IERS TECHNICAL NOTE 12

ITRF 91 and its associated velocity field

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IERS Technical Notes

This series of publications gives technical information related to the IERS activities, e.g. reference frames, excitation of the Earth rotation, computational or analysis aspects, models, etc. It also contains the description and results of the analyses performed by the IERS Analysis Centres for the Annual Report global analyses.

Back issues

No 1 : C. Boucher and Z.Altamimi. The initial IERS Terrestrial Reference Frame.

No 2 : Earth orientation and reference frame determinations, atmospheric excitation functions, up to 1988 (Annex to the IERS Annual Report for 1988). *[No longer available, superseded by N.T. No 5].*

No 3 : D.D. McCarthy (ed). IERS Standards (1989)

No 4 : C. Boucher and Z. Altamimi. Evaluation of the realizations of the Terrestrial Reference System done by the BIH and IERS (1984-1988).

No 5: Earth orientation and reference frame determinations, atmospheric excitation functions, up to 1989 (Annex to the IERS Annual Report for 1989).*[Superseded by N.T. No 8].*

No 6 : C. Boucher and Z. Altamimi. ITRF89 and other realizations of the IERS Terrestrial Reference System for 1989.

No 7 : E.F. Arias, M. Feissel and J.-F. Lestrade. The IERS extragalactic Celestial Reference Frame and its tie with HIPPARCOS.

No 8: Earth orientation and reference frame determinations, atmospheric excitation functions, up to 1990 (Annex to the IERS Annual Report for 1990).*[Superseded by N.T. No 11].*

No 9 : C. Boucher and Z. Altamimi. ITRF90 and other realizations of the IERS Terrestrial Reference System for 1990.

No 10: C. Boucher and Z. Altamimi. The IERS GPS Terrestrial Reference Frame.

No 11: P. Charlot (ed.). Earth orientation, reference frames and atmospheric excitation functions submitted for the 1991 IERS Annual Report.

No 12: C. Boucher, Z. Altamimi and L. Duhem. ITRF91 and its associated velocity field.

No 13: D.D. McCarthy (ed.). IERS Standards (1992).

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APPENDIX 37

This report contains a detailed description of the IERS products related to the Terrestrial Reference System for the period of the IERS Annual Report for 1991. It gives a detailed analysis about the ITRF91 and its associated combined velocity field.

This description intends to be the continuation of the previous reports: the IERS Technical Note 4 , 6 and 9. In particular, methodological presentation will be followed here.

1) INPUT DATA

1.1) Sites included

The list of sites considered in the 1991 solution is given in Table T1 of the appendix.

A more detailed list of points and marks for these sites is also provided by the Table T2 of the appendix.

Table T3 also gives a summary of the occupancies of these sites by SLR, GPS, LLR or VLBI instruments. We have distinguished the IERS sites into the following data sets:

1) colocation (at least two techniques)

2) multiple SLR (simultaneous or successive)

3) single SLR

4) multiple VLBI (simultaneous or successive)

5) single VLBI

1.2) Input data sets

The data sets received for the 1991 solution and included in the global combination performed by the ITFS, under the label ITRF91 are summarized in Table 1.

The distribution of the corresponding coordinates for each solution are given in Table T4 of the appendix.

1.3) Description of individual data sets

For all solutions, no permanent tidal correction has been performed, and the adopted velocity of light is $c = 299792458$ m s^{-1}.

As the formal errors σ_f provided by the analysis centers are in most cases too optimistics, the input errors σ are adopted according to the following formula:

$$\sigma = \sqrt{A^2 + B^2\sigma_f^2} \qquad (1)$$

where A is an additive variance and B is a factor. The values of A and B are determined by an empirical estimation. Figures 1 to 16 show for all the solutions, the histograms of the formal errors and those after applying the previous formula.

1.3.1) GSFC VLBI solution

Identifer : SSC(GSFC) 92 R 03, also named GLB833

Model : CALC-7 software, with local earth relativistic scale (Hellings model).

Adjusted parameters :

X,Y,Z and VX, VY, VZ of stations with sufficient data

Constraints for the CTS :

- Westford X,Y,Z fixed at a nominal value on Oct 17 1980,
- ERP fixed on Nov 6 1986 at BIH Circular D values,
- Westford velocities fixed at NUVEL1 NNR values,
- Westford-Richmond azimut moving with NUVEL1 NNR value.

Raw data :

Yearly values of positions were available, with formal errors (from 1979 to 1992)

Input data (RG) :

The 1988 values, with formal errors modified using the formula (1) with A = 0.5 cm and B = 1.5.

1.3.2) NOAA VLBI solution

Identifer : SSC(NOAA) 92 R 01

Model : CALC software, with Hellings relativistic model

Adjusted parameters :

Positions at 1988.0 and velocities (except for stations with short time span),

Constraints for the CTS :

- Westford velocity at AM0-2 value

- ERP fixed at 1985 Oct. 25 and 1990 Jan. 27

Raw data :

1988 positions and velocity change with respect to AM0-2 for sites with sufficient data, with formal errors

Input data (RN) :

The 1988 values, with formal errors modified using the formula (1) with A = 0.5 cm and B = 1.5.

1.3.3) USNO VLBI solution

Identifer : SSC(USNO) 92 R 03

Model : CALC-7 software with LE relativistic scale. Motion with NUVEL 1 NNR model

Adjusted parameters: X, Y, Z at Oct 17 1980

Constraints for the CTS :

- Richmond position fixed at ITRF90 value
- fixed NUVEL1 NNR motion

Raw data : X, Y, Z and formal errors

Input data (RO) :

X, Y, Z transformed at 1988.0 with NUVEL 1 NNR . Formal errors modified with A = 0.5 cm and B = 1.5

1.3.4) JPL VLBI solution

Identifer : SSC(JPL) 92 R 01, also named 1992-1.

Model : Modest software. Motion with AM0-2 model

Adjusted parameters : X, Y, Z at 1988.0

Constraints for the CTS :

- six constraints (with 1 cm uncertainty) : 3 translations and 3 rotations between 1992-1 and ITRF88

- fixed AM0-2 motion

Raw data : X, Y, Z and formal errors

Input data (RJ)

X, Y, Z, with formal errors modified with A = 1 cm and B = 1.0

1.3.5) NAOMZ VLBI solution

Identifer : SSC(NAOMZ)92 R 01

Model : CALC software, with LE relativistic scale

Adjusted parameters :

Positions at 1988.0, velocity changes to AM0-2 for some stations

Constraints for the CTS :

- Westford coodinates fixed to the ITRF90 and velocity to AM0-2 value

- Mean orientation of a set of stations move with AM0-2

Raw data :

1988 positions and velocity change with respect to AM0-2 for sites with sufficient data, with formal errors

Input data (RM) :

The 1988 values, with formal errors modified using the formula (1) with A = 0.5 cm and B = 1.5.

1.3.6) CSR SLR solution

Identifer : SSC(CSR) 92 L 01

Model : Horizontal velocities adjusted for 42 sites. For all other sites velocities fixed to NUVEL 1 NNR. GM = 398600.4415 km^3/s^2

Adjusted parameters: X, Y, Z at 1988.0 and horizontal velocities for 42 sites

Constraints for the CTS :

- system oriented to agree with IERS combined in a mean sense over period 1984 - 1990,
- latitude and longitude of 7210 and latitude of 7105 fixed,
- rate of latitude and longitude of 7210 and latitude of 7105 fixed to NUVEL-1 NNR velocities.

Raw data : X, Y, Z, and 2D velocities for 42 sites and formal errors

Input data (LC) :

X, Y, Z at 1988.0 with formal errors modified with A = 1.5 cm and B = 1.0.

1.3.7) GSFC SLR solution

Identifer : SSC(GSFC) 92 L 01

Model : GEODYN II software. SL7.1 and NUVEL1 NNR model, GM = 398600.4415 km^3/s^2

Adjusted parameters : X, Y, Z at July 1 1986

Constraints for the CTS :

- latitude and longitude of 7105, the latitude of 7210, and the longitude of 7907 were fixed

- apriori values of ERP from IERS 90 C 04

Raw data : X, Y, Z and formal errors

Input data (LG) :

X, Y, Z with formal errors modified with A = 1.5 cm and B = 3.0

1.3.8) DGFII SLR solution

Identifer : SSC(DGFII) 92 L01

Model : DOGS software, GM = 398600.4396 km^3/s^2

Adjusted parameters : X, Y, Z, and horizontal velocities

Constraints for the CTS :

- forcing of rotation angles between initial and adjusted coordinates of 10 stations to becomes zero in the average,
- rotation drift rates around the three coordinate axes are forced to become zero with respect to a given set of AM0-2 horizontal station position drift rates,

Raw data : X, Y, Z at 1988.0 with error estimate and 2D velocities

Input data (LD) :

X, Y, Z at 1988.0 and the formal errors modified with A = 1.5 cm and B = 3.0

1.3.9) DUT SLR solution

Identifer : SSC(DUT) 92 L 01

Model : GEODYN-II software, estimation of station motions,

GM = 398600.4360 km^3/s^2

Adjusted parameters : X, Y, Z, and velocities

Constraints for the CTS :

- ERP a priori values from IERS Bulletin B
- NUVEL-1 NNR values for 12 stations

Raw data : X, Y, Z at 1988.0 and VX, VY, VZ

Input data (LU) :

X, Y, Z at 1988.0 with formal errors modified with A = 1.5 cm and B = 1.0

1.3.10) GFZ SLR solution

Identifer : SSC(GFZ) 92 L 01

Model : POTSDAM-5 software. Adjusted velocities. GM = 398600.442 km^3/s^2

Adjusted parameters : r, lambda, phi at 1988.0 and 3D velocities

Constraints for the CTS :

- latitude and velocities fixed for stations 7105,7840

- longitude fixed for station 7105

Raw data : X, Y, Z and formal errors

Input data (LZ) :

X, Y, Z with formal errors modified with A = 1.5 cm and B = 2.0

1.3.11) GAOUA SLR solution

Identifer : SSC(GAOUA)92 L 01

Model : KIEV-GEODYNAMICS - 3 software. Motion with AM0-2 model,

GM = 398600.440 km^3/s^2

Adjusted parameters : X, Y, Z at 1988.0

Constraints for the CTS :

- fixed AM0-2 motion
- ERP values from IERS Bulletin B

Raw data : X, Y, Z and formal errors

Input data (LK) :

X, Y, Z and formal errors modified with A = 2.5 cm and B = 2.0

1.3.12) NAL SLR solution

Identifer : SSC(NAL) 92 L 01

Model : COSMOS software, motion with AM0-2 model, GM = 398600.4415 km^3/s^2

Adjusted parameters : X, Y, Z at 1991.0

Constraints for the CTS :

- latitude and longitude of 7105 and latitude of 7907 fixed
- fixed AM0-2 motion
- ERP values from IERS Bulletin B

Raw data : X, Y, Z and formal errors

Input data (LT) :

X, Y, Z and formal errors modified with A = 1.5 cm and B = 2.0

1.3.13) UT/McD LLR solution

Identifer : SSC(UTXMO)92 M 01

Model : Motion with AM0-2 model, GM = 398600.440 km^3/s^2

Adjusted parameters : lambda, phi, h at 1984.0

Constraints for the CTS :

- fixed AM0-2
- ERP fixed at 1985 Jan. 11 to CSR LGN7692 series

Raw data : X, Y, Z and formal errors

Input data (MX) :

X, Y, Z transformed at 1988.0 with AM0-2. Formal errors modified with A = 1.5 cm and B = 0.2.

1.3.14) JPL LLR solution

Identifer : SSC(JPL) 92 M 01

Model : Motion with AM0-2 model

Adjusted parameters : X, Y, Z at 1991.0

Constraints for the CTS :

- ERP from 1976 to 1991 taken from a file provided by R. Gross
- fixed AM0-2

Raw data : X, Y, Z without error estimate

Input data (MJ) :

X, Y, Z with 3 cm as error.

1.3.15) SHA LLR solution

Identifer : SSC(SHA) 92 M 01

Model : Motion with AM0-2 model

Adjusted parameters : X, Y, Z at 1988.0

Constraints for the CTS :

- DE303/LE303 planetary ephemeris

Raw data : X, Y, Z without error estimate

Input data (MS) :

X, Y, Z with 5 cm as error.

1.3.16) JPL GPS solution

Identifer : SSC(JPL) 91 P 01

Model : GIPSY software, free network

Adjusted parameters : X, Y, Z at 1991.1

Constraints for the CTS :

Loose a priori constraints on all GPS epoch states, station coordinates and polar motion from Bulletin B forces crude alignment with ITRF90 to within several meters

Raw data : X, Y, Z with error estimate

Input data (PJ) :

X, Y, Z transformed to 1988.0 with NUVEL-1 NNR. Formal errors not modified.

Table 1

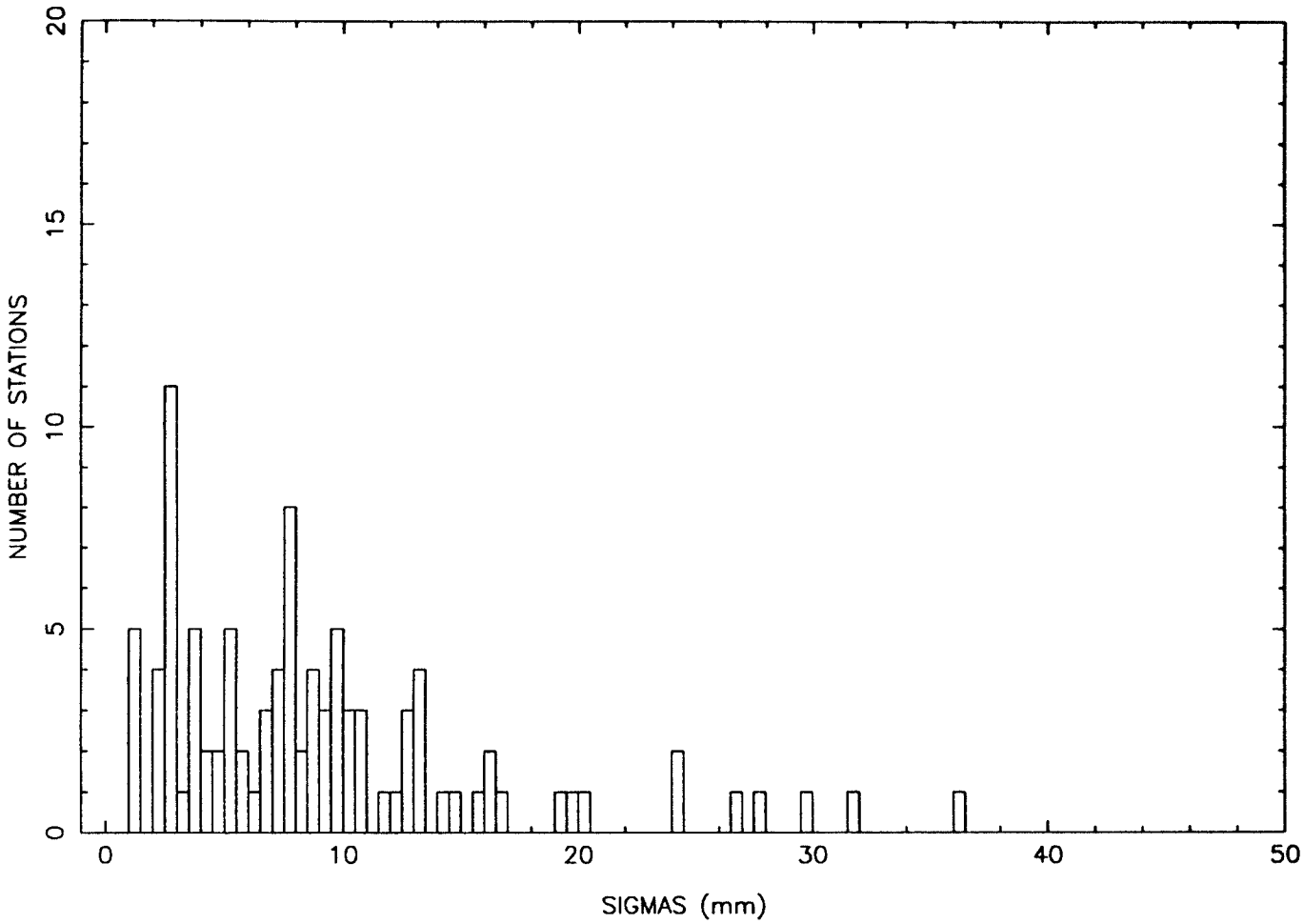
Input data sets

LABEL	DESIGNATION	MOTION MODEL	REFERENCE EPOCH	OTHER NAME
RG91	SSC(GSFC) 92 R 03	ESTIM/NUVEL-1 NNR	POS. FROM 79 TO 92	GLB833
RN91	SSC(NOAA) 92 R 01	ESTIM/AM0-2	1988.0	
RJ91	SSC(JPL) 92 R 01	AM0-2	1988.0	1992-1
RO91	SSC(USNO) 92 R 03	NUVEL 1 NNR	17 Oct. 1980	1992-3
RM91	SSC(NAOMZ)92 R 01	ESTIM/AM0-2	1988.0	
LC91	SSC(CSR) 92 L 01	ESTIM/NUVEL-1 NNR	1988.0	
LG91	SSC(GSFC) 92 L 01	ESTIM/NUVEL-1 NNR	01 Jul. 1986	
LD91	SSC(DGFII)92 L 01	ESTIM/AM0-2	1988.0	
LU91	SSC(DUT) 92 L 01	ESTIM/NUVEL-1	1988.0	
LZ91	SSC(GFZ) 92 L 01	ESTIM/NUVEL-1	1988.0	
LK91	SSC(GAOUA)92 L 01	AM0-2	1988.0	
LT91	SSC(NAL) 92 L 01	AM0-2	1991.0	
MJ91	SSC(JPL) 92 M 01	AM0-2	1991.0	
MX91	SSC(UTXMO)92 M 01	AM0-2	1984.0	
MS91	SSC(SHA) 92 M 01	AM0-2	1988.0	
PJ91	SSC(JPL) 91 P 01		1991.1	

1.4) Excentricites

The excentricities used for ITRF91 are given in Table T5 of the appendix.

