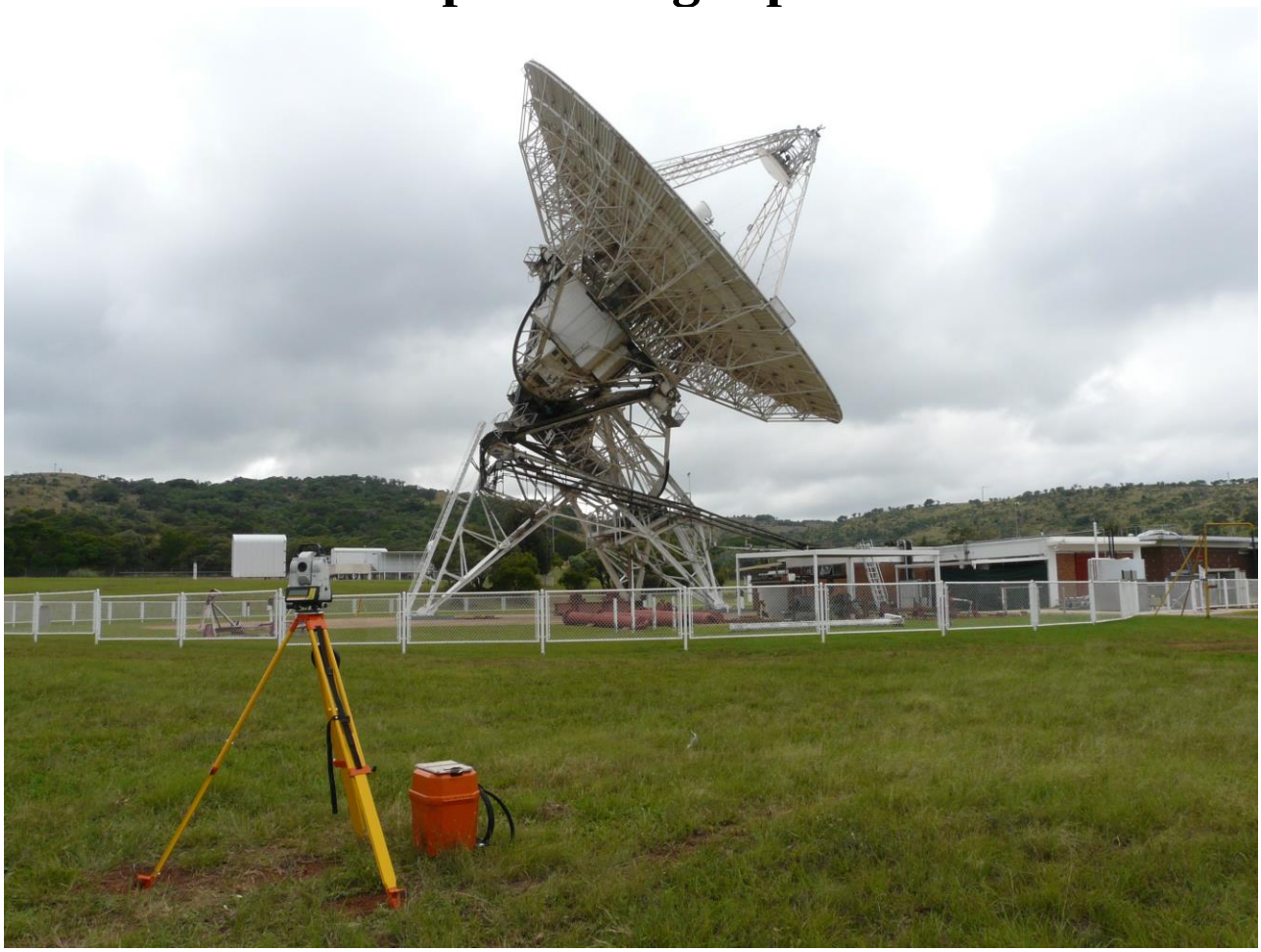
SERVICE
DE GEODESIE
ET DE METROLOGIE

J.-M. Muller, D. Pesce and X. Collilieux

2014 Hartebeesthoek co-location survey reprocessing report



DIFFUSION OUVERTE

DT n° et version 600828678-01
Date de création 18/12/2020

1 Context

A local tie survey was carried out at Hartebeesthoek (South Africa) in February 2014. The details of the survey as well as the result of the adjustment of observations were reported in Muller and Poyard (2014). The original computation of the survey data was done in 2014 with IGN homemade software Comp3D version 4.3. A distinct processing was made for each sub-site: the "satellite application center" which hosts a DORIS and HARV GNSS stations and the "Hartebeesthoek Radio Astronomy Observatory" which hosts the two VLBI telescope, the SLR and LLR stations and the HRAO GNSS station. In May 2020, the precision of the distance between VLBI axes (axis offset) was requested by the International VLBI Service and Hartebeesthoek observatory for VLBI data analysis purposes.

In the 2014 data processing, only the positions of targets on telescopes were computed by topometry. The axis position and orientation were then estimated thanks to a Matlab script, and the results re-integrated in the Comp3D computation as sub-frames in order to get the relative position between instruments. As a consequence, the parameter covariances could not be correctly transferred between all those computations and the results were too optimistic.

The new version of Comp3D (version 5.19) has many new rigorous features that may justify a new computation: full integration of axis determination in least square adjustments, rigorous axis combination constraints, vertical deflection corrections, georeferencing and distance precision extraction. This report briefly describes a new reprocessing of the "Hartebeesthoek Radio Astronomy Observatory" local tie vectors determined during the 2014 survey data using this software. The "satellite application center" sub-site observations have not been readjusted.

2 Georeferencing

In the processing done by Muller and Poyard (2014), coordinates were first processed in a local frame and then transformed into a geocentric frame using an external Matlab script. The new adjustment was carried out in one single computation, including the georeferencing step. All the computation was done in planar coordinates (UTM 35 S projection), and considered vertical deflection. GNSS observations were also reprocessed.

The georeferencing was defined by:

- HRAO GNSS station position in IGS14 frame at epoch 2014.16 (coordinates from IGS weekly solution: igs14P1781.ssc)
- Orientation:
    - Based on 3 azimuths (P1 to P12; P6 to P12 and HRAO to P12). Those were computed from point coordinates observed by GNSS and reprocessed with Infinity (Leica software). The IGS final orbits were used as well as the IGS antenna phase center offset files (igs14.atx). HRAO and HARB coordinates, that are fixed for these computations were extracted from the igs14P1781.ssc file.
    - Vertical deflection computed from EGM08. The interpolation on each point was done with ICGEM website computation service (ICGEM, 2020).

3 HRAO determination

The antenna was observed from four stations by recording horizontal and vertical angles. The point aimed (G100) was located on the top of the ring along the vertical axis (see figure 1 below).

In addition, the antenna was leveled at 4 points located on the top of the external ring. Those points are named GN, GS, GW and GE for the process. They are respectively on the North, South, West and East side of the antenna. The leveling observations show that the antenna plane was not horizontal. A 6mm height difference was found between points GN and GS and, respectively 5mm between points GW and GE.

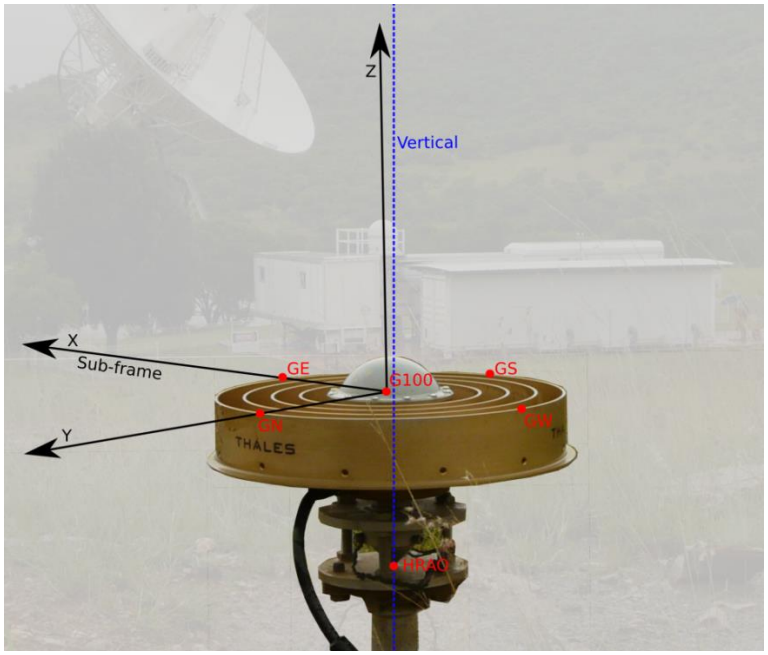


Fig. 1 schema of the points of the antenna

HRAO reference point is 0.182m under point G100 supposed at the same vertical but the tilt of the antenna causes a 2D eccentricity of about 4.4mm.

To account for this in the data adjustment, a Cartesian sub-frame was created. It is defined by the coordinates of some points located of the antenna in an antenna-fixed frame centered on point G100:

points	X (m)	Y (m)	Z (m)
G100	0.000	0.000	0.000
GN	0.000	0.1745	0.000
GS	0.000	-0.1745	0.000
GE	0.1745	0.000	0.000
GW	-0.1745	0.000	0.000
HRAO	0.000	0.000	-0.182

Tab. 1 Antenna points coordinates in the Cartesian sub-frame (0.1745 m is the radius of the external ring)

A 6-parameter transformation was adjusted between the coordinates in the antenna-fixed frame and the coordinates in the frame of the data adjustment using all available observations. The following constraints were added to allow this estimation:

- the Easting coordinates of points GN and GS are supposed equal;
- the Northing coordinates of points GE and GW are supposed equal;
- the coordinates of points HRAO are known.

The norm of the estimated rotation vector is 1.56 gon which means that the antenna was tilted by 1.56 gon.

4 Axis determination

In 2014 survey, SLR, LLR and VLBI telescope reference points were surveyed using an indirect method. Targets were put on the telescopes and their 3D positions were determined when the telescopes were oriented in several directions. The same target has a different label as a function of the telescope position during the survey in the data adjustment. When the telescope rotates, the targets move along a circle. Using every target circle, the axis parameters can be determined.

For each axis to be determined, an ".axe" file was created[1]. In each file, the number of targets and the instrument positions corresponding to each surveyed point are reported, see figure 2.

The least square computation software uses these configuration files and adds constraints corresponding to circle radius stability and circle orthogonality to the axis, as described in previous report by Muller and Poyard (2014).

The axis is defined as an origin point and one vector. The vector has only two degrees of freedom (the axis orientation). Therefore one component of the vector (the largest) is fixed to 1. The point also has only two degrees of freedom (the axis translation). The point cannot be determined in the axis direction based on target observations, this is why an external constraint is needed (hence the last line of the example above).

[1] *The following files were created: LLR_HZ.axe, SLR_HZ.axe, V15_HZ.axe, V15_VERT.axe, V26_HZ.axe, V26_VERT.axe. See section 4.1 for a description of the naming convention.*

```
*target pos    pt    sigma_radius sigma_perp
1      1   SL101     0.0003      0.0003
2      1   SL102     0.0003      0.0003
3      1   SL103     0.0003      0.0003
4      1   SL104     0.0003      0.0003
1      2   SL201     0.0003      0.0003
2      2   SL202     0.0003      0.0003
3      2   SL203     0.0003      0.0003
4      2   SL204     0.0003      0.0003
5      2   SL205     0.0003      0.0003
1      3   SL301     0.0003      0.0003
2      3   SL302     0.0003      0.0003
3      3   SL303     0.0003      0.0003
4      3   SL304     0.0003      0.0003
1      4   SL401     0.0003      0.0003
2      4   SL402     0.0003      0.0003
3      4   SL403     0.0003      0.0003
4      4   SL404     0.0003      0.0003
5      4   SL405     0.0003      0.0003
L SL
```

Fig. 2 Example of configuration file (".axe" file) for telescope axis determination. Here on MOBLAS there are 5 targets and 4 instrument positions to determine the horizontal axis. When the instrument was in position 1, the 3rd target was measured as point SL103. The last line means "the axis origin point is the orthogonal projection of point SL on the axis". Note that SL is another surveyed point, see section 4.2.

5 Axis combination

Telescope axis pseudo-intersection point is classically determined as the orthogonal projection of the horizontal axis on the vertical one. However axes might not intersect perfectly. Thus in the computation, reference points are defined as the orthogonal projection of the horizontal axis (secondary axis) on the vertical axis (primary axis), see figure 3.

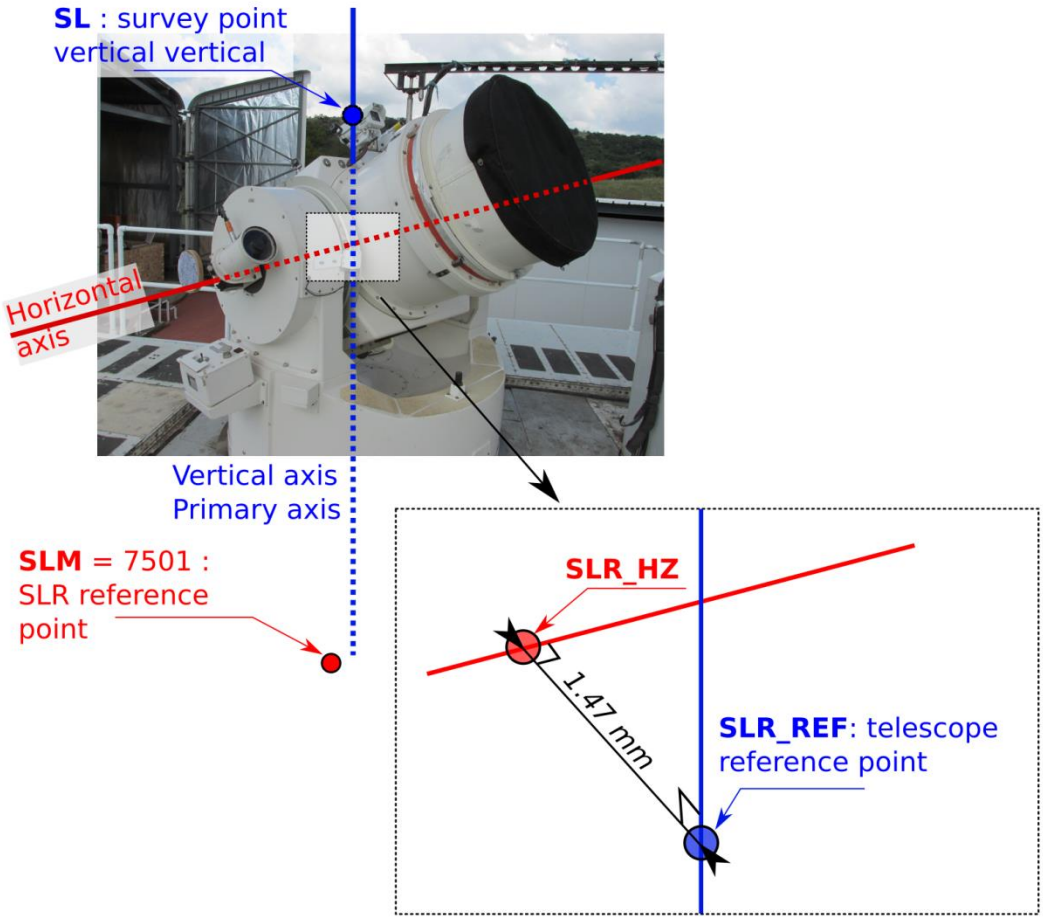


Fig. 3 SLR axes with survey points, bold names are the ones used for the computation.

5.1 Reference point definition

Example:
The reference point of the VLBI antenna is named V26_VERT, it is the orthogonal projection of the secondary axis on the primary axis. This point is defined in the software as the origin point of the primary axis. Thus, its coordinates can be directly estimated in the adjustment. The following lines explain how the software was parameterized.
Two axes were determined, called HZ for horizontal and VERT for vertical in Comp3D observations files (it is only a naming convention, for the 26m antenna there is no real vertical axis). The main observation file includes a reference to the two ".axe" files:

18 V26_HZ @V26_HZ.axe
18 V26_VERT @V26_VERT.axe

Meaning: "axis (code 18), based on the origin point defined here to be V26_HZ, using data in V26_HZ.axe file". In V26_HZ.axe file, respectively 26_VERT.axe, the last line "L V26_VERT", respectively "L 26_HZ", means that each axis origin point is the orthogonal projection of the other on its axis.

5.2 Focus on the SLR (MOBLAS) reference point

The computation report shows the determined axis parameters in local Cartesian frame as shown in table 1.

Axis parameterization			
1.00000 ± 0.00097		-80.23846	
-0.68410 ± 0.00110	* λ +	44.27657	
-0.00135 ± 0.00071		1410.01123	
Target ID	**Abscissa**	**Radius**	**Positions**
1	-0.27239	0.66568	4
2	-0.13788	0.73809	4
3	-0.73581	0.25815	4
4	-0.09843	0.77696	4
5	-0.90578	0.00167	2

Tab. 3 Horizontal axis of the SLR mount (SLR_HZ.axe)

For SLR vertical axis determination, another method was used: the point SL is physically set on the axis thanks to a translation stage – see section 3.5.2 of Muller and Poyard (2014) - and the axis is supposed vertical. Thus, the vertical axis was implicitly defined by SL horizontal coordinates. Only the horizontal axis was determined by rotating the telescope.

The SLR axes were found not to intersect perfectly. The computation gives a distance of 1.5 ±0.6 mm between the two axes, see figure 2.

The reference point of SLR MOBLAS, named SLR_REF, was defined as the combination of:

- SL horizontal position
- Vertical coordinate of the orthogonal projection of SL on the horizontal axis named SLR_HZ (determined with an .axe file).

The SLR official reference point is a geodetic marker under the telescope named SLM (more information in *Muller and Poyard (2014)).*

The estimated vector from the axis pseudo-intersection (projection of the horizontal axis on the vertical axis) to the reference mark is slightly different from the eccentricity provided by the International Laser Ranging Service (https://cddis.nasa.gov/archive/slr/slrocc/ecc_xyz_200420.snx), see Table 2.

	ΔX (m)	**ΔY (m)**	**ΔZ (m)**
From 2020 processing	2.5702	1.3406	-1.4102
From ecc_xyz.snx	2.5720	1.3420	-1.4120
Difference (mm)			
	1.8	1.4	-1.8

Tab.4 eccentricities between MOBLAS telescope reference point and the reference mark

The SINEX file includes both points, reference marker (7501) and the SLR axes pseudo-intersection (SLR_).

6 Distance precision

A new tool integrated in Comp3D enables to compute the distance between points and its standard deviation.

The results for the distances between the axes of each instrument are (in meters):

- V15_HZ - V15_VERT: 3D dist = 1.4901 +/- 0.0013 (1σ);
- V26_HZ - V26_VERT: 3D dist = 6.6945 +/- 0.0007 (1σ);

The axis offset of the 15m radio telescope is **1.4901m** +/- 0.0013m (1σ). And the axis offset of the 25m radio telescope is **6.6945m** +/- 0.0007m (1σ).

7 Observations weights

The observations weights were reviewed for this new adjustment.

2014 computation

- Horizontal angles: 0.0008 gon + 0.0000m target definition
- Vertical angles: 0.0012 gon + 0.0000m target definition
- Distances: 0.0010m + 0 PPM

2020 computation

- Horizontal angles: 0.0008 gon + 0.0001m target definition
- Vertical angles: 0.0014 gon + 0.0001m target definition
- Distances: 0.0007m + 2 PPM
- Targets stability: 0.0006m on 26m antenna, 0.0003m on 15m antenna, 0.0005m on LLR support, 0.0003m on SLR.

8 Final results

8.1 Estimated coordinates

The results of the adjustment are the coordinates of all points and their precisions in the IGS14 at epoch of the observations (i.e. epoch 2014.16).

Tables 5 and 6 provide the estimated 3D coordinates and their standard deviations.

Cartesian Coordinates IGS14 epoch 2014.16

Point	X (m)	Y (m)	Z (m)
HRAO	5085352.4521	2668396.0161	-2768731.3850
V15 ref. pt.	5085490.7805	2668161.5250	-2768692.5967
V26 ref. pt.	5085442.7467	2668263.8269	-2768696.7206
SLR ref. pt. (marker)	5085401.0816	2668330.4289	-2768688.5882
SLR axes intersection	5085403.6517	2668331.7695	-2768689.9983
LLR ref. pt.	5085404.8648	2668339.4079	-2768681.2777

Tab. 5 Final reprocessed coordinates of the instrument reference points

Cartesian Coordinate Standard Deviations IGS14 epoch 2014.16

Point	σ_X (mm)	σ_Y(mm)	σ_Z (mm)
HRAO	0.01	0.01	0.01
V15 ref. pt.	2.40	2.62	6.19
V26 ref. pt.	1.50	1.80	4.64
SLR ref. pt.	1.13	1.58	2.35
SLR axes intersection	1.09	1.57	2.35
LLR ref. pt.	1.03	1.72	2.27

Tab. 6 Final reprocessed standard deviation of the instrument reference point coordinates

Table 7 reports the differences between the reprocessed coordinates and the previous release in local Cartesian frame. A 6-parameter transformation has been adjusted and removed based on the coordinates of every pier in the two calculations.

Point	X (mm)	Y (mm)	Z (mm)
HRAO	2.9	-3.8	3.5
V15 ref. pt.	3.1	0.9	-0.6
V26 ref. pt.	-0.1	-0.6	0.0
SLR ref. pt.	0.1	-0.8	-1.4
SLR axes intersection	0.4	0.3	-0.5
LLR ref. pt.	-0.4	0.3	-0.5
P6	0.1	-0.1	-1.0
P10	-0.6	-0.1	2.9
P12	-0.7	-1.6	0.3

Tab. 7 Local coordinates differences wrt 2014 survey from Muller and Poyard (2014)

Table 8 reports the differences between the reprocessed coordinates and the previous release in geocentric Cartesian frame (without adjusting a transformation).

Point	X (mm)	Y (mm)	Z (mm)
HRAO	0.0	0.0	0.0
V15 ref. pt.	-0.5	-3.3	4.9
V26 ref. pt.	-0.5	-3.3	5.0
SLR ref. pt.	-9.9	-6.3	6.5
SLR axes intersection	0.0	-2.7	6.3
LLR ref. pt.	-1.0	-4.3	3.0
P6	-0.5	-3.3	4.9
P10	0.1	-3.2	4.6
P12	-0.4	-3.6	4.8

Tab. 8 geo-referenced coordinates differences wrt 2014 survey from Muller and Poyard (2014)

It can be deduced from tables 7 and 8 that the coordinate differences are due to geo-referencing since differences are smaller in table 7 but also to computation changes (weights on observations, axe combination methods). For each of those, the new computation is more accurate thanks to the new features of Comp3D.

8.2 Variance-covariance matrix

The variance-covariance matrix of the whole set of parameters was computed. The variance-covariance matrix of instrument reference point coordinates has been extracted from it and reported in SINEX format using the « geotosnx » tool provided by Z. Altamimi (IPGP, IGN).

The resulting SINEX file (30302_IGN_2014-058_v20.SNX) is provided below. The version number of the SINEX file has been incremented by ten compared to the previous SINEX file (30302_IGN_2014-058_v10.SNX).

```
%=SNX 1.00 IGN 21:028:00000 IGN 14:058:00000 14:058:00000 C 00015
*-------------------------------------------------------------------------------
+FILE/COMMENT
* File created by geotosnx software (Z.Altamimi)
* Original input file: .\hrao-comp.cov
* Matrix Scalling Factor used:         1.0000000000
-FILE/COMMENT
*-------------------------------------------------------------------------------
+SITE/ID
*CODE PT __DOMES__ T _STATION DESCRIPTION__ APPROX_LON_ APPROX_LAT_ _APP_H_
 7378  A 30302S009   30302S009               27 41 03.3 -25 53 23.0  1409.4
 7232  A 30302S001   30302S001               27 41 07.4 -25 53 23.0  1415.7
 SLR_  A 30302S???   30302S???               27 41 10.2 -25 53 22.9  1410.0
 HRAO  A 30302M004   30302M004               27 41 13.1 -25 53 24.3  1414.2
 7501  A 30302M003   30302M003               27 41 10.2 -25 53 22.9  1406.8
-SITE/ID
*-------------------------------------------------------------------------------
+SOLUTION/EPOCHS
*Code PT SOLN T Data_start__ Data_end____ Mean_epoch__
-SOLUTION/EPOCHS
*-------------------------------------------------------------------------------
+SOLUTION/ESTIMATE
*INDEX TYPE__ CODE PT SOLN _REF_EPOCH__ UNIT S __ESTIMATED VALUE____ _STD_DEV___
     1 STAX   7378  A    1 14:058:00000 m    2 0.508549078054000E+07 0.23926E-02
     2 STAY   7378  A    1 14:058:00000 m    2 0.266816152496000E+07 0.26228E-02
     3 STAZ   7378  A    1 14:058:00000 m    2 -.276869259665000E+07 0.61887E-02
     4 STAX   7232  A    1 14:058:00000 m    2 0.508544274658000E+07 0.15001E-02
```

```
     5 STAY   7232  A    1 14:058:00000 m    2 0.266826382688000E+07 0.18011E-02
     6 STAZ   7232  A    1 14:058:00000 m    2 -.276869672059000E+07 0.46408E-02
     7 STAX   SLR_  A    1 14:058:00000 m    2 0.508540365172000E+07 0.10887E-02
     8 STAY   SLR_  A    1 14:058:00000 m    2 0.266833176953000E+07 0.15669E-02
     9 STAZ   SLR_  A    1 14:058:00000 m    2 -.276868999832000E+07 0.23506E-02
    10 STAX   HRAO  A    1 14:058:00000 m    2 0.508535245211000E+07 0.10000E-04
    11 STAY   HRAO  A    1 14:058:00000 m    2 0.266839601612000E+07 0.10000E-04
    12 STAZ   HRAO  A    1 14:058:00000 m    2 -.276873138502000E+07 0.10000E-04
    13 STAX   7501  A    1 14:058:00000 m    2 0.508540108155000E+07 0.11322E-02
    14 STAY   7501  A    1 14:058:00000 m    2 0.266833042894000E+07 0.15823E-02
    15 STAZ   7501  A    1 14:058:00000 m    2 -.276868858815000E+07 0.23534E-02
-SOLUTION/ESTIMATE
*-------------------------------------------------------------------------------
+SOLUTION/MATRIX_ESTIMATE L COVA
*PARA1 PARA2 ____PARA2+0_________ ____PARA2+1_________ ____PARA2+2_________
     1     1 0.572429740394000E-05
     2     1 0.458440222005000E-05 0.687882646644000E-05
     3     1 0.127901268146000E-04 0.134943139317000E-04 0.383000493811000E-04
     4     1 0.305229821405000E-05 0.260669773973000E-05 0.664729337691000E-05
     4     4 0.225042932862000E-05
     5     1 0.358508522325000E-05 0.398371557820000E-05 0.944044962436000E-05
     5     4 0.203232220434000E-05 0.324402091436000E-05
     6     1 0.762102702494000E-05 0.773343770018000E-05 0.222017904087000E-04
     6     4 0.421470120022000E-05 0.571198197788000E-05 0.215369936453000E-04
     7     1 0.145616755733000E-05 0.914320504552000E-06 0.210526884532000E-05
     7     4 0.118187907729000E-05 0.765347602688000E-06 0.146975819304000E-05
     7     7 0.118535604681000E-05
     8     1 0.308049367493000E-05 0.346082940354000E-05 0.802687144250000E-05
     8     4 0.172218357914000E-05 0.265287353769000E-05 0.482400751566000E-05
     8     7 0.727656002150000E-06 0.245514905414000E-05
     9     1 0.416653225798000E-05 0.409757361972000E-05 0.124515074102000E-04
     9     4 0.238262405827000E-05 0.303157711649000E-05 0.823957607674000E-05
     9     7 0.102653445734000E-05 0.258793225820000E-05 0.552554743806000E-05
    10     1 0.999979673302000E-10 0.269350572249000E-14 -.113618231444000E-14
    10     4 0.999987591963000E-10 0.152182348021000E-14 -.902169643606000E-15
    10     7 0.999992034122000E-10 0.622524418695000E-15 -.773976948623000E-15
    10    10 0.999999999936000E-10
    11     1 -.321875360947000E-15 0.100002165017000E-09 0.135618066855000E-14
    11     4 -.209778568104000E-15 0.100001370592000E-09 0.763903802845000E-15
    11     7 -.199991126212000E-15 0.100000831865000E-09 0.338317264860000E-15
    11    10 0.266204815695000E-20 0.100000000011000E-09
    12     1 0.107390954544000E-14 -.140853665214000E-14 0.100000676622000E-09
    12     4 0.609246933126000E-15 -.786650870036000E-15 0.100000474299000E-09
    12     7 0.322351992026000E-15 -.298993184027000E-15 0.100000355619000E-09
    12    10 -.919735014514000E-20 0.986866214219000E-20 0.999999999984000E-10
    13     1 0.145564247179000E-05 0.909896717443000E-06 0.210053591646000E-05
    13     4 0.118325373598000E-05 0.763554254621000E-06 0.147026194763000E-05
    13     7 0.102979651733000E-05 0.706520679387000E-06 0.100631376733000E-05
    13    10 0.999991739116000E-10 -.186183977005000E-15 0.360090867762000E-15
    13    13 0.128186278599000E-05
    14     1 0.307549291502000E-05 0.345599262472000E-05 0.801465674857000E-05
    14     4 0.171952100162000E-05 0.264916425656000E-05 0.481570012716000E-05
    14     7 0.699338127950000E-06 0.234598791282000E-05 0.260498511410000E-05
    14    10 0.552404784040000E-15 0.100000922501000E-09 -.371313455548000E-15
    14    13 0.745151078732000E-06 0.250368417304000E-05
    15     1 0.416233726261000E-05 0.408700804373000E-05 0.124354727589000E-04
    15     4 0.238339636903000E-05 0.302729929438000E-05 0.823536715736000E-05
    15     7 0.100764986557000E-05 0.260071411779000E-05 0.534687858234000E-05
    15    10 -.988903225687000E-15 0.550684452104000E-15 0.100000287690000E-09
    15    13 0.993975991770000E-06 0.256186736678000E-05 0.553866034653000E-05
-SOLUTION/MATRIX_ESTIMATE L COVA
%ENDSNX
```

Fig. 2 Reprocessed SINEX file

9 References

- ICGEM (2020), International Centre for Global Earth Models (ICGEM) calculation service, http://icgem.gfz-potsdam.de/calcpoints, computation made in June 2020.
- Muller J-M, Poyard J-C, 2014, Hartebeesthoek local tie survey, IGN report n°28519, version 1.

Annex: Comp3D computation report

Comp3D
Hrao

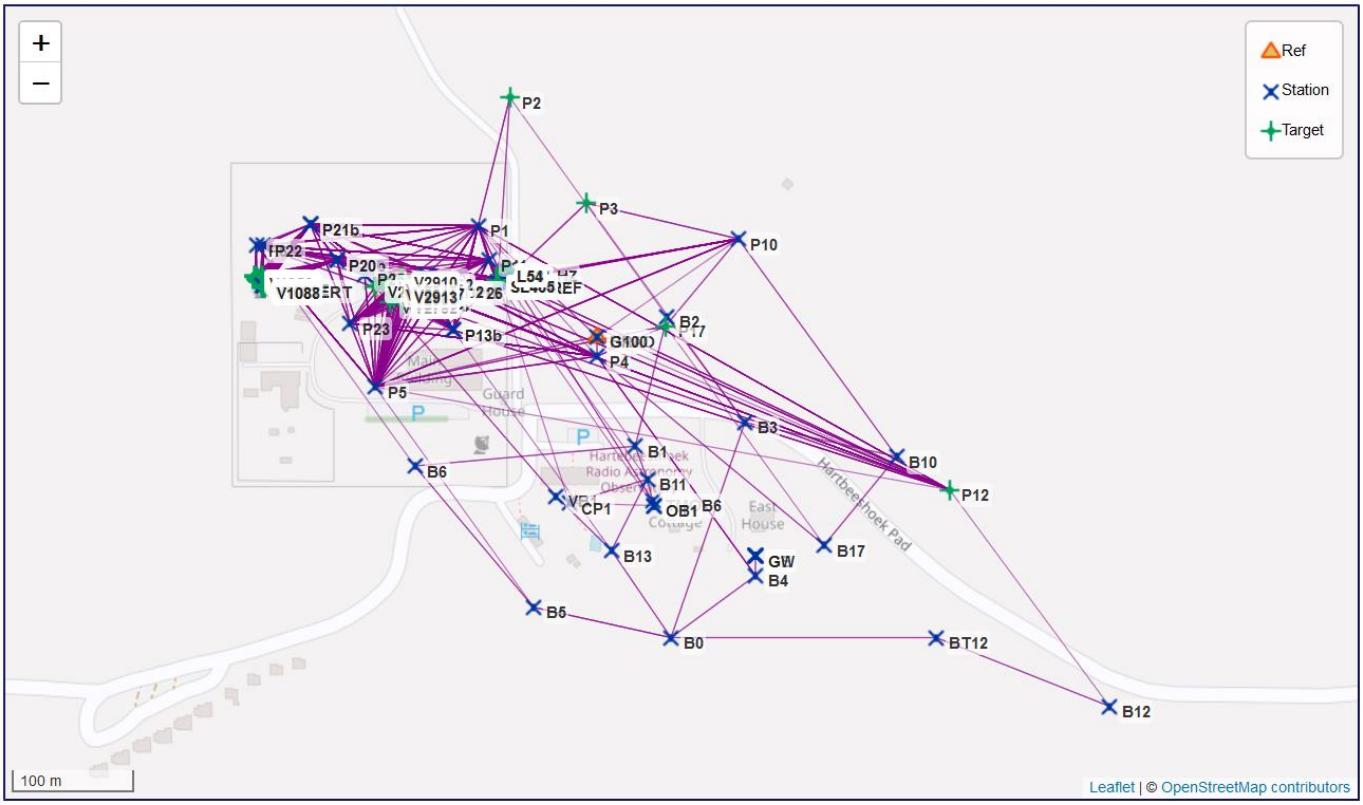
Version: Comp3D v5.19

Commit: v5.19

Options: QT GUI SIM RES AUTO

Project configuration

Name: hrao
Root COR file:coord.cor
Root OBS file:obs.obs
Unit:Grad
Decimal places number:5
Computation nature:Compensation
Normal matrix inversion:Yes
Internal constraints:No
Refraction coefficient:0.12000
Georeferencing:Yes
Projection definition:epsg:32735
Projection center:E=568816 N=7136306
Convergence criterion:0.001000
Maximum iterations:100
Ellipsoidal heights:Yes
Additional iterations:5
Initialization with CAP:Yes
Gauss-Jordan elimination:No
Kernel computation:Yes

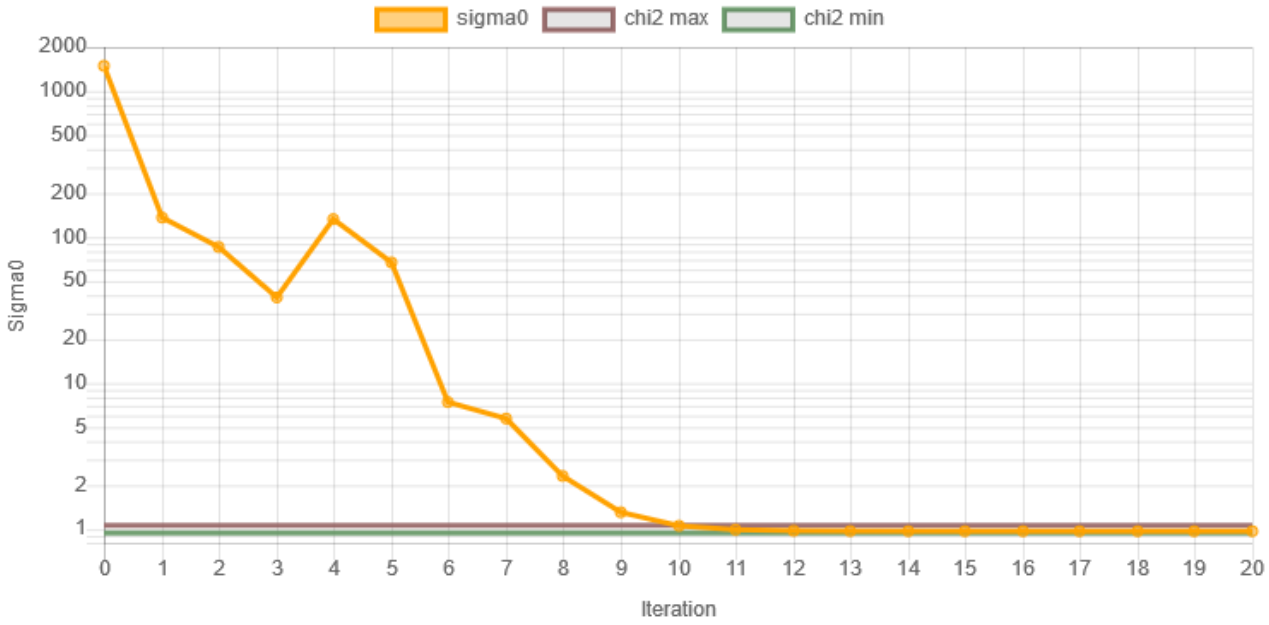


Computation information

Compensation done: Yes
Initial σ0: 1488.29583
Final σ0:0.96992
Iterations: 20
Computation interruption: No
Computation start: 2021-Feb-18 10:02:41.653542
Computation duration: 00:00:01.099784
Sphere radius: 6364876.13 m
Total observations number: 1732
Active observations number: 1707
Parameters: 757
Normal matrix inversion: Yes
Internal constraints: No
Using vertical deflection:Yes

Cartesian Global to Geocentric:					
	-0.4646408006181501	0.386650098131439	0.7966245213498471		5084225.999845631
Geocentr =	0.8854992526258418	0.20288375243924542	0.41800628774606546	* Global +	2667804.4414906693
	0	0.8996331944804613	-0.4366464420888832		-2768114.1483672108

σ0 evolution



Confidence: 99%
Degrees of freedom: 950
Test: 0.94401 < 0.96992 < 1.06253 ?
Test passed: Yes !

