	47160	47929	2079	
V	20803m001	melengiclick	7580	-0.02080	-0.00810	0.00110	0.0069	0.0063	0.0047	47929	2079		
X	20802m001	yozgat	7585	4029730.684	2802093.145	4062068.053	0.027	0.030	0.016	47160	47906	1910	
V	20802m001	yozgat	7585	-0.00880	-0.00750	0.01580	0.0097	0.0088	0.0062	47906	1910		
X	20804m001	yigilca	7587	4117362.004	2517076.751	4157679.069	0.021	0.023	0.015	47160	47938	1972	
V	20804m001	yigilca	7587	-0.01680	-0.00530	0.00650	0.0064	0.0064	0.0048	47938	1972		
X	20805m001	ankara	7589	4121934.411	2652189.595	4069034.871	0.064	0.070	0.029	47160	49100	93	
V	20805m001	ankara	7589	-0.01900	0.01780	0.00760	0.0000	0.0000	0.0000	49100	93		
X	10302m002	tromso	7602	2102904.228	721602.403	5958201.272	0.059	0.030	0.014	47160	48134	38	
V	10302m002	tromso	7602	-0.01730	0.01310	0.00450	0.0000	0.0000	0.0000	48134	38		
X	10503s001	metsahovi	7805	2892595.313	1311807.443	5512610.932	0.039	0.024	0.022	47160	48201	2555	
V	10503s001	metsahovi	7805	-0.01810	0.01520	0.00590	0.0000	0.0000	0.0000	48201	2555		
X	14001s001	zimmerwald	7810	4331283.627	567549.553	4633139.966	0.006	0.006	0.001	47160	48044	3099	
V	14001s001	zimmerwald	7810	-0.01520	0.01930	0.01000	0.0021	0.0021	0.0012	48044	3099		
X	12205s001	borowiec	7811	3738333.014	1148246.381	5021815.788	0.027	0.020	0.007	47160	48745	1699	
V	12205s001	borowiec	7811	-0.01630	0.01750	0.00820	0.0000	0.0000	0.0000	48745	1699		
X	30101s001	helwan	7831	4728283.568	2879670.266	3156894.547	0.004	0.004	0.002	47160	48271	2612	
V	30101s001	helwan	7831	-0.02510	-0.01790	0.04540	0.0020	0.0019	0.0012	48271	2612		
X	14201s002	wettzell	7834	4075529.839	931781.316	4801618.146	0.008	0.007	0.002	47160	47372	1843	
V	14201s002	wettzell	7834	-0.05980	0.02910	-0.00510	0.0016	0.0018	0.0007	47372	1843		
X	10002s001	grasse	7835	4581691.760	556159.370	4389359.346	0.003	0.003	0.000	47160	48004	3114	
V	10002s001	grasse	7835	-0.01900	0.02010	0.00250	0.0009	0.0009	0.0006	48004	3114		
X	14106s009	potsdam	7836	3800639.849	881981.886	5028831.610	0.012	0.010	0.003	47160	49292	605	
V	14106s009	potsdam	7836	-0.02810	0.02510	-0.01360	0.0093	0.0109	0.0051	49292	605		
X	21605s001	shanghai	7837	-2831087.801	4676203.406	3275172.900	0.006	0.006	0.007	47160	48213	2724	
V	21605s001	shanghai	7837	-0.03120	-0.00940	-0.01270	0.0050	0.0044	0.0031	48213	2724		
X	21726m001	simosato	7838	-3822387.058	3699362.282	3507571.958	0.007	0.008	0.007	47160	47944	2995	
V	21726m001	simosato	7838	0.00430	0.00280	-0.00290	0.0023	0.0024	0.0014	47944	2995		
X	11001s002	graz	7839	4194426.688	1162693.870	4647246.553	0.003	0.003	0.001	47160	48021	3148	
V	11001s002	graz	7839	-0.01770	0.01830	0.00850	0.0009	0.0010	0.0006	48021	3148		