FIGURE 1: SSC(GSFC) 92 R 03 /POS. 88.0



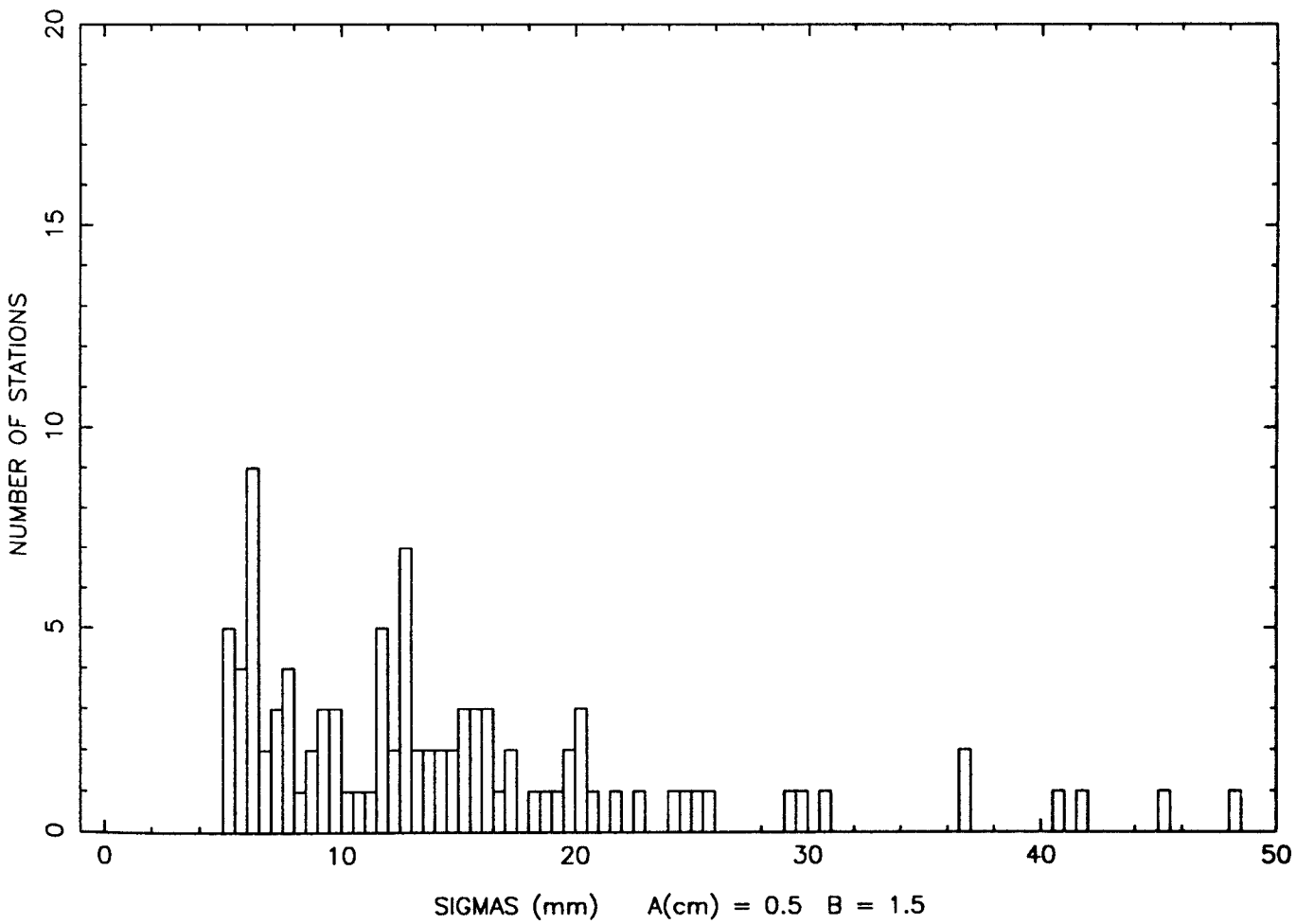
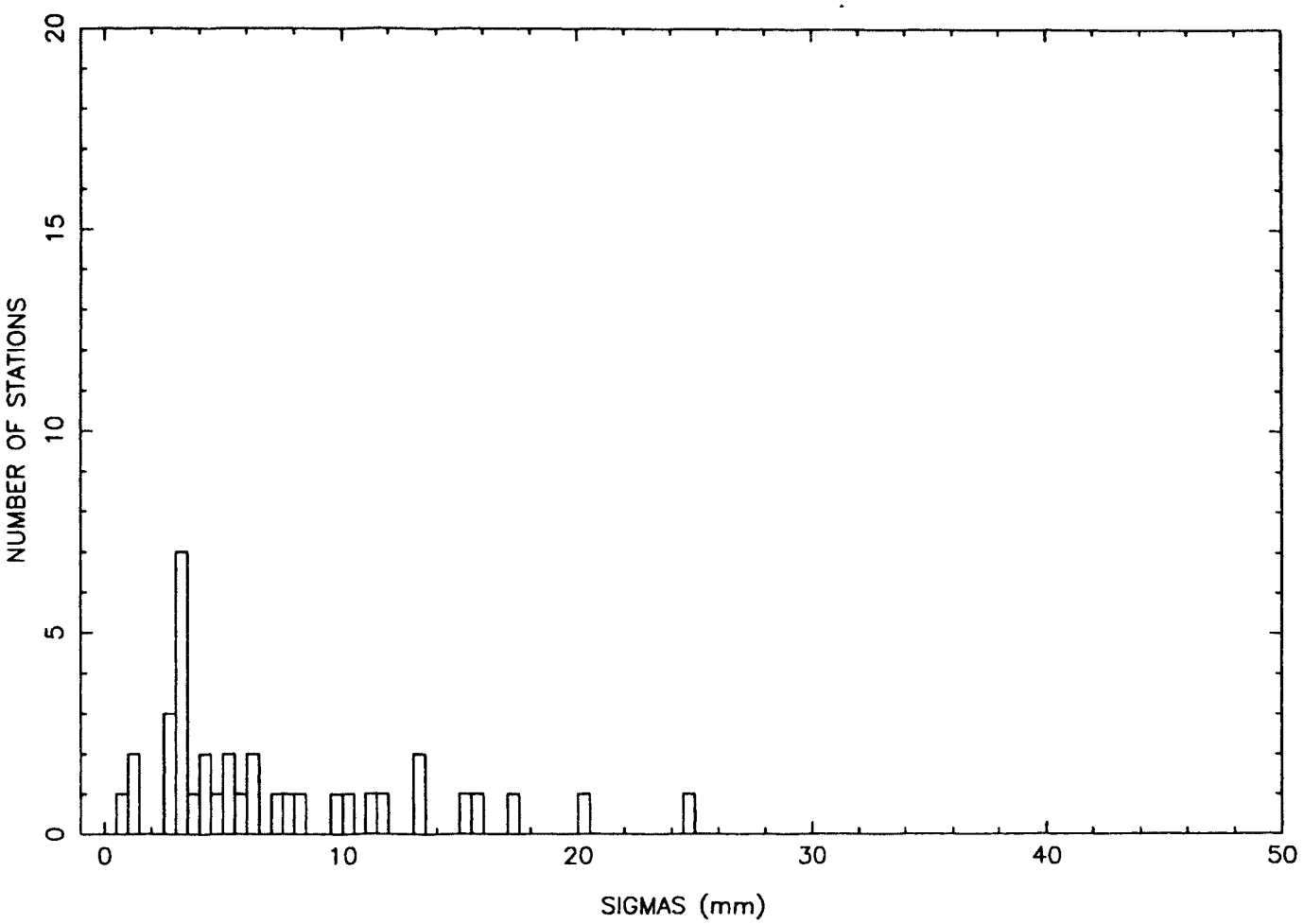


FIGURE 2 : SSC(NOAA) 92 R 01



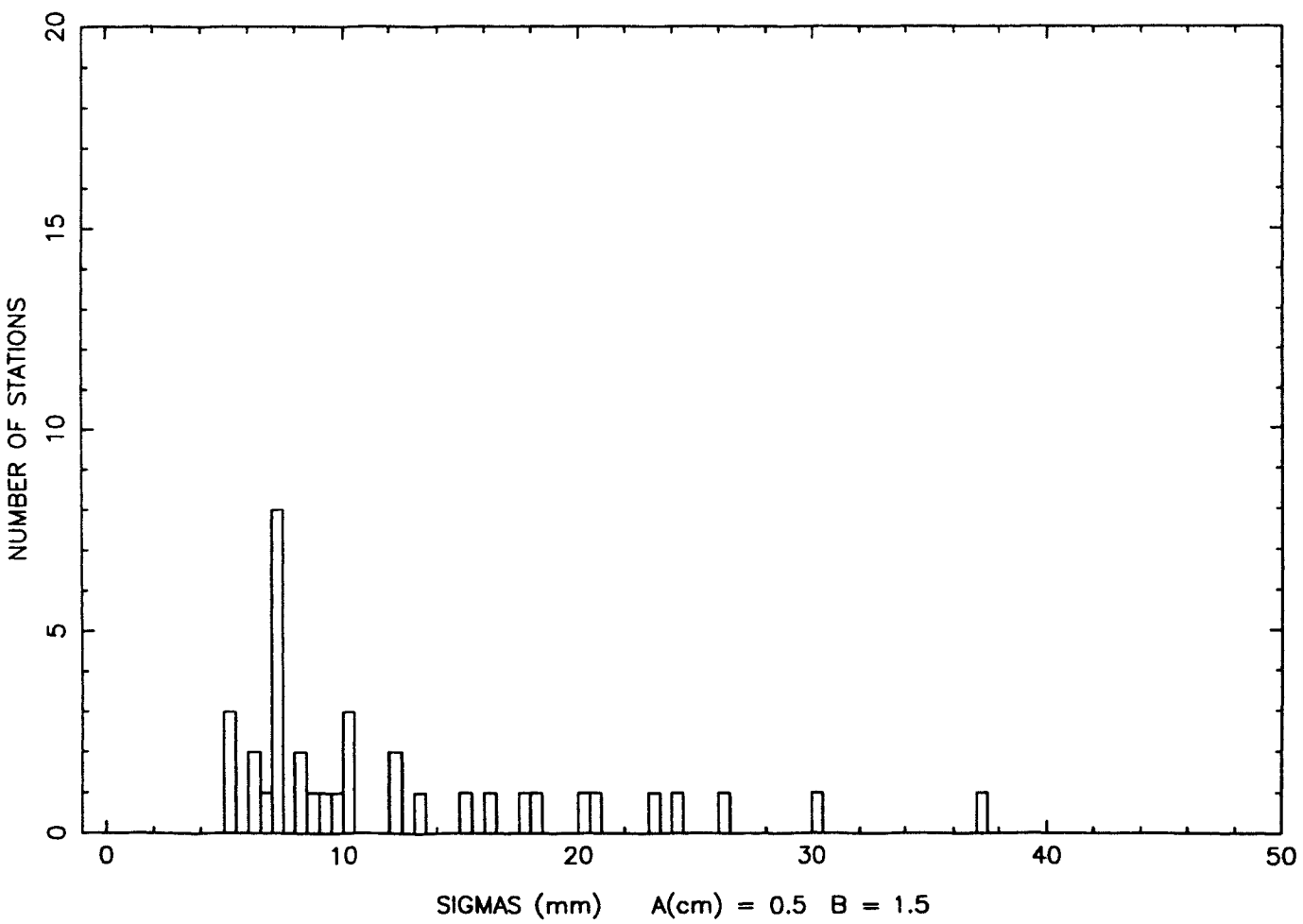
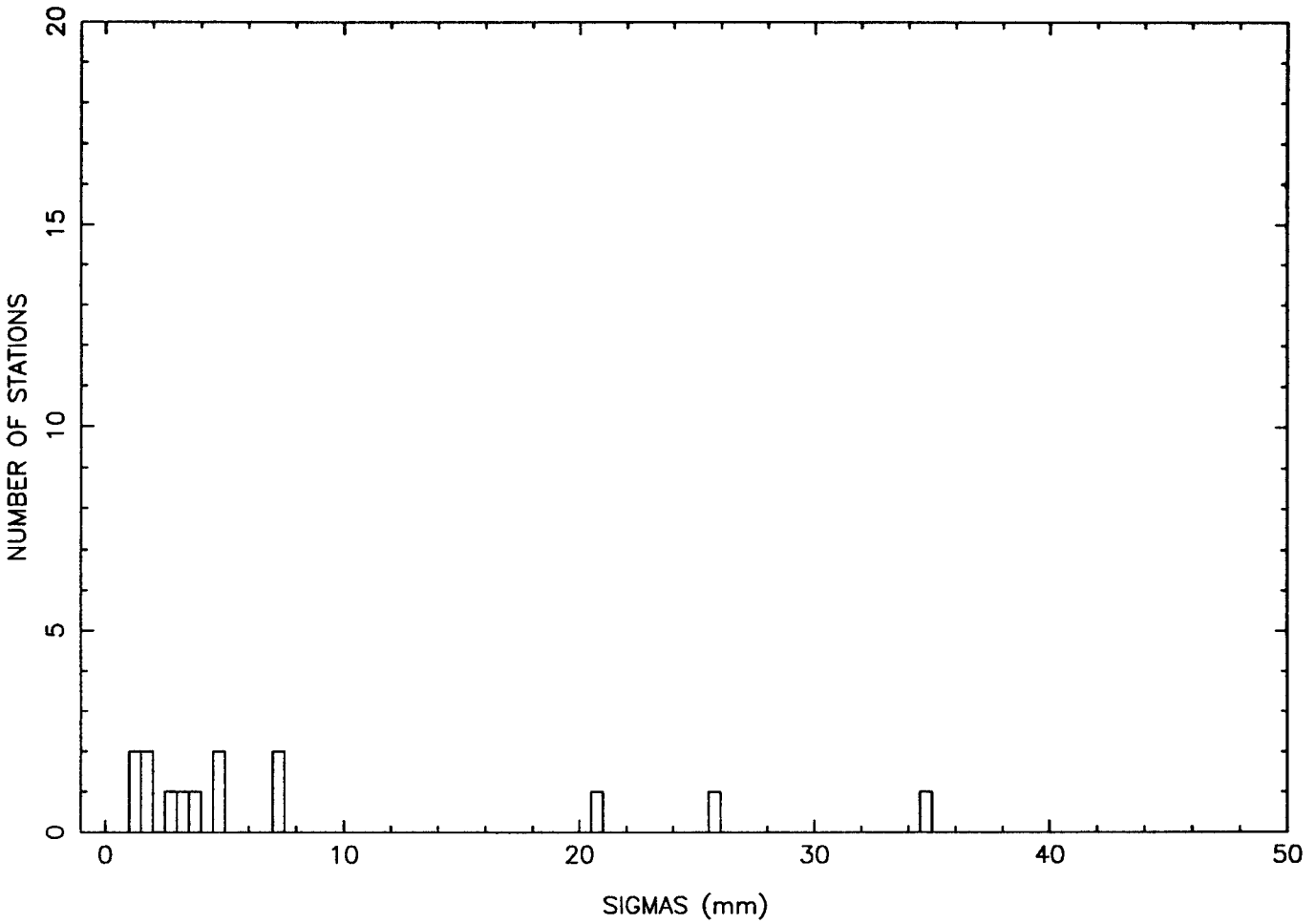


FIGURE 3: SSC(USNO) 92 R 01



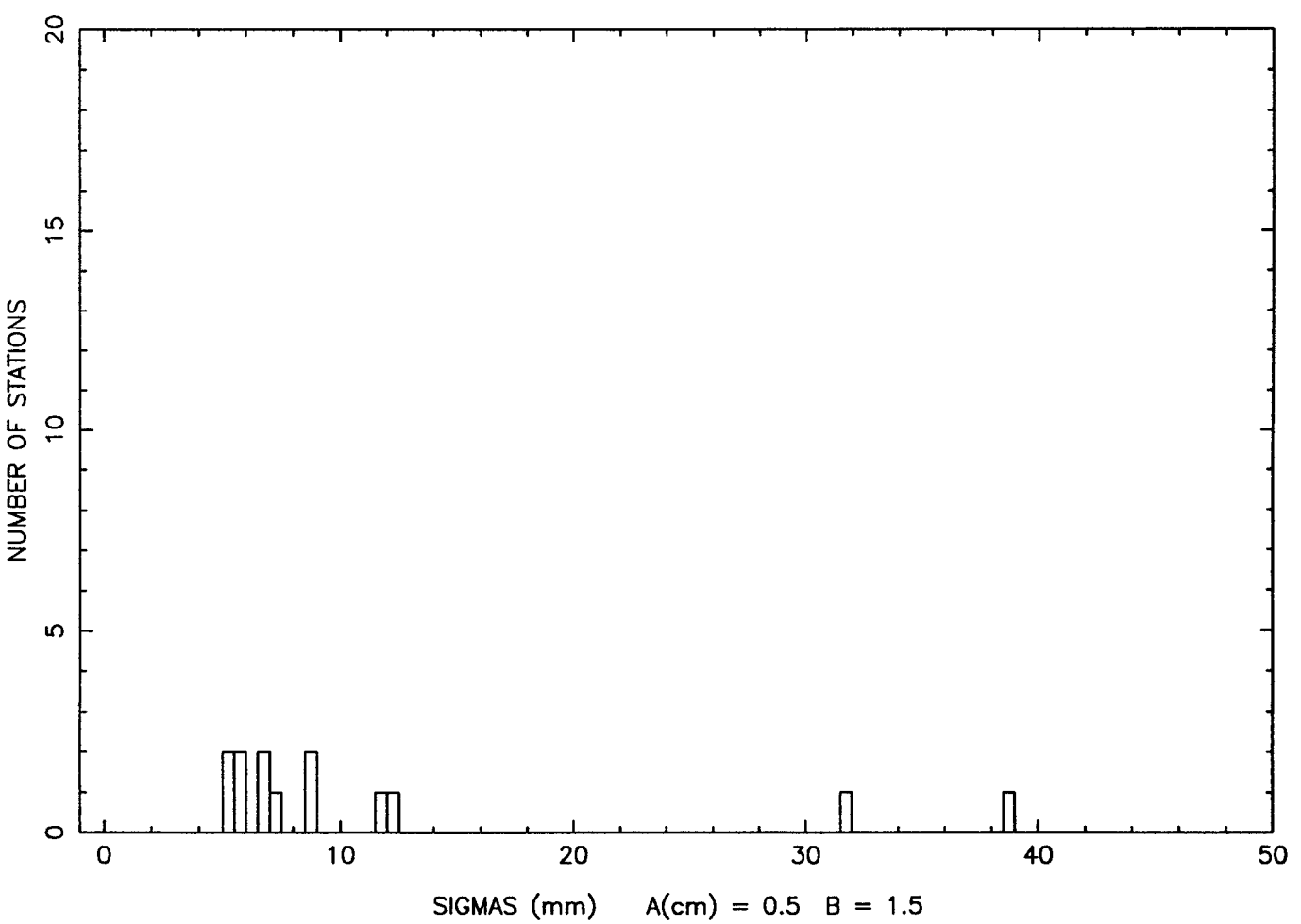
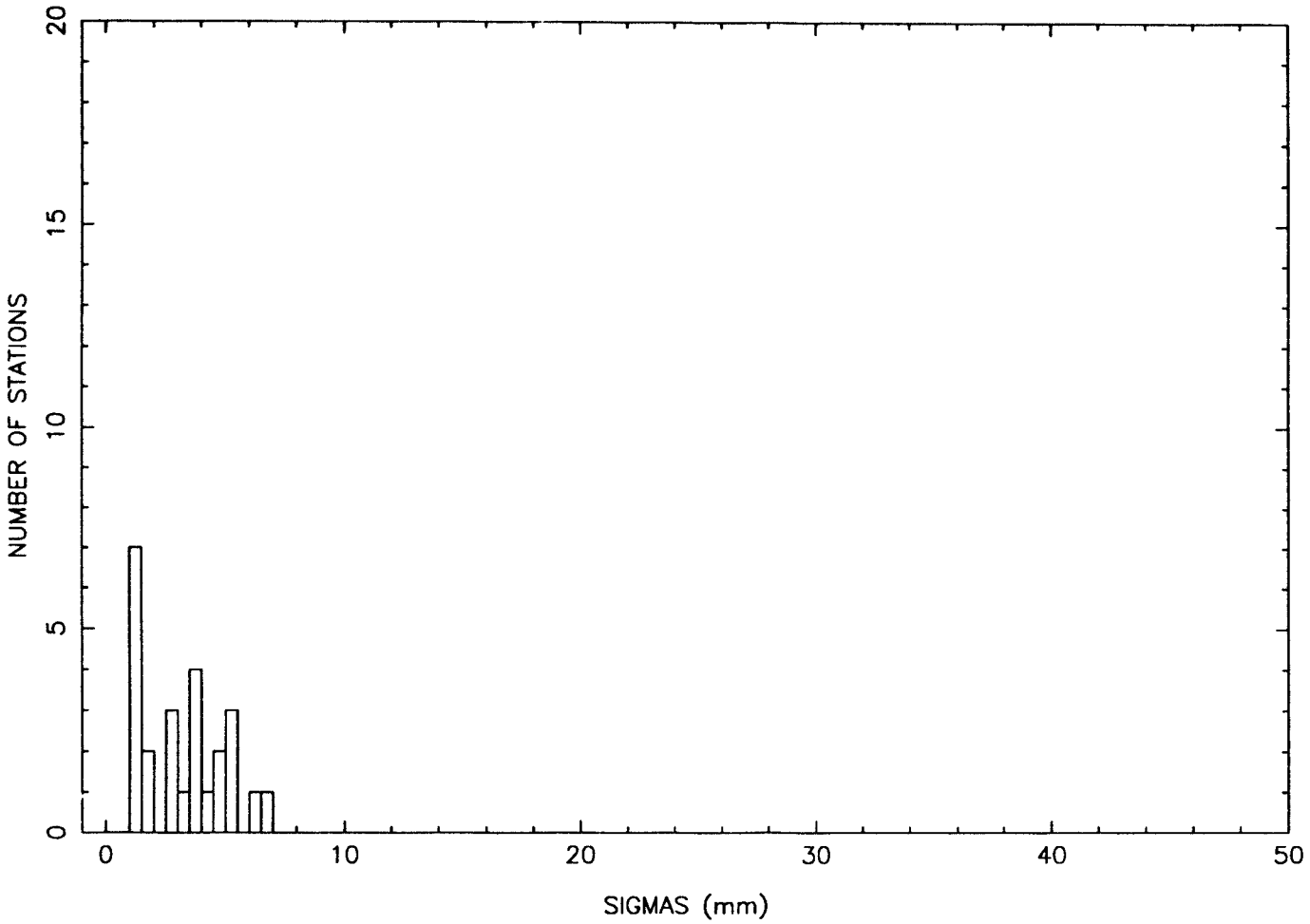