Observations

Code	From	To	Measure	Distance	Total σ	Normalized residual	Residual	Residual mm	A posteriori σ	Standard residual	Redondancy
						coord.cor					
coord_x	HRAO	HRAO	0.44311	0.00000	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
coord_y	HRAO	HRAO	0.27712	0.00000	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
coord_z	HRAO	HRAO	1414.15560	0.00000	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
obs.obs											
azim	P1	P12	132.26745	440.23444	0.00300	-0.03	-0.00009	-0.65	0.00150	-0.06	75
azim	G100	P12	125.93979	313.95566	0.00400	0.01	0.00004	0.21	0.00152	0.03	86
azim	P6	P12	121.46440	599.06765	0.00200	-0.31	-0.00062	-5.85	0.00150	-0.42	44
						LLR_HZ.axe					
axe_r	LLR_HZ	L11	0.00000	0.70397	0.00050	-0.36	-0.00018	-0.18	0.00045	-0.40	19
axe_l	LLR_HZ	L11	0.00000	0.70397	0.00050	0.26	0.00013	0.13	0.00035	0.38	52
axe_r	LLR_HZ	L12	0.00000	0.73179	0.00050	-2.15	-0.00108	-1.08	0.00044	-2.42	21
axe_l	LLR_HZ	L12	0.00000	0.73179	0.00050	2.11	0.00106	1.06	0.00036	2.94	49
axe_r	LLR_HZ	L13	0.00000	0.00971	0.00050	0.87	0.00043	0.43	0.00045	0.95	17
axe_l	LLR_HZ	L13	0.00000	0.00971	0.00050	0.10	0.00005	0.05	0.00026	0.20	73
axe_r	LLR_HZ	L14	0.00000	0.01480	0.00050	0.81	0.00041	0.41	0.00042	0.96	29
axe_l	LLR_HZ	L14	0.00000	0.01480	0.00050	1.28	0.00064	0.64	0.00026	2.47	73
axe_r	LLR_HZ	L21	0.00000	0.70340	0.00050	-1.50	-0.00075	-0.75	0.00045	-1.65	18
axe_l	LLR_HZ	L21	0.00000	0.70340	0.00050	0.80	0.00040	0.40	0.00032	1.26	60
axe_r	LLR_HZ	L22	0.00000	0.73299	0.00050	0.25	0.00012	0.12	0.00045	0.28	20
axe_l	LLR_HZ	L22	0.00000	0.73299	0.00050	1.01	0.00050	0.50	0.00030	1.70	65
axe_r	LLR_HZ	L23	0.00000	0.00910	0.00050	-0.35	-0.00018	-0.18	0.00044	-0.40	23
axe_l	LLR_HZ	L23	0.00000	0.00910	0.00050	-0.29	-0.00015	-0.15	0.00026	-0.56	73
axe_r	LLR_HZ	L24	0.00000	0.01424	0.00050	-0.32	-0.00016	-0.16	0.00041	-0.39	34
axe_l	LLR_HZ	L24	0.00000	0.01424	0.00050	0.67	0.00033	0.33	0.00026	1.29	73
axe_r	LLR_HZ	L31	0.00000	0.70470	0.00050	1.10	0.00055	0.55	0.00043	1.28	26
axe_l	LLR_HZ	L31	0.00000	0.70470	0.00050	-0.66	-0.00033	-0.33	0.00031	-1.07	63
axe_r	LLR_HZ	L32	0.00000	0.73386	0.00050	1.99	0.00099	0.99	0.00042	2.38	30
axe_l	LLR_HZ	L32	0.00000	0.73386	0.00050	-0.38	-0.00019	-0.19	0.00031	-0.61	62
axe_r	LLR_HZ	L33	0.00000	0.00890	0.00050	-0.76	-0.00038	-0.38	0.00039	-0.96	38
axe_l	LLR_HZ	L33	0.00000	0.00890	0.00050	-0.06	-0.00003	-0.03	0.00026	-0.12	73
axe_r	LLR_HZ	L34	0.00000	0.01445	0.00050	0.11	0.00006	0.06	0.00045	0.13	20
axe_l	LLR_HZ	L34	0.00000	0.01445	0.00050	-0.19	-0.00010	-0.10	0.00026	-0.37	73
axe_r	LLR_HZ	L41	0.00000	0.70476	0.00050	1.22	0.00061	0.61	0.00041	1.50	34
axe_l	LLR_HZ	L41	0.00000	0.70476	0.00050	0.12	0.00006	0.06	0.00030	0.21	64

axe_r	LLR_HZ	L42	0.00000	0.73282	0.00050	-0.08	-0.00004	-0.04	0.00041	-0.10	32
axe_l	LLR_HZ	L42	0.00000	0.73282	0.00050	-2.74	-0.00137	-1.37	0.00033	-4.13	56
axe_r	LLR_HZ	L43	0.00000	0.00923	0.00050	-0.08	-0.00004	-0.04	0.00043	-0.10	27
axe_l	LLR_HZ	L43	0.00000	0.00923	0.00050	0.35	0.00017	0.17	0.00026	0.67	73
axe_r	LLR_HZ	L44	0.00000	0.01481	0.00050	0.83	0.00042	0.42	0.00045	0.93	19
axe_l	LLR_HZ	L44	0.00000	0.01481	0.00050	-0.60	-0.00030	-0.30	0.00026	-1.15	73
axe_r	LLR_HZ	L51	0.00000	0.70392	0.00050	-0.46	-0.00023	-0.23	0.00045	-0.51	19
axe_l	LLR_HZ	L51	0.00000	0.70392	0.00050	-0.53	-0.00026	-0.26	0.00043	-0.61	25
axe_r	LLR_HZ	L53	0.00000	0.00944	0.00050	0.33	0.00016	0.16	0.00046	0.35	15
axe_l	LLR_HZ	L53	0.00000	0.00944	0.00050	-0.11	-0.00005	-0.05	0.00026	-0.20	73
axe_r	LLR_HZ	L54	0.00000	0.01367	0.00050	-1.44	-0.00072	-0.72	0.00044	-1.65	23
axe_l	LLR_HZ	L54	0.00000	0.01367	0.00050	-1.23	-0.00062	-0.62	0.00026	-2.37	73
axe_c	LLR_HZ	LL	0.00000	0.91638	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
						SLR_HZ.axe					
axe_r	SLR_HZ	SL101	0.00000	0.66573	0.00030	0.16	0.00005	0.05	0.00029	0.17	4
axe_l	SLR_HZ	SL101	0.00000	0.66573	0.00030	-0.02	-0.00001	-0.01	0.00029	-0.02	7
axe_r	SLR_HZ	SL102	0.00000	0.73805	0.00030	-0.12	-0.00004	-0.04	0.00029	-0.12	6
axe_l	SLR_HZ	SL102	0.00000	0.73805	0.00030	0.25	0.00008	0.08	0.00028	0.27	12
axe_r	SLR_HZ	SL103	0.00000	0.25809	0.00030	-0.22	-0.00007	-0.07	0.00029	-0.22	5
axe_l	SLR_HZ	SL103	0.00000	0.25809	0.00030	-0.33	-0.00010	-0.10	0.00028	-0.35	14
axe_r	SLR_HZ	SL104	0.00000	0.77694	0.00030	-0.08	-0.00003	-0.03	0.00029	-0.09	6
axe_l	SLR_HZ	SL104	0.00000	0.77694	0.00030	-0.17	-0.00005	-0.05	0.00028	-0.18	11
axe_r	SLR_HZ	SL201	0.00000	0.66572	0.00030	0.13	0.00004	0.04	0.00029	0.13	7
axe_l	SLR_HZ	SL201	0.00000	0.66572	0.00030	0.08	0.00002	0.02	0.00028	0.08	14
axe_r	SLR_HZ	SL202	0.00000	0.73814	0.00030	0.19	0.00006	0.06	0.00029	0.19	7
axe_l	SLR_HZ	SL202	0.00000	0.73814	0.00030	-0.03	-0.00001	-0.01	0.00028	-0.03	14
axe_r	SLR_HZ	SL203	0.00000	0.25812	0.00030	-0.12	-0.00004	-0.04	0.00029	-0.12	7
axe_l	SLR_HZ	SL203	0.00000	0.25812	0.00030	-0.09	-0.00003	-0.03	0.00028	-0.10	15
axe_r	SLR_HZ	SL204	0.00000	0.77702	0.00030	0.19	0.00006	0.06	0.00029	0.19	7
axe_l	SLR_HZ	SL204	0.00000	0.77702	0.00030	-0.04	-0.00001	-0.01	0.00028	-0.05	14
axe_r	SLR_HZ	SL205	0.00000	0.00166	0.00030	-0.07	-0.00002	-0.02	0.00029	-0.07	4
axe_l	SLR_HZ	SL205	0.00000	0.00166	0.00030	0.26	0.00008	0.08	0.00029	0.26	6
axe_r	SLR_HZ	SL301	0.00000	0.66567	0.00030	-0.05	-0.00001	-0.01	0.00029	-0.05	7
axe_l	SLR_HZ	SL301	0.00000	0.66567	0.00030	-0.04	-0.00001	-0.01	0.00028	-0.04	13
axe_r	SLR_HZ	SL302	0.00000	0.73802	0.00030	-0.22	-0.00006	-0.06	0.00029	-0.22	8
axe_l	SLR_HZ	SL302	0.00000	0.73802	0.00030	-0.18	-0.00005	-0.05	0.00028	-0.20	15
axe_r	SLR_HZ	SL303	0.00000	0.25826	0.00030	0.36	0.00011	0.11	0.00029	0.37	8
axe_l	SLR_HZ	SL303	0.00000	0.25826	0.00030	-0.79	-0.00024	-0.24	0.00028	-0.86	16
axe_r	SLR_HZ	SL304	0.00000	0.77697	0.00030	0.03	0.00001	0.01	0.00029	0.03	8
axe_l	SLR_HZ	SL304	0.00000	0.77697	0.00030	0.49	0.00015	0.15	0.00028	0.53	15

axe_r	SLR_HZ	SL401	0.00000	0.66561	0.00030	-0.25	-0.00007	-0.07	0.00029	-0.26	6
axe_l	SLR_HZ	SL401	0.00000	0.66561	0.00030	-0.02	-0.00001	-0.01	0.00028	-0.02	10
axe_r	SLR_HZ	SL402	0.00000	0.73813	0.00030	0.14	0.00004	0.04	0.00029	0.15	6
axe_l	SLR_HZ	SL402	0.00000	0.73813	0.00030	-0.04	-0.00001	-0.01	0.00028	-0.05	11
axe_r	SLR_HZ	SL403	0.00000	0.25814	0.00030	-0.03	-0.00001	-0.01	0.00029	-0.03	6
axe_l	SLR_HZ	SL403	0.00000	0.25814	0.00030	1.21	0.00036	0.36	0.00028	1.31	15
axe_r	SLR_HZ	SL404	0.00000	0.77692	0.00030	-0.14	-0.00004	-0.04	0.00029	-0.14	5
axe_l	SLR_HZ	SL404	0.00000	0.77692	0.00030	-0.28	-0.00008	-0.08	0.00029	-0.29	8
axe_r	SLR_HZ	SL405	0.00000	0.00171	0.00030	0.07	0.00002	0.02	0.00029	0.07	4
axe_l	SLR_HZ	SL405	0.00000	0.00171	0.00030	-0.25	-0.00008	-0.08	0.00029	-0.26	6
axe_c	SLR_HZ	SLR_REF	0.00000	0.00151	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
						V15_HZ.axe					
axe_r	V15_HZ	V1011	0.00000	9.70575	0.00030	0.11	0.00003	0.03	0.00029	0.11	5
axe_l	V15_HZ	V1011	0.00000	9.70575	0.00030	0.34	0.00010	0.10	0.00029	0.36	7
axe_r	V15_HZ	V1012	0.00000	9.51533	0.00030	-0.40	-0.00012	-0.12	0.00029	-0.41	5
axe_l	V15_HZ	V1012	0.00000	9.51533	0.00030	-0.23	-0.00007	-0.07	0.00029	-0.24	7
axe_r	V15_HZ	V1013	0.00000	5.66370	0.00030	0.15	0.00004	0.04	0.00030	0.15	3
axe_l	V15_HZ	V1013	0.00000	5.66370	0.00030	0.17	0.00005	0.05	0.00028	0.18	10
axe_r	V15_HZ	V1014	0.00000	7.44065	0.00030	0.03	0.00001	0.01	0.00030	0.03	3
axe_l	V15_HZ	V1014	0.00000	7.44065	0.00030	-0.01	-0.00000	-0.00	0.00029	-0.01	8
axe_r	V15_HZ	V1015	0.00000	6.75857	0.00030	-0.20	-0.00006	-0.06	0.00030	-0.20	2
axe_l	V15_HZ	V1015	0.00000	6.75857	0.00030	-0.30	-0.00009	-0.09	0.00029	-0.31	9
axe_r	V15_HZ	V1016	0.00000	5.76918	0.00030	-0.17	-0.00005	-0.05	0.00030	-0.17	1
axe_l	V15_HZ	V1016	0.00000	5.76918	0.00030	-0.16	-0.00005	-0.05	0.00029	-0.17	8
axe_r	V15_HZ	V1021	0.00000	9.70569	0.00030	-0.09	-0.00003	-0.03	0.00029	-0.09	5
axe_l	V15_HZ	V1021	0.00000	9.70569	0.00030	0.01	0.00000	0.00	0.00029	0.01	8
axe_r	V15_HZ	V1022	0.00000	9.51541	0.00030	-0.13	-0.00004	-0.04	0.00029	-0.13	5
axe_l	V15_HZ	V1022	0.00000	9.51541	0.00030	0.02	0.00001	0.01	0.00029	0.02	7
axe_r	V15_HZ	V1023	0.00000	5.66368	0.00030	0.10	0.00003	0.03	0.00030	0.10	3
axe_l	V15_HZ	V1023	0.00000	5.66368	0.00030	0.05	0.00002	0.02	0.00028	0.06	10
axe_r	V15_HZ	V1024	0.00000	7.44072	0.00030	0.25	0.00008	0.08	0.00030	0.26	3
axe_l	V15_HZ	V1024	0.00000	7.44072	0.00030	-0.07	-0.00002	-0.02	0.00028	-0.07	10
axe_r	V15_HZ	V1025	0.00000	6.75860	0.00030	-0.10	-0.00003	-0.03	0.00030	-0.10	2
axe_l	V15_HZ	V1025	0.00000	6.75860	0.00030	-0.32	-0.00010	-0.10	0.00028	-0.34	10
axe_r	V15_HZ	V1026	0.00000	5.76921	0.00030	-0.06	-0.00002	-0.02	0.00030	-0.06	2
axe_l	V15_HZ	V1026	0.00000	5.76921	0.00030	-0.15	-0.00004	-0.04	0.00028	-0.15	10
axe_r	V15_HZ	V1031	0.00000	9.70581	0.00030	0.29	0.00009	0.09	0.00029	0.30	5
axe_l	V15_HZ	V1031	0.00000	9.70581	0.00030	-0.17	-0.00005	-0.05	0.00029	-0.18	7
axe_r	V15_HZ	V1032	0.00000	9.51551	0.00030	0.20	0.00006	0.06	0.00029	0.20	4
axe_l	V15_HZ	V1032	0.00000	9.51551	0.00030	0.26	0.00008	0.08	0.00029	0.26	6

axe_r	V15_HZ	V1033	0.00000	5.66365	0.00030	-0.01	-0.00000	-0.00	0.00030	-0.01	2
axe_l	V15_HZ	V1033	0.00000	5.66365	0.00030	0.16	0.00005	0.05	0.00028	0.17	11
axe_r	V15_HZ	V1034	0.00000	7.44066	0.00030	0.06	0.00002	0.02	0.00030	0.07	3
axe_l	V15_HZ	V1034	0.00000	7.44066	0.00030	-0.03	-0.00001	-0.01	0.00028	-0.03	10
axe_r	V15_HZ	V1035	0.00000	6.75863	0.00030	0.02	0.00001	0.01	0.00030	0.02	2
axe_l	V15_HZ	V1035	0.00000	6.75863	0.00030	0.05	0.00001	0.01	0.00028	0.05	11
axe_r	V15_HZ	V1036	0.00000	5.76924	0.00030	0.02	0.00001	0.01	0.00030	0.03	2
axe_l	V15_HZ	V1036	0.00000	5.76924	0.00030	-0.13	-0.00004	-0.04	0.00028	-0.14	11
axe_r	V15_HZ	V1041	0.00000	9.70573	0.00030	0.03	0.00001	0.01	0.00030	0.03	3
axe_l	V15_HZ	V1041	0.00000	9.70573	0.00030	-0.11	-0.00003	-0.03	0.00029	-0.11	5
axe_r	V15_HZ	V1042	0.00000	9.51548	0.00030	0.10	0.00003	0.03	0.00030	0.11	2
axe_l	V15_HZ	V1042	0.00000	9.51548	0.00030	-0.08	-0.00002	-0.02	0.00030	-0.08	1
axe_r	V15_HZ	V1043	0.00000	5.66363	0.00030	-0.07	-0.00002	-0.02	0.00030	-0.07	2
axe_l	V15_HZ	V1043	0.00000	5.66363	0.00030	0.02	0.00001	0.01	0.00028	0.02	11
axe_r	V15_HZ	V1044	0.00000	7.44059	0.00030	-0.15	-0.00005	-0.05	0.00030	-0.16	2
axe_l	V15_HZ	V1044	0.00000	7.44059	0.00030	0.18	0.00005	0.05	0.00028	0.19	10
axe_r	V15_HZ	V1045	0.00000	6.75865	0.00030	0.07	0.00002	0.02	0.00030	0.07	2
axe_l	V15_HZ	V1045	0.00000	6.75865	0.00030	0.18	0.00005	0.05	0.00028	0.19	10
axe_r	V15_HZ	V1046	0.00000	5.76930	0.00030	0.22	0.00007	0.07	0.00030	0.23	3
axe_l	V15_HZ	V1046	0.00000	5.76930	0.00030	0.02	0.00001	0.01	0.00029	0.03	10
axe_r	V15_HZ	V1051	0.00000	9.70562	0.00030	-0.34	-0.00010	-0.10	0.00029	-0.35	3
axe_l	V15_HZ	V1051	0.00000	9.70562	0.00030	-0.07	-0.00002	-0.02	0.00029	-0.07	5
axe_r	V15_HZ	V1052	0.00000	9.51552	0.00030	0.23	0.00007	0.07	0.00030	0.23	3
axe_l	V15_HZ	V1052	0.00000	9.51552	0.00030	0.03	0.00001	0.01	0.00030	0.03	1
axe_r	V15_HZ	V1053	0.00000	5.66360	0.00030	-0.17	-0.00005	-0.05	0.00030	-0.17	2
axe_l	V15_HZ	V1053	0.00000	5.66360	0.00030	-0.40	-0.00012	-0.12	0.00028	-0.42	10
axe_r	V15_HZ	V1054	0.00000	7.44058	0.00030	-0.19	-0.00006	-0.06	0.00030	-0.20	2
axe_l	V15_HZ	V1054	0.00000	7.44058	0.00030	-0.07	-0.00002	-0.02	0.00029	-0.07	9
axe_r	V15_HZ	V1055	0.00000	6.75869	0.00030	0.21	0.00006	0.06	0.00030	0.22	2
axe_l	V15_HZ	V1055	0.00000	6.75869	0.00030	0.39	0.00012	0.12	0.00029	0.41	8
axe_r	V15_HZ	V1056	0.00000	5.76923	0.00030	-0.02	-0.00000	-0.00	0.00030	-0.02	2
axe_l	V15_HZ	V1056	0.00000	5.76923	0.00030	0.41	0.00012	0.12	0.00029	0.43	8
axe_c	V15_HZ	V15_VERT	0.00000	1.49007	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
						V15_VERT.axe					
axe_r	V15_VERT	V1051	0.00000	2.24398	0.00030	-0.23	-0.00007	-0.07	0.00030	-0.23	3
axe_l	V15_VERT	V1051	0.00000	2.24398	0.00030	-0.30	-0.00009	-0.09	0.00029	-0.31	5
axe_r	V15_VERT	V1052	0.00000	0.50795	0.00030	-0.14	-0.00004	-0.04	0.00030	-0.15	2
axe_l	V15_VERT	V1052	0.00000	0.50795	0.00030	0.34	0.00010	0.10	0.00028	0.36	11
axe_r	V15_VERT	V1057	0.00000	1.58482	0.00030	0.32	0.00010	0.10	0.00030	0.33	3
axe_l	V15_VERT	V1057	0.00000	1.58482	0.00030	0.05	0.00002	0.02	0.00029	0.06	7

axe_r	V15_VERT	V1058	0.00000	1.33084	0.00030	0.21	0.00006	0.06	0.00030	0.21	3
axe_l	V15_VERT	V1058	0.00000	1.33084	0.00030	0.18	0.00005	0.05	0.00029	0.19	8
axe_r	V15_VERT	V1062	0.00000	0.50801	0.00030	0.06	0.00002	0.02	0.00030	0.06	2
axe_l	V15_VERT	V1062	0.00000	0.50801	0.00030	-0.10	-0.00003	-0.03	0.00029	-0.11	8
axe_r	V15_VERT	V1067	0.00000	1.58469	0.00030	-0.10	-0.00003	-0.03	0.00030	-0.10	2
axe_l	V15_VERT	V1067	0.00000	1.58469	0.00030	-0.08	-0.00002	-0.02	0.00029	-0.08	6
axe_r	V15_VERT	V1068	0.00000	1.33076	0.00030	-0.08	-0.00002	-0.02	0.00030	-0.08	2
axe_l	V15_VERT	V1068	0.00000	1.33076	0.00030	0.16	0.00005	0.05	0.00029	0.17	7
axe_r	V15_VERT	V1071	0.00000	2.24410	0.00030	0.17	0.00005	0.05	0.00030	0.17	2
axe_l	V15_VERT	V1071	0.00000	2.24410	0.00030	0.23	0.00007	0.07	0.00029	0.24	4
axe_r	V15_VERT	V1077	0.00000	1.58465	0.00030	-0.22	-0.00007	-0.07	0.00030	-0.23	2
axe_l	V15_VERT	V1077	0.00000	1.58465	0.00030	0.11	0.00003	0.03	0.00029	0.11	6
axe_r	V15_VERT	V1078	0.00000	1.33075	0.00030	-0.11	-0.00003	-0.03	0.00030	-0.12	2
axe_l	V15_VERT	V1078	0.00000	1.33075	0.00030	-0.45	-0.00014	-0.14	0.00029	-0.47	7
axe_r	V15_VERT	V1081	0.00000	2.24406	0.00030	0.05	0.00002	0.02	0.00030	0.05	2
axe_l	V15_VERT	V1081	0.00000	2.24406	0.00030	0.07	0.00002	0.02	0.00030	0.07	3
axe_r	V15_VERT	V1082	0.00000	0.50802	0.00030	0.09	0.00003	0.03	0.00030	0.09	2
axe_l	V15_VERT	V1082	0.00000	0.50802	0.00030	-0.24	-0.00007	-0.07	0.00029	-0.25	6
axe_r	V15_VERT	V1087	0.00000	1.58472	0.00030	0.00	0.00000	0.00	0.00030	0.00	3
axe_l	V15_VERT	V1087	0.00000	1.58472	0.00030	-0.08	-0.00002	-0.02	0.00029	-0.08	7
axe_r	V15_VERT	V1088	0.00000	1.33078	0.00030	-0.01	-0.00000	-0.00	0.00030	-0.01	3
axe_l	V15_VERT	V1088	0.00000	1.33078	0.00030	0.11	0.00003	0.03	0.00029	0.12	7
axe_c	V15_VERT	V15_HZ	0.00000	1.49007	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
						V26_HZ.axe					
axe_r	V26_HZ	V2501	0.00000	16.17726	0.00060	0.22	0.00013	0.13	0.00058	0.22	8
axe_l	V26_HZ	V2501	0.00000	16.17726	0.00060	0.24	0.00015	0.15	0.00057	0.25	9
axe_r	V26_HZ	V2502	0.00000	16.15953	0.00060	0.28	0.00017	0.17	0.00058	0.30	8
axe_l	V26_HZ	V2502	0.00000	16.15953	0.00060	0.25	0.00015	0.15	0.00057	0.27	9
axe_r	V26_HZ	V2503	0.00000	14.58412	0.00060	0.75	0.00045	0.45	0.00056	0.80	12
axe_l	V26_HZ	V2503	0.00000	14.58412	0.00060	1.60	0.00096	0.96	0.00054	1.78	19
axe_r	V26_HZ	V2504	0.00000	0.36818	0.00060	0.00	0.00000	0.00	0.00060	0.00	0
axe_l	V26_HZ	V2504	0.00000	0.36818	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2506	0.00000	10.09704	0.00060	0.00	0.00000	0.00	0.00060	0.00	0
axe_l	V26_HZ	V2506	0.00000	10.09704	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2507	0.00000	9.31526	0.00060	0.00	0.00000	0.00	0.00060	0.00	0
axe_l	V26_HZ	V2507	0.00000	9.31526	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2508	0.00000	12.60834	0.00060	0.00	0.00000	0.00	0.00060	0.00	0
axe_l	V26_HZ	V2508	0.00000	12.60834	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2601	0.00000	16.17686	0.00060	-0.45	-0.00027	-0.27	0.00058	-0.47	6
axe_l	V26_HZ	V2601	0.00000	16.17686	0.00060	-0.00	-0.00000	-0.00	0.00055	-0.00	15

axe_r	V26_HZ	V2602	0.00000	16.15906	0.00060	-0.49	-0.00029	-0.29	0.00058	-0.51	8
axe_l	V26_HZ	V2602	0.00000	16.15906	0.00060	-0.05	-0.00003	-0.03	0.00055	-0.05	16
axe_r	V26_HZ	V2603	0.00000	14.58360	0.00060	-0.11	-0.00006	-0.06	0.00057	-0.11	11
axe_l	V26_HZ	V2603	0.00000	14.58360	0.00060	-0.07	-0.00004	-0.04	0.00055	-0.08	15
axe_r	V26_HZ	V2609	0.00000	6.37500	0.00060	0.00	0.00000	0.00	0.00060	0.00	0
axe_l	V26_HZ	V2609	0.00000	6.37500	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2701	0.00000	16.17727	0.00060	0.24	0.00014	0.14	0.00058	0.25	8
axe_l	V26_HZ	V2701	0.00000	16.17727	0.00060	-0.24	-0.00014	-0.14	0.00056	-0.26	13
axe_r	V26_HZ	V2702	0.00000	16.15948	0.00060	0.20	0.00012	0.12	0.00057	0.21	9
axe_l	V26_HZ	V2702	0.00000	16.15948	0.00060	-0.21	-0.00012	-0.12	0.00056	-0.22	13
axe_r	V26_HZ	V2703	0.00000	14.58354	0.00060	-0.22	-0.00013	-0.13	0.00059	-0.22	5
axe_l	V26_HZ	V2703	0.00000	14.58354	0.00060	-0.07	-0.00004	-0.04	0.00058	-0.08	7
axe_r	V26_HZ	V2803	0.00000	14.58339	0.00060	-0.46	-0.00028	-0.28	0.00059	-0.47	4
axe_l	V26_HZ	V2803	0.00000	14.58339	0.00060	-0.83	-0.00050	-0.50	0.00055	-0.90	15
axe_r	V26_HZ	V2811	0.00000	5.53385	0.00060	-0.20	-0.00012	-0.12	0.00058	-0.21	6
axe_l	V26_HZ	V2811	0.00000	5.53385	0.00060	-0.09	-0.00006	-0.06	0.00056	-0.10	13
axe_r	V26_HZ	V2813	0.00000	6.37620	0.00060	0.05	0.00003	0.03	0.00058	0.05	6
axe_l	V26_HZ	V2813	0.00000	6.37620	0.00060	0.08	0.00005	0.05	0.00056	0.09	14
axe_r	V26_HZ	V2903	0.00000	14.58369	0.00060	0.03	0.00002	0.02	0.00058	0.03	7
axe_l	V26_HZ	V2903	0.00000	14.58369	0.00060	-0.62	-0.00037	-0.37	0.00054	-0.69	18
axe_r	V26_HZ	V2910	0.00000	6.31767	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_l	V26_HZ	V2910	0.00000	6.31767	0.00060	-0.00	-0.00000	-0.00	0.00060	-0.00	0
axe_r	V26_HZ	V2911	0.00000	5.53409	0.00060	0.20	0.00012	0.12	0.00058	0.21	6
axe_l	V26_HZ	V2911	0.00000	5.53409	0.00060	0.09	0.00006	0.06	0.00056	0.10	13
axe_r	V26_HZ	V2913	0.00000	6.37614	0.00060	-0.05	-0.00003	-0.03	0.00058	-0.05	6
axe_l	V26_HZ	V2913	0.00000	6.37614	0.00060	-0.08	-0.00005	-0.05	0.00056	-0.09	14
axe_c	V26_HZ	V26_VERT	0.00000	6.69450	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
						V26_VERT.axe					
axe_r	V26_VERT	V2101	0.00000	22.71460	0.00060	0.24	0.00014	0.14	0.00057	0.25	10
axe_l	V26_VERT	V2101	0.00000	22.71460	0.00060	-0.06	-0.00004	-0.04	0.00057	-0.06	11
axe_r	V26_VERT	V2102	0.00000	22.69547	0.00060	0.23	0.00014	0.14	0.00057	0.24	10
axe_l	V26_VERT	V2102	0.00000	22.69547	0.00060	-0.19	-0.00011	-0.11	0.00057	-0.20	11
axe_r	V26_VERT	V2103	0.00000	10.68261	0.00060	0.25	0.00015	0.15	0.00057	0.26	9
axe_l	V26_VERT	V2103	0.00000	10.68261	0.00060	0.10	0.00006	0.06	0.00050	0.13	31
axe_r	V26_VERT	V2104	0.00000	8.87217	0.00060	-0.18	-0.00011	-0.11	0.00059	-0.18	2
axe_l	V26_VERT	V2104	0.00000	8.87217	0.00060	-0.61	-0.00037	-0.37	0.00056	-0.66	14
axe_r	V26_VERT	V2105	0.00000	8.86239	0.00060	-0.07	-0.00004	-0.04	0.00059	-0.07	5
axe_l	V26_VERT	V2105	0.00000	8.86239	0.00060	-0.10	-0.00006	-0.06	0.00056	-0.10	13
axe_r	V26_VERT	V2106	0.00000	7.02092	0.00060	0.44	0.00026	0.26	0.00058	0.46	7
axe_l	V26_VERT	V2106	0.00000	7.02092	0.00060	0.13	0.00008	0.08	0.00053	0.15	21

axe_r	V26_VERT	V2108	0.00000	5.96608	0.00060	0.09	0.00006	0.06	0.00057	0.10	8
axe_l	V26_VERT	V2108	0.00000	5.96608	0.00060	0.23	0.00014	0.14	0.00052	0.26	24
axe_r	V26_VERT	V2201	0.00000	22.71457	0.00060	0.19	0.00011	0.11	0.00059	0.19	5
axe_l	V26_VERT	V2201	0.00000	22.71457	0.00060	0.33	0.00020	0.20	0.00056	0.35	12
axe_r	V26_VERT	V2202	0.00000	22.69539	0.00060	0.09	0.00006	0.06	0.00059	0.10	5
axe_l	V26_VERT	V2202	0.00000	22.69539	0.00060	0.18	0.00011	0.11	0.00056	0.19	12
axe_r	V26_VERT	V2203	0.00000	10.68233	0.00060	-0.23	-0.00014	-0.14	0.00057	-0.24	8
axe_l	V26_VERT	V2203	0.00000	10.68233	0.00060	-0.11	-0.00007	-0.07	0.00049	-0.14	33
axe_r	V26_VERT	V2204	0.00000	8.87221	0.00060	-0.10	-0.00006	-0.06	0.00059	-0.10	3
axe_l	V26_VERT	V2204	0.00000	8.87221	0.00060	-0.48	-0.00029	-0.29	0.00056	-0.51	13
axe_r	V26_VERT	V2205	0.00000	8.86230	0.00060	-0.23	-0.00014	-0.14	0.00058	-0.24	7
axe_l	V26_VERT	V2205	0.00000	8.86230	0.00060	0.19	0.00011	0.11	0.00054	0.21	20
axe_r	V26_VERT	V2206	0.00000	7.02067	0.00060	0.02	0.00001	0.01	0.00057	0.02	8
axe_l	V26_VERT	V2206	0.00000	7.02067	0.00060	-0.47	-0.00028	-0.28	0.00052	-0.54	25
axe_r	V26_VERT	V2208	0.00000	5.96591	0.00060	-0.19	-0.00012	-0.12	0.00058	-0.20	8
axe_l	V26_VERT	V2208	0.00000	5.96591	0.00060	0.17	0.00010	0.10	0.00052	0.19	25
axe_r	V26_VERT	V2301	0.00000	22.71436	0.00060	-0.15	-0.00009	-0.09	0.00059	-0.16	4
axe_l	V26_VERT	V2301	0.00000	22.71436	0.00060	0.22	0.00013	0.13	0.00057	0.23	11
axe_r	V26_VERT	V2302	0.00000	22.69523	0.00060	-0.18	-0.00011	-0.11	0.00059	-0.18	4
axe_l	V26_VERT	V2302	0.00000	22.69523	0.00060	0.21	0.00013	0.13	0.00057	0.23	11
axe_r	V26_VERT	V2303	0.00000	10.68211	0.00060	-0.60	-0.00036	-0.36	0.00057	-0.63	9
axe_l	V26_VERT	V2303	0.00000	10.68211	0.00060	0.39	0.00023	0.23	0.00049	0.48	34
axe_r	V26_VERT	V2304	0.00000	8.87248	0.00060	0.34	0.00020	0.20	0.00057	0.35	8
axe_l	V26_VERT	V2304	0.00000	8.87248	0.00060	-0.05	-0.00003	-0.03	0.00052	-0.05	24
axe_r	V26_VERT	V2305	0.00000	8.86253	0.00060	0.16	0.00010	0.10	0.00059	0.16	4
axe_l	V26_VERT	V2305	0.00000	8.86253	0.00060	-0.12	-0.00007	-0.07	0.00056	-0.12	13
axe_r	V26_VERT	V2307	0.00000	7.01768	0.00060	0.12	0.00007	0.07	0.00058	0.12	7
axe_l	V26_VERT	V2307	0.00000	7.01768	0.00060	-0.20	-0.00012	-0.12	0.00053	-0.23	22
axe_r	V26_VERT	V2308	0.00000	5.96592	0.00060	-0.17	-0.00010	-0.10	0.00058	-0.18	7
axe_l	V26_VERT	V2308	0.00000	5.96592	0.00060	-0.39	-0.00023	-0.23	0.00056	-0.42	12
axe_r	V26_VERT	V2401	0.00000	22.71452	0.00060	0.11	0.00007	0.07	0.00057	0.12	11
axe_l	V26_VERT	V2401	0.00000	22.71452	0.00060	-0.45	-0.00027	-0.27	0.00057	-0.47	10
axe_r	V26_VERT	V2402	0.00000	22.69549	0.00060	0.25	0.00015	0.15	0.00057	0.27	11
axe_l	V26_VERT	V2402	0.00000	22.69549	0.00060	-0.21	-0.00012	-0.12	0.00057	-0.22	10
axe_r	V26_VERT	V2403	0.00000	10.68318	0.00060	1.18	0.00071	0.71	0.00057	1.25	10
axe_l	V26_VERT	V2403	0.00000	10.68318	0.00060	0.17	0.00010	0.10	0.00049	0.21	32
axe_r	V26_VERT	V2404	0.00000	8.87210	0.00060	-0.28	-0.00017	-0.17	0.00058	-0.30	7
axe_l	V26_VERT	V2404	0.00000	8.87210	0.00060	1.45	0.00087	0.87	0.00053	1.65	22
axe_r	V26_VERT	V2406	0.00000	7.02075	0.00060	0.15	0.00009	0.09	0.00059	0.16	5
axe_l	V26_VERT	V2406	0.00000	7.02075	0.00060	0.21	0.00013	0.13	0.00055	0.23	15

axe_r	V26_VERT	V2407	0.00000	7.01771	0.00060	0.17	0.00010	0.10	0.00058	0.18	6
axe_l	V26_VERT	V2407	0.00000	7.01771	0.00060	0.02	0.00001	0.01	0.00054	0.02	19
axe_r	V26_VERT	V2408	0.00000	5.96636	0.00060	0.56	0.00033	0.33	0.00057	0.58	9
axe_l	V26_VERT	V2408	0.00000	5.96636	0.00060	-0.24	-0.00014	-0.14	0.00053	-0.27	23
axe_r	V26_VERT	V2501	0.00000	22.71423	0.00060	-0.38	-0.00023	-0.23	0.00057	-0.40	9
axe_l	V26_VERT	V2501	0.00000	22.71423	0.00060	-0.05	-0.00003	-0.03	0.00056	-0.06	12
axe_r	V26_VERT	V2502	0.00000	22.69510	0.00060	-0.39	-0.00024	-0.24	0.00057	-0.41	9
axe_l	V26_VERT	V2502	0.00000	22.69510	0.00060	-0.00	-0.00000	-0.00	0.00056	-0.00	12
axe_r	V26_VERT	V2503	0.00000	10.68210	0.00060	-0.60	-0.00036	-0.36	0.00057	-0.63	8
axe_l	V26_VERT	V2503	0.00000	10.68210	0.00060	-0.55	-0.00033	-0.33	0.00047	-0.70	39
axe_r	V26_VERT	V2504	0.00000	8.87241	0.00060	0.23	0.00014	0.14	0.00058	0.24	7
axe_l	V26_VERT	V2504	0.00000	8.87241	0.00060	-0.32	-0.00019	-0.19	0.00056	-0.34	11
axe_r	V26_VERT	V2505	0.00000	8.86252	0.00060	0.14	0.00008	0.08	0.00058	0.14	6
axe_l	V26_VERT	V2505	0.00000	8.86252	0.00060	0.02	0.00001	0.01	0.00056	0.03	13
axe_r	V26_VERT	V2506	0.00000	7.02029	0.00060	-0.61	-0.00037	-0.37	0.00058	-0.63	7
axe_l	V26_VERT	V2506	0.00000	7.02029	0.00060	0.13	0.00008	0.08	0.00052	0.15	24
axe_r	V26_VERT	V2507	0.00000	7.01743	0.00060	-0.30	-0.00018	-0.18	0.00058	-0.31	6
axe_l	V26_VERT	V2507	0.00000	7.01743	0.00060	0.18	0.00011	0.11	0.00053	0.21	21
axe_r	V26_VERT	V2508	0.00000	5.96585	0.00060	-0.29	-0.00017	-0.17	0.00059	-0.29	5
axe_l	V26_VERT	V2508	0.00000	5.96585	0.00060	0.24	0.00014	0.14	0.00055	0.26	15
axe_c	V26_VERT	V26_HZ	0.00000	6.69450	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
						obs.obs					
dE	SL	SLR_REF	0.00000	0.48562	0.00010	0.00	0.00000	0.00	0.00010	0.00	0
dN	SL	SLR_REF	0.00000	0.48562	0.00010	-0.00	-0.00000	-0.00	0.00010	-0.00	0
den	SLR_HZ	SLR_REF	0.00000	0.00151	0.00010	-0.00	-0.00000	-0.00	0.00010	-0.00	0
dE	LL	LLR_REF	0.00000	0.91638	0.00010	0.00	0.00000	0.00	0.00010	0.00	0
dN	LL	LLR_REF	0.00000	0.91638	0.00010	0.00	0.00000	0.00	0.00010	0.00	0
den	LLR_HZ	LLR_REF	0.00000	0.00213	0.00010	-0.00	-0.00000	-0.00	0.00010	-0.00	0
dE	P21	P21b	0.00000	0.13238	0.00050	-0.50	-0.00025	-0.25	0.00034	-0.75	54
dN	P21	P21b	0.00000	0.13238	0.00050	-0.29	-0.00015	-0.15	0.00041	-0.36	32
dE	P20	P20b	0.00000	0.00730	0.00200	1.82	0.00364	3.64	-	0.00	-
dN	P20	P20b	0.00000	0.00730	0.00200	2.33	0.00465	4.65	-	0.00	-
						G.xyz					
bascule_x	G100	GN	0.00000	0.17380	0.00010	-0.25	-0.00002	-0.02	0.00009	-0.29	25
bascule_y	G100	GN	0.17450	0.17380	0.01000	-0.07	-0.00070	-0.70	0.00974	-0.07	5
bascule_z	G100	GN	0.00000	0.17380	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
bascule_x	G100	GS	0.00000	0.17527	0.00010	0.25	0.00003	0.03	0.00009	0.29	25
bascule_y	G100	GS	-0.17450	0.17527	0.01000	-0.08	-0.00077	-0.77	0.00974	-0.08	5
bascule_z	G100	GS	0.00000	0.17527	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
bascule_x	G100	GE	0.17450	0.17398	0.01000	-0.05	-0.00052	-0.52	0.00985	-0.05	3