X	13212s001	herstmonceaux	7840	4033463.843	23662.320	4924305.060	0.001	0.002	0.000	47160	48021	3149	
V	13212s001	herstmonceaux	7840	-0.01220	0.01830	0.01030	0.0000	0.0000	0.0005	48021	3149		
X	50103s007	canberra	7843	-4446476.734	2678126.984	-3696251.618	0.003	0.003	0.002	47160	48713	1765	
V	50103s007	canberra	7843	-0.02470	-0.00600	0.05290	0.0019	0.0020	0.0011	48713	1765		
X	21732s002	chichijima	7844	-4491072.500	3481527.832	2887391.806	0.076	0.071	0.080	47160	47208	24	
V	21732s002	chichijima	7844	0.05090	0.05140	0.01720	0.0000	0.0000	0.0000	47208	24		
X	40442m008	fort davis	7850	-1330008.030	-5328391.453	3236502.757	0.005	0.004	0.007	47160	49063	82	
V	40442m008	fort davis	7850	-0.01300	-0.00060	-0.00640	0.0000	0.0000	0.0000	49063	82		
X	40439m004	owens vall	7853	-2410421.156	-4477800.260	3838690.285	0.056	0.053	0.049	47160	47772	650	
V	40439m004	owens vall	7853	-0.02010	0.03790	-0.03050	0.0182	0.0157	0.0127	47772	650		
X	40505m001	cabo san lucas	7882	-1997241.742	-5528041.295	2468355.286	0.011	0.006	0.012	47160	48391	2181	
V	40505m001	cabo san lucas	7882	-0.04520	0.02480	0.01890	0.0000	0.0000	0.0000	48391	2181		
X	40506m001	ensenada	7883	-2406126.741	-4898368.423	3290336.604	0.011	0.008	0.010	47160	48520	1726	
V	40506m001	ensenada	7883	-0.03450	0.03030	0.02000	0.0000	0.0000	0.0000	48520	1726		
X	42202s001	arequipa	7907	1942792.055	-5804077.608	-1796919.214	0.007	0.003	0.008	47160	47641	2387	
V	42202s001	arequipa	7907	0.00880	0.00230	0.01480	0.0016	0.0015	0.0006	47641	2387		
X	40451m120	greenbelt(washi	7918	1130705.362	-4831345.417	3994115.989	0.001	0.001	0.002	47160	48401	802	
V	40451m120	greenbelt(washi	7918	-0.01620	0.00070	0.00140	0.0031	0.0000	0.0008	48401	802		
X	40451m117	greenbelt(washi	7920	1130741.956	-4831369.741	3994076.158	0.002	0.002	0.003	47160	47984	363	
V	40451m117	greenbelt(washi	7920	-0.01650	0.00070	0.00130	0.0033	0.0000	0.0008	47984	363		
X	12734s001	matera	7939	4641965.050	1393069.925	4133262.265	0.005	0.005	0.002	47160	48018	3143	
V	12734s001	matera	7939	-0.01870	0.01990	0.01290	0.0012	0.0013	0.0008	48018	3143		
X	50103s003	canberra	7943	-4446476.588	2678126.880	-3696251.489	0.019	0.021	0.014	47160	46689	90	
V	50103s003	canberra	7943	-0.02470	-0.00600	0.05290	0.0022	0.0026	0.0007	46689	90		
X	13504m002	kootwijk	8833	3899237.875	396769.196	5015055.240	0.094	0.090	0.007	47160	47754	696	
V	13504m002	kootwijk	8833	-0.01280	0.02370	0.01480	0.0223	0.0226	0.0131	47754	696		
X	14201s018	wettzell	8834	4075577.014	931785.289	4801583.451	0.003	0.003	0.001	47160	48930	1331	
V	14201s018	wettzell	8834	-0.04140	0.02440	-0.01940	0.0019	0.0022	0.0008	48930	1331		