FIGURE 4 : SSC(NAOMZ)92 R 01



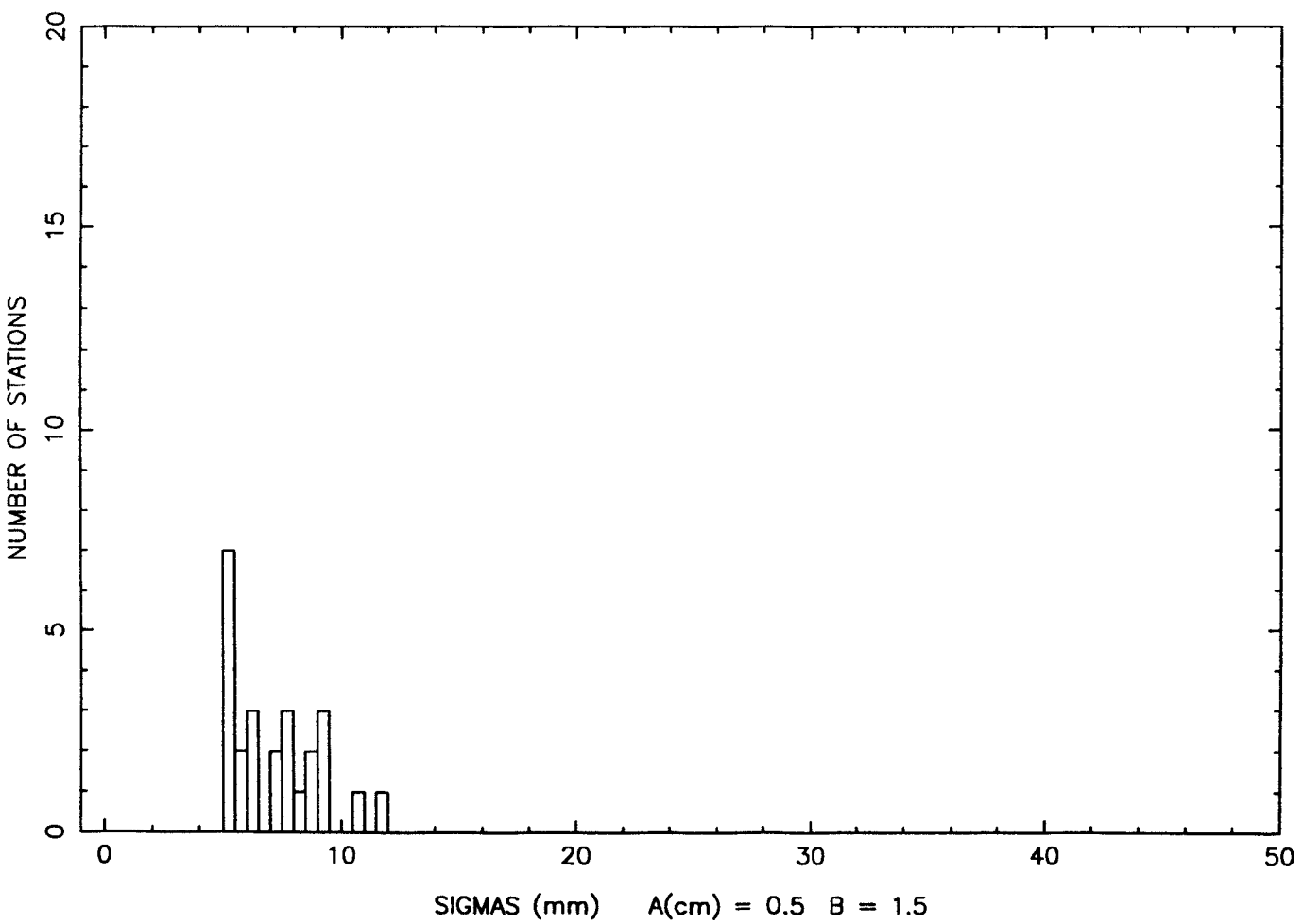
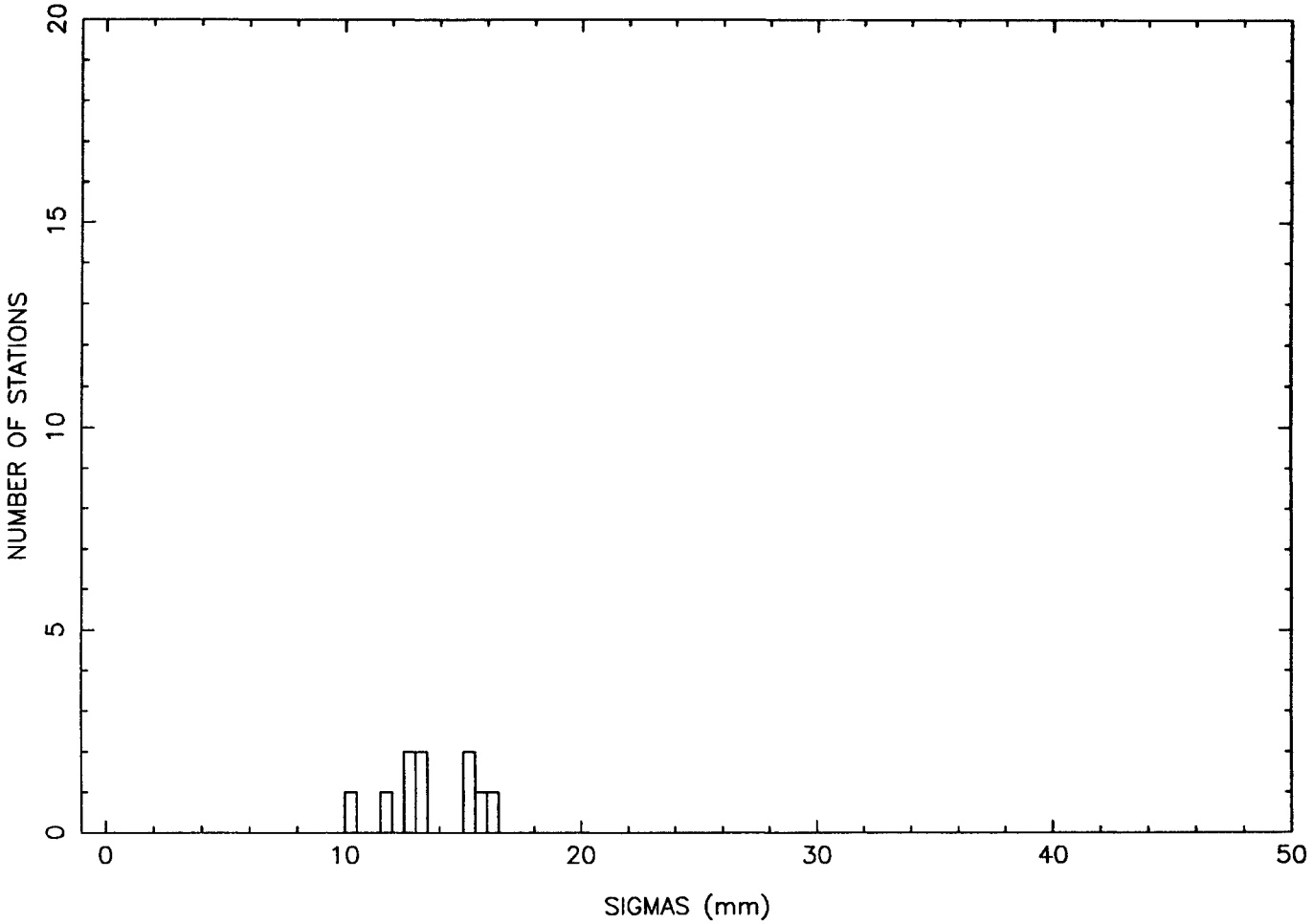


FIGURE 5 : SSC(JPL) 92 R 01



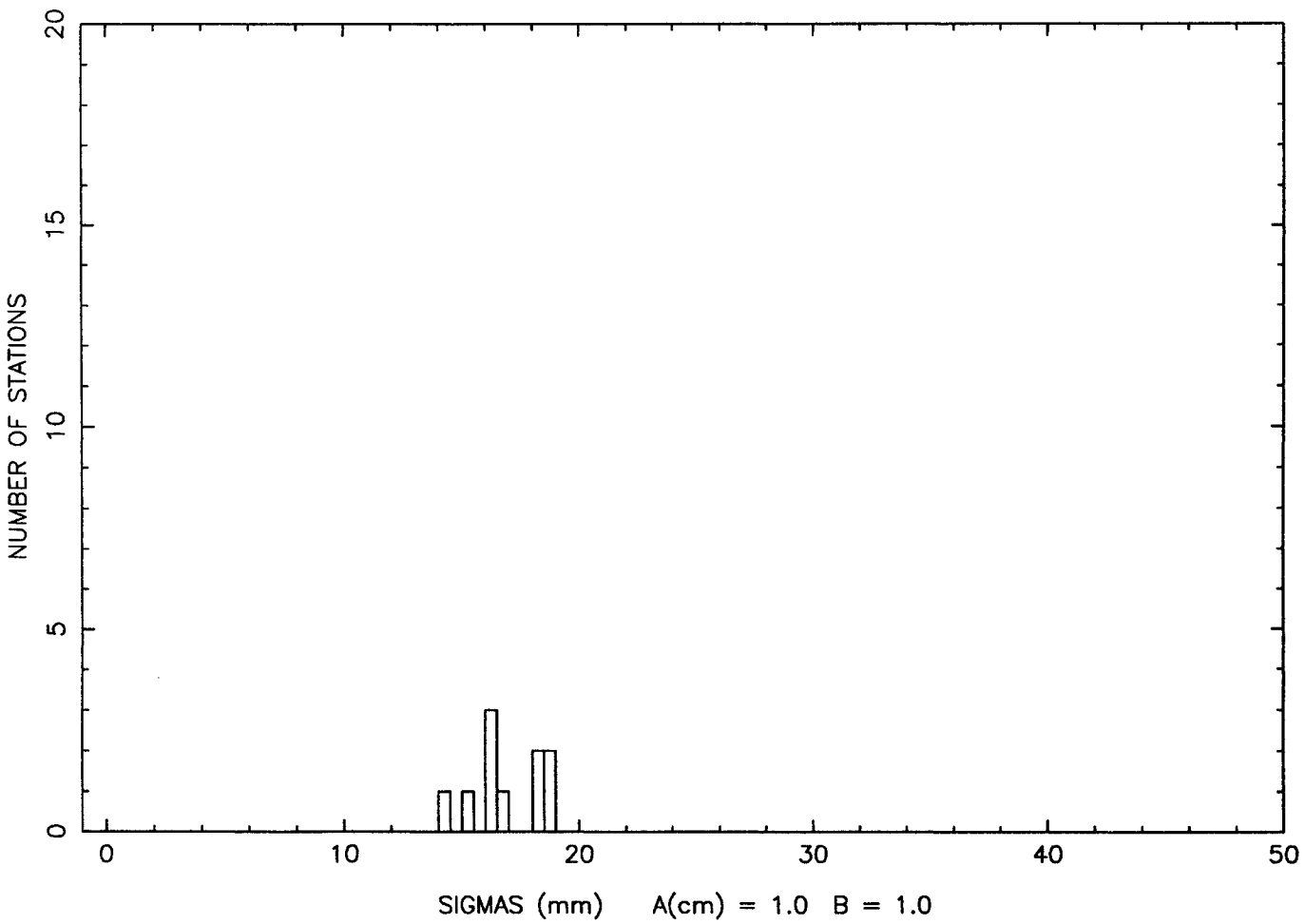
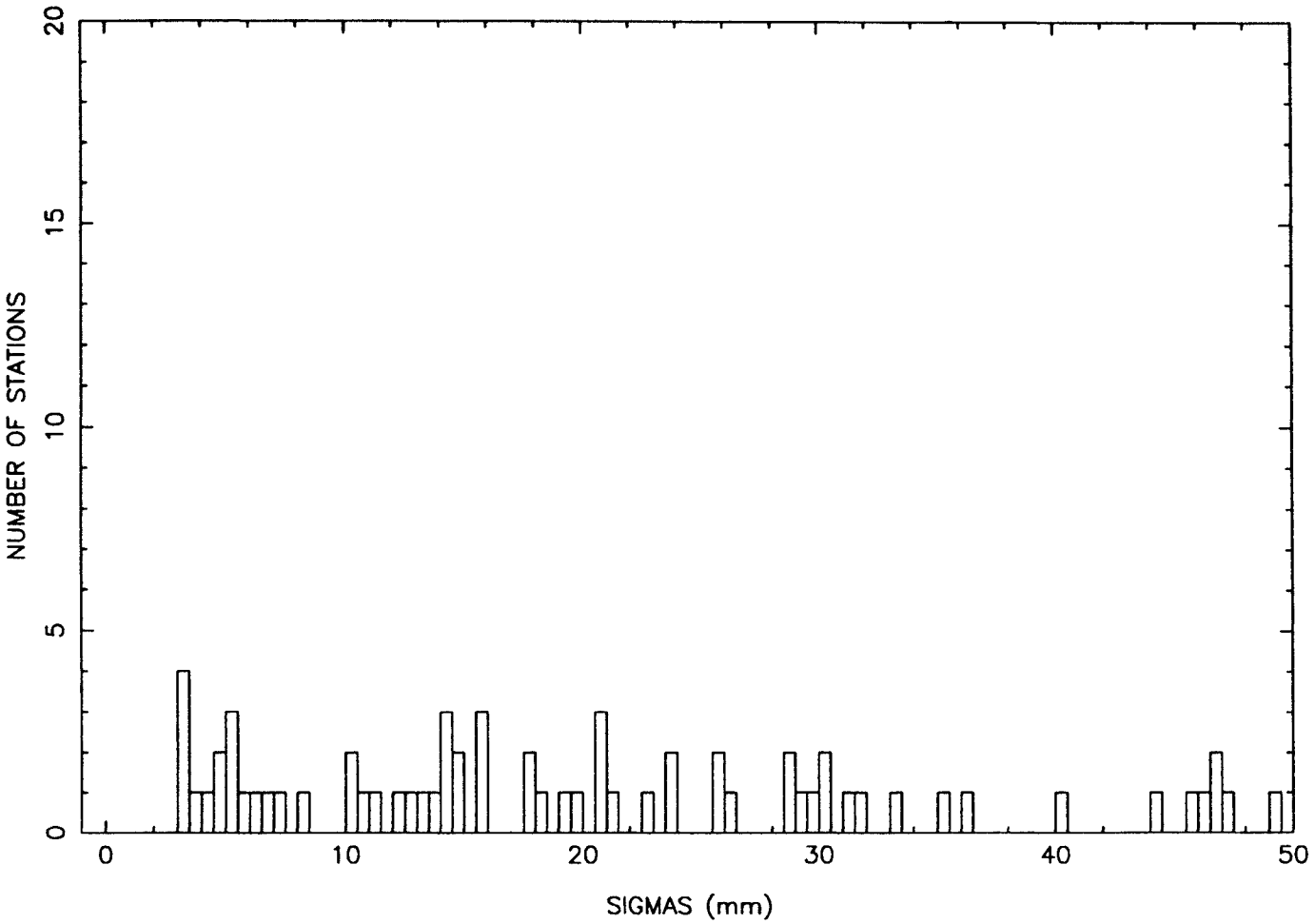


FIGURE 6: SSC(CSR) 92 L 01



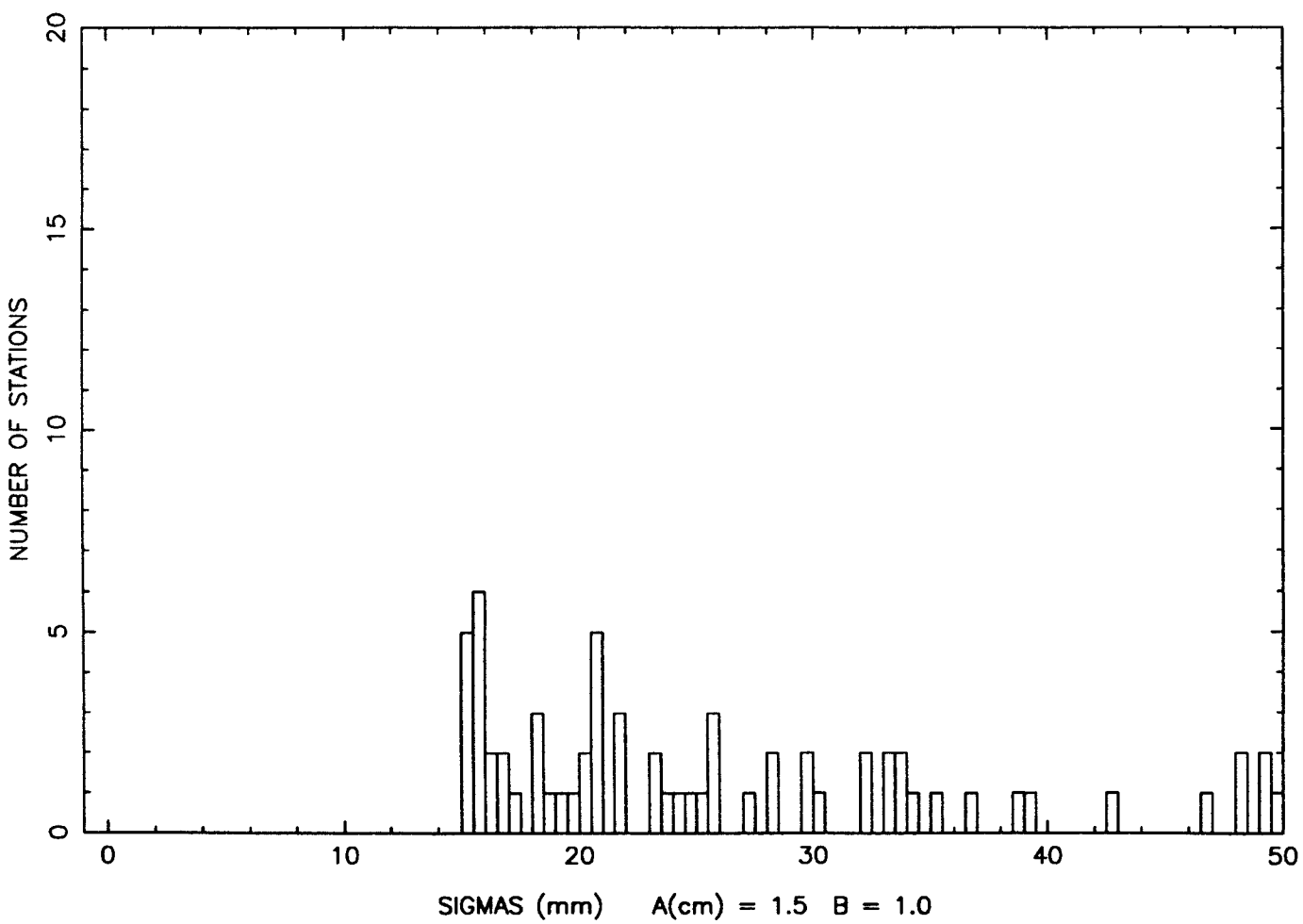
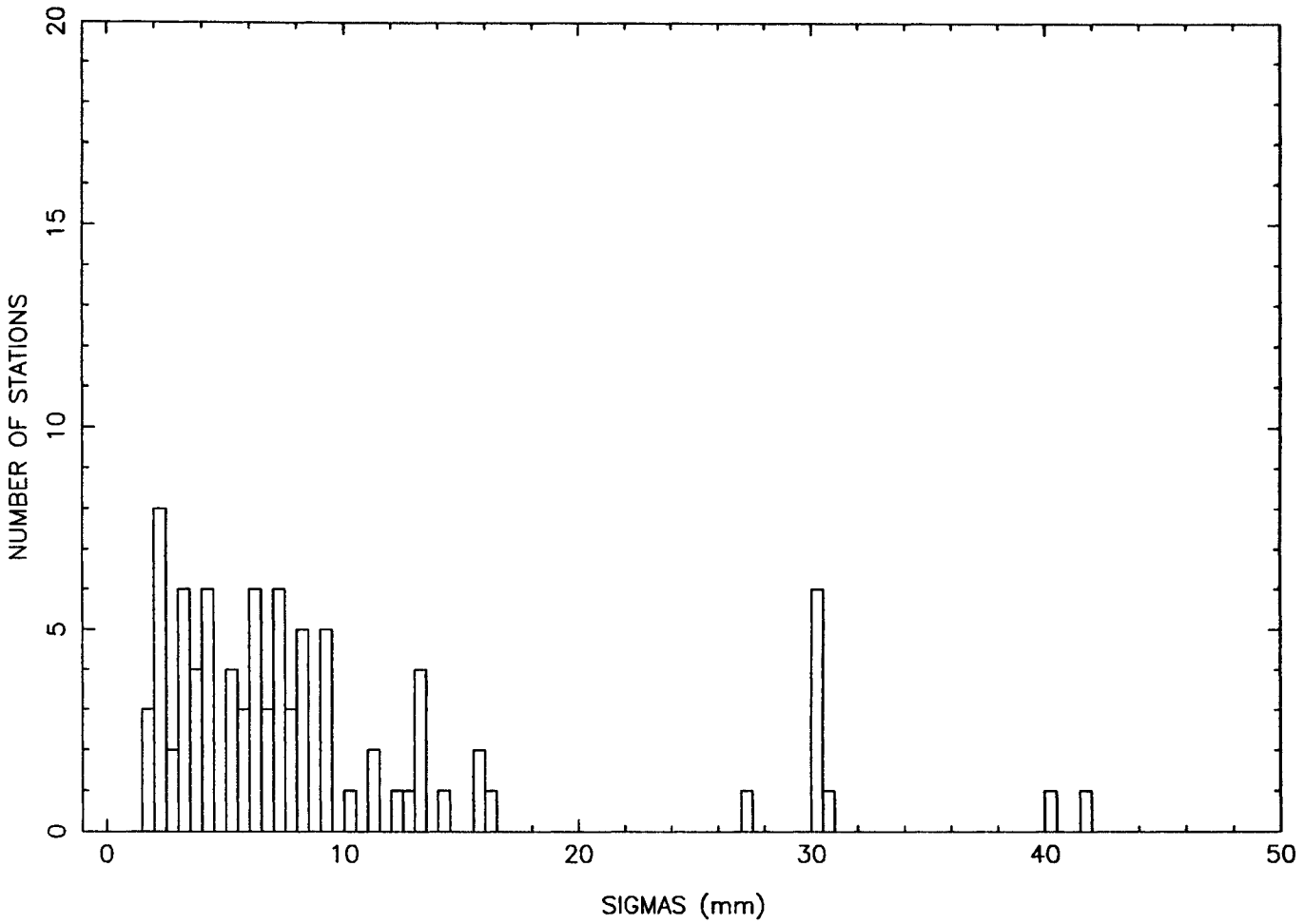