bascule_y	G100	GE	0.00000	0.17398	0.00010	-0.25	-0.00002	-0.02	0.00009	-0.29	25
bascule_z	G100	GE	0.00000	0.17398	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
bascule_x	G100	GW	-0.17450	0.17508	0.01000	-0.06	-0.00058	-0.58	0.00986	-0.06	3
bascule_y	G100	GW	0.00000	0.17508	0.00010	0.25	0.00003	0.03	0.00009	0.29	25
bascule_z	G100	GW	0.00000	0.17508	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
bascule_x	G100	HRAO	0.00000	0.18200	0.00001	0.00	0.00000	0.00	0.00001	0.00	0
bascule_y	G100	HRAO	0.00000	0.18200	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
bascule_z	G100	HRAO	-0.18200	0.18200	0.00001	-0.00	-0.00000	-0.00	0.00001	-0.00	0
obs.obs											
dE	GN	GS	0.00000	0.34907	0.00001	-0.03	-0.00000	-0.00	0.00001	-0.03	0
dN	GE	GW	0.00000	0.34907	0.00001	-0.03	-0.00000	-0.00	0.00001	-0.03	0
2003_Benchmark_to_Pier.obs											
den	B1	P1	2.65200	219.54144	0.00013	0.68	0.00009	0.09	0.00013	0.70	4
den	B2	P2	1.56130	219.07663	0.00013	-0.04	-0.00000	-0.00	0.00013	-0.04	0
den	B3	P3	2.19660	219.11322	0.00013	0.01	0.00000	0.00	0.00013	0.01	0
den	B5	P5	6.86360	220.40958	0.00013	-0.24	-0.00003	-0.03	0.00013	-0.24	2
den	B6	P6	2.80420	220.32764	0.00060	-2.85	-0.00171	-1.71	-	0.00	-
den	B17	P17	1.48610	219.18283	0.00013	0.05	0.00001	0.01	0.00013	0.05	1
HARTRAOTM19.obs											
tour	P11	P6	0.00000	189.92383	0.00083	-0.94	-0.00078	-2.34	0.00067	-1.16	35
hz	P11	P1	75.34770	28.92705	0.00102	1.15	0.00117	0.53	0.00071	1.66	52
zen	P11	P6	102.36190	189.92383	0.00143	1.03	0.00148	4.41	0.00016	9.45	99
zen	P11	P1	97.85520	28.92705	0.00162	1.15	0.00186	0.84	0.00064	2.90	84
dist	P11	P6	189.92470	189.92383	0.00108	-0.80	-0.00087	-0.87	0.00026	-3.30	94
dist	P11	P1	28.92690	28.92705	0.00076	0.19	0.00015	0.15	0.00027	0.54	87
tour	P11	P6	0.00000	189.92383	0.00083	0.97	0.00081	2.42	0.00063	1.29	43
hz	P11	P13	325.88630	64.04796	0.00090	-1.05	-0.00095	-0.95	0.00063	-1.49	50
zen	P11	P6	102.36260	189.92383	0.00143	0.54	0.00078	2.32	0.00016	4.98	99
zen	P11	P13	103.01080	64.04796	0.00150	-0.03	-0.00004	-0.04	0.00039	-0.11	93
dist	P11	P6	189.92480	189.92383	0.00108	-0.89	-0.00097	-0.97	0.00026	-3.68	94
dist	P11	P13	64.04860	64.04796	0.00083	-0.77	-0.00064	-0.64	0.00029	-2.19	88
tour	P13	P12	0.00000	425.13998	0.00082	0.93	0.00075	5.04	0.00052	1.46	60
hz	P13	P11	310.25260	64.04580	0.00090	-0.62	-0.00056	-0.56	0.00048	-1.16	72
hz	P13	P18	291.40390	35.03727	0.00098	-1.28	-0.00126	-0.69	0.00059	-2.11	63
hz	P13	P1	294.97440	86.82431	0.00087	0.75	0.00065	0.89	0.00047	1.39	71
zen	P13	P12	94.88520	425.13998	0.00141	0.07	0.00009	0.62	0.00028	0.33	96
zen	P13	P11	97.03400	64.04580	0.00150	0.99	0.00148	1.49	0.00039	3.78	93
zen	P13	P18	98.82540	35.03727	0.00158	2.08	0.00329	1.81	0.00089	3.68	68
zen	P13	P1	97.06340	86.82431	0.00147	1.96	0.00289	3.94	0.00030	9.53	96
dist	P13	P12	425.14060	425.13998	0.00155	-0.40	-0.00062	-0.62	0.00063	-0.99	84

dist	P13	P11	64.04580	64.04580	0.00083	0.01	0.00000	0.00	0.00029	0.02	88
dist	P13	P18	35.03620	35.03727	0.00077	1.39	0.00107	1.07	0.00037	2.86	76
dist	P13	P1	86.82410	86.82431	0.00087	0.24	0.00021	0.21	0.00031	0.69	88
						HARTRAOTM19B.obs					
tour	P18	P6	0.00000	170.11279	0.00084	-0.60	-0.00050	-1.35	0.00044	-1.15	73
hz	P18	P1	104.02930	51.90184	0.00092	-0.19	-0.00017	-0.14	0.00051	-0.34	70
hz	P18	P11	137.49810	32.22665	0.00100	-2.27	-0.00227	-1.15	0.00065	-3.48	57
hz	P18	P4	216.63800	123.60690	0.00085	0.56	0.00048	0.93	0.00047	1.01	69
hz	P18	P13	298.04060	35.03725	0.00098	0.55	0.00054	0.30	0.00065	0.83	57
hz	P18	P5	332.56980	106.60178	0.00086	1.70	0.00146	2.45	0.00045	3.26	73
zen	P18	P6	101.74680	170.11279	0.00144	-0.62	-0.00090	-2.39	0.00025	-3.64	97
zen	P18	P1	95.87620	51.90184	0.00152	2.71	0.00412	3.36	0.00065	6.32	82
zen	P18	P11	95.37540	32.22665	0.00160	-59.33	-0.09478	-47.98	-	0.00	-
zen	P18	P4	96.53450	123.60690	0.00145	0.40	0.00058	1.12	0.00042	1.37	92
zen	P18	P13	101.17000	35.03725	0.00158	-0.12	-0.00020	-0.11	0.00089	-0.22	68
zen	P18	P5	99.15920	106.60178	0.00146	-0.46	-0.00067	-1.12	0.00035	-1.88	94
dist	P18	P6	170.11360	170.11279	0.00104	-0.78	-0.00081	-0.81	0.00034	-2.40	89
dist	P18	P1	51.90200	51.90184	0.00080	-0.20	-0.00016	-0.16	0.00037	-0.44	79
dist	P18	P11	32.22320	32.22665	0.00076	4.52	0.00345	3.45	-	0.00	-
dist	P18	P4	123.60610	123.60690	0.00095	0.84	0.00080	0.80	0.00035	2.27	86
dist	P18	P13	35.03710	35.03725	0.00077	0.20	0.00015	0.15	0.00037	0.40	76
tour	P4	P5	0.00000	182.03967	0.00083	-0.34	-0.00029	-0.82	0.00058	-0.50	52
hz	P4	P18	38.42000	123.60701	0.00085	-0.21	-0.00018	-0.35	0.00059	-0.31	52
hz	P4	G100	109.22435	16.20192	0.00119	0.08	0.00010	0.03	0.00118	0.08	2
hz	P4	P17	182.82890	61.10303	0.00090	0.53	0.00048	0.46	0.00080	0.60	21
zen	P4	P5	101.79900	182.03967	0.00143	-0.91	-0.00131	-3.73	0.00025	-5.19	97
zen	P4	P18	103.46760	123.60701	0.00145	-0.39	-0.00057	-1.10	0.00042	-1.35	92
zen	P4	G100	96.51145	16.20192	0.00179	9.49	0.01701	4.33	-	0.00	-
zen	P4	P17	97.27260	61.10303	0.00150	0.87	0.00130	1.25	0.00068	1.91	79
dist	P4	P5	182.04000	182.03967	0.00106	-0.31	-0.00033	-0.33	0.00043	-0.76	83
dist	P4	P18	123.60640	123.60701	0.00095	0.64	0.00061	0.61	0.00035	1.72	86
dist	P4	P1	142.97960	142.97940	0.00099	-0.20	-0.00020	-0.20	0.00041	-0.49	83
dist	P4	P17	61.10340	61.10303	0.00082	-0.45	-0.00037	-0.37	0.00063	-0.59	41
						P1.obs					
tour	P1	P12	0.00000	440.23460	0.00081	-0.22	-0.00018	-1.23	0.00061	-0.29	43
hz	P1	P13	82.35890	86.82431	0.00087	0.23	0.00020	0.28	0.00062	0.33	50
zen	P1	P12	95.64230	440.23460	0.00141	-0.70	-0.00099	-6.86	0.00027	-3.72	96
zen	P1	P13	102.93590	86.82431	0.00147	-0.97	-0.00143	-1.95	0.00030	-4.72	96
dist	P1	P12	440.23750	440.23460	0.00158	-1.84	-0.00290	-2.90	0.00061	-4.78	85
dist	P1	P13	86.82480	86.82431	0.00087	-0.56	-0.00049	-0.49	0.00031	-1.60	88

tour	P1	P12	0.00000	440.23460	0.00081	0.00	0.00000	0.00	0.00042	0.00	73
hz	P1	P5	104.05770	154.91469	0.00084	-0.18	-0.00015	-0.36	0.00039	-0.38	79
hz	P1	P6	162.29410	181.04612	0.00084	0.34	0.00028	0.80	0.00040	0.70	77
hz	P1	P2	283.15350	107.83075	0.00086	-0.49	-0.00042	-0.71	0.00074	-0.57	26
hz	P1	G100	15.16835	131.62236	0.00085	0.39	0.00033	0.68	0.00059	0.55	51
hz	P1	P11	47.10130	28.92863	0.00102	0.08	0.00008	0.04	0.00053	0.16	73
hz	P1	P18	84.77500	51.90184	0.00092	-0.15	-0.00014	-0.11	0.00047	-0.29	74
zen	P1	P12	95.64220	440.23460	0.00141	-0.63	-0.00089	-6.16	0.00027	-3.34	96
zen	P1	P5	100.80100	154.91469	0.00144	-0.21	-0.00030	-0.73	0.00017	-1.75	99
zen	P1	P6	102.82210	181.04612	0.00144	-0.39	-0.00056	-1.59	0.00017	-3.26	99
zen	P1	P2	99.23290	107.83075	0.00146	0.92	0.00134	2.27	0.00048	2.82	89
zen	P1	G100	97.94180	131.62229	0.00145	1.32	0.00192	3.96	-	0.00	-
zen	P1	P11	102.24520	28.92863	0.00162	-0.52	-0.00083	-0.38	0.00064	-1.30	84
zen	P1	P18	104.12030	51.90184	0.00152	-0.11	-0.00017	-0.14	0.00065	-0.26	82
dist	P1	P12	440.23710	440.23460	0.00158	-1.58	-0.00250	-2.50	0.00061	-4.12	85
dist	P1	P6	181.04660	181.04612	0.00106	-0.45	-0.00048	-0.48	0.00030	-1.63	92
dist	P1	P2	107.83080	107.83075	0.00092	-0.06	-0.00005	-0.05	0.00091	-0.06	0
dist	P1	P11	28.92890	28.92863	0.00076	-0.35	-0.00027	-0.27	0.00027	-0.98	87
dist	P1	P18	51.90250	51.90184	0.00080	-0.83	-0.00066	-0.66	0.00037	-1.80	79
						P6_P5.obs					
tour	P6	P12	0.00000	599.06762	0.00081	-0.05	-0.00004	-0.39	0.00050	-0.08	62
hz	P6	P5	34.05640	150.22844	0.00084	2.32	0.00195	4.61	0.00050	3.94	65
hz	P6	P1	373.09980	181.04607	0.00084	-2.24	-0.00187	-5.33	0.00049	-3.82	66
hz	P6	P11	382.55790	189.92206	0.00083	-3.15	-0.00263	-7.84	-	0.00	-
hz	P6	P18	391.54620	170.11276	0.00084	3.08	0.00258	6.89	-	0.00	-
zen	P6	P12	95.96070	599.06762	0.00141	-10.54	-0.01487	-139.92	-	0.00	-
zen	P6	P5	97.34970	150.22844	0.00144	0.70	0.00101	2.39	0.00022	4.71	98
zen	P6	P1	97.17920	181.04607	0.00144	0.84	0.00120	3.41	0.00017	6.98	99
zen	P6	P11	97.65490	189.92206	0.00143	-0.37	-0.00053	-1.59	0.00016	-3.41	99
zen	P6	P18	98.25560	170.11276	0.00144	0.25	0.00036	0.96	0.00025	1.47	97
dist	P6	P12	599.06860	599.06762	0.00190	-0.52	-0.00098	-0.98	0.00062	-1.59	89
dist	P6	P5	150.22960	150.22844	0.00100	-1.16	-0.00116	-1.16	0.00041	-2.83	83
dist	P6	P1	181.04570	181.04607	0.00106	0.35	0.00037	0.37	0.00030	1.26	92
dist	P6	P11	189.92240	189.92206	0.00108	-0.32	-0.00034	-0.34	0.00026	-1.30	94
dist	P6	P18	170.11380	170.11276	0.00104	-1.00	-0.00104	-1.04	0.00034	-3.08	89
tour	P5	P1	0.00000	154.91253	0.00084	0.21	0.00018	0.43	0.00032	0.55	85
hz	P5	P10	39.01810	319.74078	0.00082	0.83	0.00068	3.43	0.00034	1.98	82
hz	P5	P17	50.61280	241.48046	0.00083	0.23	0.00019	0.73	0.00036	0.53	81
hz	P5	P4	54.90680	182.03959	0.00083	-0.08	-0.00007	-0.19	0.00034	-0.19	83
hz	P5	G100	49.39095	185.09504	0.00083	0.06	0.00005	0.13	0.00054	0.09	58

hz	P5	P12	74.83660	476.00149	0.00081	-0.28	-0.00023	-1.69	0.00037	-0.61	79
hz	P5	P18	9.25980	106.60431	0.00086	-0.20	-0.00018	-0.29	0.00035	-0.50	83
hz	P5	P6	319.19810	150.22844	0.00084	-0.79	-0.00067	-1.58	0.00037	-1.81	81
zen	P5	P1	99.27340	154.91253	0.00144	0.85	0.00123	2.98	0.00017	7.14	99
zen	P5	P10	96.56480	319.74078	0.00142	-0.03	-0.00004	-0.18	0.00018	-0.19	98
zen	P5	P17	97.95750	241.48046	0.00143	-0.60	-0.00085	-3.22	0.00024	-3.59	97
zen	P5	P4	98.20230	182.03959	0.00143	1.85	0.00266	7.60	0.00025	10.55	97
zen	P5	G100	97.92725	185.09504	0.00143	1.72	0.00247	7.19	-	0.00	-
zen	P5	P12	95.82930	476.00149	0.00141	-68.28	-0.09650	-721.56	-	0.00	-
zen	P5	P18	100.95130	106.60431	0.00146	-0.97	-0.00141	-2.36	0.00035	-3.97	94
zen	P5	P6	102.65120	150.22844	0.00144	-0.42	-0.00060	-1.42	0.00022	-2.80	98
dist	P5	P1	154.91370	154.91253	0.00101	-1.16	-0.00117	-1.17	0.00037	-3.17	87
dist	P5	P10	319.74290	319.74078	0.00134	-1.58	-0.00212	-2.12	0.00050	-4.26	86
dist	P5	P17	241.48150	241.48046	0.00118	-0.88	-0.00104	-1.04	0.00065	-1.59	69
dist	P5	P18	106.60530	106.60431	0.00091	-1.08	-0.00099	-0.99	0.00045	-2.22	76
dist	P5	P6	150.22950	150.22844	0.00100	-1.06	-0.00106	-1.06	0.00041	-2.58	83
HARTRAOTM20.obs											
tour	P10	P5	0.00000	319.75038	0.00082	-0.56	-0.00046	-2.29	0.00051	-0.89	61
hz	P10	P3	39.21330	127.34830	0.00085	0.28	0.00024	0.47	0.00058	0.40	53
hz	P10	P17	368.79110	93.32931	0.00087	-0.12	-0.00011	-0.16	0.00062	-0.17	49
hz	P10	G100	386.24530	140.43157	0.00085	0.42	0.00035	0.78	0.00062	0.57	47
zen	P10	P5	103.47670	319.75038	0.00142	-2.44	-0.00346	-17.39	0.00018	-18.77	98
zen	P10	P3	105.83280	127.34830	0.00145	-1.36	-0.00198	-3.95	0.00049	-4.05	89
zen	P10	G100	105.09920	140.43157	0.00145	-2.02	-0.00291	-6.43	-	0.00	-
dist	P10	P3	127.34910	127.34830	0.00095	-0.84	-0.00080	-0.80	0.00077	-1.04	35
dist	P10	P17	93.33040	93.32931	0.00089	-1.23	-0.00109	-1.09	0.00073	-1.49	32
20140220_DINI.obs											
den	B1	B6	-8.17040	181.11466	0.00144	-0.83	-0.00119	-1.19	0.00063	-1.89	81
den	B6	B1	8.16980	181.11466	0.00167	1.07	0.00179	1.79	0.00063	2.84	86
HARTRAOTM21.obs											
tour	P19	P1	224.87530	57.22455	0.00091	-0.08	-0.00007	-0.06	0.00069	-0.10	42
hz	P19	P11	258.61020	52.34715	0.00092	-4.18	-0.00386	-3.17	-	0.00	-
hz	P19	P13	344.17120	50.69424	0.00093	0.08	0.00007	0.06	0.00070	0.11	43
zen	P19	P5	97.35240	100.86015	0.00146	0.17	0.00024	0.39	0.00026	0.95	97
zen	P19	P1	93.14850	57.22455	0.00151	2.66	0.00402	3.61	0.00041	9.83	93
zen	P19	P11	93.75680	52.34715	0.00152	4.58	0.00697	5.73	-	0.00	-
zen	P19	P13	97.30810	50.69424	0.00153	2.36	0.00360	2.87	0.00054	6.69	88
dist	P19	P1	57.22510	57.22455	0.00081	-0.67	-0.00055	-0.55	0.00028	-1.97	88
dist	P19	P11	52.34880	52.34715	0.00080	-2.05	-0.00165	-1.65	0.00020	-8.44	94
dist	P19	P13	50.69530	50.69424	0.00080	-1.32	-0.00106	-1.06	0.00031	-3.44	85

						20140221_DINI.obs					
den	B5	B6	-2.19210	150.16707	0.00176	0.40	0.00071	0.71	0.00065	1.09	86
den	B6	B5	2.19260	150.16707	0.00176	-0.68	-0.00121	-1.21	0.00065	-1.86	86
den	B5	B0	3.16020	114.13422	0.00144	0.56	0.00081	0.81	0.00055	1.46	85
den	B0	B5	-3.15930	114.13422	0.00144	-1.18	-0.00171	-1.71	0.00055	-3.10	85
den	B0	B4	7.92940	85.25769	0.00176	0.80	0.00141	1.41	0.00078	1.81	80
den	B4	P4	0.90620	219.48912	0.00072	0.04	0.00003	0.03	0.00035	0.08	76
den	P4	B4	-0.90630	219.48912	0.00072	0.10	0.00007	0.07	0.00035	0.21	76
den	B4	B0	-7.92980	85.25769	0.00176	-0.58	-0.00101	-1.01	0.00078	-1.30	80
den	B0	B3	7.10290	184.42348	0.00179	-0.19	-0.00034	-0.34	-	0.00	-
den	B3	B2	-1.87830	106.17396	0.00176	0.87	0.00153	1.53	0.00093	1.64	72
den	B2	B3	1.87850	106.17396	0.00191	-0.91	-0.00173	-1.73	0.00093	-1.86	76
den	B3	B0	-7.10150	184.42348	0.00176	-0.60	-0.00106	-1.06	0.00085	-1.25	76
den	B0	B3	7.10190	184.42348	0.00191	0.35	0.00066	0.66	0.00085	0.78	80
						TM_P21.obs					
tour	P21	P1	0.00000	137.17343	0.00085	-0.50	-0.00042	-0.91	0.00072	-0.58	27
hz	P21	P6	176.16700	46.35457	0.00094	0.55	0.00052	0.38	0.00077	0.68	33
zen	P21	P1	96.19370	137.17343	0.00145	0.99	0.00143	3.07	0.00042	3.37	91
zen	P21	P6	99.76010	46.35457	0.00154	1.06	0.00164	1.19	0.00120	1.36	39
dist	P21	P1	137.17300	137.17343	0.00097	0.44	0.00043	0.43	0.00035	1.22	87
dist	P21	P6	46.35420	46.35457	0.00079	0.46	0.00037	0.37	0.00042	0.87	72
tour	P21	P1	0.00000	137.17343	0.00085	0.36	0.00030	0.65	0.00039	0.77	79
hz	P21	P11	11.75120	149.06701	0.00084	-0.21	-0.00018	-0.41	0.00039	-0.45	79
hz	P21	P12	24.31630	564.57773	0.00081	-0.03	-0.00002	-0.20	0.00043	-0.05	72
hz	P21	P19	24.72570	103.33611	0.00086	-0.89	-0.00076	-1.24	0.00041	-1.87	78
hz	P21	P13	39.63240	145.17329	0.00084	0.75	0.00063	1.44	0.00039	1.62	78
zen	P21	P1	96.19530	137.17343	0.00145	-0.12	-0.00017	-0.38	0.00042	-0.41	91
zen	P21	P11	96.93760	149.06701	0.00144	-0.52	-0.00075	-1.75	0.00039	-1.93	93
zen	P21	P12	95.69910	564.57773	0.00141	-0.64	-0.00090	-7.97	0.00023	-3.94	97
zen	P21	P19	98.76960	103.33611	0.00146	-1.52	-0.00222	-3.61	0.00057	-3.92	85
zen	P21	P13	98.16370	145.17329	0.00144	-1.01	-0.00146	-3.32	0.00042	-3.50	92
dist	P21	P1	137.17290	137.17343	0.00097	0.55	0.00053	0.53	0.00035	1.50	87
dist	P21	P11	149.06700	149.06701	0.00100	0.01	0.00001	0.01	0.00034	0.02	89
dist	P21	P12	564.57820	564.57773	0.00183	-0.26	-0.00047	-0.47	0.00063	-0.74	88
dist	P21	P19	103.33550	103.33611	0.00091	0.68	0.00061	0.61	0.00035	1.74	85
dist	P21	P13	145.17300	145.17329	0.00099	0.30	0.00029	0.29	0.00041	0.72	83
tour	P21b	P1	0.00000	137.16572	0.00085	-1.25	-0.00106	-2.29	0.00051	-2.06	63
hz	P21b	V1011	152.75670	61.24612	0.00090	0.34	0.00030	0.29	0.00047	0.64	73
hz	P21b	V1012	152.49550	61.48820	0.00090	1.49	0.00135	1.30	0.00048	2.84	72
hz	P21b	V1013	148.03240	58.09680	0.00091	-0.35	-0.00032	-0.29	0.00052	-0.62	68

hz	P21b	V1014	149.87580	61.22868	0.00090	0.13	0.00012	0.12	0.00056	0.22	62
hz	P21b	V1015	148.48280	62.24346	0.00090	0.38	0.00035	0.34	0.00062	0.56	54
hz	P21b	V1016	143.70820	62.08452	0.00090	-0.66	-0.00059	-0.58	0.00068	-0.88	44
zen	P21b	P1	96.25730	137.16572	0.00145	0.06	0.00009	0.20	0.00022	0.41	98
zen	P21b	V1011	92.88400	61.24612	0.00150	-0.48	-0.00073	-0.70	0.00067	-1.09	80
zen	P21b	V1012	91.10500	61.48820	0.00150	-0.15	-0.00023	-0.22	0.00069	-0.33	79
zen	P21b	V1013	91.83090	58.09680	0.00151	-0.05	-0.00007	-0.06	0.00111	-0.06	46
zen	P21b	V1014	95.15440	61.22868	0.00150	-0.39	-0.00059	-0.57	0.00101	-0.59	55
zen	P21b	V1015	88.49150	62.24346	0.00150	-0.40	-0.00060	-0.58	0.00089	-0.67	65
zen	P21b	V1016	98.28330	62.08452	0.00150	1.04	0.00156	1.53	0.00068	2.31	80
dist	P21b	P1	137.16510	137.16572	0.00097	0.64	0.00062	0.62	0.00026	2.37	93
dist	P21b	V1013	58.09710	58.09680	0.00082	-0.37	-0.00030	-0.30	0.00041	-0.74	75
dist	P21b	V1014	61.22860	61.22868	0.00082	0.10	0.00008	0.08	0.00044	0.19	71
dist	P21b	V1015	62.24290	62.24346	0.00082	0.68	0.00056	0.56	0.00044	1.26	71
dist	P21b	V1016	62.08460	62.08452	0.00082	-0.10	-0.00008	-0.08	0.00045	-0.18	70
tour	P21b	P1	0.00000	137.16572	0.00085	-0.36	-0.00031	-0.66	0.00048	-0.64	68
hz	P21b	V1021	152.18670	61.82252	0.00090	0.51	0.00046	0.45	0.00050	0.93	70
hz	P21b	V1022	151.24920	62.18082	0.00090	0.71	0.00064	0.63	0.00053	1.21	66
hz	P21b	V1023	147.52310	58.48378	0.00091	-0.20	-0.00018	-0.17	0.00057	-0.32	61
hz	P21b	V1024	150.40860	61.45927	0.00090	-1.33	-0.00120	-1.16	0.00050	-2.38	69
hz	P21b	V1025	146.52010	62.88726	0.00090	0.23	0.00021	0.21	0.00066	0.32	47
hz	P21b	V1026	145.86990	61.69722	0.00090	0.46	0.00042	0.41	0.00066	0.64	47
zen	P21b	V1021	89.00010	61.82252	0.00150	-0.09	-0.00013	-0.13	0.00070	-0.19	79
zen	P21b	V1022	87.50230	62.18082	0.00150	-0.06	-0.00009	-0.09	0.00067	-0.14	80
zen	P21b	V1023	89.47620	58.48378	0.00151	-0.28	-0.00042	-0.39	0.00097	-0.44	58
zen	P21b	V1024	92.15730	61.45927	0.00150	0.01	0.00002	0.02	0.00110	0.02	46
zen	P21b	V1025	86.68770	62.88726	0.00150	0.26	0.00038	0.38	0.00065	0.59	81
zen	P21b	V1026	97.46130	61.69722	0.00150	0.54	0.00081	0.79	0.00068	1.20	80
dist	P21b	V1023	58.48390	58.48378	0.00082	-0.15	-0.00012	-0.12	0.00039	-0.30	77
dist	P21b	V1024	61.45910	61.45927	0.00082	0.21	0.00017	0.17	0.00039	0.44	78
dist	P21b	V1025	62.88670	62.88726	0.00083	0.67	0.00056	0.56	0.00041	1.36	76
dist	P21b	V1026	61.69720	61.69722	0.00082	0.02	0.00002	0.02	0.00038	0.05	78
tour	P21b	P1	0.00000	137.16572	0.00085	-0.48	-0.00041	-0.88	0.00049	-0.84	67
hz	P21b	V1031	149.74510	62.78039	0.00090	-0.47	-0.00042	-0.42	0.00058	-0.73	59
hz	P21b	V1032	148.23130	63.19439	0.00090	1.10	0.00099	0.98	0.00060	1.64	55
hz	P21b	V1033	145.87750	59.09773	0.00091	0.16	0.00015	0.14	0.00065	0.23	49
hz	P21b	V1034	149.54590	62.03182	0.00090	0.05	0.00005	0.05	0.00058	0.08	59
hz	P21b	V1035	143.62580	63.63513	0.00090	0.01	0.00001	0.01	0.00068	0.01	44
hz	P21b	V1036	147.75930	61.49728	0.00090	-0.34	-0.00031	-0.30	0.00059	-0.52	57
zen	P21b	V1031	85.36310	62.78039	0.00150	-0.09	-0.00014	-0.14	0.00058	-0.24	85

zen	P21b	V1032	84.47300	63.19439	0.00150	0.03	0.00004	0.04	0.00051	0.08	89
zen	P21b	V1033	87.34060	59.09773	0.00151	-0.46	-0.00070	-0.65	0.00069	-1.01	79
zen	P21b	V1034	88.86390	62.03182	0.00150	0.47	0.00071	0.69	0.00093	0.77	62
zen	P21b	V1035	85.79160	63.63513	0.00150	-0.11	-0.00017	-0.17	0.00048	-0.36	90
zen	P21b	V1036	95.56480	61.49728	0.00150	0.26	0.00039	0.38	0.00089	0.44	65
dist	P21b	V1033	59.09800	59.09773	0.00082	-0.33	-0.00027	-0.27	0.00039	-0.69	77
dist	P21b	V1034	62.03200	62.03182	0.00082	-0.21	-0.00018	-0.18	0.00039	-0.45	78
dist	P21b	V1035	63.63510	63.63513	0.00083	0.04	0.00003	0.03	0.00038	0.08	79
dist	P21b	V1036	61.49690	61.49728	0.00082	0.46	0.00038	0.38	0.00035	1.07	82
tour	P21b	P1	0.00000	137.16572	0.00085	0.28	0.00024	0.51	0.00051	0.46	64
hz	P21b	V1041	146.24210	63.78070	0.00090	-0.13	-0.00012	-0.12	0.00061	-0.20	54
hz	P21b	V1042	144.49250	64.16689	0.00090	0.16	0.00015	0.15	0.00071	0.21	38
hz	P21b	V1043	143.64820	59.72241	0.00091	0.14	0.00013	0.12	0.00068	0.19	44
hz	P21b	V1044	147.51950	62.75173	0.00090	0.04	0.00004	0.04	0.00065	0.06	48
hz	P21b	V1045	140.84360	64.21511	0.00090	0.30	0.00027	0.28	0.00066	0.41	46
hz	P21b	V1046	148.62190	61.57679	0.00090	-0.81	-0.00073	-0.71	0.00055	-1.34	63
zen	P21b	V1041	83.37080	63.78070	0.00150	-0.65	-0.00098	-0.98	0.00042	-2.32	92
zen	P21b	V1042	83.19150	64.16689	0.00150	0.27	0.00041	0.41	0.00042	0.97	92
zen	P21b	V1043	86.24640	59.72241	0.00151	-0.43	-0.00064	-0.60	0.00051	-1.25	88
zen	P21b	V1044	86.51850	62.75173	0.00150	-0.39	-0.00059	-0.58	0.00068	-0.87	80
zen	P21b	V1045	86.18110	64.21511	0.00150	-0.04	-0.00006	-0.07	0.00057	-0.11	86
zen	P21b	V1046	93.23430	61.57679	0.00150	-0.39	-0.00059	-0.57	0.00108	-0.55	48
dist	P21b	V1043	59.72190	59.72241	0.00082	0.62	0.00051	0.51	0.00039	1.29	77
dist	P21b	V1044	62.75110	62.75173	0.00083	0.76	0.00063	0.63	0.00041	1.53	75
dist	P21b	V1045	64.21530	64.21511	0.00083	-0.23	-0.00019	-0.19	0.00039	-0.48	78
dist	P21b	V1046	61.57680	61.57679	0.00082	-0.01	-0.00001	-0.01	0.00039	-0.03	78
tour	P21b	P1	0.00000	137.16572	0.00085	-0.25	-0.00021	-0.45	0.00048	-0.43	68
hz	P21b	V1051	143.58570	64.41678	0.00090	0.32	0.00029	0.29	0.00049	0.59	71
hz	P21b	V1052	141.85930	64.74586	0.00090	0.33	0.00029	0.30	0.00054	0.54	64
hz	P21b	V1053	141.99810	60.11139	0.00091	0.45	0.00041	0.38	0.00067	0.60	45
hz	P21b	V1054	145.70730	63.26513	0.00090	0.62	0.00056	0.56	0.00066	0.85	46
hz	P21b	V1055	139.18970	64.49029	0.00090	0.39	0.00036	0.36	0.00063	0.56	51
hz	P21b	V1056	148.63300	61.76446	0.00090	-0.18	-0.00017	-0.16	0.00056	-0.30	62
hz	P21b	V1057	142.92530	64.63602	0.00090	-1.18	-0.00106	-1.08	0.00047	-2.25	73
hz	P21b	V1058	142.67460	64.70430	0.00090	-0.49	-0.00044	-0.45	0.00047	-0.94	73
zen	P21b	V1051	82.94680	64.41678	0.00150	-0.62	-0.00092	-0.93	0.00041	-2.26	93
zen	P21b	V1052	83.25010	64.74586	0.00150	0.47	0.00070	0.72	0.00045	1.56	91
zen	P21b	V1053	86.08590	60.11139	0.00151	-1.30	-0.00196	-1.85	0.00052	-3.78	88
zen	P21b	V1054	85.54820	63.26513	0.00150	-1.04	-0.00156	-1.55	0.00057	-2.75	86
zen	P21b	V1055	87.04430	64.49029	0.00150	0.98	0.00147	1.49	0.00072	2.05	77

zen	P21b	V1056	91.59560	61.76446	0.00150	-0.26	-0.00039	-0.38	0.00109	-0.36	48
zen	P21b	V1057	82.64760	64.63602	0.00150	-0.90	-0.00134	-1.37	0.00057	-2.37	86
zen	P21b	V1058	82.66270	64.70430	0.00150	-1.83	-0.00274	-2.79	0.00055	-4.99	87
dist	P21b	V1053	60.11080	60.11139	0.00082	0.72	0.00059	0.59	0.00041	1.45	75
dist	P21b	V1054	63.26520	63.26513	0.00083	-0.08	-0.00007	-0.07	0.00043	-0.16	73
dist	P21b	V1055	64.49100	64.49029	0.00083	-0.86	-0.00071	-0.71	0.00043	-1.66	73
dist	P21b	V1056	61.76500	61.76446	0.00082	-0.65	-0.00054	-0.54	0.00043	-1.24	72
tour	P21b	P1	0.00000	137.16572	0.00085	0.10	0.00008	0.18	0.00060	0.14	49
hz	P21b	V1062	141.44840	65.32952	0.00090	0.05	0.00004	0.04	0.00062	0.07	52
hz	P21b	V1067	141.70160	66.48674	0.00090	0.18	0.00017	0.17	0.00062	0.27	52
hz	P21b	V1068	141.63570	66.25126	0.00090	-0.34	-0.00030	-0.31	0.00062	-0.49	52
zen	P21b	V1062	83.40380	65.32952	0.00150	0.00	0.00000	0.00	0.00048	0.01	90
zen	P21b	V1067	83.14110	66.48674	0.00150	-0.05	-0.00008	-0.08	0.00059	-0.13	84
zen	P21b	V1068	83.07710	66.25126	0.00150	-1.57	-0.00235	-2.45	0.00057	-4.16	86
tour	P21b	P1	0.00000	137.16572	0.00085	-0.87	-0.00073	-1.58	0.00061	-1.19	47
hz	P21b	V1071	140.90760	62.77966	0.00091	-0.05	-0.00005	-0.04	0.00064	-0.07	49
hz	P21b	V1077	141.03200	63.49960	0.00090	0.40	0.00036	0.36	0.00063	0.57	51
hz	P21b	V1078	141.09690	63.73811	0.00090	0.57	0.00052	0.52	0.00063	0.82	51
zen	P21b	V1071	82.49210	62.77966	0.00150	-0.48	-0.00072	-0.71	0.00072	-0.99	77
zen	P21b	V1077	82.32980	63.49960	0.00150	-0.82	-0.00123	-1.23	0.00060	-2.05	84
zen	P21b	V1078	82.39130	63.73811	0.00150	-0.26	-0.00040	-0.40	0.00057	-0.69	85
tour	P21b	P1	0.00000	137.16572	0.00085	-1.18	-0.00100	-2.15	0.00058	-1.72	53
hz	P21b	V1081	139.18660	65.54752	0.00090	0.23	0.00020	0.21	0.00078	0.26	25
hz	P21b	V1082	140.85440	64.97243	0.00090	-0.07	-0.00007	-0.07	0.00055	-0.12	63
hz	P21b	V1087	139.82120	65.45356	0.00090	0.76	0.00069	0.71	0.00052	1.31	66
hz	P21b	V1088	140.06150	65.36758	0.00090	0.34	0.00031	0.31	0.00052	0.59	66
zen	P21b	V1081	83.24970	65.54752	0.00150	-0.76	-0.00114	-1.18	0.00084	-1.36	69
zen	P21b	V1082	83.31080	64.97243	0.00150	-0.05	-0.00008	-0.08	0.00053	-0.14	87
zen	P21b	V1087	82.87150	65.45356	0.00150	-1.45	-0.00217	-2.24	0.00056	-3.88	86
zen	P21b	V1088	82.84350	65.36758	0.00150	-1.61	-0.00241	-2.48	0.00054	-4.43	87
tour	P21b	P1	0.00000	137.16572	0.00085	-0.56	-0.00047	-1.02	0.00067	-0.70	37
hz	P21b	V1999	140.59130	61.07203	0.00090	0.59	0.00054	0.52	0.00069	0.78	42
zen	P21b	P1	96.25730	137.16572	0.00145	0.06	0.00009	0.20	0.00022	0.41	98
zen	P21b	V1999	98.32700	61.07203	0.00150	0.49	0.00074	0.71	0.00061	1.21	83
dist	P21b	P1	137.16550	137.16572	0.00097	0.23	0.00022	0.22	0.00026	0.85	93
dist	P21b	V1999	61.07130	61.07203	0.00082	0.89	0.00073	0.73	0.00048	1.54	66
						TDA_P20.obs					
tour	P20	P12	0.00000	533.64939	0.00081	-0.73	-0.00059	-4.97	0.00041	-1.43	74
hz	P20	P13	11.69850	110.99843	0.00086	1.09	0.00093	1.63	0.00037	2.49	81
hz	P20	P5	58.55340	107.74824	0.00086	-0.38	-0.00033	-0.56	0.00041	-0.81	78