Attachment 5

Descripton of Inverse Matrix for GFZ SLR 1995 Station Coordinate Solution

1. Dimension of the symmetric inverse matrix: 386 times 386, lower triangle printed.

2. Sequence of elements ij printed:

First block: i = 1...386, j = 1...10.
(1 1,
2 1, 2 2,
3 1, 3 2, 3 3,
4 1, 4 2, 4 3, 4 4,
. . . . .
10 1, 10 2, ... 10 9, 10 10,
11 1, 11 2, ... 11 9, 11 10,
. . . . . .
386 1, ... 386 9, 386 10)

Second block: i = 11...386, j = 11...20.
(11 11,
12 11, 12 12,
13 11, 13 12, 13 13,
. . . . . .
20 11, ... 20 19, 20 20,
21 11, ... 21 19, 21 20,
. . . . . 386 20)

Third block: i = 21...386, j = 21...30.
(same scheme)
.....
38th block: i = 371...386, j = 371...380.
Last block: i = 381...386, j = 381...386.

3. Sequence of Unknowns:

No.	1 to 6		special unknowns
No.	7 to 12	1181	h0, lambda0, phi0; hdot, lambdadot, phidot.
No.	13 to 18	1864	h0, lambda0, phi0; hdot, lambdadot, phidot.
No.	19 to 21	1873	h0, lambda0, phi0.
No.	22 to 24	1884	h0, lambda0, phi0.
No.	25 to 27	1893	h0, lambda0, phi0.
No.	28 to 30	1953	h0, lambda0, phi0.
No.	31 to 36	7035	h0, lambda0, phi0; hdot, lambdadot, phidot.
	37 to 42	7046	h0, lambda0, phi0; hdot, lambdadot, phidot.
	43 to 48	7080	h0, lambda0, phi0; hdot, lambdadot, phidot.
	49 to 54	7086	h0, lambda0, phi0; hdot, lambdadot, phidot.

Attachment 5

Description of Inverse Matrix for GPS SLR 1998 Station Coordinate Solution

1. Dimension of the symmetric inverse matrix: 386 times 386, lower triangle printed

2. Sequence of elements ij printed

First block: i = 1..386, j = 1..10,
(1 1,
2 1, 2 2,
3 1, 3 2, 3 3,
4 1, 4 2, 4 3, 4 4,
....
10 1, 10 2, ... 10 9, 10 10
11 1, 11 2, ... 11 9, 11 10,
....
386 1, ... 386 9, 386 10)

Second block: i = 11..386, j = 11..20
(11 11,
12 11, 12 12,
13 11, 13 12, 13 13,
....
20 11, ... 20 19, 20 20,
21 11, ... 21 19, 21 20,
386 20)
....

Third block: i = 21..386, j = 21..30,
(same scheme)

38th block: i = 371..386, j = 371..380,
Last block: i = 381..386, j = 381..386

3. Sequence of Unknowns:

No. 1 to 6		special unknowns	
No. 7 to 12	1181	b0, lambda0, phi0; bdot, lambdadot, phidot	
No. 13 to 18	1864	b0, lambda0, phi0; bdot, lambdadot, phidot	
No. 19 to 21	1873	b0, lambda0, phi0	
No. 22 to 24	1884	b0, lambda0, phi0	
No. 25 to 27	1893	b0, lambda0, phi0	
No. 28 to 30	1953	b0, lambda0, phi0	
No. 31 to 36	7035	b0, lambda0, phi0; bdot, lambdadot, phidot	
37 to 42	7046	b0, lambda0, phi0; bdot, lambdadot, phidot	
43 to 48	7080	b0, lambda0, phi0; bdot, lambdadot, phidot	
49 to 54	7086	b0, lambda0, phi0; bdot, lambdadot, phidot	