FIGURE 7: SSC(GSFC) 92 L 01/POS 88.0



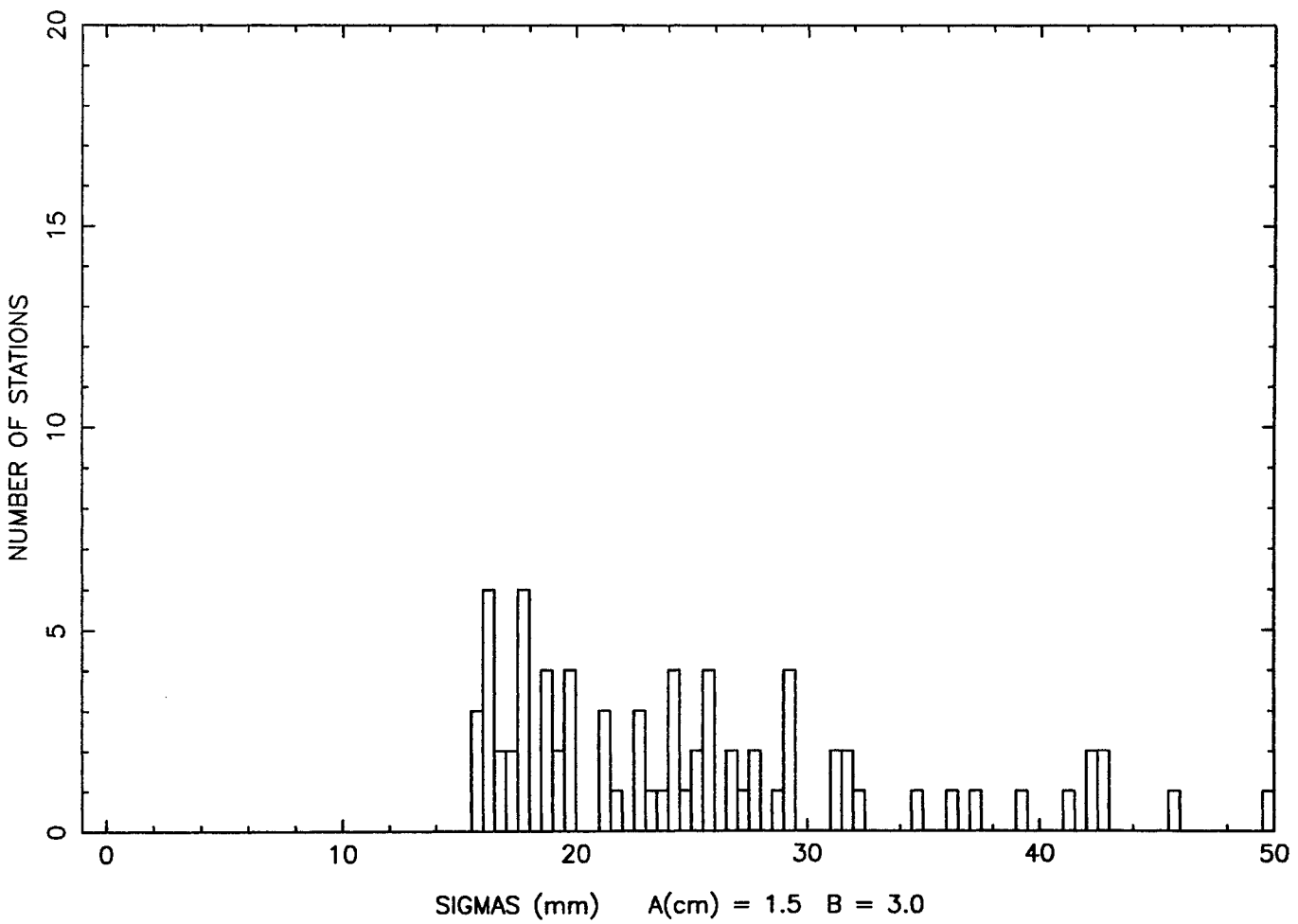
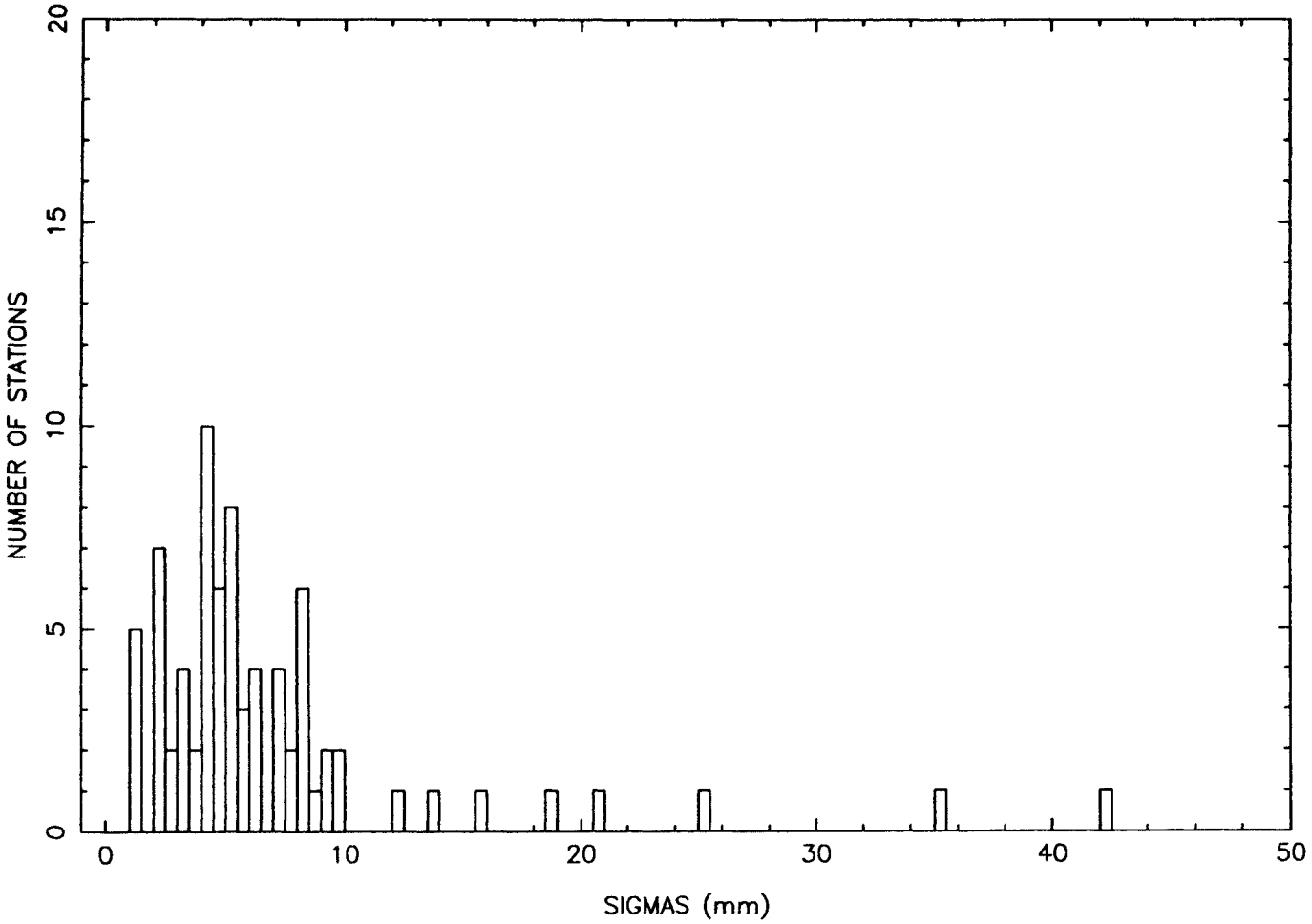


FIGURE 8 : SSC(DGFII)92 L 01



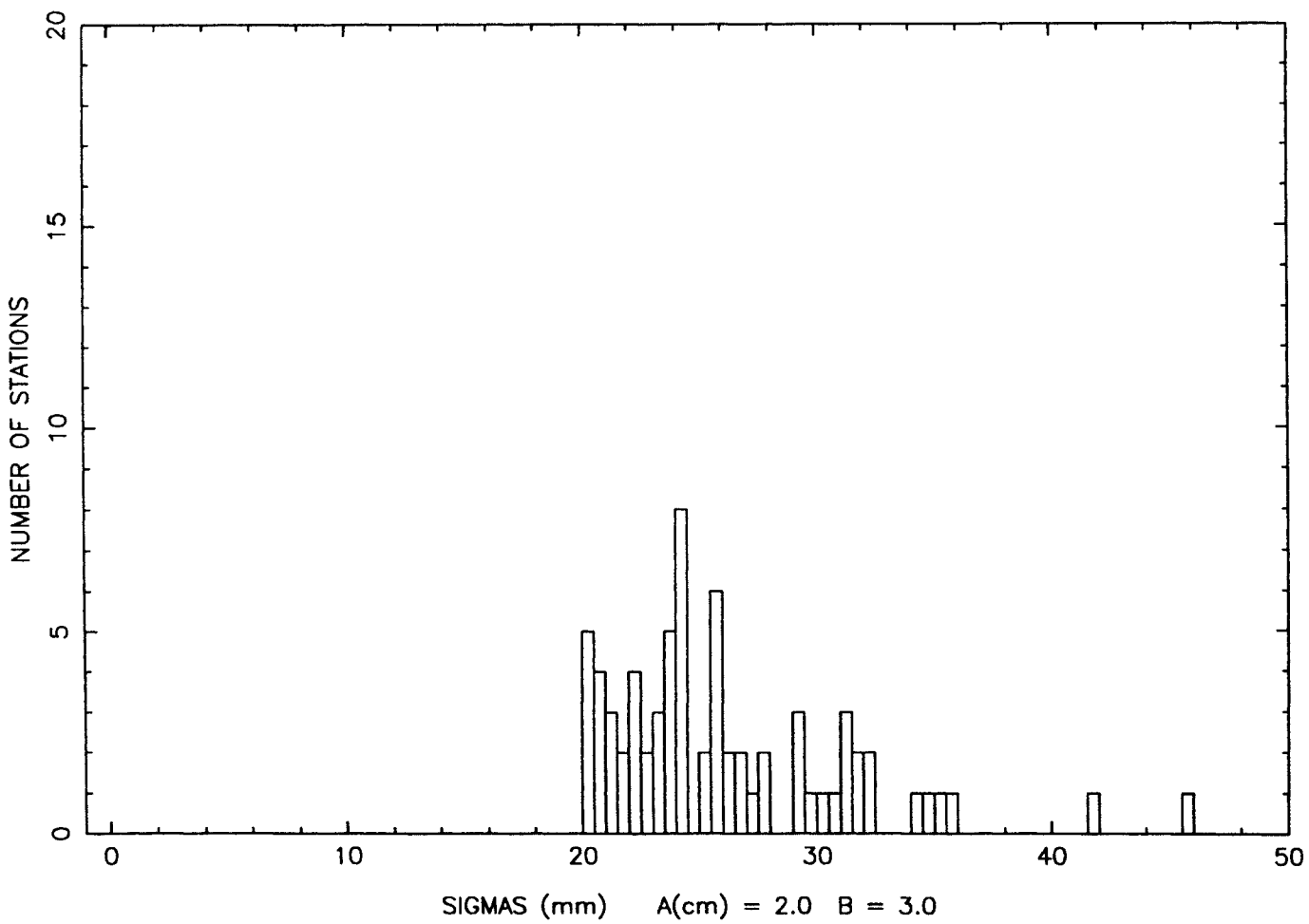
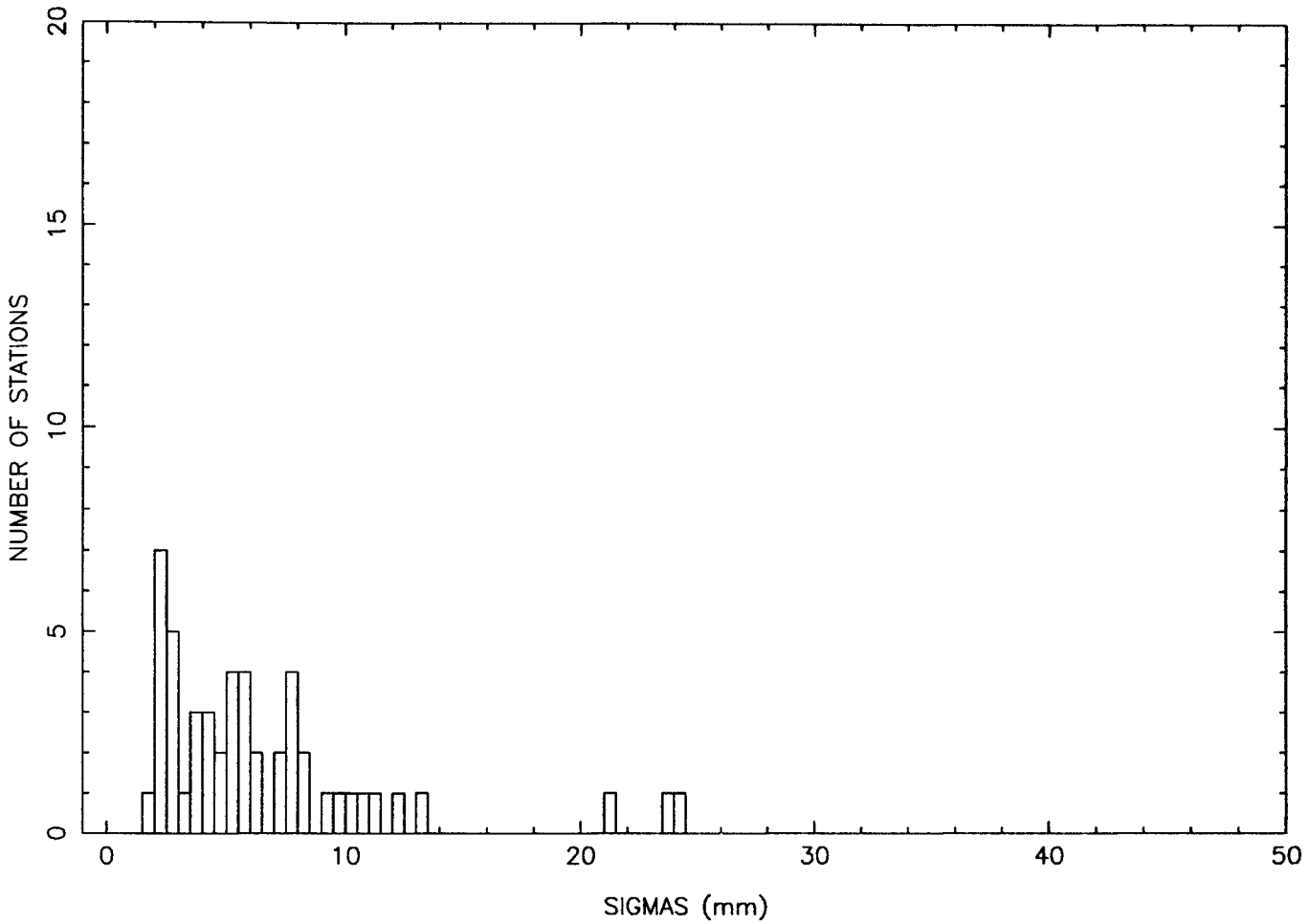