hz	P20	P1	362.41230	118.32163	0.00085	-0.18	-0.00016	-0.29	0.00037	-0.42	81
hz	P20	P11	377.31730	124.25000	0.00085	0.06	0.00005	0.10	0.00036	0.14	82
hz	P20	P19	387.12900	74.15474	0.00089	0.20	0.00018	0.20	0.00042	0.42	78
zen	P20	P12	95.59930	533.64939	0.00141	-0.04	-0.00005	-0.45	0.00022	-0.24	98
zen	P20	P13	98.32060	110.99843	0.00146	0.03	0.00004	0.07	0.00032	0.12	95
zen	P20	P5	96.94950	107.74824	0.00146	0.71	0.00104	1.75	0.00030	3.44	96
zen	P20	P1	96.26900	118.32163	0.00145	-0.14	-0.00020	-0.37	0.00027	-0.74	97
zen	P20	P11	96.97170	124.25000	0.00145	0.37	0.00053	1.04	0.00024	2.19	97
zen	P20	P19	99.36650	74.15474	0.00149	-0.03	-0.00005	-0.06	0.00044	-0.11	91
dist	P20	P12	533.64680	533.64939	0.00177	1.46	0.00259	2.59	0.00059	4.37	89
dist	P20	P13	110.99870	110.99843	0.00092	-0.29	-0.00027	-0.27	0.00035	-0.77	85
dist	P20	P5	107.74860	107.74824	0.00092	-0.40	-0.00036	-0.36	0.00042	-0.87	79
dist	P20	P1	118.32090	118.32163	0.00094	0.78	0.00073	0.73	0.00028	2.62	91
dist	P20	P11	124.25000	124.25000	0.00095	-0.00	-0.00000	-0.00	0.00026	-0.01	93
dist	P20	P19	74.15420	74.15474	0.00085	0.64	0.00054	0.54	0.00028	1.93	89
tour	P20	P12	0.00000	533.64939	0.00081	-0.14	-0.00012	-0.98	0.00065	-0.18	37
hz	P20	P6	188.81160	66.39686	0.00090	0.16	0.00014	0.15	0.00067	0.21	45
zen	P20	P12	95.59930	533.64939	0.00141	-0.04	-0.00005	-0.45	0.00022	-0.24	98
zen	P20	P6	101.04620	66.39686	0.00150	-0.88	-0.00131	-1.37	0.00043	-3.01	92
dist	P20	P12	533.64670	533.64939	0.00177	1.52	0.00269	2.69	0.00059	4.54	89
dist	P20	P6	66.39720	66.39686	0.00083	-0.41	-0.00034	-0.34	0.00030	-1.11	87
tour	P20	P12	0.00000	533.64939	0.00081	-0.51	-0.00041	-3.46	0.00051	-0.80	60
hz	P20	V1011	165.84500	68.56706	0.00089	0.30	0.00027	0.29	0.00048	0.56	71
hz	P20	V1012	165.63570	68.62383	0.00089	-0.00	-0.00000	-0.00	0.00049	-0.01	70
hz	P20	V1013	163.98790	63.52859	0.00090	-0.42	-0.00038	-0.38	0.00049	-0.77	70
hz	P20	V1014	163.55120	67.11965	0.00090	-0.25	-0.00023	-0.24	0.00052	-0.44	66
hz	P20	V1015	162.38210	67.21863	0.00090	0.49	0.00044	0.46	0.00057	0.77	60
hz	P20	V1016	158.16720	64.66462	0.00090	0.45	0.00040	0.41	0.00065	0.63	48
zen	P20	P12	95.59880	533.64939	0.00141	0.32	0.00045	3.74	0.00022	2.01	98
zen	P20	V1011	94.69890	68.56706	0.00149	-0.45	-0.00067	-0.72	0.00060	-1.10	84
zen	P20	V1012	93.08890	68.62383	0.00149	0.19	0.00029	0.31	0.00063	0.46	82
zen	P20	V1013	93.67060	63.52859	0.00150	-0.09	-0.00013	-0.13	0.00102	-0.13	54
zen	P20	V1014	96.65200	67.11965	0.00149	0.31	0.00046	0.48	0.00092	0.50	62
zen	P20	V1015	90.43430	67.21863	0.00149	-0.37	-0.00055	-0.58	0.00085	-0.65	67
zen	P20	V1016	99.46370	64.66462	0.00150	0.66	0.00099	1.01	0.00066	1.51	81
dist	P20	P12	533.64640	533.64939	0.00177	1.69	0.00299	2.99	0.00059	5.04	89
dist	P20	V1013	63.52890	63.52859	0.00083	-0.38	-0.00031	-0.31	0.00039	-0.80	78
dist	P20	V1014	67.11980	67.11965	0.00083	-0.18	-0.00015	-0.15	0.00044	-0.34	72
dist	P20	V1015	67.21810	67.21863	0.00083	0.64	0.00053	0.53	0.00041	1.29	75
dist	P20	V1016	64.66380	64.66462	0.00083	0.98	0.00082	0.82	0.00047	1.74	68

tour	P20	P12	0.00000	533.64939	0.00081	1.05	0.00085	7.11	0.00048	1.77	65
hz	P20	V1021	165.39480	68.73418	0.00089	0.01	0.00001	0.01	0.00050	0.02	68
hz	P20	V1022	164.63870	68.56002	0.00089	-0.22	-0.00020	-0.22	0.00054	-0.37	63
hz	P20	V1023	163.56620	63.58004	0.00090	-0.35	-0.00031	-0.31	0.00052	-0.59	66
hz	P20	V1024	163.98980	67.55518	0.00089	-0.19	-0.00017	-0.18	0.00048	-0.36	71
hz	P20	V1025	160.69730	66.75854	0.00090	0.03	0.00003	0.03	0.00061	0.05	54
hz	P20	V1026	160.11550	65.46822	0.00090	-0.44	-0.00039	-0.41	0.00062	-0.64	53
zen	P20	P12	95.59910	533.64939	0.00141	0.10	0.00015	1.23	0.00022	0.66	98
zen	P20	V1021	91.17270	68.73418	0.00149	-0.18	-0.00026	-0.28	0.00065	-0.41	81
zen	P20	V1022	89.74100	68.56002	0.00149	0.33	0.00050	0.54	0.00064	0.78	81
zen	P20	V1023	91.46710	63.58004	0.00150	0.63	0.00094	0.94	0.00092	1.02	62
zen	P20	V1024	93.93740	67.55518	0.00149	0.12	0.00017	0.18	0.00101	0.17	54
zen	P20	V1025	88.56730	66.75854	0.00150	-0.73	-0.00109	-1.15	0.00064	-1.70	82
zen	P20	V1026	98.70650	65.46822	0.00150	-0.06	-0.00009	-0.09	0.00064	-0.14	82
dist	P20	V1023	63.58020	63.58004	0.00083	-0.19	-0.00016	-0.16	0.00036	-0.44	81
dist	P20	V1024	67.55510	67.55518	0.00084	0.09	0.00008	0.08	0.00037	0.22	81
dist	P20	V1025	66.75810	66.75854	0.00083	0.53	0.00044	0.44	0.00040	1.11	77
dist	P20	V1026	65.46800	65.46822	0.00083	0.27	0.00022	0.22	0.00042	0.53	74
tour	P20	P4	0.00000	225.64366	0.00083	1.20	0.00099	3.53	0.00049	2.04	65
hz	P20	V1031	163.61510	68.30782	0.00090	-0.62	-0.00056	-0.60	0.00058	-0.97	59
hz	P20	V1032	162.34250	67.89836	0.00090	-0.38	-0.00034	-0.37	0.00061	-0.56	53
hz	P20	V1033	162.37680	63.25236	0.00090	-0.09	-0.00008	-0.08	0.00059	-0.13	57
hz	P20	V1034	163.48350	67.58108	0.00090	-0.53	-0.00047	-0.50	0.00053	-0.88	64
hz	P20	V1035	158.30820	65.90042	0.00090	0.06	0.00005	0.06	0.00064	0.08	49
hz	P20	V1036	161.96020	66.26163	0.00090	0.26	0.00023	0.24	0.00055	0.42	62
zen	P20	P4	97.09370	225.64366	0.00143	0.10	0.00014	0.48	0.00022	0.62	98
zen	P20	V1031	87.63870	68.30782	0.00149	0.91	0.00135	1.45	0.00058	2.34	85
zen	P20	V1032	86.65160	67.89836	0.00149	0.48	0.00071	0.76	0.00052	1.37	88
zen	P20	V1033	89.33520	63.25236	0.00150	0.19	0.00029	0.29	0.00069	0.42	79
zen	P20	V1034	90.86330	67.58108	0.00149	-0.24	-0.00036	-0.38	0.00088	-0.40	65
zen	P20	V1035	87.40140	65.90042	0.00150	0.24	0.00036	0.37	0.00048	0.75	90
zen	P20	V1036	96.97120	66.26163	0.00150	-0.34	-0.00051	-0.53	0.00082	-0.62	70
dist	P20	P4	225.64430	225.64366	0.00115	-0.55	-0.00064	-0.64	0.00031	-2.08	93
dist	P20	V1033	63.25260	63.25236	0.00083	-0.28	-0.00024	-0.24	0.00037	-0.64	80
dist	P20	V1034	67.58100	67.58108	0.00084	0.10	0.00008	0.08	0.00035	0.23	82
dist	P20	V1035	65.90060	65.90042	0.00083	-0.22	-0.00018	-0.18	0.00040	-0.46	77
dist	P20	V1036	66.26150	66.26163	0.00083	0.16	0.00013	0.13	0.00039	0.33	78
tour	P20	P4	0.00000	225.64366	0.00083	-0.47	-0.00039	-1.38	0.00051	-0.76	62
hz	P20	V1041	160.62690	67.39262	0.00090	-0.17	-0.00015	-0.16	0.00061	-0.25	54
hz	P20	V1042	159.06340	66.82793	0.00090	-0.33	-0.00030	-0.31	0.00067	-0.45	45

hz	P20	V1043	160.42070	62.63365	0.00090	0.34	0.00031	0.31	0.00064	0.49	51
hz	P20	V1044	161.76940	67.15555	0.00090	1.21	0.00109	1.15	0.00060	1.83	56
hz	P20	V1045	155.68610	64.92742	0.00090	-0.05	-0.00005	-0.05	0.00065	-0.08	48
hz	P20	V1046	162.69190	66.75098	0.00090	-0.49	-0.00044	-0.46	0.00052	-0.84	66
zen	P20	P4	97.09390	225.64366	0.00143	-0.04	-0.00006	-0.23	0.00022	-0.29	98
zen	P20	V1041	85.37670	67.39262	0.00149	0.54	0.00081	0.85	0.00044	1.83	91
zen	P20	V1042	84.98320	66.82793	0.00150	0.83	0.00124	1.30	0.00043	2.86	92
zen	P20	V1043	88.06450	62.63365	0.00150	-0.14	-0.00021	-0.21	0.00052	-0.40	88
zen	P20	V1044	88.50490	67.15555	0.00149	-0.87	-0.00130	-1.37	0.00067	-1.94	80
zen	P20	V1045	87.46490	64.92742	0.00150	0.45	0.00068	0.69	0.00054	1.27	87
zen	P20	V1046	94.84070	66.75098	0.00150	0.06	0.00009	0.09	0.00100	0.09	55
dist	P20	P4	225.64450	225.64366	0.00115	-0.73	-0.00084	-0.84	0.00031	-2.73	93
dist	P20	V1043	62.63410	62.63365	0.00083	-0.55	-0.00045	-0.45	0.00040	-1.14	77
dist	P20	V1044	67.15630	67.15555	0.00083	-0.90	-0.00075	-0.75	0.00039	-1.93	78
dist	P20	V1045	64.92790	64.92742	0.00083	-0.58	-0.00048	-0.48	0.00043	-1.13	73
dist	P20	V1046	66.75110	66.75098	0.00083	-0.15	-0.00012	-0.12	0.00039	-0.31	78
tour	P20	P4	0.00000	225.64366	0.00083	0.38	0.00032	1.12	0.00050	0.63	64
hz	P20	V1051	158.24150	66.57729	0.00090	0.41	0.00037	0.39	0.00051	0.73	68
hz	P20	V1052	156.62430	65.95742	0.00090	0.75	0.00068	0.70	0.00053	1.28	65
hz	P20	V1053	158.92390	62.10470	0.00090	-0.58	-0.00052	-0.51	0.00064	-0.81	50
hz	P20	V1054	160.19240	66.66606	0.00090	-0.35	-0.00032	-0.33	0.00062	-0.52	53
hz	P20	V1055	154.06470	64.26959	0.00090	0.33	0.00030	0.30	0.00063	0.47	51
hz	P20	V1056	162.70230	66.90358	0.00090	0.54	0.00049	0.51	0.00054	0.90	64
hz	P20	V1057	157.63770	66.42689	0.00090	-0.83	-0.00075	-0.78	0.00056	-1.33	61
hz	P20	V1058	157.39720	66.35539	0.00090	-0.70	-0.00063	-0.65	0.00056	-1.12	61
zen	P20	P4	97.09370	225.64366	0.00143	0.10	0.00014	0.48	0.00022	0.62	98
zen	P20	V1051	84.62690	66.57729	0.00150	-0.44	-0.00066	-0.69	0.00041	-1.63	93
zen	P20	V1052	84.68960	65.95742	0.00150	0.10	0.00015	0.15	0.00043	0.33	92
zen	P20	V1053	87.71840	62.10470	0.00150	0.11	0.00017	0.16	0.00051	0.33	89
zen	P20	V1054	87.39830	66.66606	0.00150	-0.74	-0.00111	-1.16	0.00057	-1.95	86
zen	P20	V1055	88.13990	64.26959	0.00150	0.29	0.00043	0.44	0.00069	0.63	79
zen	P20	V1056	93.32520	66.90358	0.00150	-0.03	-0.00005	-0.05	0.00101	-0.05	54
zen	P20	V1057	84.24320	66.42689	0.00150	0.41	0.00061	0.64	0.00056	1.08	86
zen	P20	V1058	84.22110	66.35539	0.00150	0.31	0.00046	0.48	0.00055	0.84	87
dist	P20	P4	225.64420	225.64366	0.00115	-0.46	-0.00054	-0.54	0.00031	-1.75	93
dist	P20	V1053	62.10420	62.10470	0.00082	0.60	0.00050	0.50	0.00042	1.18	74
dist	P20	V1054	66.66580	66.66606	0.00083	0.31	0.00026	0.26	0.00042	0.62	75
dist	P20	V1055	64.27020	64.26959	0.00083	-0.74	-0.00061	-0.61	0.00046	-1.33	69
dist	P20	V1056	66.90410	66.90358	0.00083	-0.63	-0.00052	-0.52	0.00042	-1.25	75
tour	P20	P4	0.00000	225.64366	0.00083	0.32	0.00026	0.93	0.00065	0.40	39

hz	P20	V1062	155.96100	66.23558	0.00090	0.30	0.00027	0.28	0.00065	0.42	47
hz	P20	V1067	155.61830	67.35943	0.00090	-0.53	-0.00048	-0.50	0.00065	-0.74	48
hz	P20	V1068	155.69100	67.12485	0.00090	-0.11	-0.00010	-0.11	0.00065	-0.16	48
zen	P20	P4	97.09470	225.64366	0.00143	-0.60	-0.00086	-3.06	0.00022	-3.94	98
zen	P20	V1062	84.75480	66.23558	0.00150	0.24	0.00036	0.38	0.00049	0.74	89
zen	P20	V1067	84.46580	67.35943	0.00149	0.34	0.00052	0.55	0.00060	0.86	84
zen	P20	V1068	84.40620	67.12485	0.00149	-0.06	-0.00009	-0.09	0.00057	-0.16	85
dist	P20	P4	225.64460	225.64366	0.00115	-0.81	-0.00094	-0.94	0.00031	-3.06	93
tour	P20	P4	0.00000	225.64366	0.00083	-0.72	-0.00059	-2.10	0.00067	-0.89	35
hz	P20	V1071	157.02730	63.82169	0.00090	-0.69	-0.00063	-0.63	0.00067	-0.93	44
hz	P20	V1077	156.75440	64.49449	0.00090	0.78	0.00070	0.71	0.00066	1.07	47
hz	P20	V1078	156.66760	64.72762	0.00090	0.69	0.00063	0.64	0.00065	0.96	47
zen	P20	P4	97.09590	225.64366	0.00143	-1.45	-0.00206	-7.31	0.00022	-9.41	98
zen	P20	V1071	83.95100	63.82169	0.00150	-0.72	-0.00107	-1.08	0.00071	-1.50	77
zen	P20	V1077	83.76360	64.49449	0.00150	-0.81	-0.00122	-1.23	0.00061	-1.98	83
zen	P20	V1078	83.81570	64.72762	0.00150	0.70	0.00104	1.06	0.00058	1.79	85
dist	P20	P4	225.64470	225.64366	0.00115	-0.90	-0.00104	-1.04	0.00031	-3.38	93
tour	P20	P4	0.00000	225.64366	0.00083	-0.05	-0.00004	-0.15	0.00066	-0.07	36
hz	P20	V1081	153.99010	65.23893	0.00090	0.06	0.00005	0.06	0.00073	0.07	33
hz	P20	V1082	155.67130	65.62456	0.00090	0.59	0.00053	0.54	0.00063	0.84	51
hz	P20	V1088	154.87650	65.55557	0.00090	-0.36	-0.00033	-0.34	0.00057	-0.57	60
hz	P20	V1087	154.62710	65.50217	0.00090	-0.23	-0.00020	-0.21	0.00057	-0.36	60
zen	P20	P4	97.09520	225.64366	0.00143	-0.95	-0.00136	-4.83	0.00022	-6.22	98
zen	P20	V1081	84.30520	65.23893	0.00150	0.39	0.00058	0.60	0.00085	0.69	68
zen	P20	V1082	84.60870	65.62456	0.00150	1.32	0.00197	2.03	0.00052	3.79	88
zen	P20	V1088	84.02450	65.55557	0.00150	0.79	0.00118	1.22	0.00055	2.15	86
zen	P20	V1087	84.01660	65.50217	0.00150	0.59	0.00088	0.91	0.00057	1.55	85
dist	P20	P4	225.64450	225.64366	0.00115	-0.73	-0.00084	-0.84	0.00031	-2.73	93
tour	P20	P4	0.00000	225.64366	0.00083	-0.61	-0.00051	-1.80	0.00068	-0.75	33
hz	P20	V1999	156.40630	62.15875	0.00090	0.67	0.00060	0.59	0.00070	0.86	40
zen	P20	P4	97.09500	225.64366	0.00143	-0.81	-0.00116	-4.12	0.00022	-5.31	98
zen	P20	V1999	99.51190	62.15875	0.00150	0.83	0.00125	1.22	0.00061	2.03	83
dist	P20	P4	225.64450	225.64366	0.00115	-0.73	-0.00084	-0.84	0.00031	-2.73	93
dist	P20	V1999	62.15880	62.15875	0.00082	-0.06	-0.00005	-0.05	0.00041	-0.11	75
tour	P22	P1	0.00000	176.53613	0.00084	0.22	0.00019	0.52	0.00045	0.42	72
hz	P22	V1999	101.67590	32.64436	0.00100	-0.75	-0.00074	-0.38	0.00072	-1.04	48
hz	P22	P11	9.69280	185.43131	0.00083	1.24	0.00104	3.02	0.00045	2.31	71
hz	P22	P20	18.11630	61.98902	0.00090	0.22	0.00020	0.19	0.00047	0.41	72
hz	P22	P21b	380.08300	42.02433	0.00095	-1.19	-0.00113	-0.75	0.00054	-2.09	68
zen	P22	P1	96.52970	176.53613	0.00144	0.08	0.00011	0.31	0.00021	0.53	98

zen	P22	V1999	93.82330	32.64436	0.00160	-2.17	-0.00346	-1.77	0.00100	-3.47	61
zen	P22	P11	97.04810	185.43131	0.00143	0.17	0.00025	0.73	0.00019	1.30	98
zen	P22	P20	97.28830	61.98902	0.00150	2.32	0.00348	3.39	0.00042	8.33	92
zen	P22	P21b	97.63950	42.02433	0.00155	-1.83	-0.00283	-1.87	0.00060	-4.76	85
dist	P22	P1	176.53590	176.53613	0.00105	0.22	0.00023	0.23	0.00036	0.64	88
dist	P22	V1999	32.64410	32.64436	0.00077	0.34	0.00026	0.26	0.00057	0.45	44
dist	P22	P11	185.43220	185.43131	0.00107	-0.84	-0.00089	-0.89	0.00034	-2.66	90
dist	P22	P20	61.98880	61.98902	0.00082	0.27	0.00022	0.22	0.00032	0.70	85
dist	P22	P21b	42.02430	42.02433	0.00078	0.04	0.00003	0.03	0.00034	0.09	82
tour	P21b	P12	0.00000	564.56885	0.00081	0.12	0.00010	0.89	0.00058	0.17	50
hz	P21b	P20	33.29600	36.05201	0.00098	-0.61	-0.00059	-0.34	0.00061	-0.97	61
hz	P21b	P22	149.74670	42.02433	0.00095	0.44	0.00042	0.28	0.00068	0.62	49
zen	P21b	P12	95.71290	564.56885	0.00141	0.30	0.00042	3.74	0.00021	2.01	98
zen	P21b	P20	98.08890	36.05201	0.00158	6.17	0.00973	5.51	-	0.00	-
zen	P21b	P22	102.36040	42.02433	0.00155	2.13	0.00330	2.18	0.00060	5.55	85
dist	P21b	P20	36.05160	36.05201	0.00077	0.53	0.00041	0.41	0.00025	1.66	90
dist	P21b	P22	42.02440	42.02433	0.00078	-0.09	-0.00007	-0.07	0.00034	-0.21	82
tour	P20	P1	0.00000	118.32163	0.00085	0.84	0.00072	1.34	0.00059	1.22	52
hz	P20	P21b	273.03520	36.05507	0.00098	0.91	0.00089	0.51	0.00059	1.50	63
hz	P20	P22	227.52400	61.99125	0.00090	-1.73	-0.00157	-1.52	0.00061	-2.57	55
zen	P20	P1	96.26820	118.32163	0.00145	0.41	0.00060	1.12	0.00027	2.25	97
zen	P20	P21b	102.07800	36.05507	0.00158	-2.13	-0.00336	-1.90	0.00050	-6.67	90
zen	P20	P22	102.76120	61.99125	0.00150	0.61	0.00091	0.89	0.00042	2.19	92
dist	P20	P1	118.32120	118.32163	0.00094	0.46	0.00043	0.43	0.00028	1.55	91
dist	P20	P21b	36.05430	36.05507	0.00077	1.00	0.00077	0.77	0.00025	3.10	90
dist	P20	P22	61.99150	61.99125	0.00082	-0.30	-0.00025	-0.25	0.00032	-0.78	85
						20140222.jxl.obs					
tour	P6	P5	0.00000	150.22836	0.00084	0.19	0.00016	0.38	0.00073	0.22	26
hz	P6	V1011	49.52800	25.17739	0.00106	-0.76	-0.00081	-0.32	0.00085	-0.95	35
hz	P6	V1012	49.09980	25.87741	0.00106	0.52	0.00055	0.22	0.00086	0.64	35
zen	P6	P5	97.35160	150.22836	0.00144	-0.03	-0.00004	-0.09	0.00022	-0.19	98
zen	P6	V1011	82.60650	25.17739	0.00165	0.39	0.00064	0.25	0.00143	0.45	25
zen	P6	V1012	78.62980	25.87741	0.00165	-0.25	-0.00041	-0.17	0.00139	-0.30	29
tour	P6	P5	0.00000	150.22836	0.00084	0.07	0.00006	0.13	0.00069	0.08	32
hz	P6	V1021	48.56630	26.82625	0.00106	-0.02	-0.00002	-0.01	0.00082	-0.03	39
hz	P6	V1022	47.07220	28.06892	0.00105	-0.06	-0.00007	-0.03	0.00084	-0.08	36
zen	P6	P5	97.35190	150.22836	0.00144	-0.24	-0.00034	-0.80	0.00022	-1.58	98
zen	P6	V1021	74.16520	26.82625	0.00164	-0.03	-0.00004	-0.02	0.00128	-0.03	39
zen	P6	V1022	71.65300	28.06892	0.00163	-0.47	-0.00076	-0.33	0.00115	-0.66	50
tour	P6	P5	0.00000	150.22836	0.00084	0.74	0.00062	1.46	0.00071	0.87	29

hz	P6	V1031	44.79120	30.05045	0.00104	0.07	0.00007	0.03	0.00085	0.09	34
hz	P6	V1032	42.70710	31.53448	0.00103	-0.97	-0.00100	-0.50	0.00086	-1.17	31
zen	P6	P5	97.35200	150.22836	0.00144	-0.31	-0.00044	-1.04	0.00022	-2.04	98
zen	P6	V1031	68.50160	30.05045	0.00161	0.77	0.00125	0.59	0.00096	1.29	64
zen	P6	V1032	67.93050	31.53448	0.00160	0.71	0.00114	0.57	0.00085	1.34	72
tour	P22	P1	357.01090	176.53597	0.00084	-0.18	-0.00015	-0.42	0.00076	-0.20	17
hz	P22	V1041	68.13540	34.58954	0.00102	0.22	0.00023	0.12	0.00088	0.26	26
zen	P22	V1041	65.09360	34.58954	0.00158	0.29	0.00046	0.25	0.00077	0.60	77
tour	P22	P1	357.01090	176.53597	0.00084	-0.42	-0.00035	-0.97	0.00073	-0.48	23
hz	P22	V1051	64.49720	36.57529	0.00100	0.50	0.00050	0.29	0.00083	0.60	32
hz	P22	V1057	63.63670	37.18491	0.00100	0.02	0.00002	0.01	0.00095	0.02	9
hz	P22	V1058	63.33990	37.36452	0.00100	-0.01	-0.00001	-0.01	0.00095	-0.01	9
zen	P22	V1051	66.02250	36.57529	0.00157	-0.64	-0.00101	-0.58	0.00077	-1.30	76
zen	P22	V1057	65.93960	37.18491	0.00157	0.15	0.00023	0.13	0.00092	0.25	66
zen	P22	V1058	66.11060	37.36452	0.00157	0.39	0.00062	0.36	0.00090	0.69	67
zen	P22	P1	96.53180	176.53597	0.00144	-0.63	-0.00091	-2.52	0.00021	-4.32	98
dist	P22	P1	176.56340	176.53597	0.00105	-26.05	-0.02743	-27.43	-	0.00	-
tour	P22	P1	357.01090	176.53597	0.00084	-0.48	-0.00040	-1.11	0.00076	-0.53	18
hz	P22	V1062	62.45350	38.28052	0.00099	-0.23	-0.00023	-0.14	0.00081	-0.28	33
hz	P22	V1067	64.02060	39.14820	0.00099	0.29	0.00029	0.18	0.00079	0.36	35
hz	P22	V1068	63.64710	39.01370	0.00099	0.50	0.00050	0.30	0.00080	0.63	35
zen	P22	V1062	68.08710	38.28052	0.00157	0.21	0.00033	0.20	0.00090	0.37	67
zen	P22	V1067	67.81560	39.14820	0.00156	0.09	0.00014	0.09	0.00095	0.15	63
zen	P22	V1068	67.68420	39.01370	0.00156	0.52	0.00081	0.50	0.00092	0.88	66
tour	P22	P1	357.01090	176.53597	0.00084	0.65	0.00055	1.51	0.00077	0.71	16
hz	P22	V1071	58.32270	36.85717	0.00100	0.67	0.00067	0.39	0.00082	0.82	33
hz	P22	V1077	59.34370	37.39268	0.00100	-0.76	-0.00075	-0.44	0.00081	-0.93	34
hz	P22	V1078	59.75070	37.52324	0.00100	-0.69	-0.00068	-0.40	0.00081	-0.85	34
zen	P22	V1071	66.31080	36.99370	0.00157	-253.44	-0.39843	-231.53	-	0.00	-
zen	P22	V1077	66.15010	37.39268	0.00157	0.74	0.00116	0.68	0.00098	1.19	61
zen	P22	V1078	66.26890	37.52324	0.00157	1.33	0.00209	1.23	0.00094	2.22	64
tour	P22	P1	357.01090	176.53597	0.00084	0.28	0.00023	0.64	0.00081	0.29	6
hz	P22	V1082	61.14800	38.34305	0.00099	0.02	0.00002	0.01	0.00095	0.03	7
hz	P22	V1087	60.05840	39.40761	0.00098	-0.27	-0.00027	-0.17	0.00095	-0.29	8
hz	P22	V1088	60.29760	39.21833	0.00099	-0.08	-0.00008	-0.05	0.00095	-0.08	8
zen	P22	V1082	68.14400	38.47283	0.00157	-248.95	-0.38973	-235.52	-	0.00	-
zen	P22	V1087	68.04790	39.40761	0.00156	0.89	0.00139	0.86	0.00091	1.52	66
zen	P22	V1088	67.87090	39.21833	0.00156	0.15	0.00023	0.14	0.00090	0.26	67
tour	P22	P1	357.01090	176.53597	0.00124	-2.77	-0.00342	-9.49	0.00062	-5.55	75
hz	P22	V1999	58.68240	32.64407	0.00100	0.05	0.00005	0.02	0.00074	0.06	45

hz	P22	P11	366.69960	185.43117	0.00083	1.83	0.00153	4.45	0.00061	2.49	46
zen	P22	V1999	93.82330	32.64407	0.00160	1.48	0.00236	1.21	0.00100	2.37	61
zen	P22	P11	97.05040	185.43117	0.00143	-0.71	-0.00102	-2.97	0.00019	-5.28	98
						2014224A_new.obs					
den	B0	B13	-1.09470	85.01864	0.00102	-0.29	-0.00029	-0.29	0.00055	-0.54	71
den	B13	B0	1.09540	85.01864	0.00102	-0.40	-0.00041	-0.41	0.00055	-0.74	71
den	B13	B11	3.90380	64.11630	0.00126	-0.56	-0.00070	-0.70	0.00050	-1.39	84
den	B11	B1	0.01010	28.92194	0.00072	1.36	0.00098	0.98	0.00036	2.68	74
den	B1	B11	-0.01060	28.92194	0.00072	-0.66	-0.00048	-0.48	0.00036	-1.30	74
den	B11	B13	-3.90340	64.11630	0.00102	0.29	0.00030	0.30	0.00050	0.60	76
den	B11	TMOB6	-0.27590	17.12801	0.00072	-0.37	-0.00027	-0.27	0.00043	-0.62	65
den	TMOB6	B11	0.27580	17.12801	0.00072	0.51	0.00037	0.37	0.00043	0.85	65
						20140224_new.obs					
den	BT12	B0	-18.03100	216.88152	0.00279	0.32	0.00089	0.89	0.00162	0.55	66
den	B0	BT12	18.03070	216.88152	0.00259	-0.23	-0.00059	-0.59	0.00162	-0.36	61
den	B12	BT12	-15.57300	151.94397	0.00204	-0.04	-0.00009	-0.09	0.00129	-0.07	60
den	BT12	B12	15.57390	151.94397	0.00191	-0.43	-0.00081	-0.81	0.00129	-0.63	54
den	B12	P12	1.99700	218.70084	0.00045	-0.09	-0.00004	-0.04	0.00045	-0.09	2
						HARTRAO25.jxl_new.obs					
tour	P5	P10	0.00000	319.73090	0.00082	0.00	0.00000	0.00	0.00050	0.00	63
hz	P5	V2101	355.27670	93.53834	0.00087	0.06	0.00005	0.07	0.00067	0.07	41
hz	P5	V2102	355.35030	93.44244	0.00087	-0.02	-0.00001	-0.02	0.00067	-0.02	41
hz	P5	V2103	351.67230	78.02063	0.00088	-0.23	-0.00020	-0.25	0.00055	-0.37	62
hz	P5	V2104	343.55770	88.56230	0.00087	0.24	0.00021	0.29	0.00063	0.33	49
hz	P5	V2105	347.51960	84.11456	0.00088	0.22	0.00019	0.25	0.00056	0.34	59
hz	P5	V2106	336.93860	84.75264	0.00088	-0.12	-0.00011	-0.14	0.00055	-0.19	61
hz	P5	V2108	336.88160	81.50703	0.00088	-0.15	-0.00013	-0.17	0.00048	-0.28	71
zen	P5	P10	96.60270	319.73090	0.00142	-0.95	-0.00135	-6.79	0.00018	-7.34	98
zen	P5	V2101	89.49250	93.53834	0.00147	-0.97	-0.00143	-2.10	0.00076	-1.87	73
zen	P5	V2102	89.62990	93.44244	0.00147	0.29	0.00042	0.62	0.00076	0.55	73
zen	P5	V2103	86.16660	78.02063	0.00148	-0.39	-0.00057	-0.70	0.00065	-0.88	81
zen	P5	V2104	89.48870	88.56230	0.00147	-0.05	-0.00008	-0.11	0.00056	-0.14	85
zen	P5	V2105	96.63580	84.11456	0.00148	0.39	0.00057	0.75	0.00086	0.66	66
zen	P5	V2106	91.25470	84.75264	0.00148	-0.08	-0.00012	-0.16	0.00058	-0.21	85
zen	P5	V2108	95.03330	81.50703	0.00148	0.29	0.00043	0.55	0.00062	0.69	82
tour	P5	P10	0.00000	319.73090	0.00082	-0.12	-0.00010	-0.48	0.00048	-0.20	65
hz	P5	V2201	348.58800	96.43595	0.00087	-0.30	-0.00026	-0.39	0.00071	-0.37	33
hz	P5	V2202	348.72910	96.40719	0.00087	-0.18	-0.00016	-0.24	0.00071	-0.22	33
hz	P5	V2203	347.85830	79.64836	0.00088	0.17	0.00015	0.18	0.00061	0.24	52
hz	P5	V2204	339.70480	87.73957	0.00087	-0.43	-0.00038	-0.52	0.00071	-0.54	35

hz	P5	V2205	347.23440	86.86061	0.00087	0.29	0.00025	0.34	0.00050	0.50	67
hz	P5	V2206	335.87400	82.35278	0.00088	0.34	0.00030	0.39	0.00048	0.62	70
hz	P5	V2208	338.49060	80.34797	0.00088	0.25	0.00022	0.28	0.00055	0.40	61
zen	P5	P10	96.60160	319.73090	0.00142	-0.18	-0.00025	-1.27	0.00018	-1.37	98
zen	P5	V2201	83.14110	96.43595	0.00147	0.71	0.00105	1.59	0.00054	1.93	86
zen	P5	V2202	83.23440	96.40719	0.00147	0.38	0.00056	0.85	0.00055	1.03	86
zen	P5	V2203	82.64360	79.64836	0.00148	-0.36	-0.00053	-0.67	0.00053	-1.00	87
zen	P5	V2204	88.73360	87.73957	0.00147	-0.50	-0.00074	-1.02	0.00047	-1.56	90
zen	P5	V2205	93.17310	86.86061	0.00147	0.79	0.00116	1.58	0.00062	1.88	82
zen	P5	V2206	93.74990	82.35278	0.00148	-0.54	-0.00080	-1.04	0.00064	-1.25	81
zen	P5	V2208	97.22640	80.34797	0.00148	0.92	0.00136	1.71	0.00053	2.57	87
tour	P5	P1	0.00000	154.91251	0.00084	0.35	0.00030	0.73	0.00048	0.62	67
hz	P5	V2302	369.77440	90.44917	0.00087	0.40	0.00035	0.50	0.00068	0.51	39
hz	P5	V2301	369.62090	90.34222	0.00087	0.54	0.00048	0.67	0.00068	0.70	39
hz	P5	V2303	376.89570	76.18764	0.00089	-0.81	-0.00072	-0.86	0.00062	-1.16	52
hz	P5	V2304	373.57390	82.49576	0.00088	-0.39	-0.00034	-0.44	0.00050	-0.68	67
hz	P5	V2305	380.31150	88.27471	0.00087	0.31	0.00027	0.38	0.00074	0.37	28
hz	P5	V2307	384.97600	86.28107	0.00087	-0.11	-0.00010	-0.13	0.00051	-0.19	66
hz	P5	V2308	382.75230	81.66917	0.00088	-0.33	-0.00029	-0.38	0.00078	-0.38	22
zen	P5	P1	99.27610	154.91251	0.00144	-0.45	-0.00065	-1.59	0.00017	-3.80	99
zen	P5	V2302	82.11300	90.44917	0.00147	-1.06	-0.00156	-2.22	0.00055	-2.86	86
zen	P5	V2301	82.17570	90.34222	0.00147	-0.59	-0.00086	-1.22	0.00055	-1.56	86
zen	P5	V2303	81.98370	76.18764	0.00148	-0.36	-0.00054	-0.64	0.00054	-1.00	87
zen	P5	V2304	92.82270	82.49576	0.00148	-0.37	-0.00054	-0.71	0.00065	-0.84	81
zen	P5	V2305	88.80480	88.27471	0.00147	1.10	0.00162	2.25	0.00051	3.21	88
zen	P5	V2307	93.46610	86.28107	0.00147	-1.45	-0.00214	-2.90	0.00062	-3.45	82
zen	P5	V2308	97.90970	81.66917	0.00148	0.58	0.00086	1.10	0.00058	1.47	84
tour	P5	P1	0.00000	154.91251	0.00084	0.50	0.00042	1.03	0.00049	0.86	66
hz	P5	V2401	363.60580	83.06521	0.00088	-0.54	-0.00048	-0.62	0.00061	-0.78	52
hz	P5	V2402	363.68460	83.20184	0.00088	-0.03	-0.00003	-0.03	0.00061	-0.04	51
hz	P5	V2403	373.91540	72.18584	0.00089	1.46	0.00130	1.47	0.00055	2.38	63
hz	P5	V2404	374.21310	79.88188	0.00088	-0.23	-0.00020	-0.25	0.00051	-0.40	67
hz	P5	V2406	381.66290	80.54753	0.00088	-0.44	-0.00039	-0.49	0.00074	-0.52	29
hz	P5	V2407	383.10140	87.49577	0.00087	0.72	0.00063	0.86	0.00056	1.12	59
hz	P5	V2408	384.35760	83.60317	0.00088	-1.45	-0.00127	-1.66	0.00048	-2.62	70
zen	P5	P1	99.27750	154.91251	0.00144	-1.42	-0.00205	-4.99	0.00017	-11.96	99
zen	P5	V2401	88.35010	83.06521	0.00148	0.27	0.00040	0.52	0.00090	0.44	63
zen	P5	V2402	88.21010	83.20184	0.00148	-0.05	-0.00008	-0.10	0.00090	-0.09	63
zen	P5	V2403	85.20150	72.18584	0.00149	-0.37	-0.00055	-0.62	0.00069	-0.79	78
zen	P5	V2404	96.41590	79.88188	0.00148	-0.05	-0.00008	-0.10	0.00061	-0.13	83