55 to 60	7090	h0, lambda0, phi0; hdot, lambdadot, phidot.
61 to 66	7091	h0, lambda0, phi0; hdot, lambdadot, phidot.
67 to 72	7097	h0, lambda0, phi0; hdot, lambdadot, phidot.
73 to 76	7105	h0, lambda0; hdot, lambdadot.
77 to 82	7109	h0, lambda0, phi0; hdot, lambdadot, phidot.
83 to 88	7110	h0, lambda0, phi0; hdot, lambdadot, phidot.
89 to 94	7112	h0, lambda0, phi0; hdot, lambdadot, phidot.
95 to 100	7122	h0, lambda0, phi0; hdot, lambdadot, phidot.
101 to 106	7123	h0, lambda0, phi0; hdot, lambdadot, phidot.
107 to 112	7210	h0, lambda0, phi0; hdot, lambdadot, phidot.
113 to 115	7236	h0, lambda0, phi0.
116 to 118	7237	h0, lambda0, phi0.
119 to 124	7288	h0, lambda0, phi0; hdot, lambdadot, phidot.
125 to 127	7295	h0, lambda0, phi0.
128 to 133	7401	h0, lambda0, phi0; hdot, lambdadot, phidot.
134 to 139	7403	h0, lambda0, phi0; hdot, lambdadot, phidot.
140 to 142	7410	h0, lambda0, phi0.
143 to 145	7411	h0, lambda0, phi0.
146 to 148	7501	h0, lambda0, phi0.
149 to 151	7502	h0, lambda0, phi0.
152 to 157	7510	h0, lambda0, phi0; hdot, lambdadot, phidot.
158 to 163	7512	h0, lambda0, phi0; hdot, lambdadot, phidot.
164 to 169	7515	h0, lambda0, phi0; hdot, lambdadot, phidot.
170 to 175	7517	h0, lambda0, phi0; hdot, lambdadot, phidot.
176 to 181	7520	h0, lambda0, phi0; hdot, lambdadot, phidot.
182 to 187	7525	h0, lambda0, phi0; hdot, lambdadot, phidot.
188 to 193	7530	h0, lambda0, phi0; hdot, lambdadot, phidot.
194 to 199	7540	h0, lambda0, phi0; hdot, lambdadot, phidot.
200 to 205	7541	h0, lambda0, phi0; hdot, lambdadot, phidot.
206 to 208	7542	h0, lambda0, phi0.
209 to 211	7543	h0, lambda0, phi0.
212 to 217	7544	h0, lambda0, phi0; hdot, lambdadot, phidot.
218 to 223	7545	h0, lambda0, phi0; hdot, lambdadot, phidot.
224 to 226	7546	h0, lambda0, phi0.
227 to 232	7550	h0, lambda0, phi0; hdot, lambdadot, phidot.
233 to 235	7560	h0, lambda0, phi0.
236 to 238	7561	h0, lambda0, phi0.
239 to 244	7575	h0, lambda0, phi0; hdot, lambdadot, phidot.
245 to 250	7580	h0, lambda0, phi0; hdot, lambdadot, phidot.
251 to 256	7585	h0, lambda0, phi0; hdot, lambdadot, phidot.
257 to 262	7587	h0, lambda0, phi0; hdot, lambdadot, phidot.
263 to 265	7589	h0, lambda0, phi0.
266 to 268	7602	h0, lambda0, phi0.
269 to 271	7805	h0, lambda0, phi0.
272 to 277	7810	h0, lambda0, phi0; hdot, lambdadot, phidot.
278 to 280	7811	h0, lambda0, phi0.
281 to 286	7831	h0, lambda0, phi0; hdot, lambdadot, phidot.
287 to 292	7834	h0, lambda0, phi0; hdot, lambdadot, phidot.
293 to 298	7835	h0, lambda0, phi0; hdot, lambdadot, phidot.

299 to 304 7836 h0, lambda0, phi0; hdot, lambdadot, phidot.
305 to 310 7837 h0, lambda0, phi0; hdot, lambdadot, phidot.
311 to 316 7838 h0, lambda0, phi0; hdot, lambdadot, phidot.
317 to 322 7839 h0, lambda0, phi0; hdot, lambdadot, phidot.
323 to 324 7840 h0; hdot.
325 to 330 7843 h0, lambda0, phi0; hdot, lambdadot, phidot.
331 to 333 7844 h0, lambda0, phi0.
334 to 336 7850 h0, lambda0, phi0.
337 to 342 7853 h0, lambda0, phi0; hdot, lambdadot, phidot.
343 to 345 7882 h0, lambda0, phi0.
346 to 348 7883 h0, lambda0, phi0.
349 to 354 7907 h0, lambda0, phi0; hdot, lambdadot, phidot.
355 to 358 7918 h0, lambda0; hdot, lambdadot.
359 to 362 7920 h0, lambda0; hdot, lambdadot.
363 to 368 7939 h0, lambda0, phi0; hdot, lambdadot, phidot.
369 to 374 7943 h0, lambda0, phi0; hdot, lambdadot, phidot.
375 to 380 8833 h0, lambda0, phi0; hdot, lambdadot, phidot.
381 to 386 8834 h0, lambda0, phi0; hdot, lambdadot, phidot.

Attachment 6

Inverse Matrix for GFZ SLR 1995 Station Coordinate Solution

First and Last Page as Example

symmetrical matrix (386,386)

```
   1.parameter
 0.1037D+09
 0.3219D+07 0.3507D+08
 0.2558D+01 0.2253D-01 0.1128D-04
-0.1064D+01 0.5710D-01-0.1019D-06 0.1574D-05
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