FIGURE 9 : SSC(DUT) 92 L 01 /POS. 88.0



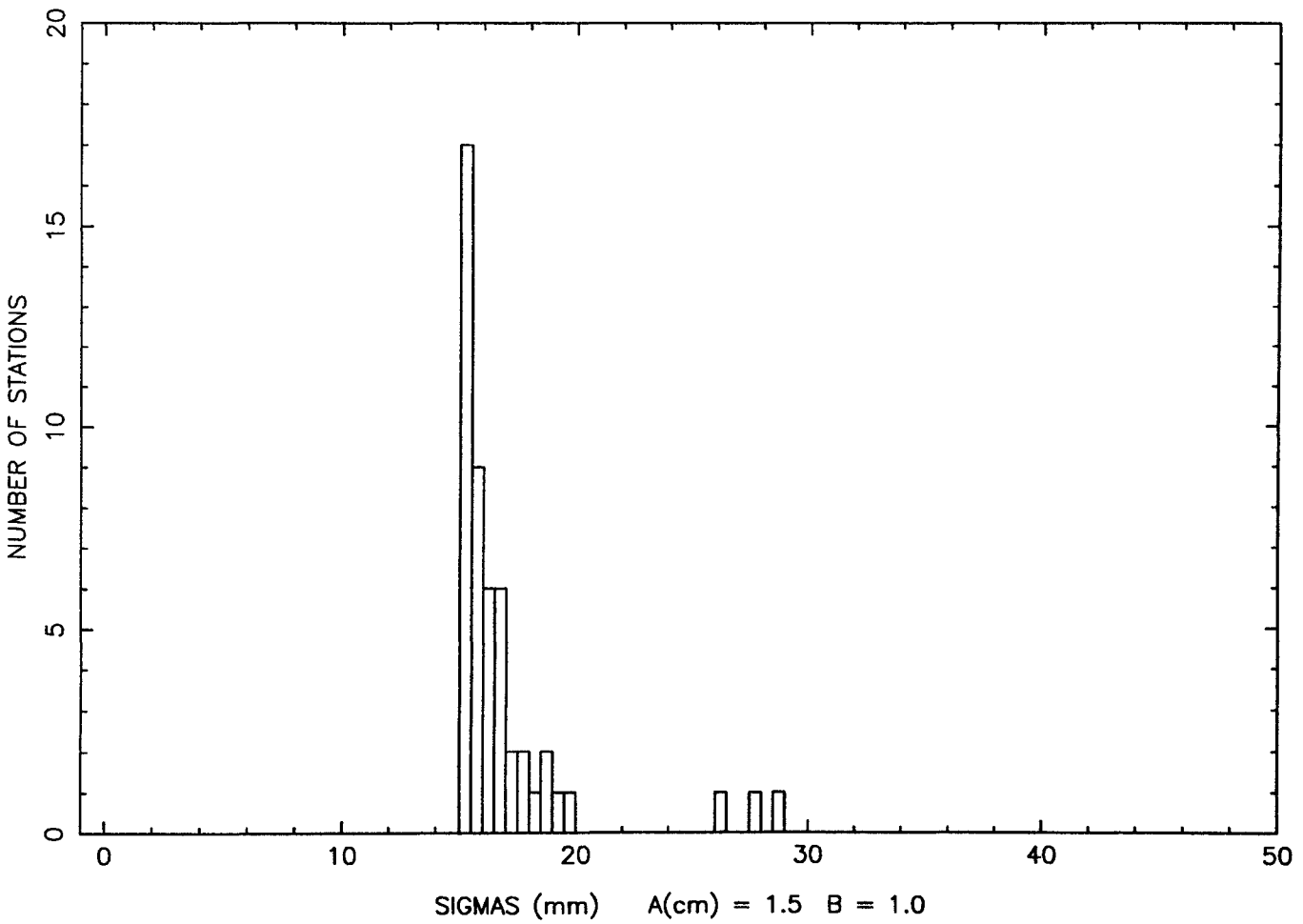
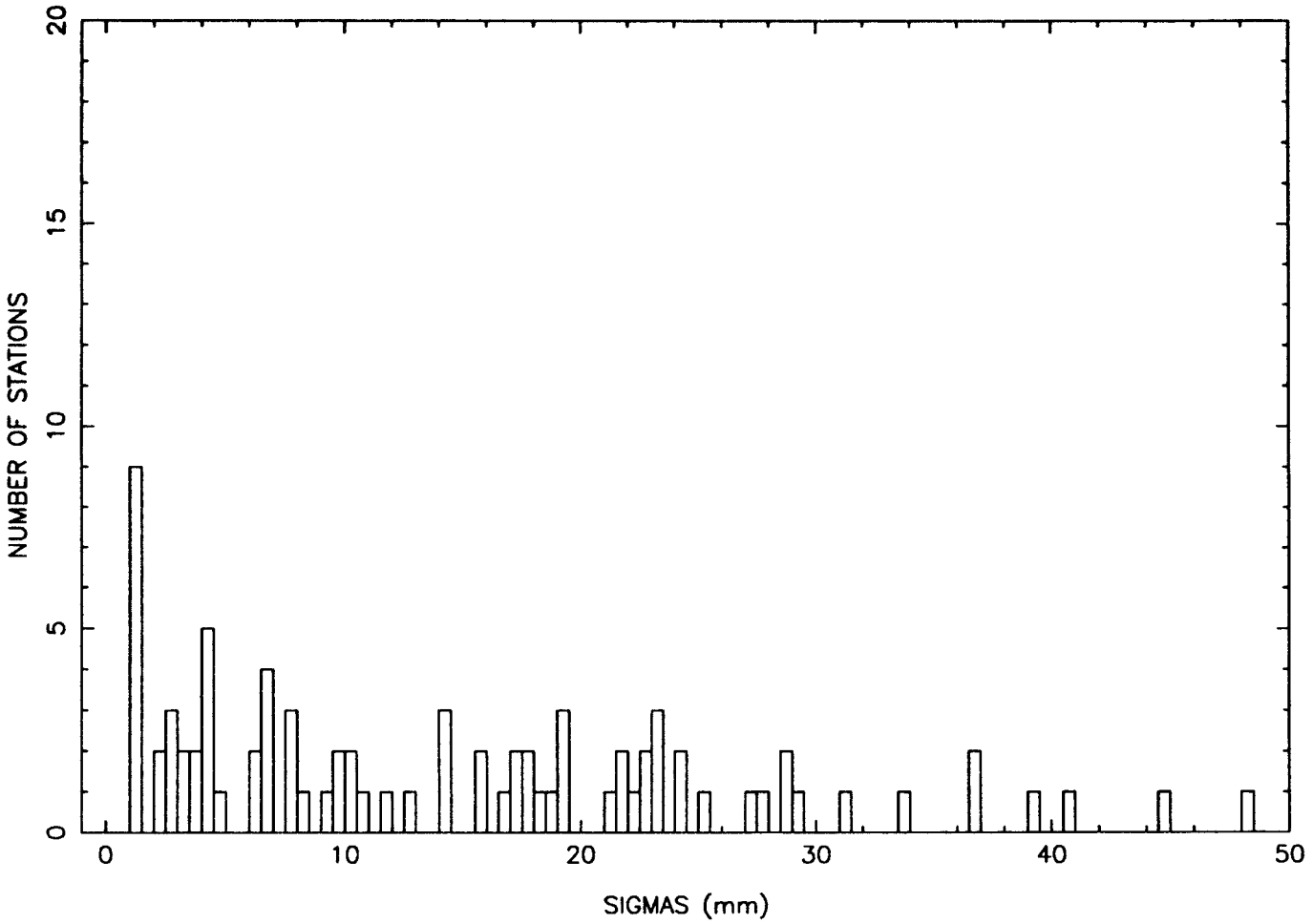


FIGURE 10: SSC(GFZ) 92 L 01



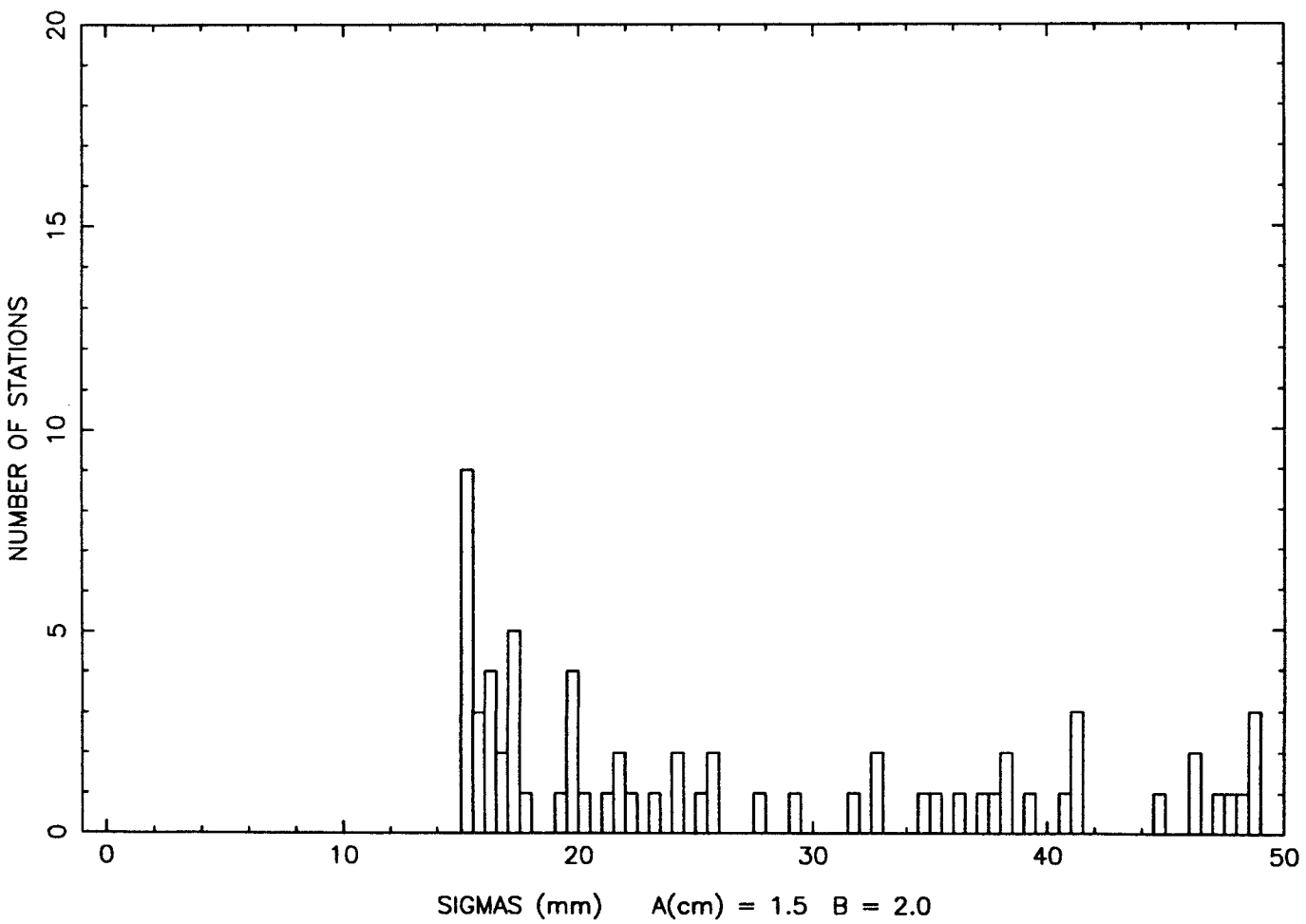
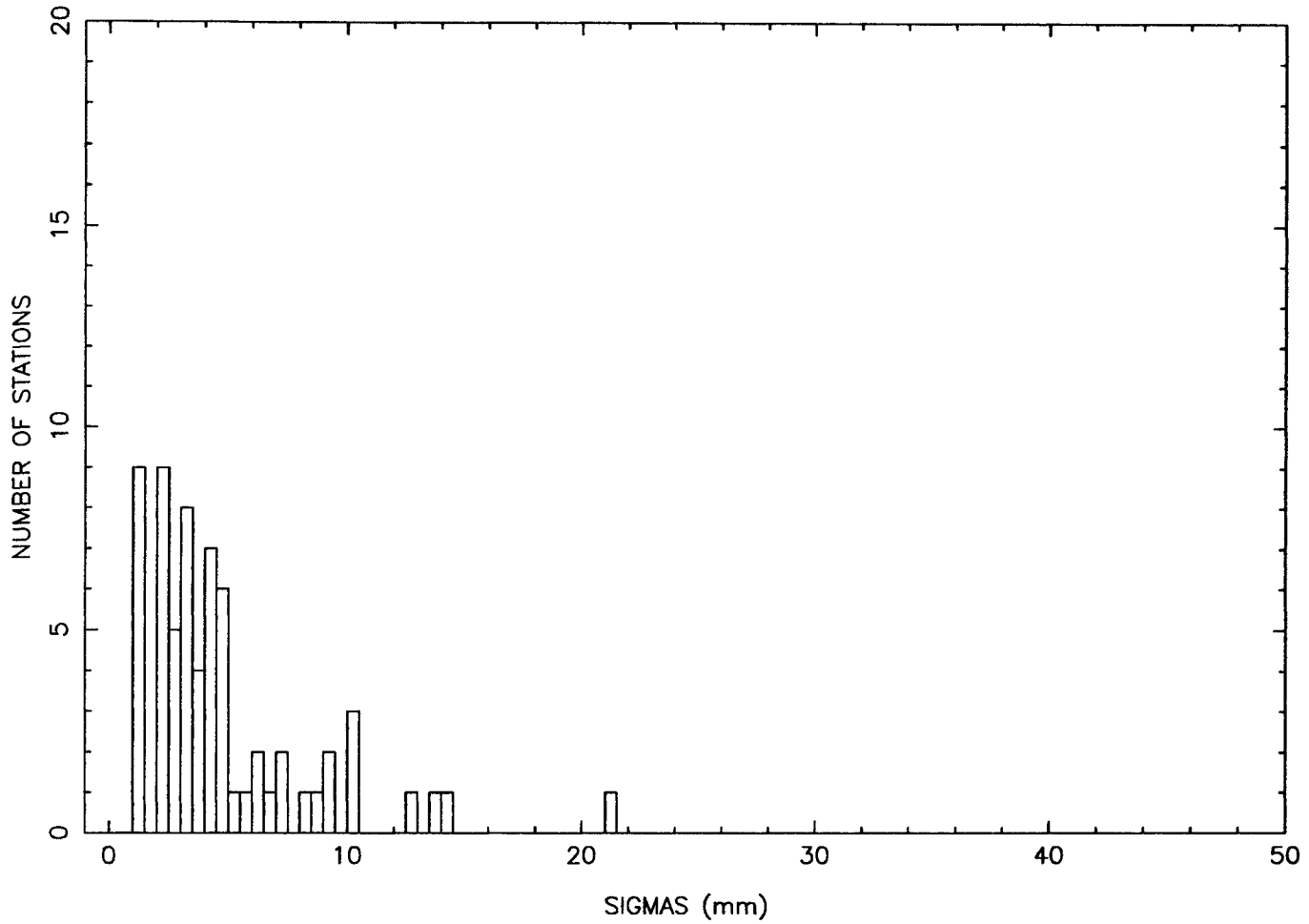


FIGURE 11: SSC(GAOUA)92 L 01



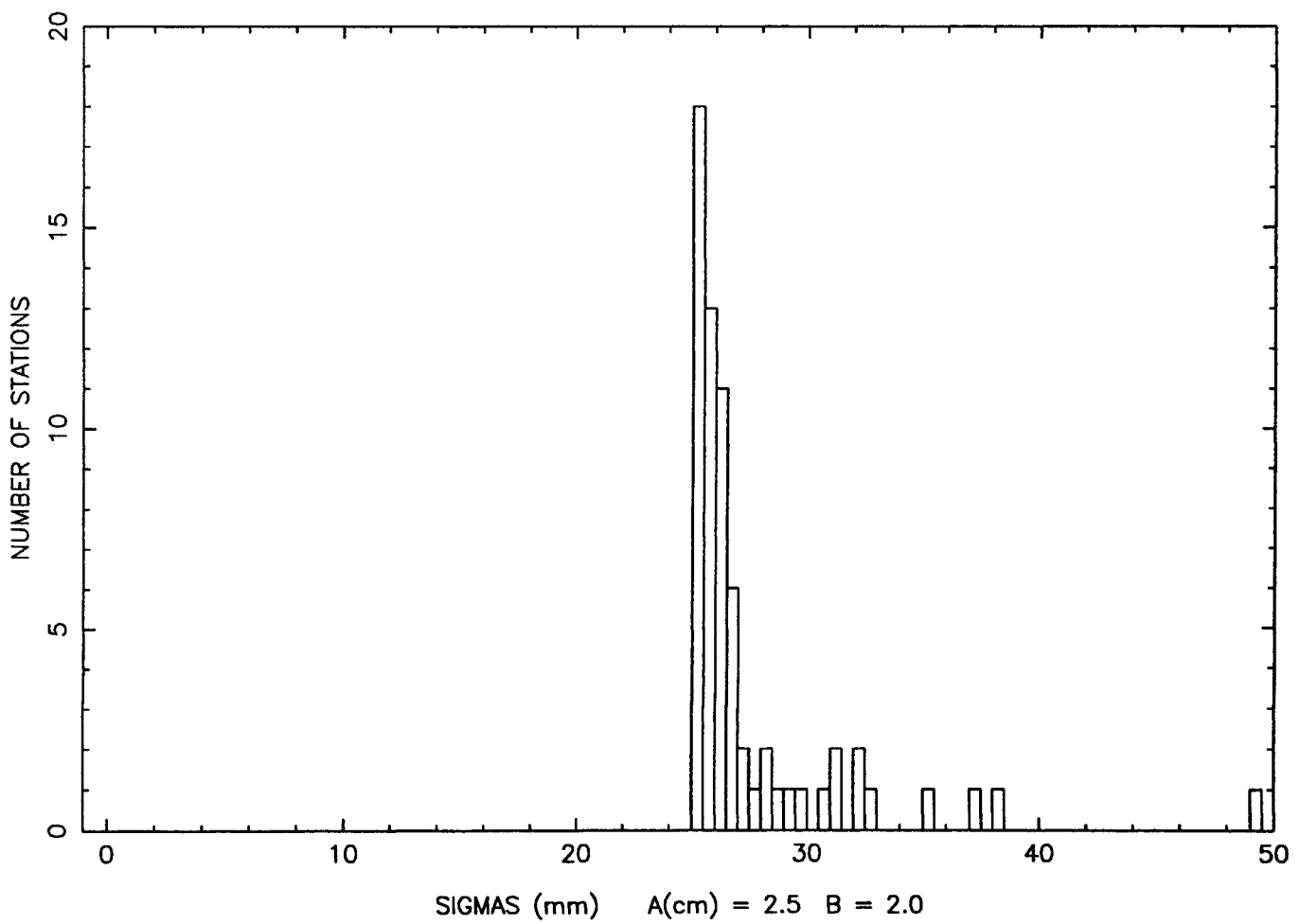
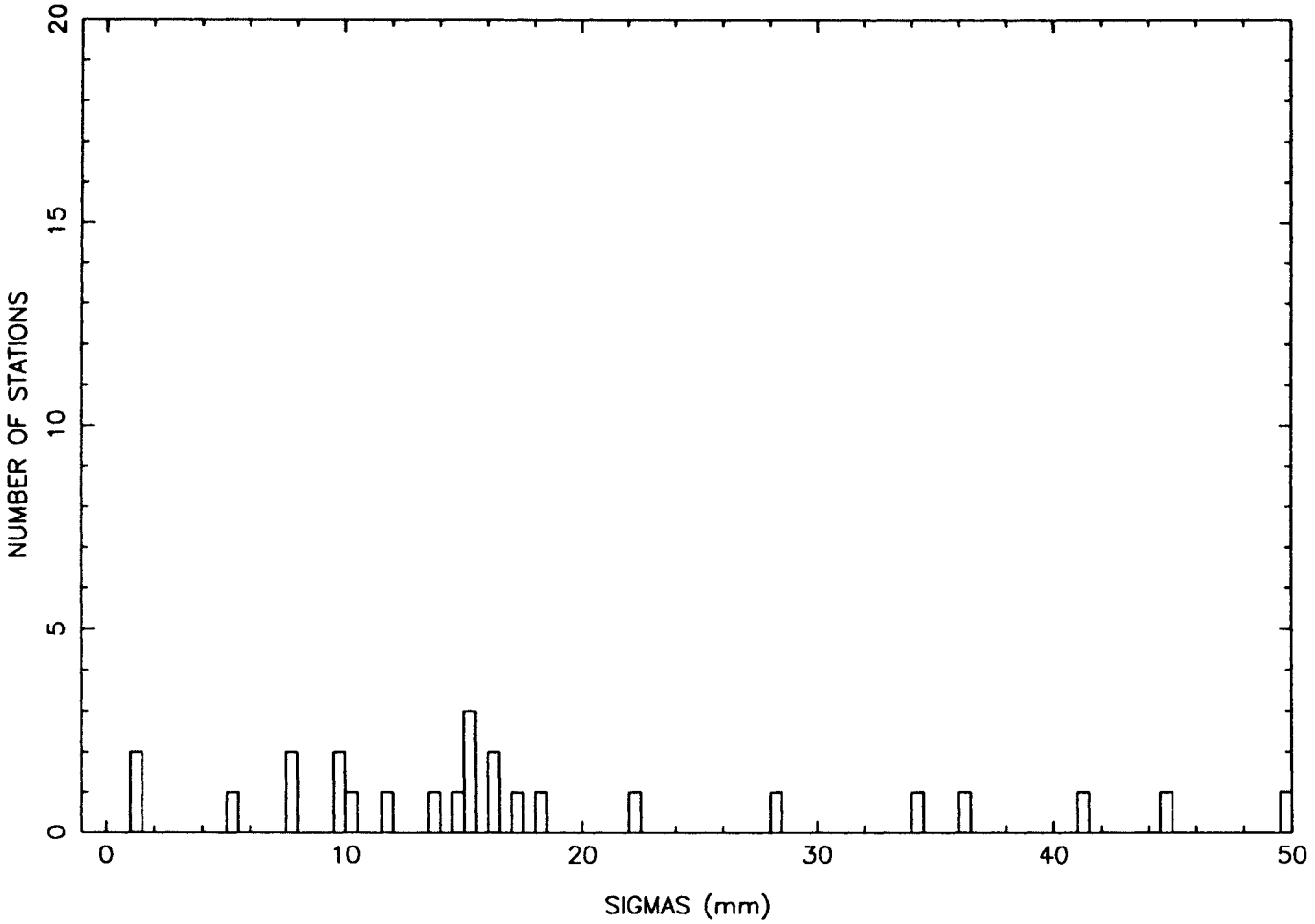