zen	P5	V2406	99.07620	80.54753	0.00148	-1.88	-0.00279	-3.53	0.00055	-5.06	86
zen	P5	V2407	91.16010	87.49577	0.00147	-1.09	-0.00161	-2.21	0.00055	-2.95	86
zen	P5	V2408	96.22070	83.60317	0.00148	0.32	0.00047	0.62	0.00058	0.81	84
tour	P5	P1	0.00000	154.91251	0.00084	-0.85	-0.00072	-1.75	0.00045	-1.60	71
hz	P5	V2501	378.59450	95.24491	0.00087	0.35	0.00030	0.45	0.00067	0.45	41
hz	P5	V2502	378.76600	95.28969	0.00087	0.50	0.00044	0.65	0.00067	0.65	41
hz	P5	V2503	381.77580	78.95663	0.00088	1.13	0.00100	1.24	0.00058	1.73	57
hz	P5	V2504	375.33880	85.46736	0.00088	-0.51	-0.00045	-0.60	0.00073	-0.61	31
hz	P5	V2505	383.90540	88.39508	0.00087	-0.24	-0.00021	-0.29	0.00076	-0.27	25
hz	P5	V2506	375.80210	80.45371	0.00088	-1.47	-0.00129	-1.63	0.00052	-2.48	65
hz	P5	V2507	385.19860	84.14069	0.00088	1.44	0.00127	1.67	0.00052	2.43	65
hz	P5	V2508	380.13750	80.42021	0.00088	-0.32	-0.00028	-0.36	0.00071	-0.40	35
zen	P5	P1	99.27660	154.91251	0.00144	-0.80	-0.00115	-2.80	0.00017	-6.71	99
zen	P5	V2501	80.44050	95.24491	0.00147	-0.07	-0.00010	-0.15	0.00045	-0.23	90
zen	P5	V2502	80.46140	95.28969	0.00147	-0.01	-0.00002	-0.02	0.00045	-0.04	90
zen	P5	V2503	81.09700	78.95663	0.00148	-0.13	-0.00019	-0.23	0.00040	-0.46	93
zen	P5	V2504	89.95320	85.46736	0.00147	-0.35	-0.00051	-0.69	0.00070	-0.74	78
zen	P5	V2505	90.28200	88.39508	0.00147	1.20	0.00177	2.46	0.00066	2.67	80
zen	P5	V2506	96.55760	80.45371	0.00148	0.50	0.00074	0.93	0.00059	1.26	84
zen	P5	V2507	96.17390	84.14069	0.00148	-0.19	-0.00028	-0.37	0.00061	-0.47	83
zen	P5	V2508	98.31600	80.42021	0.00148	1.16	0.00171	2.17	0.00046	3.73	90
tour	P23	P4	0.00000	202.35918	0.00083	0.91	0.00075	2.40	0.00063	1.20	43
hz	P23	V2601	358.64510	57.44062	0.00093	-0.26	-0.00025	-0.22	0.00085	-0.29	18
hz	P23	V2602	358.80190	57.61432	0.00093	-0.85	-0.00079	-0.72	0.00077	-1.03	33
hz	P23	V2603	366.68150	47.72494	0.00094	0.12	0.00012	0.09	0.00069	0.17	46
hz	P23	V2609	355.90830	51.25372	0.00093	-0.03	-0.00003	-0.02	0.00083	-0.03	21
zen	P23	P4	96.76640	202.35918	0.00143	-0.11	-0.00016	-0.52	0.00023	-0.71	97
zen	P23	V2601	61.57620	57.44062	0.00151	0.04	0.00006	0.05	0.00071	0.08	78
zen	P23	V2602	61.72990	57.61432	0.00151	-0.09	-0.00013	-0.12	0.00069	-0.20	79
zen	P23	V2603	76.76600	47.72494	0.00153	-1.16	-0.00178	-1.33	0.00106	-1.68	52
zen	P23	V2609	80.56960	51.25372	0.00152	-0.02	-0.00003	-0.02	0.00104	-0.03	53
tour	P23	P4	0.00000	202.35918	0.00083	1.71	0.00142	4.52	0.00067	2.12	35
hz	P23	V2701	365.99450	52.03496	0.00094	-0.62	-0.00058	-0.48	0.00080	-0.72	27
hz	P23	V2702	366.11370	52.23303	0.00094	-1.02	-0.00096	-0.79	0.00074	-1.29	37
hz	P23	V2703	363.17270	46.76955	0.00094	-0.30	-0.00028	-0.21	0.00079	-0.36	29
zen	P23	P4	96.76690	202.35918	0.00143	-0.46	-0.00066	-2.11	0.00023	-2.88	97
zen	P23	V2701	65.72970	52.03496	0.00152	0.42	0.00063	0.52	0.00107	0.59	50
zen	P23	V2702	65.88760	52.23303	0.00152	0.36	0.00055	0.45	0.00100	0.55	57
zen	P23	V2703	86.28390	46.76955	0.00154	-0.33	-0.00051	-0.37	0.00101	-0.50	57
tour	P23	P4	0.00000	202.35918	0.00083	0.63	0.00053	1.67	0.00068	0.78	34

hz	P23	V2803	351.10470	60.98066	0.00092	-1.01	-0.00093	-0.89	0.00085	-1.10	15
hz	P23	V2813	353.23440	55.77332	0.00093	-0.10	-0.00009	-0.08	0.00078	-0.12	29
hz	P23	V2811	355.70070	52.92461	0.00093	0.41	0.00038	0.32	0.00076	0.50	34
zen	P23	P4	96.76680	202.35918	0.00143	-0.39	-0.00056	-1.79	0.00023	-2.45	97
zen	P23	V2803	63.42080	60.98066	0.00150	-1.21	-0.00182	-1.74	0.00069	-2.63	79
zen	P23	V2813	71.41190	55.77332	0.00151	-0.56	-0.00084	-0.74	0.00079	-1.07	73
zen	P23	V2811	75.23250	52.92461	0.00152	-0.68	-0.00103	-0.85	0.00101	-1.02	56
tour	P23	P4	0.00000	202.35918	0.00083	1.04	0.00087	2.76	0.00062	1.40	44
hz	P23	V2903	359.16210	56.16213	0.00093	-0.70	-0.00066	-0.58	0.00083	-0.79	20
hz	P23	V2913	355.89190	53.54091	0.00093	-0.07	-0.00006	-0.05	0.00075	-0.09	34
hz	P23	V2911	355.69210	51.87271	0.00093	-0.21	-0.00019	-0.16	0.00078	-0.25	29
hz	P23	V2910	345.16100	57.45464	0.00091	-0.19	-0.00017	-0.16	0.00082	-0.21	20
zen	P23	P4	96.76720	202.35918	0.00143	-0.67	-0.00096	-3.06	0.00023	-4.18	97
zen	P23	V2903	63.50790	56.16213	0.00151	0.11	0.00016	0.14	0.00074	0.22	76
zen	P23	V2913	73.26900	53.54091	0.00152	-0.49	-0.00075	-0.63	0.00095	-0.79	61
zen	P23	V2911	78.62320	51.87271	0.00152	-0.14	-0.00022	-0.18	0.00111	-0.20	47
zen	P23	V2910	82.81780	57.45464	0.00151	-0.57	-0.00086	-0.78	0.00099	-0.87	57
tour	P23	P4	0.00000	202.35918	0.00083	-1.16	-0.00096	-3.05	0.00053	-1.80	59
hz	P23	P5	68.02560	55.90436	0.00091	1.98	0.00181	1.59	0.00061	2.99	56
hz	P23	P21b	266.32570	86.24835	0.00087	-0.68	-0.00059	-0.80	0.00058	-1.02	55
zen	P23	P4	96.76670	202.35918	0.00143	-0.32	-0.00046	-1.47	0.00023	-2.01	97
zen	P23	P5	94.07120	55.90436	0.00151	-3.69	-0.00559	-4.91	-	0.00	-
zen	P23	P21b	100.80890	86.24835	0.00147	-1.26	-0.00186	-2.53	0.00038	-4.95	93
						HARTRAOTM25.obs					
tour	P13b	P21b	0.00000	145.17080	0.00084	0.12	0.00010	0.24	0.00062	0.17	46
hz	P13b	V2101	25.83380	45.26624	0.00095	-0.45	-0.00043	-0.30	0.00074	-0.58	40
hz	P13b	V2102	25.84020	45.06878	0.00095	-0.52	-0.00050	-0.35	0.00074	-0.67	40
hz	P13b	V2103	399.67610	44.44911	0.00096	-0.19	-0.00018	-0.13	0.00073	-0.25	42
hz	P13b	V2106	1.32930	61.72279	0.00091	0.55	0.00050	0.48	0.00078	0.64	27
hz	P13b	V2108	398.69010	59.69339	0.00091	0.42	0.00038	0.36	0.00066	0.58	47
zen	P13b	P21b	101.77950	145.17080	0.00144	-0.25	-0.00037	-0.84	0.00022	-1.67	98
zen	P13b	V2101	74.56250	45.26624	0.00154	0.77	0.00118	0.84	0.00121	0.98	38
zen	P13b	V2102	74.77920	45.06878	0.00154	-0.07	-0.00010	-0.07	0.00122	-0.09	38
zen	P13b	V2103	71.78720	44.44911	0.00154	0.85	0.00132	0.92	0.00095	1.39	62
zen	P13b	V2106	85.59730	61.72279	0.00150	0.79	0.00119	1.15	0.00083	1.43	69
zen	P13b	V2108	90.80790	59.69339	0.00151	-0.47	-0.00070	-0.66	0.00083	-0.84	70
dist	P13b	P21b	145.17090	145.17080	0.00099	-0.10	-0.00010	-0.10	0.00027	-0.37	92
tour	P13b	P21b	0.00000	145.17080	0.00084	-0.11	-0.00009	-0.21	0.00055	-0.17	58
hz	P13b	V2201	19.63170	57.39195	0.00093	-0.03	-0.00002	-0.02	0.00076	-0.03	33
hz	P13b	V2202	19.78080	57.17437	0.00093	0.00	0.00000	0.00	0.00076	0.01	34

hz	P13b	V2203	398.90070	50.61828	0.00094	0.51	0.00048	0.38	0.00069	0.70	46
hz	P13b	V2205	10.90050	50.14504	0.00093	0.56	0.00052	0.41	0.00074	0.70	37
hz	P13b	V2206	398.79660	61.40768	0.00091	-0.49	-0.00045	-0.43	0.00068	-0.66	44
hz	P13b	V2208	398.57740	57.09533	0.00091	-0.41	-0.00037	-0.33	0.00065	-0.58	50
zen	P13b	V2201	68.21600	57.39195	0.00151	0.66	0.00099	0.90	0.00075	1.33	75
zen	P13b	V2202	68.26600	57.17437	0.00151	0.33	0.00050	0.45	0.00075	0.66	75
zen	P13b	V2203	69.00040	50.61828	0.00153	0.10	0.00016	0.12	0.00066	0.24	81
zen	P13b	V2205	85.22550	50.14504	0.00153	0.07	0.00010	0.08	0.00098	0.10	59
zen	P13b	V2206	89.25920	61.40768	0.00150	0.24	0.00035	0.34	0.00085	0.42	68
zen	P13b	V2208	93.59360	57.09533	0.00151	0.18	0.00027	0.24	0.00070	0.38	78
dist	P13b	P21b	145.17100	145.17080	0.00099	-0.20	-0.00020	-0.20	0.00027	-0.73	92
tour	P13b	P21b	0.00000	145.17080	0.00084	-0.44	-0.00037	-0.84	0.00059	-0.63	52
hz	P13b	V2303	390.65170	59.97261	0.00092	0.70	0.00064	0.61	0.00074	0.87	35
hz	P13b	V2304	398.05790	63.13927	0.00090	0.60	0.00054	0.53	0.00070	0.77	39
hz	P13b	V2305	7.10990	58.98948	0.00091	-0.45	-0.00041	-0.38	0.00077	-0.54	29
hz	P13b	V2307	9.32180	51.33990	0.00093	-0.38	-0.00036	-0.29	0.00071	-0.50	41
zen	P13b	P21b	101.78000	145.17080	0.00144	-0.60	-0.00087	-1.98	0.00022	-3.94	98
zen	P13b	V2303	74.35290	59.97261	0.00151	-0.26	-0.00039	-0.37	0.00083	-0.47	70
zen	P13b	V2304	88.32060	63.13927	0.00150	-0.61	-0.00092	-0.91	0.00085	-1.07	68
zen	P13b	V2305	80.62280	58.98948	0.00151	-0.22	-0.00033	-0.30	0.00073	-0.45	77
zen	P13b	V2307	86.15040	51.33990	0.00152	0.24	0.00037	0.30	0.00096	0.38	60
dist	P13b	P21b	145.17080	145.17080	0.00099	0.00	0.00000	0.00	0.00027	0.00	92
tour	P13b	P21b	0.00000	145.17080	0.00084	-1.04	-0.00088	-2.00	0.00058	-1.50	52
hz	P13b	V2403	386.48030	60.64832	0.00091	1.51	0.00137	1.31	0.00068	2.02	44
hz	P13b	V2404	396.30900	60.79744	0.00091	0.26	0.00024	0.23	0.00065	0.36	48
hz	P13b	V2408	6.13910	50.42482	0.00093	-0.46	-0.00042	-0.33	0.00077	-0.55	31
hz	P13b	V2406	1.13520	52.14402	0.00092	0.43	0.00039	0.32	0.00079	0.50	26
hz	P13b	V2407	8.86300	54.69008	0.00092	-0.63	-0.00058	-0.50	0.00071	-0.82	40
zen	P13b	P21b	101.77940	145.17080	0.00144	-0.19	-0.00027	-0.61	0.00022	-1.21	98
zen	P13b	V2403	79.85950	60.64832	0.00150	0.74	0.00112	1.07	0.00091	1.23	64
zen	P13b	V2404	92.93740	60.79744	0.00150	-1.31	-0.00198	-1.89	0.00077	-2.57	74
zen	P13b	V2408	90.88340	50.42482	0.00153	-1.03	-0.00157	-1.24	0.00096	-1.63	60
zen	P13b	V2406	95.83210	52.14402	0.00152	0.91	0.00138	1.13	0.00084	1.65	70
zen	P13b	V2407	83.09610	54.69008	0.00152	0.80	0.00122	1.05	0.00079	1.54	73
dist	P13b	P21b	145.17110	145.17080	0.00099	-0.30	-0.00030	-0.30	0.00027	-1.10	92
tour	P13b	P21b	0.00000	145.17080	0.00084	-0.85	-0.00071	-1.63	0.00055	-1.29	57
hz	P13b	V2503	395.23630	56.33629	0.00093	1.91	0.00177	1.57	0.00067	2.65	48
hz	P13b	V2505	10.23980	54.42337	0.00092	-0.22	-0.00020	-0.17	0.00073	-0.27	37
hz	P13b	V2506	397.72270	59.18496	0.00091	-0.72	-0.00065	-0.61	0.00066	-0.99	48
hz	P13b	V2507	7.33190	49.63634	0.00093	-0.04	-0.00003	-0.03	0.00079	-0.04	28

zen	P13b	P21b	101.78010	145.17080	0.00144	-0.67	-0.00097	-2.21	0.00022	-4.40	98
zen	P13b	V2503	70.30100	56.33629	0.00151	-0.86	-0.00129	-1.15	0.00055	-2.34	87
zen	P13b	V2505	81.39900	54.42337	0.00152	-0.34	-0.00052	-0.45	0.00087	-0.60	67
zen	P13b	V2506	92.90180	59.18496	0.00151	0.10	0.00015	0.14	0.00076	0.19	75
zen	P13b	V2507	90.61320	49.63634	0.00153	0.05	0.00007	0.06	0.00100	0.07	57
dist	P13b	P21b	145.17100	145.17080	0.00099	-0.20	-0.00020	-0.20	0.00027	-0.73	92
tour	P13b	P21b	0.00000	145.17080	0.00084	0.83	0.00070	1.60	0.00064	1.10	43
hz	P13b	V2601	398.08080	59.78389	0.00092	-0.61	-0.00056	-0.53	0.00081	-0.69	23
hz	P13b	V2602	398.26290	59.60085	0.00092	-0.54	-0.00050	-0.47	0.00078	-0.64	28
hz	P13b	V2603	391.21930	50.50083	0.00093	0.23	0.00021	0.17	0.00073	0.29	39
hz	P13b	V2609	0.84930	54.61395	0.00092	0.01	0.00001	0.01	0.00089	0.01	5
zen	P13b	P21b	101.77970	145.17080	0.00144	-0.39	-0.00057	-1.29	0.00022	-2.58	98
zen	P13b	V2601	66.97970	59.78389	0.00151	-2.16	-0.00326	-3.06	0.00069	-4.74	79
zen	P13b	V2602	66.88700	59.60085	0.00151	-1.77	-0.00267	-2.50	0.00064	-4.19	82
zen	P13b	V2603	82.02110	50.50083	0.00153	0.58	0.00088	0.70	0.00102	0.87	56
zen	P13b	V2609	85.37210	54.61395	0.00152	-0.40	-0.00061	-0.52	0.00098	-0.62	58
dist	P13b	P21b	145.17060	145.17080	0.00099	0.20	0.00020	0.20	0.00027	0.74	92
tour	P13b	P21b	0.00000	145.17080	0.00084	0.58	0.00049	1.11	0.00070	0.69	31
hz	P13b	V2701	391.71240	54.27224	0.00093	-0.22	-0.00020	-0.17	0.00078	-0.26	30
hz	P13b	V2702	391.88690	54.07724	0.00093	-0.22	-0.00021	-0.18	0.00077	-0.27	32
hz	P13b	V2703	394.28630	50.33857	0.00093	-0.19	-0.00018	-0.14	0.00084	-0.21	18
zen	P13b	P21b	101.77910	145.17080	0.00144	0.02	0.00003	0.07	0.00022	0.15	98
zen	P13b	V2701	71.21030	54.27224	0.00152	0.15	0.00023	0.20	0.00106	0.22	51
zen	P13b	V2702	71.11160	54.07724	0.00152	0.05	0.00007	0.06	0.00096	0.08	60
zen	P13b	V2703	91.07050	50.33857	0.00153	0.54	0.00083	0.66	0.00094	0.88	62
dist	P13b	P21b	145.17100	145.17080	0.00099	-0.20	-0.00020	-0.20	0.00027	-0.73	92
tour	P13b	P21b	0.00000	145.17080	0.00084	0.43	0.00036	0.82	0.00068	0.52	34
hz	P13b	V2803	4.70880	63.71067	0.00091	-0.69	-0.00063	-0.63	0.00082	-0.77	20
hz	P13b	V2811	1.01120	55.97708	0.00092	-0.22	-0.00020	-0.18	0.00078	-0.26	28
hz	P13b	V2813	3.15800	58.69317	0.00092	0.45	0.00041	0.38	0.00080	0.52	24
zen	P13b	P21b	101.77960	145.17080	0.00144	-0.32	-0.00047	-1.07	0.00022	-2.12	98
zen	P13b	V2803	68.58390	63.71067	0.00150	-1.40	-0.00210	-2.10	0.00065	-3.24	81
zen	P13b	V2811	80.22030	55.97708	0.00151	0.27	0.00041	0.36	0.00096	0.43	60
zen	P13b	V2813	76.41310	58.69317	0.00151	0.87	0.00132	1.21	0.00073	1.79	76
dist	P13b	P21b	145.17100	145.17080	0.00099	-0.20	-0.00020	-0.20	0.00027	-0.73	92
tour	P13b	P21b	0.00000	145.17080	0.00084	0.02	0.00002	0.04	0.00063	0.03	44
hz	P13b	V2903	397.75320	58.48953	0.00092	-0.77	-0.00071	-0.66	0.00080	-0.89	25
hz	P13b	V2910	10.00690	61.68712	0.00091	0.27	0.00024	0.24	0.00086	0.28	10
hz	P13b	V2911	1.02050	55.14283	0.00092	0.42	0.00039	0.33	0.00078	0.50	29
hz	P13b	V2913	0.85940	56.43502	0.00092	0.05	0.00005	0.04	0.00078	0.06	28

zen	P13b	P21b	101.78060	145.17080	0.00144	-1.02	-0.00147	-3.35	0.00022	-6.67	98
zen	P13b	V2903	68.84290	58.48953	0.00151	0.02	0.00003	0.03	0.00073	0.05	77
zen	P13b	V2910	87.15870	61.68712	0.00150	0.69	0.00104	1.01	0.00092	1.13	62
zen	P13b	V2911	83.50250	55.14283	0.00152	-0.10	-0.00015	-0.13	0.00107	-0.14	50
zen	P13b	V2913	78.30150	56.43502	0.00151	0.17	0.00025	0.22	0.00091	0.27	64
dist	P13b	P21b	145.17080	145.17080	0.00099	0.00	0.00000	0.00	0.00027	0.00	92
tour	P13b	P1	0.00000	86.83288	0.00087	0.21	0.00018	0.25	0.00039	0.48	80
hz	P13b	P20b	319.78010	110.99930	0.00086	0.08	0.00007	0.13	0.00041	0.18	77
hz	P13b	P21b	325.54470	145.17080	0.00084	0.39	0.00033	0.75	0.00039	0.85	79
hz	P13b	P19	356.93940	50.69945	0.00093	0.54	0.00050	0.40	0.00053	0.94	67
hz	P13b	P11	15.27640	64.05456	0.00090	-0.80	-0.00072	-0.72	0.00043	-1.68	77
hz	P13b	P12	105.02330	425.12712	0.00082	-0.41	-0.00034	-2.24	0.00049	-0.68	64
zen	P13b	P1	97.06570	86.83288	0.00147	-0.50	-0.00074	-1.01	0.00033	-2.25	95
zen	P13b	P20b	101.70600	110.99930	0.00146	-1.08	-0.00157	-2.74	0.00035	-4.51	94
zen	P13b	P21b	101.77990	145.17080	0.00144	-0.53	-0.00077	-1.75	0.00022	-3.49	98
zen	P13b	P19	102.68500	50.69945	0.00153	2.10	0.00320	2.55	0.00055	5.81	87
zen	P13b	P11	97.03590	64.05456	0.00150	-0.15	-0.00022	-0.22	0.00040	-0.55	93
zen	P13b	P12	94.91170	425.12712	0.00141	0.32	0.00045	2.99	0.00028	1.61	96
dist	P13b	P1	86.83380	86.83288	0.00087	-1.06	-0.00092	-0.92	0.00045	-2.05	73
dist	P13b	P20b	110.99890	110.99930	0.00092	0.43	0.00040	0.40	0.00040	1.00	81
dist	P13b	P21b	145.17110	145.17080	0.00099	-0.30	-0.00030	-0.30	0.00027	-1.10	92
dist	P13b	P19	50.69940	50.69945	0.00080	0.06	0.00005	0.05	0.00036	0.14	79
dist	P13b	P11	64.05450	64.05456	0.00083	0.07	0.00006	0.06	0.00046	0.13	69
tour	P20b	P21b	0.00000	36.05220	0.00158	0.51	0.00080	0.45	0.00090	0.89	68
hz	P20b	P5	223.12260	107.75193	0.00146	-2.24	-0.00327	-5.53	0.00081	-4.02	69
hz	P20b	P1	126.97530	118.31674	0.00145	1.53	0.00223	4.15	0.00080	2.78	70
hz	P20b	P6	353.36930	66.39969	0.00150	0.23	0.00035	0.37	0.00084	0.42	69
dist	P20b	P21b	36.05210	36.05220	0.00077	0.13	0.00010	0.10	0.00034	0.30	81
dist	P20b	P5	107.75080	107.75193	0.00092	1.23	0.00113	1.13	0.00040	2.84	81
dist	P20b	P1	118.31890	118.31674	0.00094	-2.31	-0.00216	-2.16	0.00035	-6.25	86
dist	P20b	P6	66.39940	66.39969	0.00083	0.35	0.00029	0.29	0.00037	0.77	80
tour	P20b	P21b	0.00000	36.05220	0.00098	0.59	0.00058	0.33	0.00085	0.68	24
hz	P20b	P25	173.14830	25.09207	0.00105	-0.64	-0.00067	-0.27	0.00090	-0.75	28
zen	P20b	P21b	101.99490	36.05220	0.00158	1.13	0.00178	1.01	0.00099	1.79	61
zen	P20b	P25	102.68440	25.09207	0.00165	-1.33	-0.00220	-0.87	0.00105	-2.10	60
dist	P20b	P21b	36.05200	36.05220	0.00077	0.26	0.00020	0.20	0.00034	0.60	81
dist	P20b	P25	25.09110	25.09207	0.00075	1.30	0.00097	0.97	0.00037	2.62	76
						TDA_P23_P11.obs					
tour	P23	P1	0.00000	130.22451	0.00085	-0.26	-0.00022	-0.45	0.00042	-0.53	75
hz	P23	P13	45.77360	84.23274	0.00088	-0.23	-0.00020	-0.27	0.00049	-0.41	69

hz	P23	P21b	316.05850	86.24899	0.00087	0.24	0.00021	0.29	0.00047	0.45	71
hz	P23	P20b	327.49820	52.28160	0.00092	0.80	0.00073	0.60	0.00058	1.27	61
hz	P23	P5	117.76150	55.90418	0.00091	-0.52	-0.00048	-0.42	0.00057	-0.84	61
zen	P23	P1	96.59570	130.22451	0.00145	-0.36	-0.00053	-1.08	0.00022	-2.34	98
zen	P23	P13	97.76350	84.23274	0.00148	-0.71	-0.00105	-1.39	0.00039	-2.69	93
zen	P23	P21b	100.84280	86.24899	0.00147	0.27	0.00040	0.54	0.00038	1.07	93
zen	P23	P20b	99.95800	52.28160	0.00152	2.04	0.00310	2.54	0.00073	4.26	77
zen	P23	P5	94.06980	55.90418	0.00151	-1.27	-0.00192	-1.69	0.00042	-4.52	92
dist	P23	P1	130.22630	130.22451	0.00096	-1.87	-0.00179	-1.79	0.00038	-4.71	84
dist	P23	P13	84.23230	84.23274	0.00087	0.51	0.00044	0.44	0.00038	1.16	80
dist	P23	P21b	86.24880	86.24899	0.00087	0.21	0.00019	0.19	0.00039	0.47	80
dist	P23	P20b	52.28190	52.28160	0.00080	-0.37	-0.00030	-0.30	0.00044	-0.69	71
dist	P23	P5	55.90400	55.90418	0.00081	0.22	0.00018	0.18	0.00043	0.42	72
tour	P23	P4	0.00000	202.35908	0.00083	-1.31	-0.00109	-3.45	0.00057	-1.89	52
hz	P23	V2103	370.59970	58.61006	0.00092	-0.07	-0.00006	-0.06	0.00068	-0.09	45
hz	P23	V2104	352.90260	58.90306	0.00091	0.52	0.00047	0.44	0.00074	0.64	34
hz	P23	V2105	360.02150	57.13132	0.00091	0.12	0.00011	0.10	0.00072	0.15	38
hz	P23	V2106	346.89690	50.17499	0.00093	0.83	0.00078	0.61	0.00071	1.10	43
hz	P23	V2108	349.19950	46.61488	0.00094	0.05	0.00005	0.04	0.00074	0.07	38
zen	P23	P4	96.76640	202.35908	0.00143	0.33	0.00047	1.48	0.00023	2.02	97
zen	P23	V2103	75.48160	58.61006	0.00151	-0.25	-0.00038	-0.35	0.00090	-0.42	64
zen	P23	V2104	78.22950	58.90306	0.00151	-1.39	-0.00210	-1.94	0.00091	-2.30	63
zen	P23	V2105	89.20640	57.13132	0.00151	-0.26	-0.00040	-0.36	0.00115	-0.35	42
zen	P23	V2106	78.25750	50.17499	0.00153	0.63	0.00096	0.76	0.00086	1.12	68
zen	P23	V2108	84.05940	46.61488	0.00154	0.35	0.00053	0.39	0.00103	0.52	55
dist	P23	P4	202.35820	202.35908	0.00110	0.80	0.00088	0.88	0.00034	2.57	90
tour	P23	P4	0.00000	202.35908	0.00083	-0.60	-0.00050	-1.59	0.00057	-0.87	53
hz	P23	V2203	366.35840	57.84270	0.00092	0.29	0.00027	0.24	0.00071	0.38	41
hz	P23	V2204	348.70450	55.45405	0.00092	0.56	0.00051	0.45	0.00074	0.69	36
hz	P23	V2205	357.99170	59.65581	0.00091	0.06	0.00006	0.05	0.00070	0.08	41
hz	P23	V2206	347.17100	46.77554	0.00094	0.18	0.00017	0.12	0.00072	0.23	42
hz	P23	V2208	352.25640	46.59701	0.00094	-0.42	-0.00039	-0.29	0.00078	-0.51	32
zen	P23	P4	96.76610	202.35908	0.00143	0.53	0.00077	2.43	0.00023	3.33	97
zen	P23	V2203	69.52410	57.84270	0.00151	-0.84	-0.00128	-1.16	0.00083	-1.54	70
zen	P23	V2204	75.71450	55.45405	0.00151	-0.63	-0.00095	-0.83	0.00075	-1.27	75
zen	P23	V2205	84.37790	59.65581	0.00151	-0.64	-0.00097	-0.91	0.00089	-1.09	65
zen	P23	V2206	81.68640	46.77554	0.00154	-0.29	-0.00045	-0.33	0.00102	-0.44	56
zen	P23	V2208	88.04940	46.59701	0.00154	-0.07	-0.00010	-0.08	0.00090	-0.11	65
dist	P23	P4	202.35800	202.35908	0.00110	0.98	0.00108	1.08	0.00034	3.16	90
tour	P23	P4	0.00000	202.35908	0.00083	0.13	0.00011	0.34	0.00055	0.19	56

hz	P23	V2301	335.03780	53.79483	0.00094	-0.66	-0.00063	-0.53	0.00076	-0.82	35
hz	P23	V2302	335.22380	54.01000	0.00094	-0.65	-0.00061	-0.52	0.00076	-0.80	35
hz	P23	V2303	359.00970	48.18379	0.00096	-0.51	-0.00049	-0.37	0.00070	-0.71	47
hz	P23	V2304	345.28010	46.11112	0.00095	0.79	0.00074	0.54	0.00072	1.04	42
hz	P23	V2307	356.88870	58.07732	0.00091	0.04	0.00004	0.04	0.00070	0.06	41
hz	P23	V2308	357.53530	51.86686	0.00092	0.82	0.00076	0.62	0.00068	1.13	47
zen	P23	P4	96.76620	202.35908	0.00143	0.46	0.00067	2.12	0.00023	2.89	97
zen	P23	V2301	62.10360	53.79483	0.00152	0.11	0.00017	0.14	0.00081	0.21	72
zen	P23	V2302	62.10970	54.01000	0.00152	0.35	0.00054	0.46	0.00080	0.67	72
zen	P23	V2303	62.97130	48.18379	0.00153	-1.07	-0.00164	-1.24	0.00067	-2.46	81
zen	P23	V2304	79.66330	46.11112	0.00154	0.92	0.00141	1.02	0.00101	1.40	57
zen	P23	V2307	84.45390	58.07732	0.00151	0.64	0.00097	0.89	0.00090	1.08	65
zen	P23	V2308	90.29300	51.86686	0.00152	-0.21	-0.00033	-0.27	0.00077	-0.42	74
dist	P23	P4	202.35840	202.35908	0.00110	0.62	0.00068	0.68	0.00034	1.99	90
tour	P23	P4	0.00000	202.35908	0.00083	-0.29	-0.00024	-0.78	0.00061	-0.40	47
hz	P23	V2401	329.10560	41.18651	0.00098	0.63	0.00061	0.40	0.00080	0.77	33
hz	P23	V2402	329.15580	41.41004	0.00098	0.51	0.00050	0.33	0.00080	0.63	34
hz	P23	V2403	359.16930	41.94592	0.00098	1.28	0.00125	0.82	0.00076	1.64	39
hz	P23	V2404	348.31570	43.71136	0.00095	-1.37	-0.00130	-0.89	0.00078	-1.66	32
hz	P23	V2407	354.05300	58.02993	0.00091	-0.49	-0.00045	-0.41	0.00076	-0.59	32
hz	P23	V2408	357.93920	54.96244	0.00092	-0.13	-0.00012	-0.10	0.00067	-0.18	47
zen	P23	P4	96.76680	202.35908	0.00143	0.05	0.00007	0.21	0.00023	0.29	97
zen	P23	V2401	67.16520	41.18651	0.00155	-0.45	-0.00069	-0.45	0.00121	-0.58	40
zen	P23	V2402	66.99610	41.41004	0.00155	0.13	0.00021	0.14	0.00120	0.17	41
zen	P23	V2403	65.15590	41.94592	0.00155	1.22	0.00189	1.24	0.00095	1.99	63
zen	P23	V2404	85.76020	43.71136	0.00155	2.65	0.00409	2.81	0.00106	3.86	53
zen	P23	V2407	80.71480	58.02993	0.00151	0.50	0.00075	0.68	0.00084	0.89	69
zen	P23	V2408	88.16700	54.96244	0.00152	-0.39	-0.00058	-0.50	0.00082	-0.72	71
dist	P23	P4	202.35850	202.35908	0.00110	0.53	0.00058	0.58	0.00034	1.70	90
tour	P23	P4	0.00000	202.35908	0.00083	-0.27	-0.00022	-0.71	0.00054	-0.41	57
hz	P23	V2503	362.05940	54.06467	0.00094	-0.06	-0.00005	-0.05	0.00066	-0.08	50
hz	P23	V2504	345.65660	50.67046	0.00094	0.86	0.00081	0.64	0.00070	1.14	43
hz	P23	V2506	349.93330	45.40027	0.00094	-0.11	-0.00011	-0.08	0.00078	-0.14	32
hz	P23	V2507	358.50810	56.09204	0.00092	-0.50	-0.00046	-0.40	0.00067	-0.68	46
hz	P23	V2508	355.46220	48.66256	0.00093	0.12	0.00011	0.09	0.00075	0.15	36
zen	P23	P4	96.76700	202.35908	0.00143	-0.09	-0.00013	-0.43	0.00023	-0.58	97
zen	P23	V2503	64.92930	54.06467	0.00152	0.08	0.00012	0.10	0.00057	0.21	86
zen	P23	V2504	76.02890	50.67046	0.00153	0.55	0.00084	0.67	0.00085	0.99	69
zen	P23	V2506	86.51310	45.40027	0.00154	0.74	0.00113	0.81	0.00102	1.12	57
zen	P23	V2507	88.29710	56.09204	0.00151	0.73	0.00110	0.97	0.00085	1.30	68

zen	P23	V2508	90.38240	48.66256	0.00153	0.50	0.00077	0.59	0.00077	1.00	75
dist	P23	P4	202.35840	202.35908	0.00110	0.62	0.00068	0.68	0.00034	1.99	90
tour	P11	P21b	0.00000	149.06300	0.00084	-0.63	-0.00053	-1.25	0.00062	-0.85	45
hz	P11	V2501	374.89230	78.44450	0.00089	0.30	0.00027	0.33	0.00065	0.41	46
hz	P11	V2502	374.84310	78.21089	0.00089	0.37	0.00033	0.40	0.00066	0.50	45
zen	P11	P21b	103.02820	149.06300	0.00144	-1.01	-0.00145	-3.40	0.00019	-7.49	98
zen	P11	V2501	76.75230	78.44450	0.00148	-0.93	-0.00137	-1.69	0.00055	-2.50	86
zen	P11	V2502	76.69330	78.21089	0.00148	-0.54	-0.00080	-0.98	0.00054	-1.48	87
dist	P11	P21b	149.06260	149.06300	0.00100	0.40	0.00040	0.40	0.00023	1.72	94
tour	P11	P21b	0.00000	149.06300	0.00084	1.43	0.00120	2.82	0.00053	2.25	60
hz	P11	V2602	364.20050	81.19063	0.00088	-1.07	-0.00095	-1.21	0.00058	-1.64	57
hz	P11	V2603	359.44980	80.14559	0.00088	-0.44	-0.00038	-0.48	0.00054	-0.71	63
hz	P11	V2609	366.20590	76.34255	0.00088	0.01	0.00001	0.01	0.00060	0.02	54
zen	P11	P21b	103.02880	149.06300	0.00144	-1.42	-0.00205	-4.81	0.00019	-10.58	98
zen	P11	V2602	78.75470	81.19063	0.00148	-0.51	-0.00075	-0.96	0.00058	-1.29	84
zen	P11	V2603	91.19760	80.14559	0.00148	0.99	0.00146	1.84	0.00067	2.18	79
zen	P11	V2609	92.13110	76.34255	0.00148	0.57	0.00084	1.01	0.00074	1.15	75
dist	P11	P21b	149.06210	149.06300	0.00100	0.91	0.00090	0.90	0.00023	3.86	94
tour	P11	P21b	0.00000	149.06300	0.00084	1.83	0.00154	3.61	0.00049	3.18	67
hz	P11	P6	391.73350	189.92383	0.00083	-0.25	-0.00021	-0.63	0.00049	-0.43	65
hz	P11	V2702	359.75920	81.69157	0.00088	-0.75	-0.00066	-0.85	0.00056	-1.17	59
hz	P11	V2703	361.45040	78.34942	0.00088	-0.90	-0.00079	-0.97	0.00058	-1.37	57
zen	P11	P21b	103.02790	149.06300	0.00144	-0.80	-0.00115	-2.70	0.00019	-5.94	98
zen	P11	P6	102.36400	189.92383	0.00143	-0.43	-0.00062	-1.85	0.00016	-3.97	99
zen	P11	V2702	83.70880	81.69157	0.00148	0.10	0.00015	0.19	0.00071	0.21	77
zen	P11	V2703	96.74050	78.34942	0.00148	0.48	0.00072	0.88	0.00063	1.14	82
dist	P11	P21b	149.06250	149.06300	0.00100	0.50	0.00050	0.50	0.00023	2.15	94
dist	P11	P6	189.92380	189.92383	0.00108	0.03	0.00003	0.03	0.00026	0.13	94
tour	P11	P21b	0.00000	149.06300	0.00084	0.40	0.00033	0.78	0.00060	0.56	49
hz	P11	V2811	366.35100	77.01239	0.00088	0.15	0.00014	0.17	0.00061	0.23	53
hz	P11	V2813	368.19810	77.16017	0.00088	-0.57	-0.00051	-0.61	0.00063	-0.80	49
zen	P11	P21b	103.02750	149.06300	0.00144	-0.52	-0.00075	-1.76	0.00019	-3.88	98
zen	P11	V2811	88.29030	77.01239	0.00148	0.22	0.00033	0.39	0.00076	0.43	74
zen	P11	V2813	84.82190	77.16017	0.00148	-0.12	-0.00017	-0.21	0.00064	-0.27	81
dist	P11	P21b	149.06240	149.06300	0.00100	0.60	0.00060	0.60	0.00023	2.58	94
tour	P11	P21b	0.00000	149.06300	0.00084	0.81	0.00068	1.60	0.00050	1.37	65
hz	P11	P6	391.73260	189.92383	0.00083	-0.20	-0.00017	-0.50	0.00050	-0.33	63
hz	P11	V2910	375.24650	73.56529	0.00089	-0.41	-0.00036	-0.42	0.00066	-0.55	45
hz	P11	V2913	366.21690	77.39601	0.00088	-0.23	-0.00021	-0.25	0.00058	-0.36	57
zen	P11	P21b	103.02810	149.06300	0.00144	-0.94	-0.00135	-3.17	0.00019	-6.97	98