FIGURE 12: SSC(NAL) 92 L 01



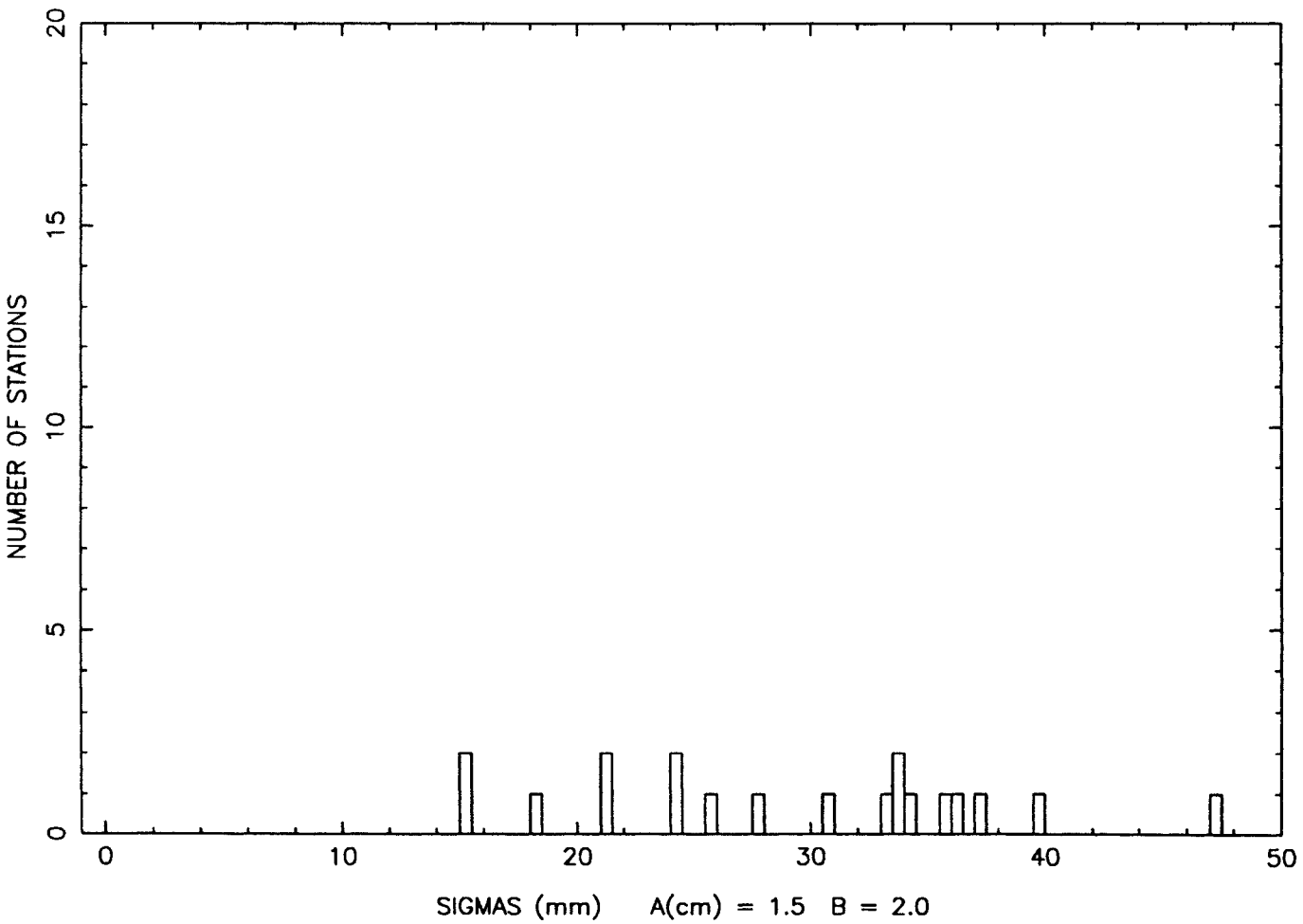
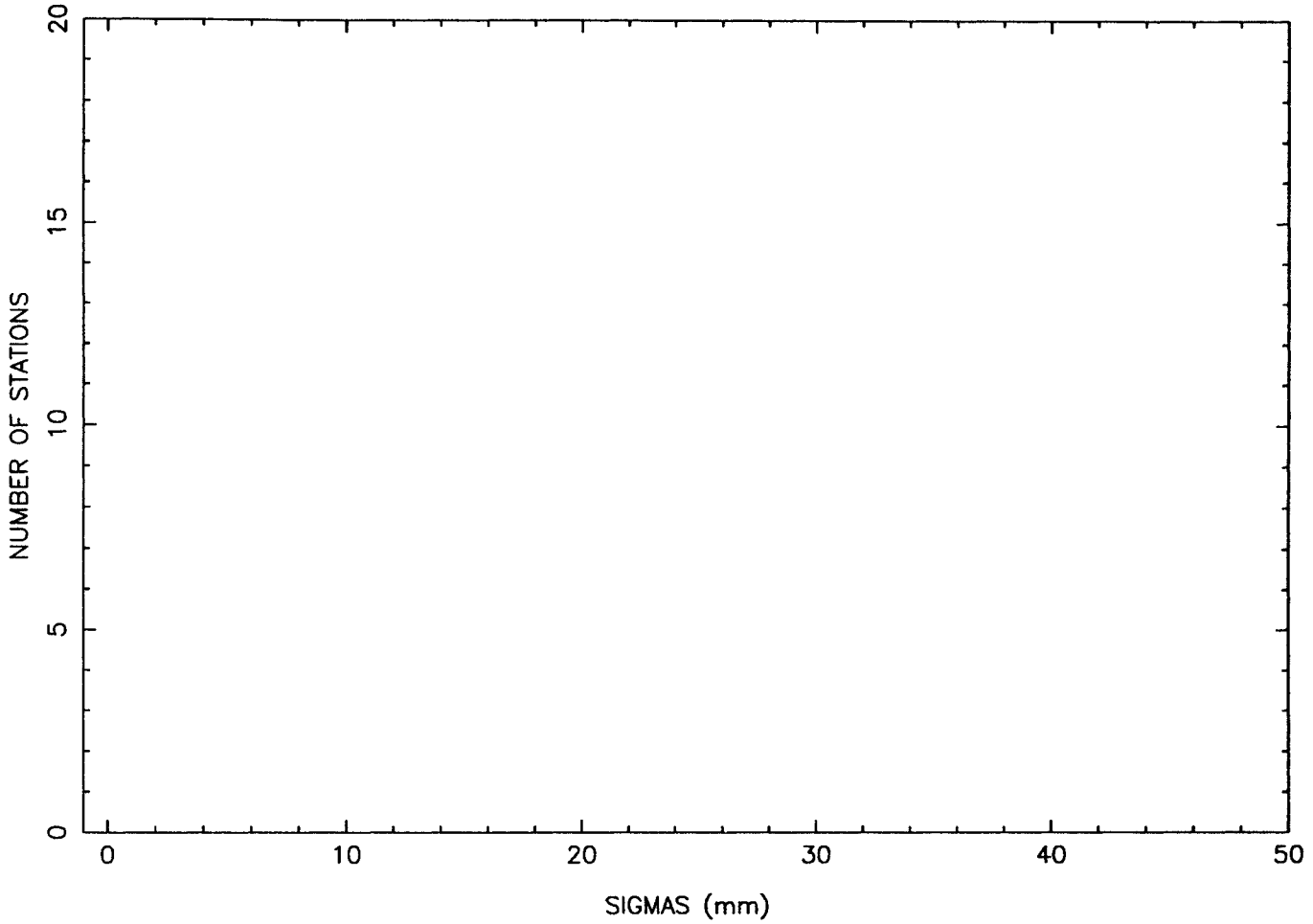


FIGURE 13: SSC(UTXMO)92 M 01



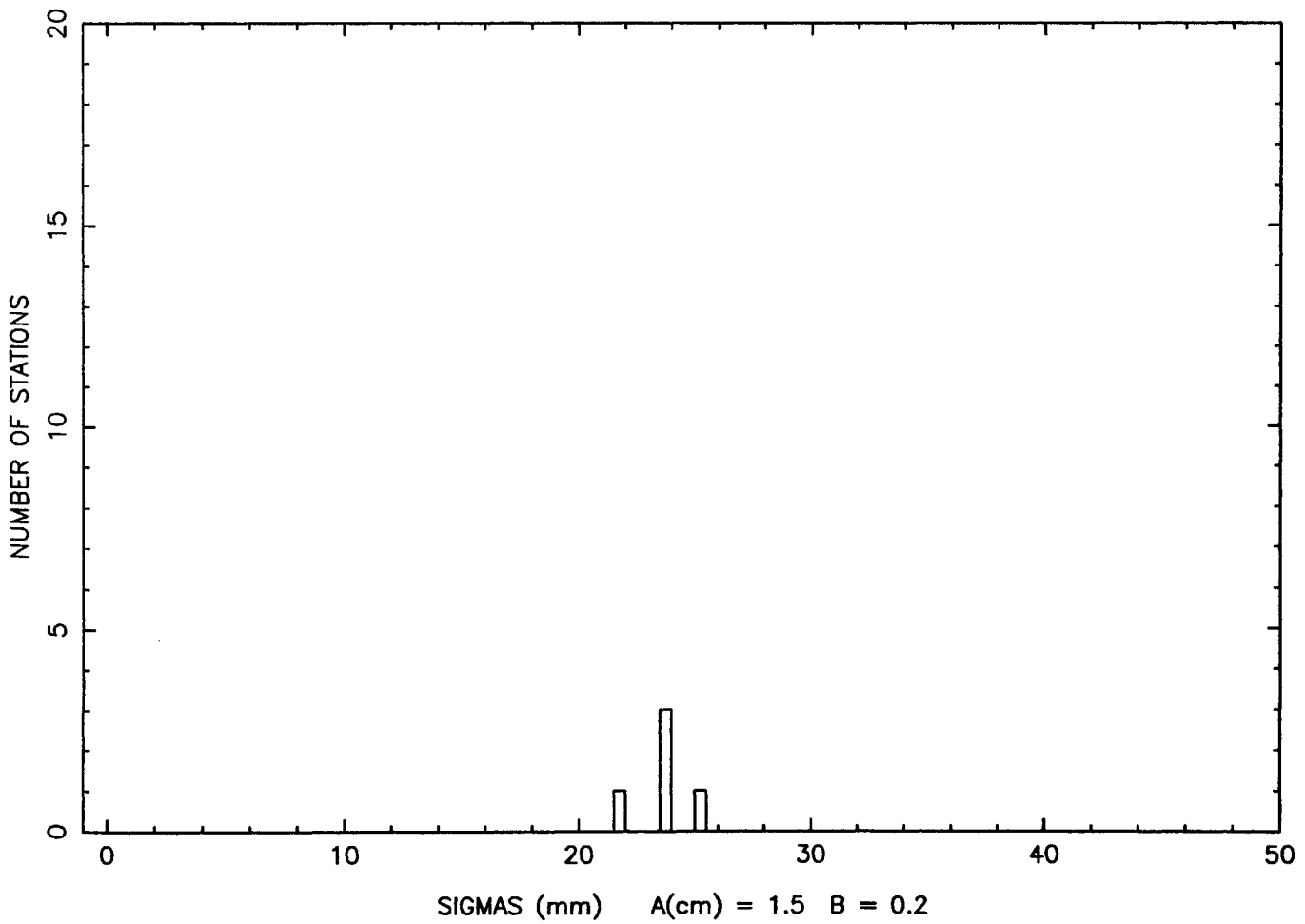
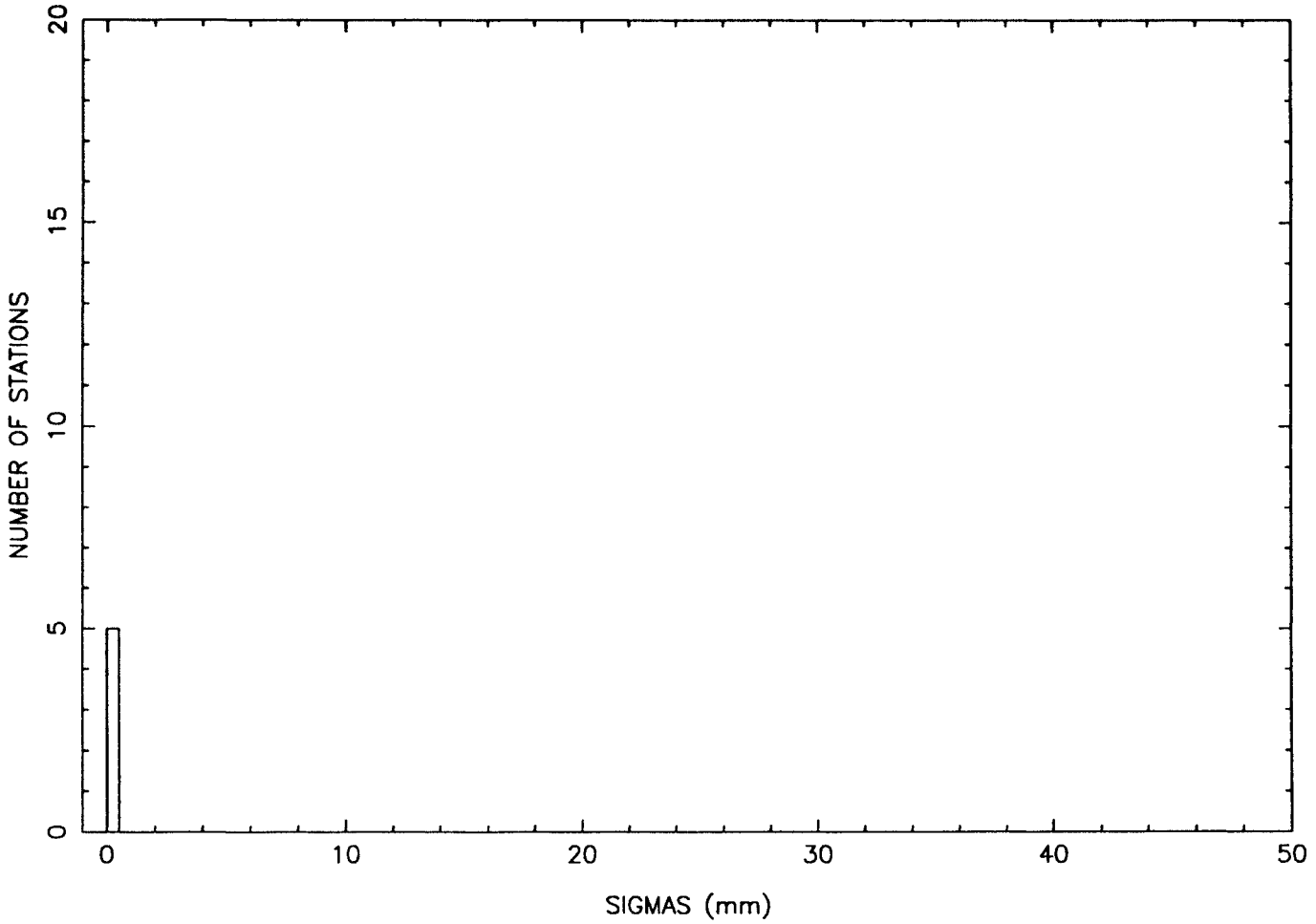


FIGURE 14 : SSC(JPL) 92 M 01



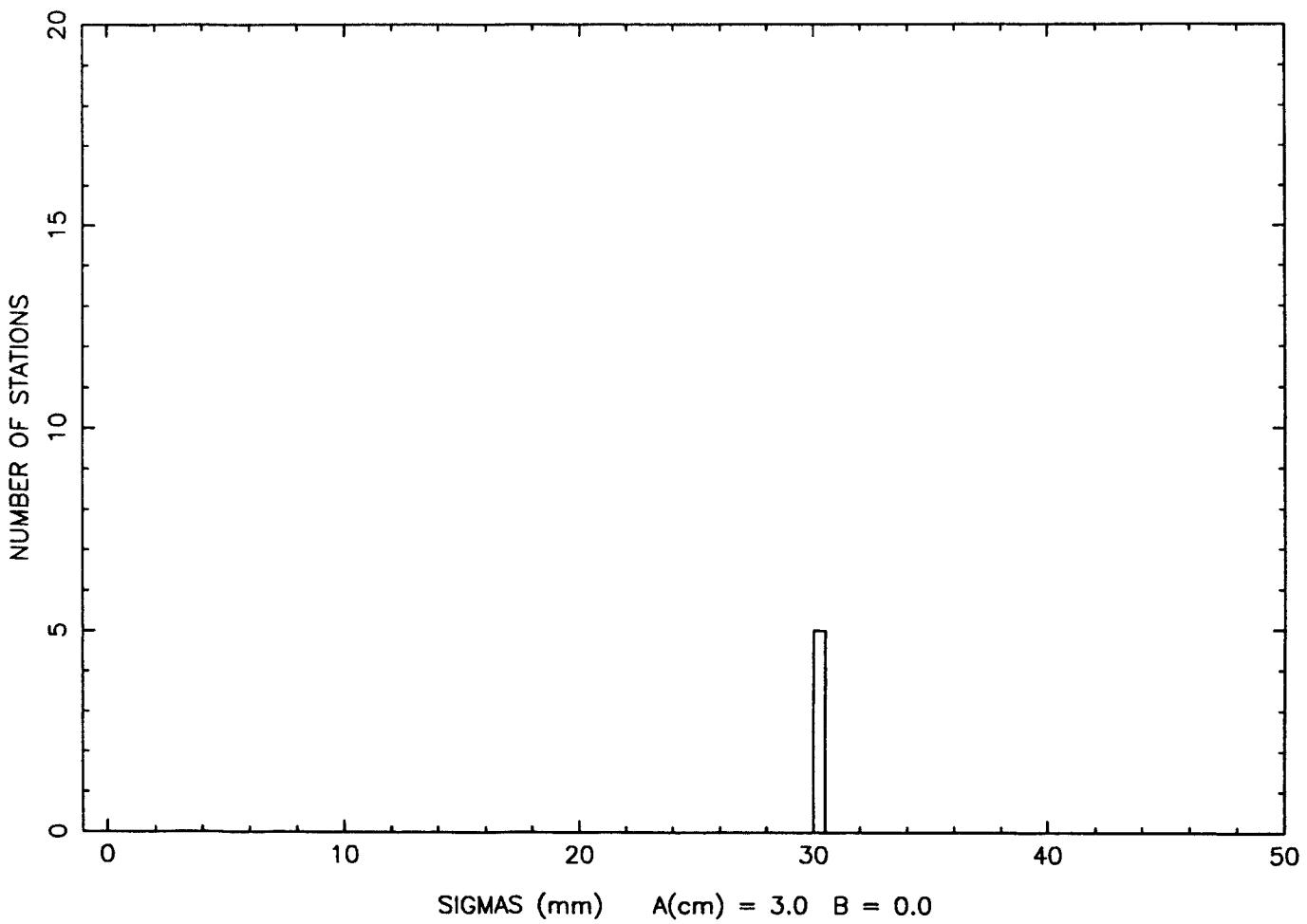
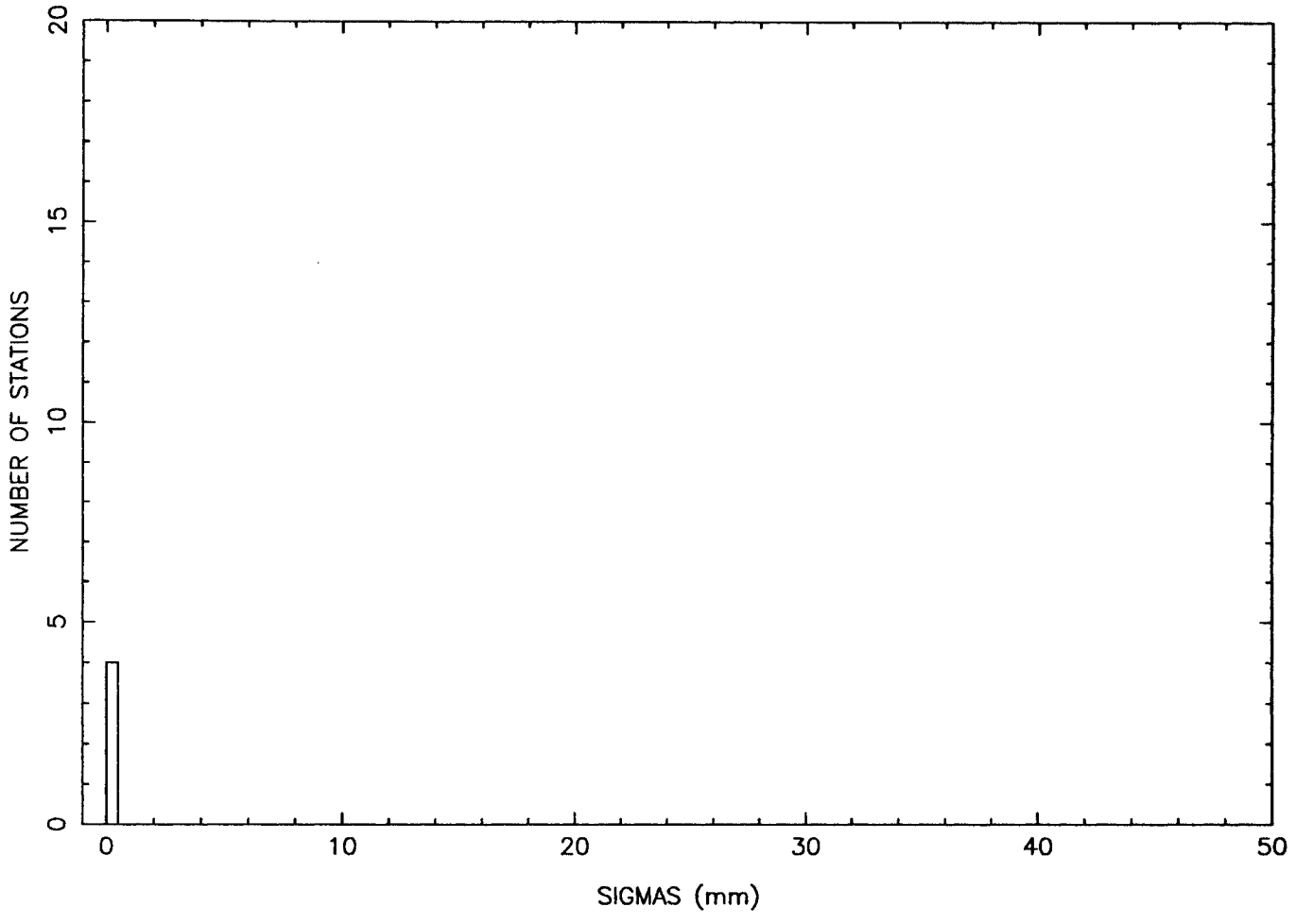


FIGURE 15 : SSC(SO) 92 M 01



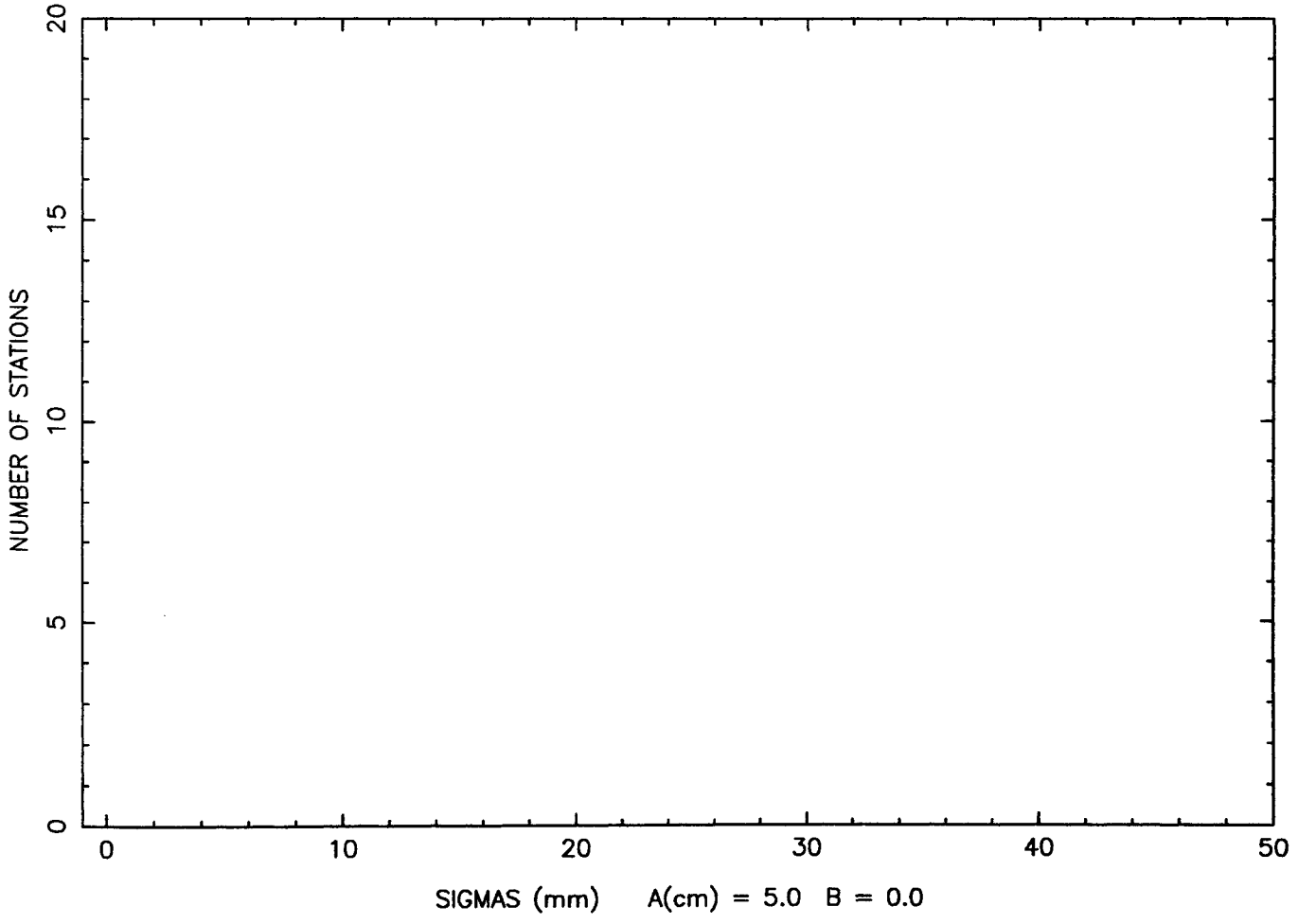
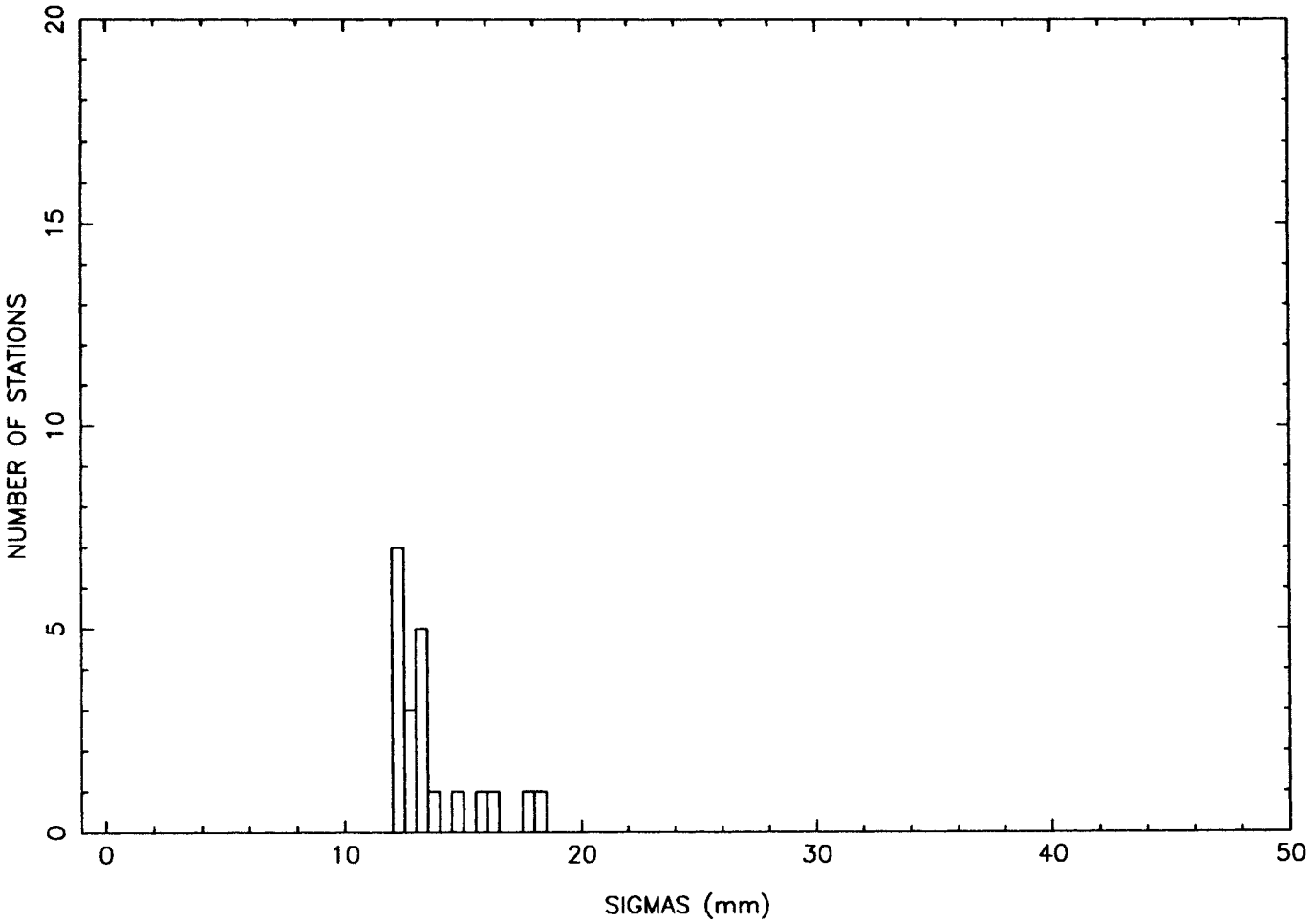
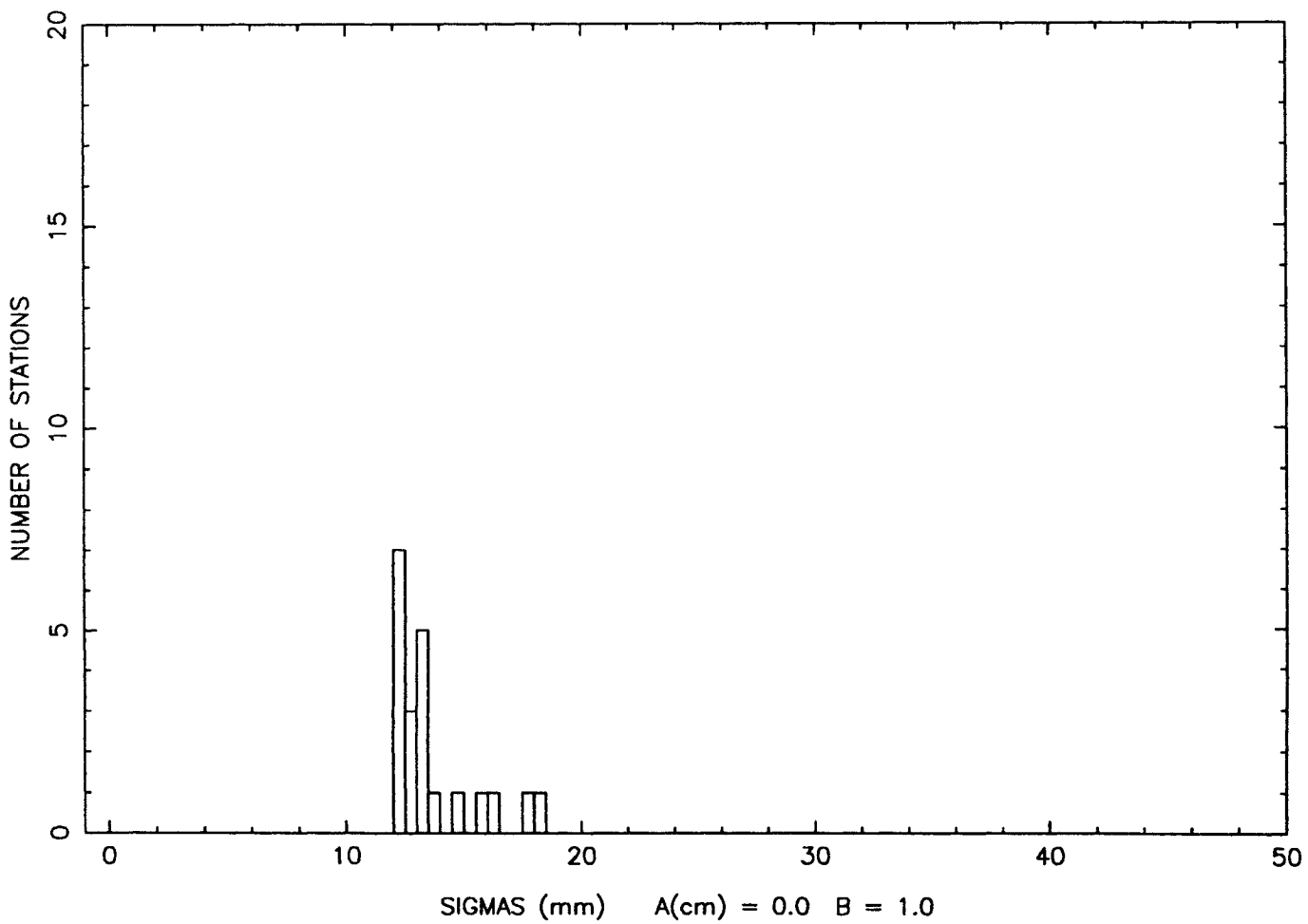


FIGURE 16: SSC(JPL) 91 P 01





2) DATA ANALYSIS

2.1) ITRF91 station coordinates

The ITRF91 station coordinates solution consists of a combined adjustement of station positions and transformation parameters for the epoch 1988.0.

The adjustment were performed using the SSCMIX software developped by IGN. The options used were:

- reduction of individual data sets at a common epoch,

- least square estimation of station coordinates and 7 transformation parameters for each solution,

- local surveys used with a priori variances (see 1.4)

- station coordinates used with a priori variances (see 1.3)

It was decided that:

- origin should come from SLR

- scale should also come from SLR noting that the scales of some VLBI solutions (GSFC, NOAA and NAOMZ) are consistent with SLR,

- orientation should be such that no global rotation should exist with respect to ITRF90.

To ensure that, a first global adjustment of all selected data was done, holding the LC91 transformation parameters fixed to zero. The solution was labelled ITRF91A.

Then ITRF91A was compared to ITRF90 in order to estimate corrections to rotation angles. This comparison has been done incorporating only one point per site. Table 2 gives the transformation parameters between ITRF91A and ITRF90. The global adjustment was finally repeated with LC91 translation and scale put to zero and rotation angles fixed to the values derived from the previous computation.

Table 2

Comparison ITRF91A - ITRF90
one point per site

T1 cm	T2 cm	T3 cm	D 10^{-8}	R1 0.001"	R2 0.001"	R3 0.001"
-0.1 ±0.2	0.4 ±0.2	1.5 ±0.2	-0.02 ±0.03	-0.4 ±0.1	0.4 ±0.1	-0.9 ±0.1

2.2) ITRF91 velocity field

The ITRF91 velocity field has been obtained by combination of several site velocity fields estimated by SLR and VLBI analysis centers. This has been elaborated using an equivalent

method as the combination of SSC to produce the ITRF91 and consistent with it. NUVEL-1 NNR has been selected as a reference motion model and it was included in the global adjustment of the ITRF91 velocity field. The original formal errors given by the analysis centers in their individual solutions have been modified in order to obtain a realistic combined velocity field, while an error of 3 mm has been used for NUVEL-1 NNR velocities. Some NUVEL-1 NNR velocities have been deweighted in the combination (with 10 cm as apriori sigma). This concerns sites whose motion may differ from that given by NUVEL-1 NNR, such as sites in California, Japan and in the Mediterranean area. The same weighting formula (1) as for SSC has been used for velocity fields. The values of A and B attributed to the velocity fields are given in Table 5.

3) RESULTS

3.1) Values

We have adjusted combined coordinates in the ITRF91 solution for epoch 1988.0. They are given in Table T6 under the label SSC(IERS) 92 C 01. They are also published in Table T-3 of the IERS Annual Report for 1991.

The adjusted transformation parameters were published in Table T-2 of the IERS Annual Report for 1991. They are also available in Table T7 of the appendix.

Table T8 gives the rate of change of the translation and rotation parameters. The scale factor is assumed to be invariant with time. These values have to be considered as annual variations to the transformation parameters given in Table T7. So for a given transformation parameter T at an epoch t in years, we have:

$$T(t) = T(1988.0) + \dot{T} \cdot (t - 1988.0) \qquad (2)$$

T and $\dot{T}$ are given in Tables T7 and T8 respectively. When $\dot{T}$ is not given one can assume $\dot{T} = 0$.

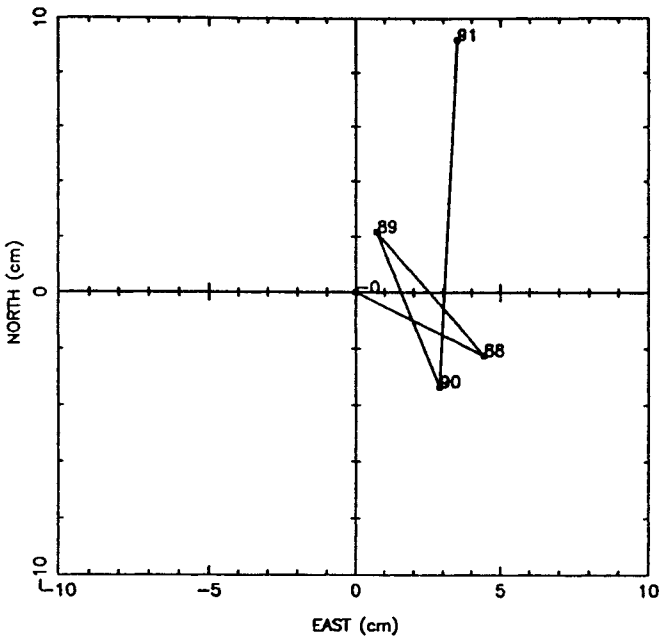
Table T9 lists the ITRF91 combined velocity field. These velocities should be used to refer the ITRF91 coordinates from the 1988.0 epoch to another desired epoch. This Table gives for each site its DOMES number, name, the individual solutions in which its velocities are available, the cartesian velocities and their standard deviations, the plate and a code : CN for Combined Velocities with NUVEL-1 NNR, C for Combined velocities with NUVEL-1 NNR velocities deweighted, and N for NUVEL-1 NNR velocities.

3.2) Analysis of results

The factor of unit variance is 1.5 for both the ITRF91 station coordinates and velocity field combined solutions. Although it is close to 1, the proper weighting in the combined adjustment is a rather critical and delicate problem.

For a sample of 6 stations covering the Earth, Figures 17 to 22 show the evolution of their position in the local frame, from ITRF0 to ITRF91.