zen	P11	P6	102.36460	189.92383	0.00143	-0.85	-0.00122	-3.64	0.00016	-7.80	99
zen	P11	V2910	91.90450	73.56529	0.00149	-0.11	-0.00016	-0.18	0.00080	-0.20	71
zen	P11	V2913	86.88040	77.39601	0.00148	0.28	0.00042	0.51	0.00074	0.57	75
dist	P11	P21b	149.06260	149.06300	0.00100	0.40	0.00040	0.40	0.00023	1.72	94
dist	P11	P6	189.92370	189.92383	0.00108	0.12	0.00013	0.13	0.00026	0.51	94
20140226.DAT_new.obs											
den	B11	CP1	1.69570	66.84106	0.00102	-0.91	-0.00093	-0.93	0.00054	-1.70	72
den	CP1	SL	1.65440	188.28144	0.00072	-1.22	-0.00088	-0.88	0.00051	-1.71	49
den	SL	OT1	-0.46980	221.08123	0.00072	0.27	0.00019	0.19	0.00061	0.32	28
den	OT1	OB1	-0.00190	0.00171	0.00072	0.27	0.00019	0.19	0.00061	0.32	28
den	OB1	CP1	-1.18240	69.67250	0.00072	0.27	0.00019	0.19	0.00061	0.32	28
den	CP1	B11	-1.69600	66.84106	0.00102	1.20	0.00123	1.23	0.00054	2.26	72
den	B4	P4	0.90610	219.48912	0.00072	0.18	0.00013	0.13	0.00035	0.36	76
den	P4	B17	1.17470	240.13074	0.00126	0.93	0.00117	1.17	0.00065	1.81	74
den	B17	P4	-1.17510	240.13074	0.00102	-0.76	-0.00077	-0.77	0.00065	-1.19	60
den	P4	B4	-0.90590	219.48912	0.00072	-0.45	-0.00033	-0.33	0.00035	-0.93	76
den	B17	B10	10.10990	93.42553	0.00191	1.18	0.00225	2.25	0.00096	2.34	75
den	B10	P10	0.82850	218.69828	0.00072	0.09	0.00007	0.07	0.00053	0.13	46
den	B17	B10	10.11070	93.42553	0.00176	0.82	0.00145	1.45	0.00096	1.51	70
den	B10	P10	0.82820	218.69828	0.00090	0.41	0.00037	0.37	0.00053	0.69	65
20140226_VX.obs											
tour	P1	P5	0.00000	154.91248	0.00084	-0.73	-0.00062	-1.50	0.00053	-1.15	60
hz	P1	P13	378.30090	86.82436	0.00087	0.24	0.00021	0.29	0.00054	0.40	62
hz	P1	SL	342.00410	47.96104	0.00093	0.55	0.00051	0.39	0.00059	0.88	61
zen	P1	P5	100.72560	154.91248	0.00144	-0.64	-0.00092	-2.24	0.00017	-5.37	99
zen	P1	P13	102.93610	86.82436	0.00147	-0.61	-0.00090	-1.23	0.00030	-2.96	96
zen	P1	SL	98.98250	47.96104	0.00153	-2.12	-0.00325	-2.45	0.00057	-5.73	86
tour	P1	P5	0.00000	154.91248	0.00084	-0.45	-0.00038	-0.93	0.00054	-0.70	59
hz	P1	P13	378.30100	86.82436	0.00087	0.40	0.00035	0.48	0.00054	0.64	62
hz	P1	SLCC	342.00400	47.95633	0.00093	0.08	0.00007	0.05	0.00062	0.12	56
zen	P1	P5	100.72570	154.91248	0.00144	-0.71	-0.00102	-2.48	0.00017	-5.95	99
zen	P1	P13	102.93500	86.82436	0.00147	0.14	0.00020	0.27	0.00030	0.66	96
zen	P1	SLCC	99.04050	47.95633	0.00153	0.32	0.00048	0.36	0.00071	0.68	79
HARTRAO26.obs											
tour	P19	P5	0.00000	100.86814	0.00086	0.02	0.00002	0.03	0.00049	0.04	68
hz	P19	P6	83.23350	140.54184	0.00085	-0.37	-0.00031	-0.69	0.00052	-0.60	63
hz	P19	SL	279.67980	58.41217	0.00091	-0.30	-0.00027	-0.25	0.00059	-0.46	58
hz	P19	P13	344.16750	50.69433	0.00093	0.69	0.00063	0.51	0.00054	1.17	66
zen	P19	P5	97.23520	100.86814	0.00146	-0.76	-0.00111	-1.75	0.00026	-4.32	97
zen	P19	P6	100.93250	140.54184	0.00145	0.50	0.00072	1.59	0.00023	3.14	97

zen	P19	SL	92.45100	58.41217	0.00151	-1.50	-0.00227	-2.08	0.00050	-4.57	89
zen	P19	P13	97.30800	50.69433	0.00153	0.78	0.00119	0.95	0.00054	2.22	88
dist	P19	P5	100.86610	100.86814	0.00090	2.27	0.00204	2.04	0.00040	5.10	80
dist	P19	SL	58.41180	58.41217	0.00082	0.45	0.00037	0.37	0.00035	1.07	82
dist	P19	P13	50.69460	50.69433	0.00080	-0.34	-0.00027	-0.27	0.00031	-0.89	85
tour	P19	P5	0.00000	100.86019	0.00086	1.60	0.00138	2.19	0.00053	2.62	63
hz	P19	SL101	279.81150	57.95058	0.00091	-0.40	-0.00037	-0.33	0.00058	-0.63	59
hz	P19	SL102	279.37380	58.35721	0.00091	0.98	0.00090	0.82	0.00057	1.57	61
hz	P19	SL103	279.23810	57.55591	0.00091	-2.48	-0.00226	-2.04	0.00057	-3.97	61
hz	P19	SL104	279.16750	58.50312	0.00091	0.20	0.00019	0.17	0.00057	0.32	60
zen	P19	P5	97.35230	100.86019	0.00146	-0.20	-0.00029	-0.45	0.00026	-1.12	97
zen	P19	SL101	92.66390	57.95058	0.00151	-0.73	-0.00110	-1.00	0.00052	-2.13	88
zen	P19	SL102	92.59160	58.35721	0.00151	-1.32	-0.00199	-1.82	0.00046	-4.36	91
zen	P19	SL103	92.98210	57.55591	0.00151	-0.65	-0.00098	-0.89	0.00046	-2.14	91
zen	P19	SL104	92.69780	58.50312	0.00151	-0.48	-0.00073	-0.67	0.00050	-1.45	89
dist	P19	SL101	57.95030	57.95058	0.00082	0.34	0.00028	0.28	0.00038	0.73	78
dist	P19	SL102	58.35710	58.35721	0.00082	0.14	0.00011	0.11	0.00034	0.33	82
dist	P19	SL103	57.55450	57.55591	0.00082	1.73	0.00141	1.41	0.00033	4.30	84
dist	P19	SL104	58.50340	58.50312	0.00082	-0.34	-0.00028	-0.28	0.00034	-0.81	82
tour	P19	P5	0.00000	100.86019	0.00086	-0.17	-0.00015	-0.23	0.00059	-0.25	53
hz	P19	SL201	279.48340	58.11592	0.00091	-0.43	-0.00040	-0.36	0.00063	-0.63	52
hz	P19	SL202	279.06390	58.48488	0.00091	0.62	0.00056	0.51	0.00061	0.91	55
zen	P19	P5	97.35200	100.86019	0.00146	0.01	0.00001	0.02	0.00026	0.05	97
zen	P19	SL201	92.59840	58.11592	0.00151	0.91	0.00137	1.25	0.00041	3.37	93
zen	P19	SL202	92.83010	58.48488	0.00151	0.70	0.00106	0.98	0.00052	2.05	88
dist	P19	SL201	58.11590	58.11592	0.00082	0.02	0.00002	0.02	0.00032	0.06	84
dist	P19	SL202	58.48520	58.48488	0.00082	-0.39	-0.00032	-0.32	0.00031	-1.03	85
tour	P19	P5	0.00000	100.86019	0.00086	-0.59	-0.00051	-0.81	0.00059	-0.87	54
hz	P19	SL203	279.10490	57.61609	0.00091	-0.72	-0.00065	-0.59	0.00062	-1.05	53
hz	P19	SL204	278.92600	58.58548	0.00091	1.34	0.00122	1.12	0.00060	2.02	56
zen	P19	P5	97.35150	100.86019	0.00146	0.35	0.00051	0.81	0.00026	2.01	97
zen	P19	SL203	93.01330	57.61609	0.00151	0.93	0.00140	1.27	0.00045	3.14	91
zen	P19	SL204	93.05220	58.58548	0.00151	0.11	0.00017	0.16	0.00056	0.30	86
dist	P19	SL203	57.61450	57.61609	0.00082	1.95	0.00159	1.59	0.00031	5.08	85
dist	P19	SL204	58.58590	58.58548	0.00082	-0.52	-0.00042	-0.42	0.00032	-1.32	85
tour	P19	P5	0.00000	100.86019	0.00086	-0.92	-0.00080	-1.26	0.00074	-1.07	26
hz	P19	SL205	279.10260	57.35779	0.00091	0.97	0.00089	0.80	0.00077	1.16	29
zen	P19	P5	97.35180	100.86019	0.00146	0.15	0.00021	0.34	0.00026	0.84	97
zen	P19	SL205	93.24540	57.35779	0.00151	-1.33	-0.00201	-1.81	0.00059	-3.42	85
tour	P19	P5	0.00000	100.86019	0.00086	0.70	0.00060	0.95	0.00058	1.03	54

hz	P19	SL301	279.15730	58.26245	0.00091	-0.22	-0.00020	-0.18	0.00062	-0.32	54
hz	P19	SL302	278.89500	58.53088	0.00091	-0.52	-0.00047	-0.43	0.00059	-0.80	58
zen	P19	P5	97.35350	100.86019	0.00146	-1.02	-0.00149	-2.35	0.00026	-5.80	97
zen	P19	SL301	92.73660	58.26245	0.00151	-0.62	-0.00094	-0.86	0.00047	-1.98	90
zen	P19	SL302	93.22090	58.53088	0.00151	-0.92	-0.00138	-1.27	0.00058	-2.39	85
dist	P19	SL301	58.26240	58.26245	0.00082	0.06	0.00005	0.05	0.00032	0.16	84
dist	P19	SL302	58.53100	58.53088	0.00082	-0.15	-0.00012	-0.12	0.00031	-0.39	86
tour	P19	P5	0.00000	100.86019	0.00086	-0.23	-0.00020	-0.31	0.00058	-0.34	55
hz	P19	SL303	279.00550	57.65590	0.00091	-2.49	-0.00227	-2.06	0.00060	-3.78	57
hz	P19	SL304	278.87110	58.56857	0.00091	2.73	0.00248	2.28	0.00059	4.19	58
zen	P19	P5	97.35270	100.86019	0.00146	-0.47	-0.00069	-1.09	0.00026	-2.68	97
zen	P19	SL303	93.11810	57.65590	0.00151	0.01	0.00002	0.02	0.00054	0.04	87
zen	P19	SL304	93.49850	58.56857	0.00151	-0.82	-0.00124	-1.14	0.00058	-2.15	85
dist	P19	SL303	57.65460	57.65590	0.00082	1.59	0.00130	1.30	0.00030	4.29	86
dist	P19	SL304	58.56900	58.56857	0.00082	-0.52	-0.00043	-0.43	0.00032	-1.33	84
tour	P19	P5	0.00000	100.86019	0.00086	-1.58	-0.00136	-2.16	0.00055	-2.47	59
hz	P19	SL401	278.92920	58.34421	0.00091	-0.00	-0.00000	-0.00	0.00060	-0.00	56
hz	P19	SL402	278.91460	58.47808	0.00091	2.65	0.00241	2.21	0.00060	4.03	57
hz	P19	SL405	279.10390	57.35784	0.00091	-0.99	-0.00090	-0.81	0.00077	-1.17	29
zen	P19	P5	97.35240	100.86019	0.00146	-0.26	-0.00039	-0.61	0.00026	-1.51	97
zen	P19	SL401	93.03400	58.34421	0.00151	-0.18	-0.00028	-0.25	0.00056	-0.49	86
zen	P19	SL402	93.63900	58.47808	0.00151	0.09	0.00013	0.12	0.00057	0.24	86
zen	P19	SL405	93.24540	57.35784	0.00151	-0.98	-0.00149	-1.34	0.00059	-2.53	85
dist	P19	SL401	58.34440	58.34421	0.00082	-0.23	-0.00019	-0.19	0.00035	-0.54	81
dist	P19	SL402	58.47870	58.47808	0.00082	-0.76	-0.00062	-0.62	0.00035	-1.75	81
tour	P19	P5	0.00000	100.86019	0.00086	0.92	0.00079	1.26	0.00066	1.20	41
hz	P19	SL403	278.96220	57.66256	0.00091	-0.97	-0.00088	-0.80	0.00067	-1.31	46
zen	P19	P5	97.35250	100.86019	0.00146	-0.33	-0.00049	-0.77	0.00026	-1.90	97
zen	P19	SL403	93.25970	57.66256	0.00151	0.40	0.00060	0.54	0.00059	1.02	85
dist	P19	SL403	57.66030	57.66256	0.00082	2.77	0.00226	2.26	0.00031	7.18	85
						TDA_0226.obs					
tour	P11	P6	0.00000	189.93075	0.00083	1.99	0.00166	4.95	0.00059	2.79	49
hz	P11	P13	325.88870	64.04806	0.00090	-2.78	-0.00250	-2.51	0.00059	-4.21	57
hz	P11	SL	272.73580	19.13324	0.00113	0.83	0.00094	0.28	0.00093	1.01	33
hz	P11	SLCC	272.73450	19.12511	0.00113	-0.04	-0.00004	-0.01	0.00106	-0.04	13
zen	P11	P6	102.42320	189.93075	0.00143	1.26	0.00181	5.40	0.00016	11.57	99
zen	P11	P13	103.01250	64.04806	0.00150	0.16	0.00024	0.24	0.00039	0.62	93
zen	P11	SL	94.20310	19.13324	0.00173	-1.69	-0.00292	-0.88	0.00130	-2.25	44
zen	P11	SLCC	94.35360	19.12511	0.00173	-0.14	-0.00025	-0.07	0.00159	-0.15	16
dist	P11	P13	64.04900	64.04806	0.00083	-1.14	-0.00094	-0.94	0.00029	-3.24	88

dist	P11	SL	19.13300	19.13324	0.00074	0.33	0.00024	0.24	0.00045	0.54	63
dist	P11	SLCC	19.12510	19.12511	0.00074	0.02	0.00001	0.01	0.00074	0.02	0
tour	SL	P6	0.00000	198.66937	0.00083	0.72	0.00060	1.86	0.00048	1.25	67
hz	SL	P10	179.02630	199.66588	0.00083	1.17	0.00098	3.06	0.00052	1.89	61
hz	SL	P12	217.67990	405.57077	0.00082	0.20	0.00016	1.04	0.00049	0.34	64
hz	SL	P1	68.74680	47.96266	0.00093	-2.35	-0.00219	-1.65	0.00055	-3.97	65
zen	SL	P6	102.89280	198.66937	0.00143	-0.76	-0.00109	-3.39	0.00019	-5.83	98
zen	SL	P10	95.32080	199.66588	0.00143	-0.92	-0.00132	-4.13	0.00030	-4.34	96
zen	SL	P12	95.39650	405.57077	0.00142	-0.29	-0.00041	-2.60	0.00029	-1.39	96
zen	SL	P1	101.15100	47.96266	0.00153	-2.45	-0.00376	-2.83	0.00057	-6.63	86
dist	SL	P10	199.66560	199.66588	0.00110	0.26	0.00028	0.28	0.00045	0.63	84
dist	SL	P12	405.57030	405.57077	0.00151	0.31	0.00047	0.47	0.00065	0.73	82
dist	SL	P1	47.96280	47.96266	0.00080	-0.18	-0.00014	-0.14	0.00046	-0.31	67
tour	SL	P10	0.00000	199.65266	0.00083	-0.85	-0.00071	-2.21	0.00052	-1.37	61
hz	SL	P12	38.65240	405.55772	0.00082	-0.39	-0.00032	-2.03	0.00049	-0.65	64
hz	SL	P5	166.37590	131.13114	0.00085	0.59	0.00050	1.03	0.00051	0.98	64
hz	SL	P2	315.56490	150.20256	0.00084	0.68	0.00057	1.35	0.00060	0.95	49
zen	SL	P10	95.37950	199.65266	0.00143	-1.72	-0.00246	-7.71	0.00030	-8.10	96
zen	SL	P12	95.42610	405.55772	0.00142	-1.18	-0.00167	-10.64	0.00029	-5.70	96
zen	SL	P5	101.34490	131.13114	0.00145	-1.34	-0.00194	-3.99	0.00025	-7.73	97
zen	SL	P2	99.86750	150.20256	0.00144	-2.21	-0.00319	-7.53	0.00037	-8.51	93
tour	P11	P6	0.00000	189.93075	0.00083	-0.60	-0.00050	-1.48	0.00073	-0.68	24
hz	P11	SL101	274.21590	19.02260	0.00114	0.06	0.00006	0.02	0.00103	0.06	18
hz	P11	SL102	272.42280	18.85649	0.00114	-0.43	-0.00049	-0.14	0.00102	-0.48	20
hz	P11	SL103	274.55460	18.37750	0.00115	1.33	0.00153	0.44	0.00103	1.48	19
hz	P11	SL104	271.65520	18.75500	0.00114	-0.14	-0.00016	-0.05	0.00099	-0.16	24
zen	P11	P6	102.42360	189.93075	0.00143	0.98	0.00141	4.21	0.00016	9.01	99
zen	P11	SL101	94.99850	19.02260	0.00173	0.79	0.00137	0.41	0.00137	1.00	37
zen	P11	SL102	94.57140	18.85649	0.00174	0.09	0.00016	0.05	0.00110	0.15	60
zen	P11	SL103	95.97540	18.37750	0.00175	-0.34	-0.00059	-0.17	0.00117	-0.51	55
zen	P11	SL104	94.81870	18.75500	0.00174	-0.10	-0.00018	-0.05	0.00129	-0.14	45
dist	P11	SL101	19.02270	19.02260	0.00074	-0.14	-0.00010	-0.10	0.00048	-0.22	58
dist	P11	SL102	18.85670	18.85649	0.00074	-0.29	-0.00021	-0.21	0.00047	-0.46	60
dist	P11	SL103	18.37700	18.37750	0.00074	0.68	0.00050	0.50	0.00043	1.17	66
dist	P11	SL104	18.75540	18.75500	0.00074	-0.55	-0.00040	-0.40	0.00047	-0.86	60
tour	P11	P6	0.00000	189.93075	0.00083	-0.55	-0.00046	-1.37	0.00073	-0.63	24
hz	P11	SL203	274.18300	18.29783	0.00115	0.84	0.00096	0.28	0.00102	0.94	21
hz	P11	SL204	270.94810	18.59534	0.00114	-0.08	-0.00009	-0.03	0.00091	-0.10	36
zen	P11	P6	102.42330	189.93075	0.00143	1.19	0.00171	5.10	0.00016	10.93	99
zen	P11	SL203	96.04050	18.29783	0.00175	-0.58	-0.00101	-0.29	0.00107	-0.95	63

zen	P11	SL204	95.85670	18.59534	0.00174	0.16	0.00027	0.08	0.00154	0.18	22
dist	P11	SL203	18.29820	18.29783	0.00074	-0.51	-0.00037	-0.37	0.00042	-0.89	68
dist	P11	SL204	18.59570	18.59534	0.00074	-0.49	-0.00036	-0.36	0.00039	-0.91	71
tour	P11	P6	0.00000	189.93075	0.00083	0.13	0.00011	0.32	0.00070	0.16	30
hz	P11	SL201	273.29720	18.83427	0.00114	0.06	0.00007	0.02	0.00104	0.07	17
hz	P11	SL202	271.52030	18.66147	0.00114	0.04	0.00004	0.01	0.00096	0.04	29
hz	P11	SL205	274.92650	18.18495	0.00115	-0.28	-0.00032	-0.09	0.00098	-0.32	27
zen	P11	P6	102.42460	189.93075	0.00143	0.29	0.00041	1.23	0.00016	2.62	99
zen	P11	SL201	94.69120	18.83427	0.00174	0.14	0.00024	0.07	0.00093	0.26	71
zen	P11	SL202	95.21820	18.66147	0.00174	0.14	0.00025	0.07	0.00134	0.18	41
zen	P11	SL205	96.83150	18.18495	0.00175	0.47	0.00082	0.23	0.00165	0.50	12
dist	P11	SL201	18.83390	18.83427	0.00074	0.50	0.00037	0.37	0.00043	0.86	67
dist	P11	SL202	18.66150	18.66147	0.00074	-0.04	-0.00003	-0.03	0.00041	-0.07	68
tour	P11	P6	0.00000	189.93075	0.00083	-0.81	-0.00068	-2.02	0.00069	-0.98	31
hz	P11	SL303	273.88720	18.23181	0.00115	2.16	0.00248	0.71	0.00094	2.65	34
hz	P11	SL304	270.78900	18.54226	0.00114	-1.03	-0.00118	-0.34	0.00086	-1.37	43
zen	P11	P6	102.42420	189.93075	0.00143	0.57	0.00081	2.42	0.00016	5.18	99
zen	P11	SL303	96.33420	18.23181	0.00175	0.79	0.00138	0.40	0.00143	0.96	33
zen	P11	SL304	97.25050	18.54226	0.00174	0.24	0.00041	0.12	0.00163	0.25	13
dist	P11	SL303	18.23160	18.23181	0.00074	0.28	0.00021	0.21	0.00038	0.54	73
dist	P11	SL304	18.54270	18.54226	0.00074	-0.59	-0.00044	-0.44	0.00037	-1.17	74
tour	P11	P6	0.00000	189.93075	0.00083	0.15	0.00012	0.36	0.00071	0.17	27
hz	P11	SL301	272.35400	18.63399	0.00114	0.03	0.00004	0.01	0.00100	0.03	23
hz	P11	SL302	271.01300	18.54070	0.00114	-0.23	-0.00026	-0.08	0.00087	-0.30	42
zen	P11	P6	102.42410	189.93075	0.00143	0.64	0.00091	2.72	0.00016	5.82	99
zen	P11	SL301	94.99930	18.63399	0.00174	0.10	0.00017	0.05	0.00116	0.15	55
zen	P11	SL302	96.39050	18.54070	0.00174	0.16	0.00028	0.08	0.00161	0.17	15
dist	P11	SL301	18.63400	18.63399	0.00074	-0.01	-0.00001	-0.01	0.00044	-0.02	65
dist	P11	SL302	18.54110	18.54070	0.00074	-0.54	-0.00040	-0.40	0.00037	-1.07	74
tour	P11	P6	0.00000	189.93075	0.00083	-0.47	-0.00039	-1.17	0.00067	-0.58	35
hz	P11	SL403	273.76690	18.19896	0.00115	0.19	0.00022	0.06	0.00090	0.24	38
hz	P11	SL404	271.24830	18.61717	0.00114	0.01	0.00001	0.00	0.00103	0.01	19
hz	P11	SL405	274.92520	18.18503	0.00115	0.23	0.00026	0.08	0.00099	0.27	26
hz	P11	SLM	272.70860	19.16977	0.00113	0.22	0.00025	0.07	0.00105	0.24	14
zen	P11	P6	102.42390	189.93075	0.00143	0.77	0.00111	3.31	0.00016	7.10	99
zen	P11	SL403	96.77480	18.19896	0.00175	0.12	0.00021	0.06	0.00164	0.13	12
zen	P11	SL404	98.55630	18.61717	0.00174	0.27	0.00047	0.14	0.00156	0.30	20
zen	P11	SL405	96.83340	18.18503	0.00175	0.32	0.00055	0.16	0.00163	0.34	13
zen	P11	SLM	107.01330	19.16977	0.00173	-0.11	-0.00020	-0.06	0.00173	-0.11	0
dist	P11	SL403	18.19710	18.19896	0.00074	2.53	0.00186	1.86	0.00036	5.14	76

dist	P11	SL404	18.61790	18.61717	0.00074	-0.99	-0.00073	-0.73	0.00055	-1.32	43
dist	P11	SLM	19.16870	19.16977	0.00074	1.45	0.00107	1.07	0.00045	2.39	63
tour	P11	P6	0.00000	189.93075	0.00083	0.70	0.00058	1.74	0.00072	0.81	26
hz	P11	SL401	271.68890	18.48422	0.00115	-0.48	-0.00055	-0.16	0.00096	-0.57	30
hz	P11	SL402	271.08870	18.53641	0.00114	-0.48	-0.00055	-0.16	0.00093	-0.59	34
zen	P11	P6	102.42400	189.93075	0.00143	0.71	0.00101	3.02	0.00016	6.46	99
zen	P11	SL401	95.86470	18.48422	0.00174	-0.34	-0.00060	-0.17	0.00154	-0.39	22
zen	P11	SL402	97.72790	18.53641	0.00174	-0.28	-0.00048	-0.14	0.00159	-0.30	17
dist	P11	SL401	18.48460	18.48422	0.00074	-0.52	-0.00038	-0.38	0.00046	-0.83	61
dist	P11	SL402	18.53750	18.53641	0.00074	-1.48	-0.00109	-1.09	0.00044	-2.49	65
20140227.obs											
den	VB1	P25	-0.56080	237.93918	0.00072	1.08	0.00078	0.78	0.00045	1.75	61
den	P25	VB1	0.56050	237.93918	0.00072	-0.67	-0.00048	-0.48	0.00045	-1.07	61
den	VB1	B13	0.69100	63.37734	0.00072	-0.67	-0.00048	-0.48	0.00045	-1.07	61
den	B13	VB1	-0.69130	63.37734	0.00072	1.08	0.00078	0.78	0.00045	1.75	61
2014227A.obs											
den	B5	B0	3.16100	114.13422	0.00126	0.00	0.00001	0.01	0.00055	0.01	81
den	B1	B2	2.40760	107.88645	0.00144	-0.69	-0.00099	-0.99	0.00079	-1.25	70
den	B2	B1	-2.40820	107.88645	0.00144	1.11	0.00159	1.59	0.00079	2.00	70
den	B4	GN	2.06360	232.85116	0.00072	0.17	0.00012	0.12	0.00060	0.20	31
den	GN	GE	-0.00590	0.24595	0.00072	-0.08	-0.00006	-0.06	0.00053	-0.11	46
den	GE	GS	-0.00100	0.24693	0.00072	0.16	0.00011	0.11	0.00060	0.19	31
den	GS	GW	0.00610	0.24777	0.00072	-0.14	-0.00010	-0.10	0.00053	-0.19	45
den	GW	B4	-2.06300	232.80367	0.00072	0.17	0.00012	0.12	0.00060	0.20	31
HARTRAO27.obs											
tour	P25	P5	0.00000	91.73689	0.00087	-1.28	-0.00111	-1.61	0.00050	-2.23	67
hz	P25	P6	123.25130	90.60421	0.00087	0.72	0.00063	0.90	0.00048	1.30	69
hz	P25	P20b	137.63740	25.07784	0.00105	0.19	0.00020	0.08	0.00073	0.28	53
hz	P25	P21b	153.50840	59.81909	0.00091	0.14	0.00013	0.12	0.00052	0.24	68
hz	P25	P1	280.91010	100.93447	0.00086	-0.42	-0.00036	-0.57	0.00047	-0.77	71
hz	P25	P11	299.02590	102.82224	0.00086	0.68	0.00059	0.95	0.00048	1.23	69
zen	P25	P5	96.82480	91.73689	0.00147	-0.45	-0.00067	-0.96	0.00038	-1.75	93
zen	P25	P6	101.30750	90.60421	0.00147	0.11	0.00016	0.23	0.00042	0.39	92
zen	P25	P20b	101.61340	25.07784	0.00165	-1.17	-0.00193	-0.76	0.00105	-1.84	60
zen	P25	P21b	101.82980	59.81909	0.00151	-0.87	-0.00131	-1.23	0.00058	-2.25	85
zen	P25	P1	96.00100	100.93447	0.00146	-1.71	-0.00251	-3.97	0.00034	-7.27	94
zen	P25	P11	96.67650	102.82224	0.00146	-2.14	-0.00313	-5.06	0.00033	-9.58	95
dist	P25	P5	91.73660	91.73689	0.00088	0.32	0.00029	0.29	0.00040	0.72	80
dist	P25	P20b	25.07850	25.07784	0.00075	-0.88	-0.00066	-0.66	0.00037	-1.77	76
dist	P25	P21b	59.81880	59.81909	0.00082	0.36	0.00029	0.29	0.00036	0.81	80

dist	P25	P1	100.93450	100.93447	0.00090	-0.03	-0.00003	-0.03	0.00037	-0.07	84
dist	P25	P11	102.82150	102.82224	0.00091	0.82	0.00074	0.74	0.00035	2.14	85
dist	P25	P19	51.16470	51.16428	0.00080	-0.52	-0.00042	-0.42	0.00036	-1.16	80
tour	P25	P5	0.00000	91.73689	0.00087	0.54	0.00047	0.67	0.00065	0.71	43
hz	P25	P26	314.40060	82.22180	0.00088	-0.54	-0.00047	-0.61	0.00066	-0.72	44
zen	P25	P5	96.82420	91.73689	0.00147	-0.04	-0.00007	-0.09	0.00038	-0.17	93
zen	P25	P26	97.50530	82.22180	0.00148	-0.11	-0.00016	-0.21	0.00048	-0.34	89
dist	P25	P5	91.73660	91.73689	0.00088	0.32	0.00029	0.29	0.00040	0.72	80
dist	P25	P26	82.22150	82.22180	0.00086	0.35	0.00030	0.30	0.00039	0.77	80
						20140303.obs					
den	B3	B10	13.02350	127.52499	0.00191	-0.53	-0.00101	-1.01	0.00093	-1.08	76
den	B10	B3	-13.02330	127.52499	0.00191	0.42	0.00081	0.81	0.00093	0.87	76
						20140304_TDA.obs					
tour	P28	P10	0.00000	193.07591	0.00083	-2.94	-0.00245	-7.42	0.00047	-5.24	69
hz	P28	P12	39.13570	400.57149	0.00082	0.44	0.00036	2.25	0.00046	0.77	68
hz	P28	P19	215.67490	64.54739	0.00090	2.35	0.00211	2.14	0.00047	4.48	72
hz	P28	P6	219.86870	204.80951	0.00083	-0.09	-0.00007	-0.24	0.00042	-0.17	74
hz	P28	P27	244.12100	2.62006	0.00323	-2.38	-0.00768	-0.32	0.00204	-3.76	60
hz	P28	P11	266.67530	20.81674	0.00111	2.30	0.00254	0.83	0.00070	3.65	60
hz	P28	P3	362.92680	90.82081	0.00087	-0.75	-0.00065	-0.93	0.00065	-1.00	44
zen	P28	P10	94.36320	193.07591	0.00143	0.42	0.00060	1.83	0.00030	2.05	96
zen	P28	P12	94.97540	400.57149	0.00142	0.49	0.00070	4.38	0.00029	2.37	96
zen	P28	P19	104.49680	64.54739	0.00150	-1.54	-0.00230	-2.33	0.00037	-6.15	94
zen	P28	P6	101.98390	204.80951	0.00143	0.90	0.00129	4.14	0.00016	8.00	99
zen	P28	P27	101.63010	2.62006	0.00383	2.54	0.00973	0.40	0.00189	5.14	76
zen	P28	P11	97.97910	20.81674	0.00171	-0.31	-0.00053	-0.17	0.00090	-0.59	72
zen	P28	P3	96.19480	90.82081	0.00147	1.19	0.00174	2.49	0.00060	2.92	83
dist	P28	P10	193.07540	193.07591	0.00109	0.47	0.00051	0.51	0.00032	1.57	91
dist	P28	P19	64.54780	64.54739	0.00083	-0.50	-0.00041	-0.41	0.00029	-1.45	88
dist	P28	P6	204.80860	204.80951	0.00111	0.82	0.00091	0.91	0.00032	2.86	92
dist	P28	P27	2.61990	2.62006	0.00071	0.22	0.00016	0.16	0.00011	1.46	98
dist	P28	P11	20.81760	20.81674	0.00074	-1.16	-0.00086	-0.86	0.00033	-2.59	80
dist	P28	P3	90.82130	90.82081	0.00088	-0.56	-0.00049	-0.49	0.00078	-0.63	22
tour	P28	P10	0.00000	193.07591	0.00083	-0.11	-0.00009	-0.28	0.00080	-0.12	9
hz	P28	LL	308.13930	8.06807	0.00160	0.21	0.00034	0.04	0.00132	0.26	31
zen	P28	P10	94.36320	193.07591	0.00143	0.42	0.00060	1.83	0.00030	2.05	96
zen	P28	LL	92.04520	8.06807	0.00219	-0.21	-0.00045	-0.06	0.00152	-0.30	52
dist	P28	P10	193.07550	193.07591	0.00109	0.37	0.00041	0.41	0.00032	1.26	91
dist	P28	LL	8.06800	8.06807	0.00072	0.10	0.00007	0.07	0.00045	0.16	60
tour	P28	P10	0.00000	193.07591	0.00083	0.14	0.00011	0.34	0.00073	0.16	24

hz	P28	L11	306.67840	8.84133	0.00155	0.53	0.00082	0.11	0.00118	0.69	42
hz	P28	L12	310.28420	7.62507	0.00165	-0.67	-0.00110	-0.13	0.00130	-0.85	38
hz	P28	L13	311.13940	8.20140	0.00160	-0.48	-0.00077	-0.10	0.00121	-0.63	43
hz	P28	L14	305.13830	8.28971	0.00159	0.32	0.00051	0.07	0.00125	0.41	38
zen	P28	P10	94.36380	193.07591	0.00143	0.00	0.00000	0.01	0.00030	0.01	96
zen	P28	L11	82.08340	8.84133	0.00212	-0.17	-0.00035	-0.05	0.00143	-0.25	55
zen	P28	L12	88.58950	7.62507	0.00223	0.77	0.00172	0.21	0.00151	1.14	54
zen	P28	L13	84.93700	8.20140	0.00218	-0.01	-0.00003	-0.00	0.00152	-0.02	51
zen	P28	L14	85.21520	8.28971	0.00217	-0.66	-0.00144	-0.19	0.00138	-1.04	59
dist	P28	P10	193.07550	193.07591	0.00109	0.37	0.00041	0.41	0.00032	1.26	91
dist	P28	L11	8.84110	8.84133	0.00072	0.32	0.00023	0.23	0.00034	0.68	78
dist	P28	L12	7.62550	7.62507	0.00072	-0.60	-0.00043	-0.43	0.00035	-1.24	76
dist	P28	L13	8.20170	8.20140	0.00072	-0.42	-0.00030	-0.30	0.00032	-0.95	80
dist	P28	L14	8.28970	8.28971	0.00072	0.01	0.00001	0.01	0.00045	0.02	61
tour	P28	P10	0.00000	193.07591	0.00083	-0.42	-0.00035	-1.06	0.00072	-0.48	25
hz	P28	L21	306.92690	8.96205	0.00153	1.00	0.00153	0.21	0.00115	1.33	44
hz	P28	L22	310.08230	7.46714	0.00168	-0.23	-0.00039	-0.05	0.00128	-0.30	42
hz	P28	L23	311.13860	8.19846	0.00160	-0.03	-0.00006	-0.01	0.00122	-0.05	41
hz	P28	L24	305.12990	8.28210	0.00159	0.02	0.00003	0.00	0.00123	0.03	40
zen	P28	P10	94.36370	193.07591	0.00143	0.07	0.00010	0.31	0.00030	0.35	96
zen	P28	L21	85.08500	8.96205	0.00211	-0.44	-0.00092	-0.13	0.00146	-0.63	52
zen	P28	L22	84.97530	7.46714	0.00225	-0.11	-0.00024	-0.03	0.00157	-0.15	51
zen	P28	L23	84.97080	8.19846	0.00218	0.01	0.00002	0.00	0.00148	0.01	54
zen	P28	L24	85.20350	8.28210	0.00217	-0.18	-0.00038	-0.05	0.00135	-0.28	61
dist	P28	P10	193.07570	193.07591	0.00109	0.19	0.00021	0.21	0.00032	0.64	91
dist	P28	L21	8.96080	8.96205	0.00072	1.74	0.00125	1.25	0.00030	4.21	83
dist	P28	L22	7.46610	7.46714	0.00071	1.46	0.00104	1.04	0.00028	3.70	85
dist	P28	L23	8.19780	8.19846	0.00072	0.92	0.00066	0.66	0.00036	1.82	75
dist	P28	L24	8.28200	8.28210	0.00072	0.14	0.00010	0.10	0.00041	0.24	67
tour	P28	P10	0.00000	193.07591	0.00083	0.10	0.00008	0.25	0.00072	0.11	25
hz	P28	L31	306.81310	8.73702	0.00154	-0.34	-0.00052	-0.07	0.00117	-0.45	42
hz	P28	L32	310.17900	7.73353	0.00166	0.67	0.00112	0.14	0.00130	0.86	39
hz	P28	L33	311.13460	8.19069	0.00160	-0.68	-0.00109	-0.14	0.00126	-0.87	38
hz	P28	L34	305.11920	8.27377	0.00159	0.20	0.00032	0.04	0.00119	0.27	44
zen	P28	P10	94.36350	193.07591	0.00143	0.21	0.00030	0.92	0.00030	1.03	96
zen	P28	L31	88.93770	8.73702	0.00213	-0.60	-0.00128	-0.18	0.00142	-0.90	55
zen	P28	L32	80.40270	7.73353	0.00222	0.43	0.00095	0.12	0.00150	0.63	55
zen	P28	L33	84.99000	8.19069	0.00218	0.28	0.00060	0.08	0.00134	0.45	62
zen	P28	L34	85.13670	8.27377	0.00217	-0.20	-0.00044	-0.06	0.00148	-0.30	53
dist	P28	P10	193.07550	193.07591	0.00109	0.37	0.00041	0.41	0.00032	1.26	91

dist	P28	L31	8.73770	8.73702	0.00072	-0.95	-0.00068	-0.68	0.00036	-1.92	76
dist	P28	L32	7.73190	7.73353	0.00072	2.27	0.00163	1.63	0.00037	4.43	74
dist	P28	L33	8.19020	8.19069	0.00072	0.69	0.00049	0.49	0.00044	1.12	62
dist	P28	L34	8.27360	8.27377	0.00072	0.24	0.00017	0.17	0.00029	0.60	84
tour	P28	P10	0.00000	193.07591	0.00083	-0.21	-0.00017	-0.53	0.00072	-0.24	24
hz	P28	L41	306.56650	8.49541	0.00156	-0.08	-0.00012	-0.02	0.00121	-0.10	40
hz	P28	L42	310.37000	8.00637	0.00164	-0.72	-0.00117	-0.15	0.00131	-0.90	37
hz	P28	L43	311.12780	8.18619	0.00160	0.43	0.00068	0.09	0.00123	0.55	41
hz	P28	L44	305.11630	8.27284	0.00159	0.75	0.00119	0.15	0.00119	1.00	44
zen	P28	P10	94.36320	193.07591	0.00143	0.42	0.00060	1.83	0.00030	2.05	96
zen	P28	L41	90.11150	8.49541	0.00215	-0.80	-0.00172	-0.23	0.00137	-1.26	60
zen	P28	L42	79.37730	8.00637	0.00220	-0.63	-0.00137	-0.17	0.00141	-0.97	59
zen	P28	L43	84.97850	8.18619	0.00218	-0.06	-0.00014	-0.02	0.00143	-0.09	57
zen	P28	L44	85.08700	8.27284	0.00217	-0.17	-0.00038	-0.05	0.00150	-0.25	52
dist	P28	P10	193.07550	193.07591	0.00109	0.37	0.00041	0.41	0.00032	1.26	91
dist	P28	L41	8.49560	8.49541	0.00072	-0.26	-0.00019	-0.19	0.00042	-0.44	65
dist	P28	L42	8.00590	8.00637	0.00072	0.66	0.00047	0.47	0.00044	1.09	63
dist	P28	L43	8.18620	8.18619	0.00072	-0.01	-0.00001	-0.01	0.00036	-0.02	74
dist	P28	L44	8.27220	8.27284	0.00072	0.90	0.00064	0.64	0.00029	2.21	83
tour	P28	P10	0.00000	193.07591	0.00083	0.34	0.00028	0.86	0.00075	0.38	20
hz	P28	L51	305.56710	7.74085	0.00164	-0.51	-0.00084	-0.10	0.00128	-0.66	39
hz	P28	L53	311.12720	8.18341	0.00160	-0.01	-0.00001	-0.00	0.00124	-0.01	40
hz	P28	L54	305.13160	8.28348	0.00159	-0.14	-0.00022	-0.03	0.00125	-0.18	38
zen	P28	P10	94.36370	193.07591	0.00143	0.07	0.00010	0.31	0.00030	0.35	96
zen	P28	L51	88.74800	7.74085	0.00222	-0.03	-0.00006	-0.01	0.00149	-0.04	55
zen	P28	L53	84.88980	8.18341	0.00218	0.35	0.00077	0.10	0.00151	0.51	52
zen	P28	L54	85.00300	8.28348	0.00217	-0.99	-0.00214	-0.28	0.00142	-1.51	57
dist	P28	P10	193.07560	193.07591	0.00109	0.28	0.00031	0.31	0.00032	0.95	91
dist	P28	L51	7.74060	7.74085	0.00072	0.35	0.00025	0.25	0.00037	0.69	74
dist	P28	L53	8.18280	8.18341	0.00072	0.86	0.00061	0.61	0.00036	1.69	74
dist	P28	L54	8.28380	8.28348	0.00072	-0.44	-0.00032	-0.32	0.00044	-0.71	62
tour	P28	P10	0.00000	193.07591	0.00083	0.01	0.00001	0.02	0.00083	0.01	0
hz	P28	LLM	308.09660	8.02964	0.00160	-0.01	-0.00002	-0.00	0.00159	-0.01	0
zen	P28	P10	94.36370	193.07591	0.00143	0.07	0.00010	0.31	0.00030	0.35	96
zen	P28	LLM	106.07620	8.02964	0.00219	-0.33	-0.00072	-0.09	0.00210	-0.35	9
dist	P28	P10	193.07560	193.07591	0.00109	0.28	0.00031	0.31	0.00032	0.95	91
dist	P28	LLM	8.02980	8.02964	0.00072	-0.22	-0.00016	-0.16	0.00056	-0.28	39
tour	P28	P10	0.00000	193.07591	0.00083	-0.01	-0.00001	-0.02	0.00083	-0.01	0
hz	P28	LLG	308.12720	8.05220	0.00160	0.01	0.00002	0.00	0.00159	0.01	0
zen	P28	P10	94.36310	193.07591	0.00143	0.49	0.00070	2.13	0.00030	2.39	96

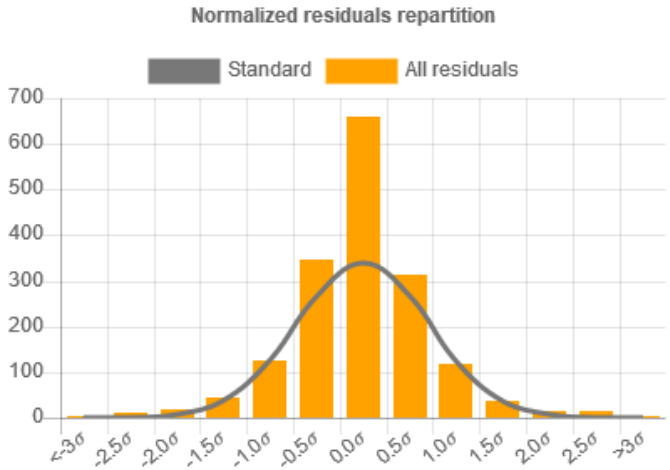
zen	P28	LLG	106.97690	8.05220	0.00219	-0.01	-0.00001	-0.00	0.00219	-0.01	0
dist	P28	P10	193.07560	193.07591	0.00109	0.28	0.00031	0.31	0.00032	0.95	91
dist	P28	LLG	8.05210	8.05220	0.00072	0.13	0.00010	0.10	0.00056	0.17	39
					HARTRAOTM04.obs						
tour	P26	P4	0.00000	121.63311	0.00085	1.68	0.00143	2.73	0.00057	2.50	55
hz	P26	P1	283.86410	50.91836	0.00093	-1.19	-0.00110	-0.88	0.00061	-1.80	56
hz	P26	P19	191.32880	32.34463	0.00100	-2.82	-0.00281	-1.43	0.00072	-3.91	48
hz	P26	P13	84.73380	35.92216	0.00098	2.09	0.00204	1.15	0.00070	2.92	49
zen	P26	P4	96.60220	121.63311	0.00145	0.02	0.00003	0.07	0.00040	0.09	92
zen	P26	P1	96.09960	50.91836	0.00153	-0.09	-0.00013	-0.11	0.00057	-0.24	86
zen	P26	P19	106.06120	32.34463	0.00160	-4.10	-0.00655	-3.33	-	0.00	-
zen	P26	P13	101.56550	35.92216	0.00158	1.18	0.00187	1.05	0.00087	2.15	70
dist	P26	P4	121.63280	121.63311	0.00094	0.33	0.00031	0.31	0.00036	0.86	85
dist	P26	P1	50.91730	50.91836	0.00080	1.32	0.00106	1.06	0.00034	3.11	82
dist	P26	P19	32.34510	32.34463	0.00076	-0.61	-0.00047	-0.47	0.00030	-1.58	85
dist	P26	P13	35.92240	35.92216	0.00077	-0.31	-0.00024	-0.24	0.00036	-0.65	78
tour	P26	P4	0.00000	121.63311	0.00085	-0.42	-0.00035	-0.68	0.00063	-0.56	45
hz	P26	SLM	359.53710	27.65483	0.00103	-0.93	-0.00095	-0.41	0.00090	-1.06	24
hz	P26	P27	354.74170	32.51885	0.00100	-1.49	-0.00149	-0.76	0.00067	-2.22	55
hz	P26	P11	317.13530	30.25355	0.00101	2.92	0.00295	1.40	0.00066	4.48	57
zen	P26	P4	96.60260	121.63311	0.00145	-0.25	-0.00037	-0.70	0.00040	-0.90	92
zen	P26	SLM	99.91620	27.65483	0.00163	-6.27	-0.01021	-4.44	-	0.00	-
zen	P26	P27	97.23270	32.51885	0.00160	-0.99	-0.00159	-0.81	0.00081	-1.97	74
zen	P26	P11	95.48590	30.25355	0.00161	1.43	0.00230	1.09	0.00086	2.67	71
dist	P26	P4	121.63300	121.63311	0.00094	0.12	0.00011	0.11	0.00036	0.31	85
dist	P26	SLM	27.65470	27.65483	0.00076	0.17	0.00013	0.13	0.00042	0.31	70
dist	P26	P27	32.51820	32.51885	0.00077	0.85	0.00065	0.65	0.00031	2.12	84
dist	P26	P11	30.25310	30.25355	0.00076	0.59	0.00045	0.45	0.00029	1.54	85
tour	P27	P6	0.00000	202.37940	0.00083	0.10	0.00009	0.28	0.00080	0.11	6
hz	P27	LL	109.15530	7.04543	0.00171	-0.22	-0.00037	-0.04	0.00146	-0.25	27
zen	P27	P6	101.98770	202.37940	0.00143	0.05	0.00007	0.23	0.00016	0.45	99
zen	P27	LL	90.26570	7.04543	0.00230	0.17	0.00040	0.04	0.00172	0.23	44
dist	P27	P6	202.37850	202.37940	0.00110	0.81	0.00090	0.90	0.00031	2.88	92
dist	P27	LL	7.04570	7.04543	0.00071	-0.37	-0.00027	-0.27	0.00045	-0.59	60
hz	P27	P6	0.00000	202.37940	0.00083	0.10	0.00009	0.28	-	0.00	-
tour	P27	P10	180.98470	195.08480	0.00083	-0.04	-0.00004	-0.11	0.00053	-0.07	59
hz	P27	P12	219.60620	403.17994	0.00082	1.54	0.00126	7.96	0.00051	2.45	60
hz	P27	P26	376.74790	32.51885	0.00100	-0.81	-0.00081	-0.41	0.00069	-1.18	52
hz	P27	P19	394.95040	62.19667	0.00090	4.94	0.00446	4.36	-	0.00	-
hz	P27	P1	62.94600	46.72157	0.00094	0.52	0.00049	0.36	0.00051	0.96	70

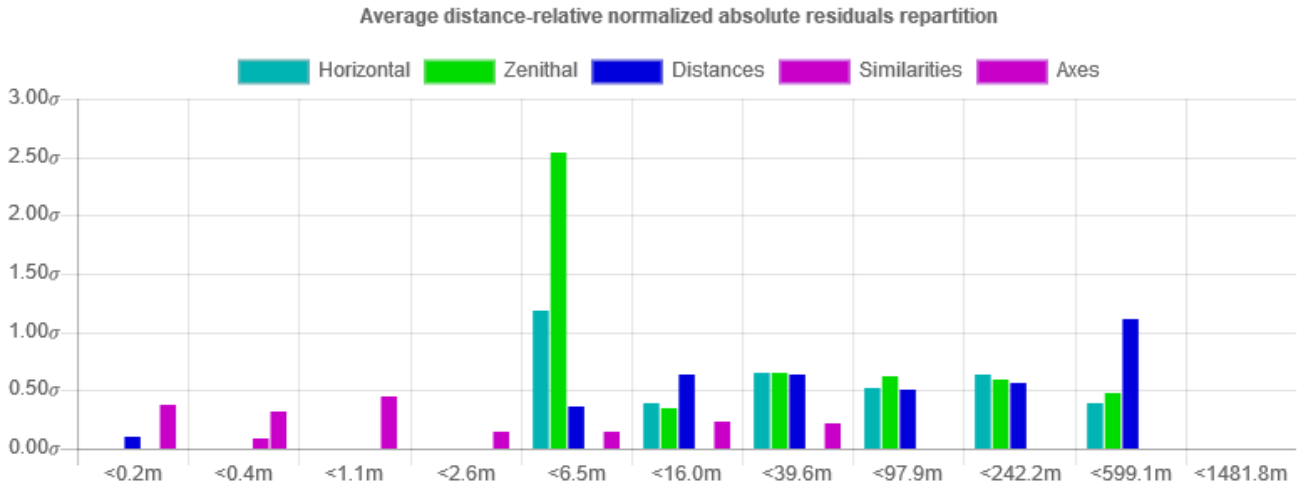
hz	P27	P11	50.27010	18.38680	0.00115	-1.81	-0.00208	-0.60	0.00075	-2.79	58
zen	P27	P6	101.98760	202.37940	0.00143	0.12	0.00017	0.55	0.00016	1.07	99
zen	P27	P12	94.99800	403.17994	0.00142	0.00	0.00000	0.00	0.00029	0.00	96
zen	P27	P26	102.76720	32.51885	0.00160	1.24	0.00197	1.01	0.00081	2.44	74
zen	P27	P19	104.59840	62.19667	0.00150	-2.00	-0.00301	-2.94	0.00039	-7.77	93
zen	P27	P1	97.68040	46.72157	0.00154	-1.64	-0.00252	-1.85	0.00050	-5.04	89
zen	P27	P11	97.47540	18.38680	0.00175	1.19	0.00208	0.60	0.00101	2.06	67
dist	P27	P6	202.37860	202.37940	0.00110	0.72	0.00080	0.80	0.00031	2.56	92
dist	P27	P26	32.51800	32.51885	0.00077	1.11	0.00085	0.85	0.00031	2.77	84
dist	P27	P19	62.19680	62.19667	0.00082	-0.16	-0.00013	-0.13	0.00028	-0.48	89
dist	P27	P1	46.72100	46.72157	0.00079	0.72	0.00057	0.57	0.00035	1.61	80
tour	P27	P6	0.00000	202.37940	0.00083	-0.94	-0.00078	-2.49	0.00075	-1.05	19
hz	P27	L11	106.22390	7.78997	0.00166	-0.38	-0.00063	-0.08	0.00131	-0.48	38
hz	P27	L12	113.02980	6.72843	0.00177	1.57	0.00278	0.29	0.00141	1.96	36
hz	P27	L13	112.48550	7.32852	0.00170	0.59	0.00101	0.12	0.00133	0.76	39
hz	P27	L14	105.67250	7.18018	0.00172	0.22	0.00037	0.04	0.00140	0.27	34
zen	P27	P6	101.98760	202.37940	0.00143	0.12	0.00017	0.55	0.00016	1.07	99
zen	P27	L11	79.00240	7.78997	0.00222	-0.11	-0.00025	-0.03	0.00163	-0.15	46
zen	P27	L12	86.39650	6.72843	0.00235	0.74	0.00173	0.18	0.00172	1.01	47
zen	P27	L13	82.49400	7.32852	0.00227	-0.13	-0.00029	-0.03	0.00168	-0.18	45
zen	P27	L14	82.25530	7.18018	0.00229	-0.24	-0.00054	-0.06	0.00157	-0.35	53
dist	P27	L11	7.78990	7.78997	0.00072	0.10	0.00007	0.07	0.00034	0.20	78
dist	P27	L12	6.73020	6.72843	0.00071	-2.48	-0.00177	-1.77	0.00035	-5.12	76
dist	P27	L13	7.32950	7.32852	0.00071	-1.37	-0.00098	-0.98	0.00032	-3.10	80
dist	P27	L14	7.18050	7.18018	0.00071	-0.44	-0.00032	-0.32	0.00045	-0.71	60
tour	P27	P6	0.00000	202.37940	0.00083	-0.06	-0.00005	-0.15	0.00075	-0.06	19
hz	P27	L21	105.94450	7.89185	0.00164	-0.63	-0.00104	-0.13	0.00127	-0.81	40
hz	P27	L22	113.65370	6.59407	0.00180	0.63	0.00114	0.12	0.00141	0.80	39
hz	P27	L23	112.49310	7.32552	0.00170	-0.05	-0.00009	-0.01	0.00135	-0.07	37
hz	P27	L24	105.68600	7.17270	0.00172	0.23	0.00040	0.05	0.00139	0.29	35
zen	P27	P6	101.98820	202.37940	0.00143	-0.30	-0.00043	-1.36	0.00016	-2.62	99
zen	P27	L21	82.44930	7.89185	0.00221	0.37	0.00081	0.10	0.00164	0.49	44
zen	P27	L22	82.26280	6.59407	0.00237	0.16	0.00037	0.04	0.00176	0.21	44
zen	P27	L23	82.53030	7.32552	0.00227	0.24	0.00054	0.06	0.00163	0.33	49
zen	P27	L24	82.23840	7.17270	0.00229	0.47	0.00107	0.12	0.00158	0.68	52
dist	P27	P6	202.37860	202.37940	0.00110	0.72	0.00080	0.80	0.00031	2.56	92
dist	P27	L21	7.89060	7.89185	0.00072	1.74	0.00125	1.25	0.00029	4.25	83
dist	P27	L22	6.59410	6.59407	0.00071	-0.04	-0.00003	-0.03	0.00028	-0.10	85
dist	P27	L23	7.32570	7.32552	0.00071	-0.25	-0.00018	-0.18	0.00036	-0.49	75
dist	P27	L24	7.17300	7.17270	0.00071	-0.43	-0.00030	-0.30	0.00041	-0.75	67

tour	P27	P6	0.00000	202.37940	0.00083	0.15	0.00013	0.40	0.00075	0.17	19
hz	P27	L31	106.08910	7.64695	0.00165	0.06	0.00009	0.01	0.00130	0.07	38
hz	P27	L32	113.37520	6.88254	0.00179	-0.81	-0.00144	-0.16	0.00143	-1.01	36
hz	P27	L33	112.50650	7.31782	0.00170	0.65	0.00110	0.13	0.00140	0.79	33
hz	P27	L34	105.70400	7.16486	0.00172	-0.25	-0.00043	-0.05	0.00135	-0.32	39
zen	P27	P6	101.98860	202.37940	0.00143	-0.58	-0.00083	-2.63	0.00016	-5.08	99
zen	P27	L31	86.76660	7.64695	0.00223	-0.30	-0.00066	-0.08	0.00159	-0.42	49
zen	P27	L32	77.21700	6.88254	0.00232	1.09	0.00252	0.27	0.00163	1.55	51
zen	P27	L33	82.54940	7.31782	0.00227	0.59	0.00134	0.15	0.00150	0.89	56
zen	P27	L34	82.15880	7.16486	0.00229	0.12	0.00029	0.03	0.00171	0.17	44
dist	P27	L31	7.64770	7.64695	0.00072	-1.05	-0.00075	-0.75	0.00036	-2.12	75
dist	P27	L32	6.88250	6.88254	0.00071	0.06	0.00004	0.04	0.00037	0.11	74
dist	P27	L33	7.31800	7.31782	0.00071	-0.26	-0.00018	-0.18	0.00044	-0.42	62
dist	P27	L34	7.16500	7.16486	0.00071	-0.20	-0.00014	-0.14	0.00029	-0.50	84
tour	P27	P6	0.00000	202.37940	0.00083	0.65	0.00054	1.72	0.00075	0.72	19
hz	P27	L41	106.36020	7.39997	0.00168	0.14	0.00023	0.03	0.00135	0.17	35
hz	P27	L42	112.84120	7.15599	0.00176	-0.33	-0.00057	-0.06	0.00144	-0.40	32
hz	P27	L43	112.51720	7.31344	0.00170	-0.25	-0.00043	-0.05	0.00136	-0.31	36
hz	P27	L44	105.71050	7.16428	0.00173	-0.92	-0.00158	-0.18	0.00135	-1.17	39
zen	P27	P6	101.98900	202.37940	0.00143	-0.86	-0.00123	-3.90	0.00016	-7.54	99
zen	P27	L41	88.04160	7.39997	0.00226	-0.46	-0.00104	-0.12	0.00153	-0.68	54
zen	P27	L42	76.17280	7.15599	0.00229	0.47	0.00109	0.12	0.00155	0.70	54
zen	P27	L43	82.53550	7.31344	0.00227	0.09	0.00020	0.02	0.00161	0.12	49
zen	P27	L44	82.10110	7.16428	0.00229	0.20	0.00047	0.05	0.00171	0.27	44
dist	P27	L41	7.40060	7.39997	0.00071	-0.88	-0.00063	-0.63	0.00043	-1.48	65
dist	P27	L42	7.15660	7.15599	0.00071	-0.86	-0.00061	-0.61	0.00044	-1.41	63
dist	P27	L43	7.31380	7.31344	0.00071	-0.51	-0.00036	-0.36	0.00036	-1.01	75
dist	P27	L44	7.16390	7.16428	0.00071	0.53	0.00038	0.38	0.00029	1.30	84
tour	P27	P6	0.00000	202.37940	0.00083	-0.01	-0.00001	-0.02	0.00077	-0.01	15
hz	P27	L51	107.50990	6.65190	0.00178	0.32	0.00057	0.06	0.00148	0.39	31
hz	P27	L53	112.53000	7.31130	0.00171	-0.00	-0.00000	-0.00	0.00136	-0.00	36
hz	P27	L54	105.70150	7.17557	0.00172	-0.29	-0.00051	-0.06	0.00141	-0.36	34
zen	P27	P6	101.98900	202.37940	0.00143	-0.86	-0.00123	-3.90	0.00016	-7.54	99
zen	P27	L51	86.22000	6.65190	0.00236	0.35	0.00083	0.09	0.00174	0.47	46
zen	P27	L53	82.43750	7.31130	0.00227	-0.18	-0.00042	-0.05	0.00167	-0.25	46
zen	P27	L54	82.00870	7.17557	0.00229	-0.55	-0.00125	-0.14	0.00160	-0.78	51
dist	P27	L51	6.65250	6.65190	0.00071	-0.84	-0.00060	-0.60	0.00036	-1.65	74
dist	P27	L53	7.31130	7.31130	0.00071	0.00	0.00000	0.00	0.00036	0.01	74
dist	P27	L54	7.17610	7.17557	0.00071	-0.74	-0.00053	-0.53	0.00044	-1.20	61
tour	P27	P6	0.00000	202.37940	0.00083	0.00	0.00000	0.00	0.00082	0.00	4

hz	P27	P28	224.55110	2.62006	0.00323	-0.00	-0.00001	-0.00	0.00211	-0.00	58
zen	P27	P6	101.98950	202.37940	0.00143	-1.21	-0.00173	-5.49	0.00016	-10.62	99
dist	P27	P28	2.62040	2.62006	0.00071	-0.49	-0.00034	-0.34	0.00011	-3.18	98
						20140304.DAT.obs				
den	TMOB6	LLM	0.58710	221.89488	0.00080	-0.49	-0.00039	-0.39	0.00045	-0.86	68
den	LLM	TMOB6	-0.58710	221.89488	0.00080	0.49	0.00039	0.39	0.00045	0.86	68
den	B11	P11	1.69270	219.58758	0.00072	-0.18	-0.00013	-0.13	0.00037	-0.34	74
den	B13	P13	2.56590	219.90278	0.00072	-1.15	-0.00083	-0.83	0.00049	-1.69	54
den	B6	P6	2.80280	220.32764	0.00072	-0.43	-0.00031	-0.31	0.00058	-0.54	36
obs.obs										
dist hz	LLM	LLG	0.01150	0.01154	0.00050	-0.10	-0.00005	-0.05	0.00044	-0.11	22
						LLR_HZ.axe				
axe_fx	LLR_HZ	LLR_HZ	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0
						SLR_HZ.axe				
axe_fx	SLR_HZ	SLR_HZ	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0
						V15_HZ.axe				
axe_fx	V15_HZ	V15_HZ	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0
						V15_VERT.axe				
axe_fz	V15_VERT	V15_VERT	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0
						V26_HZ.axe				
axe_fx	V26_HZ	V26_HZ	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0
						V26_VERT.axe				
axe_fy	V26_VERT	V26_VERT	0.00000	0.00000	0.00100	0.00	0.00000	0.00	0.00100	0.00	0

Residual repartition





Pseudo random propositions

System redundancy: 949

Observations sigmas may be multiplied by:
Horizontal angles: 0.96719
Zenith angles: 1.00007
Distances: 0.96047
Direct levelling: 0.96089

9.1 Similarities

File name	Origin point	Vertical		Global cartesian coordinates (m)		
G.xyz	G100	No	Vect	0.44587	0.27362	1414.33755
			Mat	0.99989	0.00014	-0.01466
cart obs		Deviation		0.00014	0.99981	0.01956
		1.55793		0.01466	-0.01956	0.99970

Axes

Axis LLR_HZ.axe on point LLR_HZ

Axis parametrization

1.00000 ± 0.00097		-74.03970
-0.08188 ± 0.00051	* λ +	54.13732
0.00043 ± 0.00035		1410.36267

Target ID	Abscissa	Radius	Positions
1	-0.25428	0.70415	5
2	0.31586	0.73286	4
3	0.37677	0.00928	5
4	-0.38151	0.01440	5

Axis SLR_HZ.axe on point SLR_HZ

Axis parametrization

1.00000 ± 0.00097		-80.23846
-0.68410 ± 0.00110	* λ +	44.27657
-0.00135 ± 0.00071		1410.01123

Target ID	Abscissa	Radius	Positions
1	-0.27239	0.66568	4
2	-0.13788	0.73809	4
3	-0.73581	0.25815	4
4	-0.09843	0.77696	4
5	-0.90578	0.00167	2

Axis V15_HZ.axe on point V15_HZ

Axis parametrization

1.00000 ± 0.00097 -272.39318
0.78339 ± 0.00010 * λ + 42.25928
-0.00070 ± 0.00007 1409.39183

Target ID	Abscissa	Radius	Positions
1	-0.00941	9.70572	5
2	-0.01605	9.51544	5
3	2.89529	5.66365	5
4	0.04341	7.44064	5
5	0.03340	6.75862	5
6	0.02129	5.76923	5

Axis V15_VERT.axe on point V15_VERT

Axis parametrization

0.00043 ± 0.00023 -271.47429
0.00003 ± 0.00025 * λ + 41.08631
1.00000 ± 0.00097 1409.39147

Target ID	Abscissa	Radius	Positions
1	9.67620	2.24404	3
2	9.46477	0.50799	3
7	10.02770	1.58472	4
8	10.03278	1.33078	4

Axis V26_HZ.axe on point V26_HZ

Axis parametrization

1.00000 ± 0.00097 -158.57132
0.00016 ± 0.00008 * λ + 42.47625
0.00055 ± 0.00007 1421.71556

Target ID	Abscissa	Radius	Positions
1	-0.25321	16.17712	3
2	-0.00298	16.15935	3
3	-0.16017	14.58366	5
4	-5.96732	0.36819	1
6	-6.14082	10.09704	1
7	6.50981	9.31525	1
8	-0.79411	12.60833	1
9	0.04792	6.37501	1
11	0.03728	5.53397	2
13	0.04868	6.37617	2
10	-0.04920	6.31767	1

Axis V26_VERT.axe on point V26_VERT

Axis parametrization

0.00009 ± 0.00004		-158.56750
1.00000 ± 0.00097	* λ +	39.55931
-0.48409 ± 0.00005		1415.68997

Target ID	Abscissa	Radius	Positions
1	-2.03615	22.71445	5
2	-2.03490	22.69533	5
3	-12.62726	10.68247	5
4	-0.31059	8.87227	5
5	-0.31151	8.86244	4
6	-0.07668	7.02065	4
8	-0.14785	5.96602	5
7	-0.06941	7.01761	3

Compensated coordinates

Name	E comp	N comp	Eh comp	ΔE	ΔN	ΔZ	η	ξ	Active obs
LLR_HZ	568742.28903	7136360.48995	1410.36771	0.00275	-0.00356	0.00438	2.5	8.96	41
SLR_HZ	568736.04226	7136350.66733	1410.01626	0.00277	-0.00356	0.00437	2.5	8.97	39
V15_HZ	568543.98774	7136349.65667	1409.40213	0.00268	-0.00356	0.00434	2.5	8.94	63
V15_VERT	568544.89998	7136348.47954	1409.40173	0.00270	-0.00358	0.00434	2.5	8.94	31
V26_HZ	568657.74541	7136349.27785	1421.72204	0.00272	-0.00356	0.00436	2.5	8.95	45
V26_VERT	568657.73381	7136346.36262	1415.69642	0.00271	-0.00356	0.00436	2.5	8.95	75
P20b	568605.30049	7136369.17791	1402.91407	0.00272	-0.00358	0.00434	2.5	8.95	23
SLR_REF	568736.04140	7136350.66609	1410.01626	0.00274	-0.00359	0.00437	2.5	8.97	4
LLR_REF	568742.28959	7136360.49200	1410.36771	0.00274	-0.00356	0.00438	2.5	8.96	3
HRAO	568816.44440	7136306.27470	1414.15560	0.00000	0.00000	0.00000	2.49	8.99	6
P1	568720.27736	7136395.92727	1409.81498	0.00272	-0.00369	0.00445	2.5	8.95	118
P5	568635.97577	7136266.07727	1408.05295	0.00273	-0.00357	0.00434	2.49	8.97	161
P6	568540.09142	7136381.44757	1401.79665	0.00270	-0.00355	0.00433	2.51	8.94	104
P2	568746.67310	7136500.40680	1411.12595	0.00271	-0.00369	0.00442	2.52	8.93	6
P3	568808.77139	7136414.42441	1413.64098	0.00274	-0.00356	0.00437	2.5	8.96	7
P4	568816.24647	7136290.10360	1413.18417	0.00264	-0.00346	0.00431	2.49	8.99	74
P10	568932.06315	7136385.04841	1425.29520	0.00274	-0.00354	0.00436	2.5	8.98	50
P11	568729.33464	7136368.48910	1408.84547	0.00275	-0.00355	0.00438	2.5	8.96	171
P12	569102.92311	7136180.83981	1439.94854	0.00272	-0.00362	0.00434	2.47	9.04	43
P13	568700.09429	7136311.62621	1405.81770	0.00275	-0.00361	0.00422	2.49	8.97	47
P13b	568700.09016	7136311.61849	1405.81749	0.00273	-0.00358	0.00434	2.49	8.97	119
P17	568872.39023	7136313.98717	1415.84441	0.00268	-0.00350	0.00432	2.49	8.99	9
P18	568706.32374	7136346.07917	1405.23682	0.00283	-0.00346	0.00355	2.5	8.97	29
P19	568678.46385	7136357.39250	1402.38474	0.00275	-0.00357	0.00436	2.5	8.96	101
P20	568605.29683	7136369.17328	1402.90980	0.00270	-0.00356	0.00435	2.5	8.95	171
P21	568583.43865	7136397.79746	1401.65376	0.00274	-0.00358	0.00435	2.51	8.94	23
P21b	568583.43840	7136397.79732	1401.78615	0.00274	-0.00358	0.00435	2.51	8.94	192
P22	568544.67840	7136381.69464	1400.22849	0.00271	-0.00356	0.00435	2.51	8.94	56
P23	568616.20856	7136318.07697	1402.88102	0.00270	-0.00359	0.00434	2.5	8.96	125
P25	568627.32894	7136357.23903	1402.00100	0.00273	-0.00359	0.00434	2.5	8.95	29
P26	568708.73118	7136346.46257	1405.34831	0.00273	-0.00357	0.00435	2.5	8.97	28
P27	568740.35988	7136353.80548	1408.37859	0.00275	-0.00356	0.00438	2.5	8.97	99
P28	568742.62792	7136352.49842	1408.44610	0.00275	-0.00356	0.00438	2.5	8.97	112
VB1	568783.04730	7136177.50890	1402.56693	-	-	0.01969	2.47	9.02	4
TMOB6	568861.54730	7136173.50890	1406.88360	-	-	0.01894	2.47	9.03	4
BT12	569091.54730	7136060.50890	1422.38391	-	-	0.02127	2.46	9.07	4
B0	568875.54730	7136062.50890	1404.35634	-	-	0.02377	2.46	9.05	11
B1	568847.84800	7136217.42530	1407.16909	-	-	0.01725	2.48	9.01	7
B2	568873.70390	7136322.07760	1409.57082	-	-	0.01226	2.49	8.99	5
B3	568936.27330	7136236.39350	1411.45056	-	-	0.01486	2.48	9.02	7

B4	568944.40590	7136112.07110	1412.28415	-	-	0.02124	2.46	9.05	8
B5	568764.20170	7136087.08870	1401.19562	-	-	0.02426	2.46	9.04	6
B6	568667.67890	7136201.99460	1399.00038	-	-	0.02022	2.48	9	5
B10	569059.76070	7136207.65740	1424.47280	-	-	0.01385	2.47	9.03	6
B11	568857.05310	7136190.02450	1407.15910	-	-	0.01833	2.47	9.02	9
B12	569231.74710	7136004.27180	1437.95777	-	-	0.02206	2.45	9.09	3
B13	568828.10090	7136132.99070	1403.25884	-	-	0.02111	2.47	9.03	7
B17	569000.44250	7136136.25870	1414.36450	-	-	0.01985	2.47	9.05	5
G100	568816.44705	7136306.27113	1414.33755	0.00606	-0.00116	0.00966	2.49	8.99	20
GN	568816.44796	7136306.44479	1414.34094	0.00796	-0.01521	0.01439	2.49	8.99	6
GS	568816.44613	7136306.09600	1414.33412	0.00613	0.00600	0.01439	2.49	8.99	6
GE	568816.62091	7136306.27022	1414.33499	-0.0090	0.00022	0.01430	2.49	8.99	6
GW	568816.27208	7136306.27205	1414.34011	0.02208	0.00205	0.01424	2.49	8.99	6
CP1	568792.94730	7136171.30890	1408.85547	-	-	0.01998	2.47	9.02	4
SL	568736.04141	7136350.66611	1410.50188	0.44743	0.27139	0.01292	2.5	8.97	31
SLCC	568736.04065	7136350.67006	1410.50131	0.44739	0.27148	0.01287	2.5	8.97	5
OT1	568862.54730	7136169.50890	1410.03861	-	-	0.01924	2.47	9.02	2
OB1	568862.54730	7136169.50890	1410.03691	-	-	0.01923	2.47	9.02	2
SLM	568736.04848	7136350.66896	1406.79268	0.44737	0.27125	0.01405	2.5	8.97	5
LL	568742.28958	7136360.49196	1409.45133	0.44764	0.27118	0.01209	2.5	8.96	9
LLM	568742.28466	7136360.47961	1407.46363	0.44762	0.27112	0.01214	2.5	8.97	6
LLG	568742.28804	7136360.49054	1407.46506	0.44761	0.27111	0.01210	2.5	8.97	4
V1999	568546.44934	7136349.27073	1403.53201	0.44712	0.27217	0.01525	2.5	8.94	11
V1011	568538.04529	7136357.30451	1408.86013	0.44739	0.27233	0.01503	2.5	8.94	8
V1012	568538.19251	7136357.10265	1410.59129	0.44744	0.27234	0.01507	2.5	8.94	8
V1013	568543.42607	7136356.38229	1409.46226	0.44736	0.27236	0.01503	2.5	8.94	8
V1014	568539.78957	7136355.16128	1406.68425	0.44732	0.27226	0.01508	2.5	8.94	8
V1015	568540.60854	7136354.09010	1413.21929	0.44747	0.27247	0.01518	2.5	8.94	8
V1016	568543.46800	7136350.36613	1403.70040	0.44731	0.27206	0.01522	2.5	8.94	8
V1021	568538.38192	7136356.87387	1412.65686	0.44745	0.27252	0.01506	2.5	8.94	8
V1022	568538.92767	7136356.15731	1414.15652	0.44747	0.27252	0.01508	2.5	8.94	8
V1023	568543.71276	7136356.01448	1411.65190	0.44739	0.27247	0.01502	2.5	8.94	8
V1024	568539.47742	7136355.56685	1409.57996	0.44736	0.27242	0.01508	2.5	8.94	8
V1025	568541.78160	7136352.57819	1415.08218	0.44746	0.27259	0.01517	2.5	8.94	8
V1026	568542.15768	7136352.05767	1404.48681	0.44730	0.27214	0.01515	2.5	8.94	8
V1031	568539.82327	7136355.01755	1416.33531	0.44744	0.27277	0.01504	2.5	8.94	8
V1032	568540.71541	7136353.85333	1417.28840	0.44743	0.27272	0.01509	2.5	8.94	8
V1033	568544.64059	7136354.81913	1413.70284	0.44740	0.27257	0.01507	2.5	8.94	8
V1034	568539.98756	7136354.91164	1412.82281	0.44738	0.27258	0.01511	2.5	8.94	8
V1035	568543.53304	7136350.31902	1416.11293	0.44740	0.27268	0.01526	2.5	8.94	8
V1036	568541.02650	7136353.51904	1406.30840	0.44730	0.27228	0.01517	2.5	8.94	8
V1041	568541.91311	7136352.32290	1418.50024	0.44748	0.27281	0.01521	2.5	8.94	8
V1042	568542.96487	7136350.95223	1418.77320	0.44743	0.27280	0.01521	2.5	8.94	6
V1043	568545.91164	7136353.18013	1414.83072	0.44742	0.27260	0.01516	2.5	8.94	8
V1044	568541.19280	7136353.35863	1415.21806	0.44745	0.27263	0.01526	2.5	8.94	8
V1045	568545.24901	7136348.10448	1415.85787	0.44738	0.27264	0.01535	2.5	8.94	8
V1046	568540.51451	7136354.18177	1408.56018	0.44732	0.27239	0.01518	2.5	8.94	8
V1051	568543.52283	7136350.24630	1419.07864	0.44750	0.27280	0.01530	2.5	8.94	10
V1052	568544.57903	7136348.86942	1418.86654	0.44746	0.27275	0.01530	2.5	8.94	8
V1053	568546.86380	7136351.95187	1415.06335	0.44744	0.27261	0.01521	2.5	8.94	8
V1054	568542.27920	7136351.95786	1416.26809	0.44748	0.27265	0.01531	2.5	8.94	8
V1055	568546.28671	7136346.76462	1415.06050	0.44740	0.27253	0.01537	2.5	8.94	8
V1056	568540.50788	7136354.19169	1410.15843	0.44734	0.27244	0.01520	2.5	8.94	8
V1057	568543.93664	7136349.73344	1419.42985	0.44749	0.27283	0.01530	2.5	8.94	8
V1058	568544.08186	7136349.52480	1419.43483	0.44750	0.27280	0.01531	2.5	8.94	8
V1062	568544.52356	7136348.14399	1418.86672	0.44745	0.27276	0.01535	2.5	8.94	8
V1067	568543.67764	7136347.47836	1419.43006	0.44745	0.27279	0.01540	2.5	8.94	8
V1068	568543.88195	7136347.62949	1419.43497	0.44747	0.27280	0.01539	2.5	8.94	8
V1071	568546.59380	7136349.95507	1419.07705	0.44749	0.27273	0.01529	2.5	8.94	7
V1077	568546.10356	7136349.51462	1419.42883	0.44749	0.27270	0.01530	2.5	8.94	8
V1078	568545.90337	7136349.35810	1419.43417	0.44748	0.27268	0.01531	2.5	8.94	8
V1081	568546.21132	7136346.65701	1419.07734	0.44748	0.27278	0.01542	2.5	8.94	6
V1082	568545.21291	7136348.07648	1418.86644	0.44744	0.27276	0.01534	2.5	8.94	7

V1087	568545.81824	7136347.18596	1419.42907	0.44745	0.27278	0.01540	2.5	8.94	8
V1088	568545.68206	7136347.40057	1419.43415	0.44746	0.27282	0.01539	2.5	8.94	8
V2101	568679.06674	7136347.60540	1423.69117	0.44748	0.27248	0.01388	2.5	8.95	6
V2102	568679.13222	7136347.50149	1423.47377	0.44748	0.27246	0.01387	2.5	8.95	6
V2103	568667.68988	7136335.30183	1425.14199	0.44747	0.27243	0.01446	2.5	8.95	8
V2104	568661.95592	7136349.43144	1422.87692	0.44740	0.27245	0.01397	2.5	8.95	6
V2105	568665.89261	7136344.51573	1412.76285	0.44725	0.27194	0.01399	2.5	8.95	6
V2106	568652.49461	7136348.34250	1419.92678	0.44733	0.27229	0.01400	2.5	8.95	8
V2108	568651.89295	7136345.71580	1414.67266	0.44729	0.27206	0.01412	2.5	8.95	8
V2201	568670.57923	7136352.42470	1433.55946	0.44767	0.27282	0.01370	2.5	8.95	6
V2202	568670.77399	7136352.35601	1433.41625	0.44765	0.27281	0.01372	2.5	8.95	6
V2203	568663.67678	7136337.56161	1429.76837	0.44745	0.27263	0.01444	2.5	8.95	8
V2204	568656.62967	7136349.89083	1423.76811	0.44753	0.27250	0.01397	2.5	8.95	6
V2205	568666.37345	7136346.86095	1417.61581	0.44739	0.27212	0.01394	2.5	8.95	8
V2206	568650.75692	7136346.64281	1416.39388	0.44741	0.27220	0.01414	2.5	8.95	8
V2208	568653.68317	7136344.32545	1411.81852	0.44734	0.27194	0.01412	2.5	8.95	8
V2301	568644.52149	7136352.43133	1433.28693	0.44775	0.27298	0.01404	2.5	8.95	6
V2302	568644.73735	7136352.48791	1433.40304	0.44776	0.27299	0.01406	2.5	8.95	6
V2303	568651.42438	7136337.54302	1429.59604	0.44762	0.27264	0.01459	2.5	8.95	8
V2304	568649.08626	7136346.94756	1417.60238	0.44745	0.27225	0.01410	2.5	8.95	8
V2305	568658.85754	7136349.87464	1423.76189	0.44760	0.27243	0.01394	2.5	8.95	6
V2307	568664.56779	7136346.95053	1417.16334	0.44752	0.27212	0.01394	2.5	8.95	8
V2308	568660.46519	7136343.89408	1411.00070	0.44747	0.27193	0.01410	2.5	8.95	6
V2401	568636.31359	7136347.70942	1423.43627	0.44761	0.27279	0.01444	2.5	8.95	6
V2402	568636.41575	7136347.80963	1423.64162	0.44757	0.27275	0.01437	2.5	8.95	6
V2403	568647.58386	7136335.31617	1424.95094	0.44736	0.27248	0.01458	2.5	8.95	8
V2404	568649.52107	7136344.62852	1412.81580	0.44753	0.27198	0.01413	2.5	8.95	8
V2406	568658.82166	7136343.26083	1409.49307	0.44736	0.27188	0.01424	2.5	8.95	6
V2407	568662.42746	7136348.54375	1420.43313	0.44761	0.27228	0.01395	2.5	8.95	8
V2408	568663.01117	7136344.98335	1413.28025	0.44756	0.27198	0.01409	2.5	8.95	8
V2501	568657.50912	7136354.21961	1437.12539	0.44782	0.27302	0.01379	2.5	8.95	8
V2502	568657.75918	7136354.21186	1437.10898	0.44778	0.27301	0.01379	2.5	8.95	8
V2503	568657.52403	7136338.39489	1431.42258	0.44753	0.27267	0.01443	2.5	8.95	10
V2504	568651.77967	7136348.94176	1421.75342	0.44760	0.27250	0.01411	2.5	8.95	8
V2505	568663.69381	7136348.87997	1421.75927	0.44757	0.27228	0.01387	2.5	8.95	6
V2506	568651.59023	7136344.83544	1412.66811	0.44750	0.27201	0.01412	2.5	8.95	10
V2507	568664.23496	7136345.11914	1413.37486	0.44734	0.27195	0.01399	2.5	8.95	10
V2508	568656.92913	7136343.64394	1410.44565	0.44744	0.27188	0.01412	2.5	8.95	8
V2601	568657.44386	7136341.18007	1435.72258	0.44783	0.27297	0.01435	2.5	8.95	6
V2602	568657.69403	7136341.18662	1435.70669	0.44780	0.27297	0.01433	2.5	8.95	8
V2603	568657.51271	7136334.78778	1420.15571	0.44749	0.27224	0.01451	2.5	8.95	8
V2609	568657.76705	7136343.76709	1418.52209	0.44756	0.27220	0.01413	2.5	8.95	8
V2701	568657.41716	7136335.27030	1429.79833	0.44774	0.27260	0.01449	2.5	8.95	6
V2702	568657.66732	7136335.28389	1429.78863	0.44771	0.27262	0.01450	2.5	8.95	8
V2703	568657.53024	7136337.50895	1413.11999	0.44742	0.27195	0.01438	2.5	8.95	8
V2803	568657.57258	7136348.18196	1436.26400	0.44779	0.27290	0.01403	2.5	8.95	6
V2811	568657.75491	7136343.94681	1423.19600	0.44755	0.27237	0.01413	2.5	8.95	8
V2813	568657.77569	7136346.25140	1427.33342	0.44756	0.27253	0.01403	2.5	8.95	8
V2903	568657.53640	7136340.79330	1433.57938	0.44774	0.27280	0.01432	2.5	8.95	6
V2910	568657.72533	7136354.67335	1418.44016	0.44750	0.27219	0.01365	2.5	8.95	8
V2911	568657.75642	7136343.95626	1420.21336	0.44750	0.27222	0.01412	2.5	8.95	6
V2913	568657.76452	7136343.78069	1424.94760	0.44755	0.27245	0.01413	2.5	8.95	8
SL101	568735.59520	7136350.59974	1410.60573	0.44744	0.27139	0.01293	2.5	8.97	8
SL102	568736.03393	7136350.94751	1410.71911	0.44745	0.27141	0.01291	2.5	8.97	8
SL103	568735.29694	7136351.15548	1410.27436	0.44743	0.27140	0.01292	2.5	8.97	8
SL104	568736.20989	7136351.11786	1410.63796	0.44746	0.27140	0.01293	2.5	8.97	8
SL201	568735.78580	7136350.87513	1410.68189	0.44745	0.27141	0.01292	2.5	8.97	8
SL202	568736.21572	7136351.21055	1410.51348	0.44747	0.27140	0.01289	2.5	8.97	8
SL203	568735.37228	7136351.26453	1410.25077	0.44743	0.27141	0.01291	2.5	8.97	8
SL204	568736.35062	7136351.32196	1410.32246	0.44746	0.27140	0.01290	2.5	8.97	8
SL205	568735.13925	7136351.29004	1410.01764	0.44748	0.27125	0.01292	2.5	8.97	6
SL301	568735.97730	7136351.15210	1410.57532	0.44745	0.27138	0.01290	2.5	8.97	8
SL302	568736.31632	7136351.35660	1410.16373	0.44745	0.27135	0.01291	2.5	8.97	8

SL303	568735.43140	7136351.34987	1410.16201	0.44746	0.27142	0.01287	2.5	8.97	8
SL304	568736.38194	7136351.36828	1409.91360	0.44745	0.27140	0.01289	2.5	8.97	8
SL401	568736.11011	7136351.34459	1410.31316	0.44744	0.27134	0.01291	2.5	8.97	8
SL402	568736.30129	7136351.33571	1409.77472	0.44745	0.27136	0.01291	2.5	8.97	8
SL403	568735.45571	7136351.38612	1410.03469	0.44739	0.27143	0.01288	2.5	8.97	8
SL404	568736.29066	7136351.23675	1409.53518	0.44744	0.27133	0.01284	2.5	8.97	5
SL405	568735.13934	7136351.28995	1410.01718	0.44748	0.27122	0.01292	2.5	8.97	6
L11	568742.07449	7136360.96917	1410.90132	0.44763	0.27131	0.01210	2.5	8.96	8
L12	568742.56317	7136359.99693	1409.80495	0.44760	0.27116	0.01205	2.5	8.96	8
L13	568742.66621	7136360.46682	1410.36823	0.44775	0.27186	0.01224	2.5	8.96	8
L14	568741.90776	7136360.52885	1410.35388	0.44763	0.27127	0.01211	2.5	8.96	8
L21	568742.09401	7136361.19440	1410.52637	0.44761	0.27120	0.01205	2.5	8.96	8
L22	568742.54240	7136359.75404	1410.19180	0.44762	0.27111	0.01209	2.5	8.96	8
L23	568742.66625	7136360.46498	1410.36330	0.44772	0.27165	0.01213	2.5	8.96	8
L24	568741.90739	7136360.52106	1410.35347	0.44764	0.27127	0.01210	2.5	8.96	8
L31	568742.08517	7136361.08191	1409.95648	0.44764	0.27128	0.01209	2.5	8.96	8
L32	568742.55242	7136359.86401	1410.78889	0.44758	0.27088	0.01202	2.5	8.96	8
L33	568742.66553	7136360.45803	1410.35901	0.44764	0.27111	0.01206	2.5	8.96	8
L34	568741.90693	7136360.51088	1410.36001	0.44765	0.27121	0.01209	2.5	8.96	8
L41	568742.06622	7136360.86802	1409.76025	0.44766	0.27123	0.01210	2.5	8.96	8
L42	568742.57269	7136360.08395	1410.99440	0.44760	0.27102	0.01216	2.5	8.96	8
L43	568742.66491	7136360.45329	1410.35949	0.44770	0.27148	0.01222	2.5	8.96	8
L44	568741.90692	7136360.50847	1410.36607	0.44765	0.27115	0.01207	2.5	8.96	8
L51	568741.99858	7136360.08840	1409.80684	0.44778	0.27136	0.01216	2.5	8.96	8
L53	568742.66467	7136360.44795	1410.36981	0.44779	0.27169	0.01217	2.5	8.96	8
L54	568741.90792	7136360.51634	1410.37939	0.44771	0.27125	0.01213			

Confidence ellipsoids

Name	1/2 Axis (mm)	Azimuth (gr)	Tilt (gr)
LLR_HZ	2.57	28.62099	199.65692
	1.02	128.48467	24.09820
	0.94	129.48367	75.89909
SLR_HZ	2.63	22.67436	0.59119
	1.01	124.07095	125.49786
	0.89	122.42425	25.49017
V15_HZ	6.67	11.01918	0.06403
	1.30	111.01384	194.68584
	1.09	111.78446	94.68545
V15_VERT	6.70	9.50827	199.58110
	1.34	109.35851	21.86193
	1.10	110.67961	78.13373
V26_HZ	4.15	14.03513	0.79033
	1.11	109.32639	89.40356
	0.86	114.16757	10.56639
V26_VERT	4.77	9.60374	8.29071
	1.45	86.76982	77.26596
	0.78	112.46564	178.95759
P20b	5.32	16.80122	0.09371
	1.02	115.95909	92.94498
	0.75	116.81168	7.05439
SLR_REF	2.61	21.97597	199.63396
	1.01	120.68742	82.38071
	0.88	122.08004	182.38471
LLR_REF	2.59	27.72468	199.67099
	1.00	127.49340	160.97817
	0.93	128.19257	60.97633
HRAO	0.01	13.33459	98.77837
	0.01	6.83692	171.78244
	0.01	167.75566	195.48728
P1	3.30	40.36777	0.09928
	1.09	140.34654	186.52574
	0.92	140.82989	86.52535
P5	4.55	187.30925	199.81310
	0.93	85.40924	93.75704
	0.71	87.32764	193.75986
P6	6.79	15.84136	0.08408
	0.98	115.21040	91.56696

	0.72	115.85259	8.43261
P2	4.96	76.21779	199.93341
	1.75	176.22079	197.20454
	1.18	174.70249	97.20375
P3	2.68	92.51274	199.88463
	1.73	192.51756	2.54081
	1.13	189.62549	97.45657
P4	1.61	0.99058	1.72870
	0.69	99.10039	147.17360
	0.59	102.57040	152.87349
P10	3.56	167.79484	199.53123
	1.14	69.85333	114.25736
	1.06	67.68817	185.75056
P11	2.85	30.11012	0.22053
	0.97	129.96793	163.51995
	0.90	130.45198	63.51909
P12	7.26	25.19609	0.05899
	1.96	126.38295	96.83845
	0.98	125.19313	196.83900
P13	3.13	2.27096	199.62790
	0.95	98.13509	94.28381
	0.63	102.30443	5.70400
P13b	3.15	2.74541	199.89412
	0.95	101.66846	93.76162
	0.70	102.75586	6.23747
P17	2.11	196.22604	198.65714
	0.91	90.79726	84.54230
	0.80	96.55737	15.39688
P18	3.12	17.15451	0.29999
	1.00	114.81932	91.86474
	0.75	117.19309	8.12966
P19	3.73	19.07385	0.17195
	0.94	118.13423	88.47810
	0.75	119.10537	11.52058
P20	5.32	16.80042	0.09984
	0.97	115.99128	92.18484
	0.71	116.81277	7.81451
P21	5.98	22.18886	0.05776
	1.24	121.14576	96.47831
	0.82	122.19209	3.52121
P21b	5.98	22.19377	199.93032
	0.97	121.79858	111.10895
	0.78	122.20609	11.10872
P22	6.71	16.11858	0.12169
	1.02	115.22180	91.41402
	0.74	116.13512	8.58510
P23	4.91	3.18045	0.16854
	0.94	101.58243	93.30973
	0.61	103.19825	193.31187
P25	4.79	14.97863	0.11687
	1.00	113.98980	92.51039
	0.74	114.99248	7.48868
P26	3.07	17.57936	0.28499
	0.97	115.72551	90.28851
	0.75	117.62323	9.70723
P27	2.54	24.48098	199.62020
	0.96	123.74551	130.34278
	0.88	124.67718	169.66002
P28	2.49	23.95844	199.60255
	0.96	123.19030	130.39408
	0.88	124.16415	169.60898
VB1	1.008	-	100.000
TMOB6	1.008	-	100.000
BT12	1.808	-	100.000
B0	0.939	-	100.000
B1	0.937	-	100.000
B2	1.174	-	100.000
B3	1.131	-	100.000
B4	0.554	-	100.000
B5	0.928	-	100.000
B6	1.062	-	100.000
B10	1.116	-	100.000
B11	0.959	-	100.000

B12	1.951	-	100.000
B13	0.963	-	100.000
B17	0.897	-	100.000
G100	0.44	44.06892	199.63466
	0.38	144.06031	198.48553
	0.01	159.13534	98.44207
GN	9.54	199.92971	199.41811
	0.43	99.53336	38.06570
	0.36	100.78393	61.92865
GS	9.34	199.92389	0.59902
	0.43	100.30206	164.15149
	0.37	98.97514	135.85467
GE	9.48	100.05313	199.50720
	0.43	199.83279	173.23341
	0.37	1.15516	126.77179
GW	9.63	100.04872	199.58485
	0.44	0.28747	33.22508
	0.36	199.32688	66.77173
CP1	1.049	-	100.000
SL	2.61	21.97554	199.59387
	0.99	120.71926	80.09521
	0.88	122.10692	180.09965
SLCC	2.66	20.14872	199.46015
	1.05	119.20658	133.12333
	0.96	120.45808	33.11801
OT1	1.130	-	100.000
OB1	1.150	-	100.000
SLM	2.61	22.03822	0.30275
	1.06	120.49493	87.66752
	0.91	122.09770	12.32866
LL	2.59	27.72741	0.08618
	1.00	127.66089	158.09387
	0.94	127.83897	58.09369
LLM	2.60	27.08246	199.49050
	1.03	126.78769	166.59835
	0.95	127.96277	66.59363
LLG	2.60	27.08851	199.42698
	1.03	126.70122	162.15332
	0.95	127.93606	62.14776
V1999	6.53	9.15947	0.09562
	1.11	108.17350	93.84529
	0.75	109.16876	6.15396
V1011	6.74	10.77801	0.12836
	1.11	108.11390	96.93425
	0.75	110.78422	3.06306
V1012	6.74	10.74986	0.21213
	1.13	107.68908	95.59320
	0.75	110.76458	4.40167
V1013	6.62	10.58787	0.06248
	1.37	109.54019	96.20804
	0.76	110.59162	196.20856
V1014	6.69	10.23773	199.86243
	1.33	108.06507	95.97355
	0.79	110.24646	4.02410
V1015	6.67	9.99092	0.28201
	1.30	108.81951	84.95947
	0.78	110.05883	184.96221
V1016	6.60	9.19310	0.07416
	1.14	108.26112	94.94526
	0.86	109.19903	5.05419
V1021	6.73	10.66061	0.29020
	1.14	108.31657	92.15676
	0.72	110.69654	7.83781
V1022	6.72	10.50333	0.36192
	1.15	108.23600	89.92105
	0.73	110.56110	10.07234
V1023	6.61	10.52215	0.19774
	1.31	109.53155	87.45706
	0.74	110.56164	187.45866
V1024	6.70	10.37387	0.06989
	1.40	109.19556	96.22850
	0.74	110.37804	196.22915
V1025	6.64	9.63574	199.75098

	1.16	108.85408	80.36619
	0.79	109.71509	180.36787
V1026	6.63	9.52946	199.89748
	1.14	108.71493	92.02879
	0.82	109.54239	192.02945
V1031	6.70	10.18349	0.38503
	1.12	108.53420	85.39813
	0.74	110.27337	14.59662
V1032	6.68	9.94612	0.35560
	1.09	108.57062	83.89338
	0.75	110.03806	16.10252
V1033	6.59	10.21829	199.68048
	1.17	109.21976	80.28388
	0.76	110.32054	180.28664
V1034	6.69	10.15502	0.32429
	1.32	108.75642	85.49412
	0.74	110.23022	185.49787
V1035	6.60	9.12067	0.10452
	1.06	108.67023	85.48631
	0.83	109.14494	14.51329
V1036	6.66	9.87094	199.77268
	1.27	108.22422	91.26626
	0.76	109.90234	8.73075
V1041	6.65	9.63690	0.22922
	1.05	108.69798	84.75645
	0.78	109.69288	15.24176
V1042	6.63	9.29259	199.84163
	1.04	108.93124	126.29478
	0.89	109.36201	26.29424
V1043	6.56	9.84065	199.68849
	1.08	108.77356	81.91733
	0.81	109.93160	181.92016
V1044	6.66	9.74512	199.73384
	1.19	108.96785	78.99721
	0.78	109.83627	178.99903
V1045	6.56	8.68763	0.08690
	1.09	102.18776	99.14747
	0.84	108.68882	0.84810
V1046	6.67	10.06851	0.04896
	1.39	56.14405	99.93467
	0.75	110.06857	199.95673
V1051	6.60	9.33349	0.09134
	1.03	108.59156	92.20159
	0.78	109.34476	7.79787
V1052	6.58	9.10689	0.02074
	1.03	108.80493	95.63573
	0.86	109.10834	4.36421
V1053	6.53	9.59322	0.29896
	1.06	107.54520	90.77076
	0.83	109.63686	9.22432
V1054	6.64	9.45395	199.86519
	1.12	109.03807	80.04431
	0.81	109.49767	180.04480
V1055	6.53	8.47426	199.82591
	1.17	105.04252	96.77157
	0.84	108.48311	3.22373
V1056	6.68	10.03120	0.10391
	1.40	108.97512	93.75627
	0.77	110.04144	193.75714
V1057	6.62	9.52568	199.73617
	1.12	175.43691	99.69324
	0.85	109.52505	0.15652
V1058	6.61	9.48663	199.75044
	1.11	22.51693	99.74512
	0.85	109.48686	199.94820
V1062	6.61	8.96644	0.21715
	1.07	106.17758	95.05160
	0.87	108.98336	4.94362
V1067	6.62	8.80542	0.31634
	1.14	100.99066	97.41788
	0.87	108.81818	2.56265
V1068	6.62	8.84034	0.29542
	1.13	102.03773	97.23185

	0.87	108.85314	2.75233
V1071	6.56	9.33430	0.17179
	1.19	105.77962	96.92419
	0.85	109.34261	3.07100
V1077	6.57	9.26906	0.33556
	1.14	103.13583	96.51508
	0.86	109.28739	3.46870
V1078	6.58	9.23213	0.30902
	1.12	103.77749	96.39283
	0.86	109.24962	3.59388
V1081	6.76	12.51357	1.08839
	1.81	112.84829	18.99091
	1.25	108.97830	80.97599
V1082	6.61	9.29022	0.20263
	1.08	104.99510	96.99659
	0.88	109.29979	2.99656
V1087	6.58	9.12690	0.36812
	1.13	115.04114	96.03684
	0.89	109.10407	196.05402
V1088	6.59	9.16717	0.34295
	1.11	115.32710	96.45376
	0.89	109.14816	196.47042
V2101	3.78	12.70297	2.95164
	1.55	107.07722	130.81321
	1.04	114.24620	169.35306
V2102	3.78	12.69408	197.03108
	1.54	106.94501	69.59871
	1.03	114.22176	169.76848
V2103	3.89	11.52938	199.08983
	1.21	107.23482	86.69388
	0.94	111.72202	13.27405
V2104	4.05	15.54910	199.20318
	1.21	116.42787	146.89297
	1.09	114.82672	153.11705
V2105	4.05	15.55842	2.69506
	1.51	121.59494	73.21802
	0.98	114.35968	26.62869
V2106	4.27	14.86918	0.57587
	1.22	116.12141	72.55633
	0.95	114.60443	172.56321
V2108	4.25	12.99059	0.15800
	1.18	182.05114	99.82130
	0.91	112.99042	0.08345
V2201	3.91	15.38047	0.15244
	1.40	115.26307	158.20677
	1.07	115.57837	58.20640
V2202	3.91	15.33593	0.19257
	1.41	115.18513	157.69472
	1.07	115.58180	57.69414
V2203	3.98	11.22525	199.23940
	1.14	109.90187	66.78888
	0.99	111.66234	166.79937
V2204	4.21	16.65681	0.07192
	1.28	116.61897	169.12888
	1.05	116.79335	69.12877
V2205	3.97	14.26846	199.48319
	1.22	109.67160	92.86629
	0.93	114.32651	192.88518
V2206	4.30	13.47529	199.39885
	1.21	118.15701	91.86249
	0.86	113.39829	191.88499
V2208	4.20	12.67896	199.65232
	1.11	113.67817	78.68088
	0.95	112.55803	21.31607
V2301	4.57	17.01652	198.40262
	1.39	119.11157	141.48363
	0.92	115.79945	41.44205
V2302	4.56	17.04263	198.44769
	1.38	119.03491	142.15007
	0.93	115.83392	42.11102
V2303	4.23	11.41429	199.83432
	1.21	111.15455	63.85826
	0.89	111.51998	163.85875

V2304	4.34	13.53863	199.26352
	1.23	117.35003	87.84043
	0.86	113.39653	187.86332
V2305	4.16	14.41332	0.14272
	1.29	114.39121	190.19515
	1.11	115.33269	90.19410
V2307	4.01	14.10919	199.52493
	1.21	109.11204	93.95967
	0.92	114.15431	193.97848
V2308	4.15	16.24801	198.40708
	1.45	117.32653	162.11902
	0.98	113.89708	62.07609
V2401	4.83	14.32504	4.46064
	1.61	129.28071	81.35695
	0.86	113.02154	18.07074
V2402	4.83	14.40940	4.53118
	1.61	129.27411	80.97109
	0.86	113.05588	18.44905
V2403	4.33	10.84881	0.50026
	1.25	112.43603	80.55972
	0.86	110.69121	19.43341
V2404	4.31	12.64760	199.92812
	1.15	111.02168	97.18697
	0.93	112.65082	197.18788
V2406	4.12	12.64074	199.63097
	1.24	112.83093	169.71236
	1.08	111.92459	69.70972
V2407	4.06	14.66079	0.16015
	1.17	114.26107	124.25780
	1.03	114.72500	175.74276
V2408	4.03	13.46729	0.85325
	1.19	115.82062	77.85004
	0.92	113.15812	177.86790
V2501	4.22	17.33948	199.41151
	1.23	117.28061	6.35246
	1.06	123.20056	93.62017
V2502	4.21	17.34004	199.40401
	1.23	117.29732	4.56055
	1.06	125.59836	95.40055
V2503	4.09	11.25815	0.06948
	1.03	111.48422	81.01413
	0.90	111.23684	181.01429
V2504	4.38	17.14091	197.30286
	1.53	120.68535	58.55497
	0.92	115.09259	41.32649
V2505	4.06	13.40772	1.01479
	1.47	112.34027	148.39291
	1.05	114.37221	151.62327
V2506	4.26	12.74683	199.97548
	1.14	112.56487	91.47382
	0.88	112.75017	191.47384
V2507	4.01	13.91706	199.60212
	1.19	115.58517	85.09127
	0.90	113.82222	14.90321
V2508	4.16	14.07163	199.52462
	1.18	114.12911	192.34530
	1.04	110.14231	92.33041
V2601	4.14	12.13832	199.09780
	1.15	118.43929	90.93080
	1.02	112.00961	9.02356
V2602	4.13	12.27534	199.42660
	1.11	116.74097	91.86321
	1.00	112.20188	8.11629
V2603	4.08	10.30952	0.20653
	1.20	109.39575	85.84935
	1.03	110.35623	185.85092
V2609	4.15	13.70579	0.08467
	1.24	113.81836	141.07032
	1.17	113.64212	41.07018
V2701	4.11	10.42826	199.19724
	1.31	114.85594	88.57200
	1.13	110.28299	188.60087
V2702	4.10	10.56664	199.55652

	1.23	113.03864	88.69583
	1.09	110.48715	11.29526
V2703	4.11	11.69765	0.27734
	1.24	111.58147	174.73652
	1.13	112.35944	74.73482
V2803	4.20	14.36922	0.21703
	1.11	114.82736	128.16703
	1.04	114.26645	28.16603
V2811	4.13	13.45517	199.67411
	1.24	115.80177	91.21275
	1.08	113.40997	8.78111
V2813	4.16	14.10457	199.51283
	1.14	117.56294	91.08608
	1.06	114.03605	8.90036
V2903	4.14	11.98601	198.91028
	1.18	127.51881	95.49616
	0.99	111.91113	4.36956
V2910	4.22	17.21820	0.12477
	1.26	117.66989	117.15969
	1.18	117.18378	182.84081
V2911	4.13	13.36800	0.23127
	1.29	112.31709	86.20994
	1.07	113.41893	13.78806
V2913	4.13	13.36909	199.53582
	1.22	117.42266	92.73649
	1.05	113.31605	7.24851
SL101	2.64	21.68984	199.99724
	1.00	121.67992	82.86572
	0.91	121.69071	182.86578
SL102	2.63	21.99967	199.36652
	0.98	120.00574	119.58610
	0.90	122.20095	19.57516
SL103	2.64	22.22888	199.75765
	0.99	121.52423	121.08618
	0.88	122.31232	21.08465
SL104	2.63	22.02731	199.14491
	1.00	118.99263	82.50847
	0.90	122.26815	182.53046
SL201	2.63	22.14176	199.58911
	0.97	121.08948	123.69814
	0.87	122.30226	176.30580
SL202	2.62	22.24256	1.04798
	1.00	118.18503	83.89777
	0.89	122.51293	16.06662
SL203	2.64	22.30319	199.18956
	0.98	119.83622	120.21176
	0.88	122.56937	20.19437
SL204	2.61	22.28313	0.88574
	1.02	118.43874	85.57513
	0.89	122.48704	14.39671
SL205	2.69	19.31496	199.45343
	1.07	118.77662	49.52299
	0.99	119.86983	149.52770
SL301	2.63	22.19286	199.10417
	0.99	119.27873	118.99320
	0.89	122.46812	18.97077
SL302	2.61	22.31059	0.67260
	1.03	119.25330	86.20911
	0.89	122.45854	13.77395
SL303	2.63	22.29660	1.01008
	1.01	118.05801	85.09548
	0.88	122.53703	14.86900
SL304	2.61	22.28187	0.19697
	1.03	121.45210	85.16423
	0.89	122.32873	14.83439
SL401	2.62	22.09206	0.79540
	1.02	119.13913	83.24387
	0.90	122.30623	16.73636
SL402	2.62	22.11545	0.05661
	1.03	121.91202	82.73028
	0.90	122.13130	17.26960
SL403	2.62	22.31202	0.46650
	1.03	120.19843	86.16872

	0.88	122.41504	13.82315
SL404	2.63	21.63381	0.13176
	1.03	121.98279	122.99119
	0.93	121.58415	22.99074
SL405	2.69	19.41467	199.22462
	1.06	118.63676	149.89310
	0.99	120.18739	150.11636
L11	2.58	28.19910	0.20271
	1.00	128.04008	157.62806
	0.93	128.45741	57.62735
L12	2.57	27.80174	0.24751
	0.99	127.58806	154.64288
	0.93	128.08836	54.64187
L13	2.57	28.13029	0.11749
	0.99	128.02634	153.85054
	0.93	128.26304	53.85028
L14	2.60	27.67105	199.85629
	0.99	127.78355	157.75245
	0.94	127.48738	57.75203
L21	2.58	28.43718	0.21007
	1.00	128.26672	156.58183
	0.94	128.69599	56.58108
L22	2.56	27.78736	0.21111
	0.99	127.58651	48.43386
	0.93	128.00924	148.43460
L23	2.57	28.06584	199.96397
	0.99	128.09831	153.42810
	0.94	128.02582	53.42802
L24	2.59	27.73335	0.11110
	0.99	127.65017	159.04260
	0.93	127.88165	59.04234
L31	2.59	28.25779	199.99654
	1.00	128.26065	157.40456
	0.94	128.25353	57.40450
L32	2.57	27.74303	199.87914
	0.99	127.86909	148.69097
	0.94	127.62716	151.30934
L33	2.58	27.86675	199.96786
	0.99	127.89188	157.89773
	0.94	127.82556	57.89765
L34	2.58	28.02786	0.27922
	0.99	127.78951	155.00091
	0.93	128.35490	54.99964
L41	2.59	27.94545	199.94330
	1.00	127.98716	159.71540
	0.94	127.86825	59.71527
L42	2.58	27.71689	199.73949
	0.99	127.97199	49.31583
	0.94	127.45085	149.31700
L43	2.57	28.01064	0.19801
	0.99	127.85258	157.08731
	0.93	128.25859	57.08663
L44	2.58	28.04343	0.18953
	0.99	127.87489	153.70392
	0.93	128.25652	53.70331
L51	2.58	27.63812	0.23750
	0.99	127.44121	155.91195
	0.93	127.92450	55.91101
L53	2.57	28.04496	0.01455
	0.99	128.03210	153.60052
	0.94	128.06137	53.60045
L54	2.59	27.68041	199.85961
	0.99	127.79392	156.74642
	0.94	127.50671	56.74601

Confidence intervals

Name	σX (mm)	σY (mm)	σZ (mm)

LLR_HZ	1.44	2.35	0.95
SLR_HZ	1.25	2.49	0.99
V15_HZ	1.72	6.58	1.09
V15_VERT	1.64	6.63	1.13
V26_HZ	1.24	4.05	1.11
V26_VERT	1.13	4.68	1.51
P20b	1.57	5.14	1.02
SLR_REF	1.22	2.48	1.00
LLR_REF	1.41	2.39	0.96
HRAO	0.01	0.01	0.01
P1	2.14	2.74	0.93
P5	1.14	4.46	0.92
P6	1.81	6.59	0.98
P2	4.67	2.44	1.18
P3	2.67	1.75	1.14
P4	0.64	1.61	0.65
P10	1.96	3.16	1.14
P11	1.55	2.57	0.92
P12	2.94	6.71	1.96
P13	0.65	3.13	0.95
P13b	0.72	3.15	0.95
P17	0.81	2.11	0.90
P18	1.10	3.02	1.00
P19	1.32	3.57	0.94
P20	1.55	5.14	0.97
P21	2.19	5.63	1.24
P21b	2.17	5.62	0.96
P22	1.83	6.50	1.02
P23	0.66	4.90	0.93
P25	1.33	4.66	1.00
P26	1.11	2.97	0.96
P27	1.26	2.38	0.94
P28	1.24	2.34	0.94
VB1	-	-	1.01
TMOB6	-	-	1.01
BT12	-	-	1.81
B0	-	-	0.94
B1	-	-	0.94
B2	-	-	1.17
B3	-	-	1.13
B4	-	-	0.55
B5	-	-	0.93
B6	-	-	1.06
B10	-	-	1.12
B11	-	-	0.96
B12	-	-	1.95
B13	-	-	0.96
B17	-	-	0.90
G100	0.41	0.42	0.02
GN	0.41	9.54	0.40
GS	0.41	9.34	0.40
GE	9.48	0.42	0.39
GW	9.63	0.42	0.39
CP1	-	-	1.05
SL	1.22	2.48	0.98
SLCC	1.25	2.54	1.03
OT1	-	-	1.13
OB1	-	-	1.15
SLM	1.24	2.48	1.05
LL	1.41	2.39	0.96
LLM	1.41	2.41	0.97
LLG	1.42	2.41	0.98
V1999	1.20	6.47	1.10
V1011	1.35	6.65	1.11
V1012	1.35	6.64	1.13
V1013	1.33	6.53	1.36
V1014	1.33	6.61	1.33
V1015	1.32	6.59	1.27
V1016	1.28	6.53	1.14
V1021	1.33	6.64	1.14
V1022	1.33	6.63	1.14
V1023	1.33	6.52	1.29
V1024	1.31	6.61	1.40

V1025	1.30	6.57	1.13
V1026	1.28	6.56	1.14
V1031	1.30	6.62	1.10
V1032	1.29	6.60	1.07
V1033	1.32	6.50	1.14
V1034	1.31	6.60	1.30
V1035	1.26	6.53	1.05
V1036	1.28	6.58	1.26
V1041	1.27	6.57	1.04
V1042	1.32	6.56	1.02
V1043	1.30	6.48	1.06
V1044	1.31	6.59	1.15
V1045	1.22	6.50	1.09
V1046	1.29	6.59	1.39
V1051	1.24	6.53	1.03
V1052	1.27	6.51	1.03
V1053	1.28	6.46	1.06
V1054	1.29	6.57	1.10
V1055	1.20	6.47	1.17
V1056	1.30	6.60	1.40
V1057	1.30	6.54	1.12
V1058	1.29	6.54	1.11
V1062	1.27	6.54	1.07
V1067	1.26	6.56	1.14
V1068	1.26	6.56	1.13
V1071	1.28	6.49	1.18
V1077	1.28	6.50	1.14
V1078	1.27	6.51	1.12
V1081	2.18	6.64	1.32
V1082	1.30	6.54	1.08
V1087	1.29	6.52	1.13
V1088	1.29	6.52	1.11
V2101	1.37	3.71	1.46
V2102	1.36	3.71	1.46
V2103	1.17	3.83	1.20
V2104	1.48	3.94	1.16
V2105	1.43	3.94	1.44
V2106	1.39	4.17	1.18
V2108	1.24	4.17	1.18
V2201	1.56	3.81	1.21
V2202	1.56	3.81	1.21
V2203	1.23	3.92	1.10
V2204	1.61	4.08	1.10
V2205	1.27	3.88	1.22
V2206	1.24	4.20	1.21
V2208	1.26	4.12	1.09
V2301	1.62	4.41	1.25
V2302	1.62	4.41	1.24
V2303	1.23	4.16	1.13
V2304	1.25	4.25	1.22
V2305	1.56	4.07	1.12
V2307	1.26	3.92	1.21
V2308	1.65	4.03	1.15
V2401	1.41	4.70	1.59
V2402	1.41	4.70	1.60
V2403	1.15	4.27	1.22
V2404	1.25	4.23	1.15
V2406	1.44	4.05	1.11
V2407	1.38	3.96	1.15
V2408	1.26	3.95	1.16
V2501	1.64	4.08	1.06
V2502	1.64	4.07	1.06
V2503	1.15	4.03	1.02
V2504	1.63	4.24	1.35
V2505	1.50	3.98	1.29
V2506	1.22	4.18	1.14
V2507	1.25	3.92	1.18
V2508	1.47	4.07	1.04
V2601	1.28	4.07	1.15
V2602	1.26	4.06	1.11
V2603	1.22	4.03	1.19
V2609	1.47	4.06	1.21
V2701	1.30	4.06	1.30

V2702	1.28	4.04	1.22
V2703	1.42	4.05	1.15
V2803	1.39	4.10	1.10
V2811	1.37	4.05	1.24
V2813	1.38	4.07	1.14
V2903	1.24	4.07	1.18
V2910	1.60	4.08	1.25
V2911	1.36	4.05	1.28
V2913	1.34	4.05	1.22
SL101	1.23	2.50	1.00
SL102	1.23	2.49	0.97
SL103	1.23	2.50	0.97
SL104	1.23	2.49	0.99
SL201	1.23	2.49	0.96
SL202	1.23	2.48	1.00
SL203	1.23	2.50	0.97
SL204	1.23	2.47	1.02
SL205	1.27	2.59	1.03
SL301	1.23	2.49	0.98
SL302	1.23	2.47	1.03
SL303	1.23	2.49	1.00
SL304	1.23	2.47	1.03
SL401	1.24	2.49	1.02
SL402	1.24	2.48	1.02
SL403	1.23	2.48	1.03
SL404	1.25	2.50	1.02
SL405	1.27	2.58	1.03
L11	1.41	2.37	0.96
L12	1.40	2.36	0.96
L13	1.40	2.36	0.96
L14	1.41	2.39	0.96
L21	1.42	2.36	0.96
L22	1.39	2.36	0.96
L23	1.40	2.36	0.96
L24	1.41	2.39	0.96
L31	1.42	2.37	0.96
L32	1.39	2.36	0.97
L33	1.41	2.38	0.96
L34	1.40	2.37	0.96
L41	1.41	2.38	0.96
L42	1.40	2.37	0.97
L43	1.40	2.37	0.96
L44	1.40	2.37	0.96
L51	1.40	2.38	0.96
L53	1.40	2.36	0.96
L54	1.40	2.39	0.96