FIG. 17 CANBERRA SLR 7943



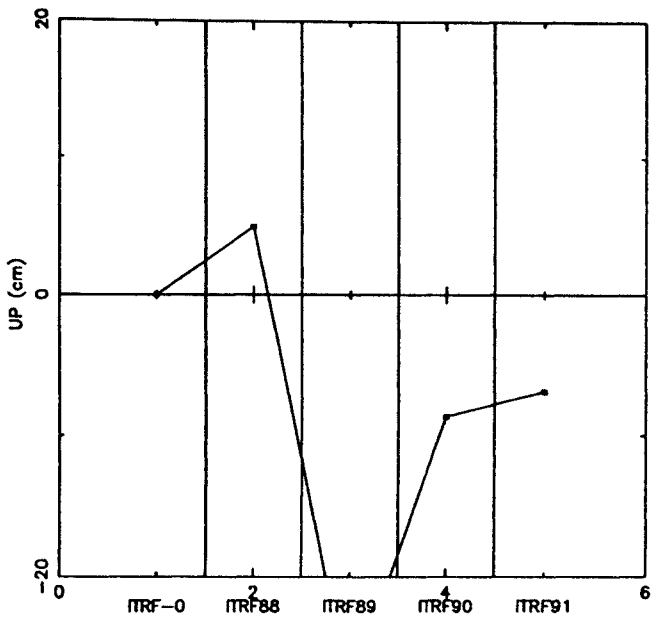
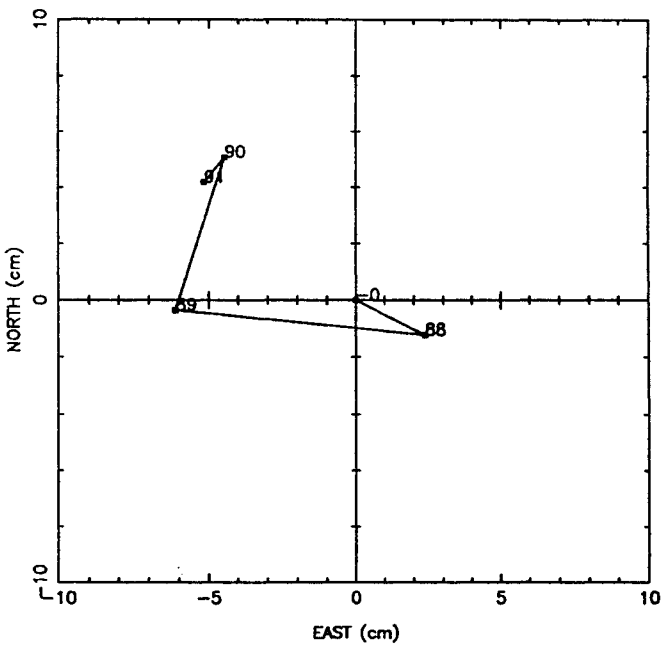


FIG. 18 SIMOSATO SLR 7838



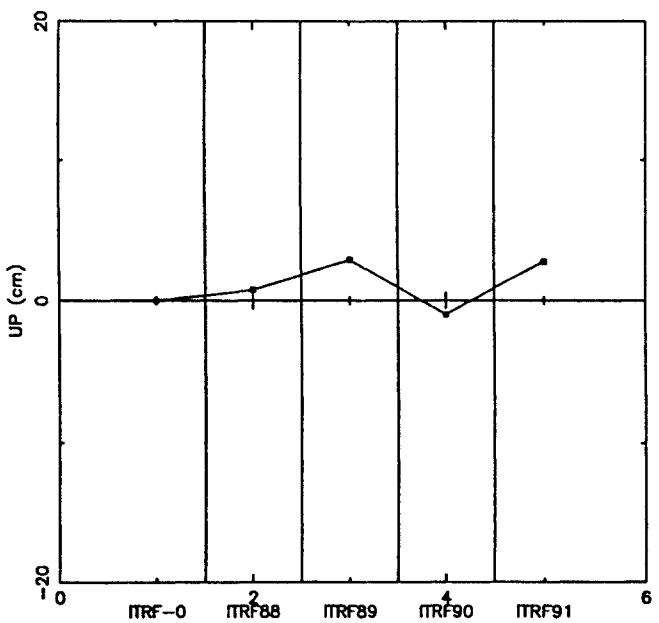
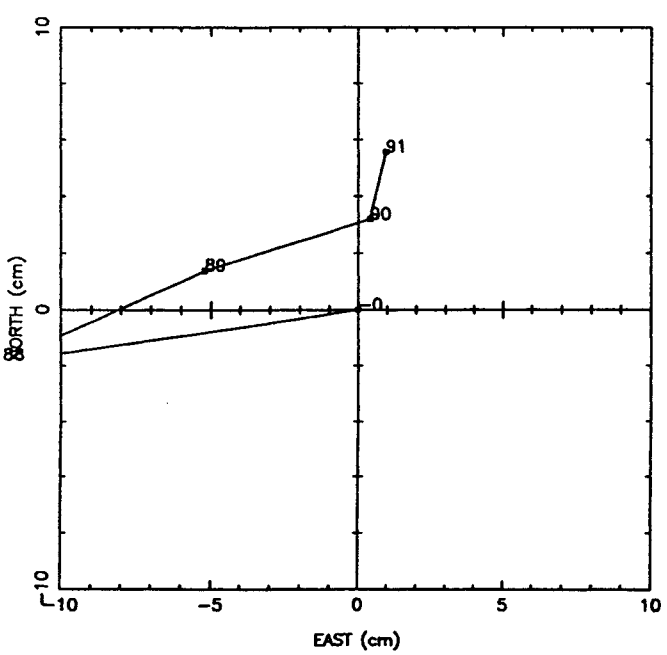


FIG. 19 HARTEBEESTHOEK VLBI 7232



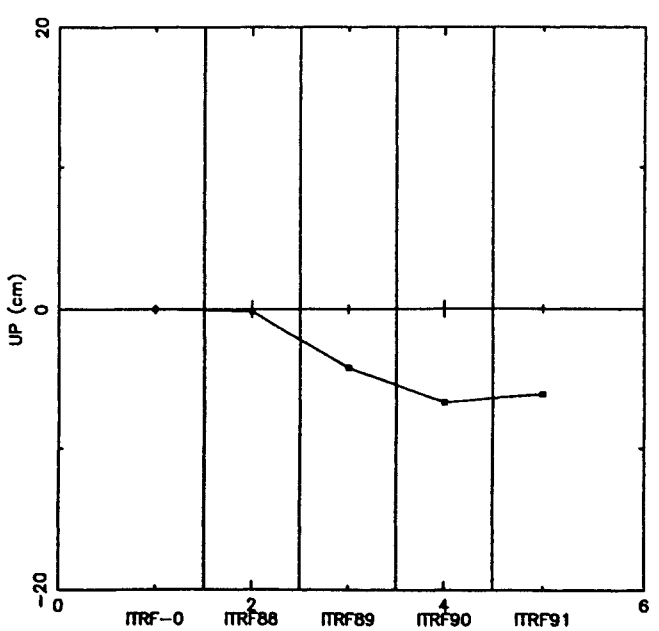
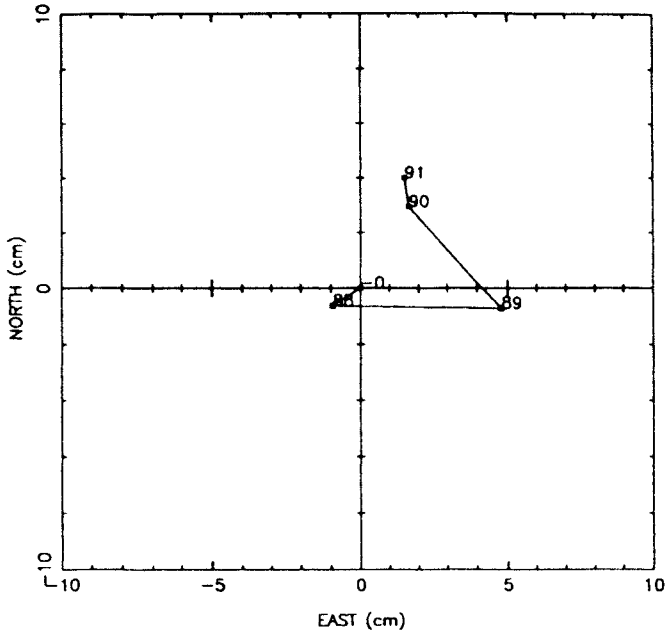


FIG. 20 WETTZELL SLR 7834



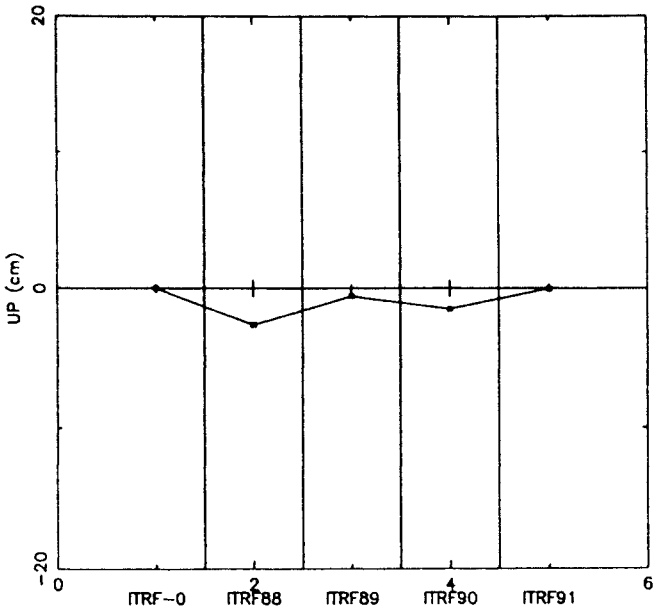
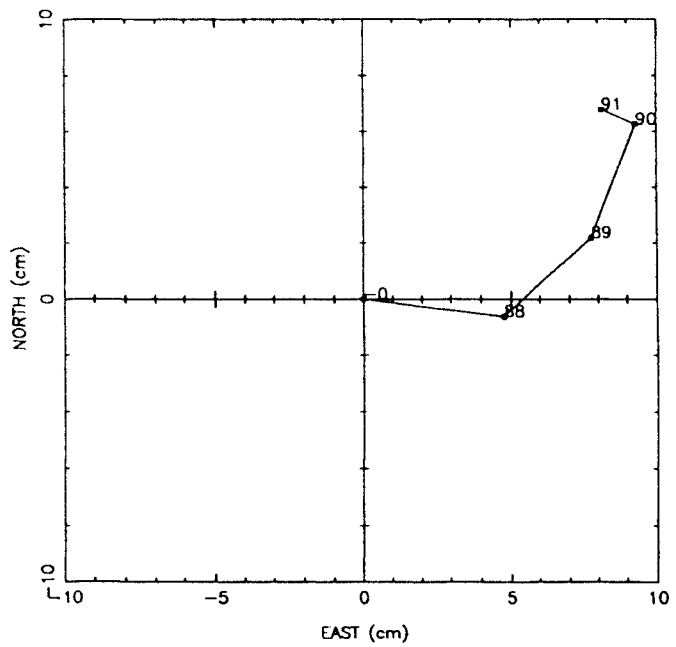


FIG. 21 AREQUIPA SLR 7907



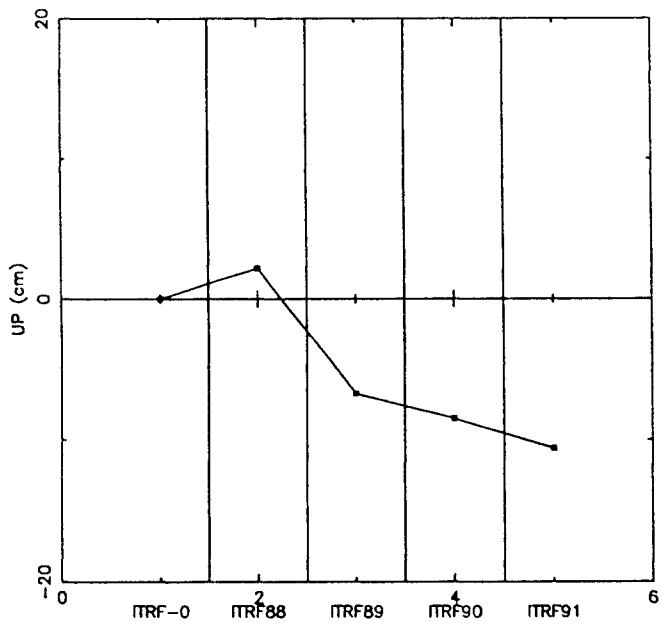
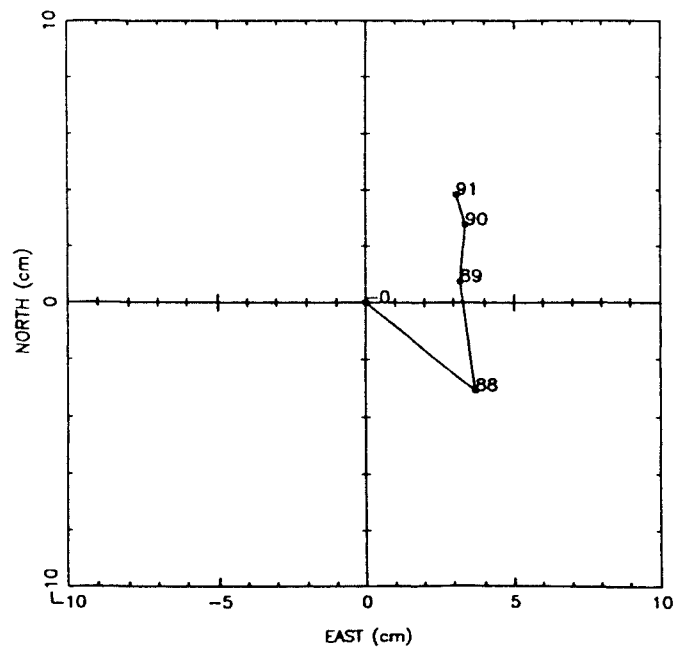
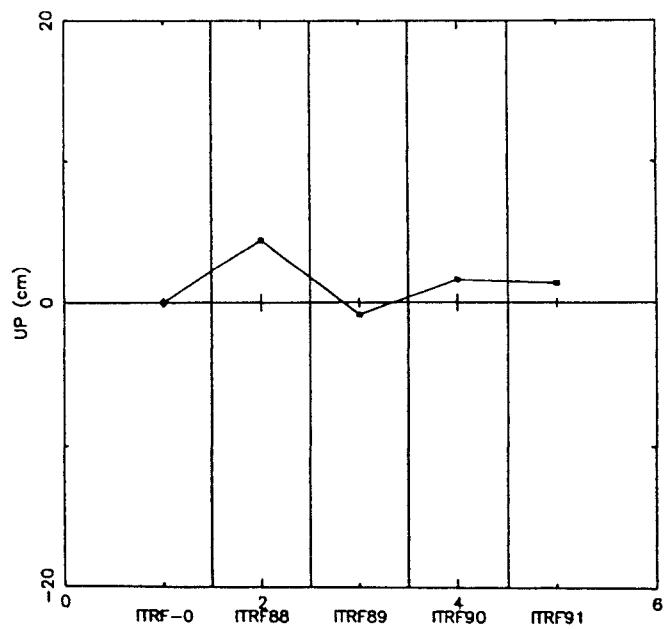


FIG. 22 FORT DAVIS SLR 7086





The quality of the results is also given by examining residuals by groups.

All residuals by site are given in Table T10 of the appendix. This Table gives residuals in meters both in equatorial and local frame, as well as equatorial residuals divided by the a priori standard errors.

At the end of each site, the following RMS means are given:

SX: 3-D RMS mean
NSX: 3-D RMS normalized mean
SP: 2-D RMS mean
SU: vertical RMS mean

with,

$$SX = \sqrt{\frac{\sum_i (RX_i^2 + RY_i^2 + RZ_i^2)}{3N}} \tag{3}$$

$$NSX = f \sqrt{\frac{\sum_i (NX_i^2 + NY_i^2 + NZ_i^2)}{3N}} \tag{4}$$

$$SP = \sqrt{\frac{\sum_i (RE_i^2 + RN_i^2)}{2N}} \tag{5}$$

$$SU = \sqrt{\frac{\sum_i (RU_i^2)}{N}} \tag{6}$$

with N as the number of points in the site and f a scaling factor,

$$f = \frac{1}{\sigma_0} \sqrt{\frac{\text{Number of degree of freedom}}{\text{Number of observation}}} \tag{7}$$

A summary of the quality of the various sites is given in Table 3, where can be found N, NSX, SP and SU in cm, the maximum standard deviation of ITRF91 coordinates for this site, also in cm.

A similar analysis has been done by solution. Table 4 gives the results for the sets of station coordinates and Table 5 for the velocity fileds. Statistics presented in these two tables involve the following parameters:

N	: number of points common to other solutions
SP, SU and NSX	: as defined in page 31
WSX	: weighted 3-D RMS
A and B:	: the two weighting parameters of the formula (1), page 2

In addition, one can analyze transformation parameters as given in Table T7, and also compare ITRF91 to previous solutions, such as ITRF90. This global transformation is obtained taking into account one point per site only. The values are (from ITRF90 to ITRF91) :

T1(cm)	= -0.1	(±0.3)
T2(cm)	= 0.4	(±0.3)
T3(cm)	= 1.6	(±0.2)
D (10^{-8})	= -0.03	(±0.03)
R1(0.001")	= 0.0	(±0.1)
R2(0.001")	= 0.0	(±0.1)
R3(0.001")	= 0.0	(±0.1)

Finally, in order to analyse the ITRF91 combined velocity field, we illustrated in figures given in the appendix, site velocities in the local frame given by the combined solution, NUVEL1-NNR as well as the individual solutions.

Table 3

Summary of the quality of the ITRF91 sites

SITE	N	NSX	SP cm	SU cm	Max(*) cm
GRASSE	14	0.7	1.4	1.6	1.1
TROMSO	8	0.4	2.6	1.2	1.4
TRYSIL	2	0.5	0.7	0.5	2.5
ONSALA	3	0.7	0.2	0.9	1.0
METSAHOVI	5	1.5	32.0	39.3	3.0
GRAZ	6	0.6	0.8	3.4	1.2
BOROWIEC	6	1.7	13.6	7.9	3.0
RIGA	6	1.6	12.9	14.8	16.9
KATZIVELY	10	0.6	5.1	7.1	5.7
DIONYSOS	9	1.6	22.4	45.0	13.0
ASKITES	6	0.3	1.0	0.7	1.4
ROUMELLI	6	0.4	0.9	1.5	1.3
KARITSA	6	1.0	3.7	1.5	1.6
KATAVIA	6	0.5	1.7	1.1	1.4
XRISOKALARIA	6	0.6	1.7	1.2	1.5
LAMPEDUSA	6	0.5	1.2	1.6	1.5
BOLOGNA	12	1.0	6.1	1.1	1.3
NOTO	8	0.9	2.9	1.7	2.1
TRIESTE	6	0.6	3.0	1.6	2.1
CAGLIARI	6	0.3	0.9	0.7	1.5
MATERA	24	0.8	2.4	1.5	2.2
MONTE VENDA	3	0.6	5.2	1.8	4.2
CHILBOLTON	2	0.7	1.2	2.9	2.4
HERSTMONCEUX	7	0.4	0.9	1.2	1.1
MADRID-ROBLEDO	8	0.6	0.9	2.6	3.9
KOOTWIJK	14	0.6	2.5	3.0	3.0
ZIMMERWALD	7	0.5	1.0	1.6	1.2
MONTE GENEROSO	4	0.8	2.7	1.4	2.3
POTSDAM	6	0.9	3.3	4.0	2.2
WETTZELL	25	0.8	2.3	2.2	3.7
EFFELSBERG	2	0.2	0.8	0.2	4.6
BAR GIYYORA	6	0.6	2.8	5.1	2.1
DIYARBAKIR	6	0.6	2.2	1.1	1.6
YOZGAT	6	0.4	1.4	1.6	1.8
MELENGICLICK	6	0.8	2.8	1.8	1.5
YIGILCA	6	0.5	1.6	1.4	1.6
SHANGHAI	11	1.3	2.6	5.5	27.4
KASHIMA	7	1.3	1.1	1.7	1.6
NOBEYAMA	3	0.7	1.8	12.6	2.0
SIMOSATO	7	1.3	2.7	3.9	1.3
CHICHIJIMA	5	1.7	18.9	7.0	7.3
HELWAN	7	2.8	9.0	4.4	1.5
JOHANNESBURG	7	0.9	9.8	1.3	3.3
ALGONQUIN	7	0.5	0.6	0.4	0.9
YELLOWKNIFE	4	0.9	1.2	5.9	2.0
PASADENA	9	1.9	7.2	4.8	1.4
GOLDSTONE	37	1.3	2.9	4.7	3.1
PINYON FLATS	4	0.9	1.4	0.8	1.6
FAIRBANKS	7	0.5	0.5	0.6	1.0
PATRICK AFB	2	0.3	7.7	6.0	29.3

VANDENBERG AFB	6	0.7	4.7	24.0	1.9
KAUAI	7	1.5	0.7	1.7	1.1
QUINCY	21	0.9	5.5	2.4	0.9
MOUNT HOPKINS	6	0.5	5.5	7.7	9.2
SAN DIEGO	12	0.5	2.8	2.3	1.3
BEAR LAKE	9	0.7	3.4	4.7	3.5
OWENS VALLEY	17	0.8	2.1	2.0	1.0
WESTFORD	16	1.6	3.4	4.3	0.8
GREENBANK	6	0.8	0.5	1.0	1.1
FORT DAVIS	39	1.1	3.2	3.0	1.2
MAUI	19	0.9	2.8	1.8	1.1
WASHINGTON	49	0.7	3.9	3.8	1.9
PIETOWN	2	1.3	0.2	1.8	1.0
LOS ALAMOS	2	0.7	0.5	0.7	1.0
HAT CREEK	3	0.4	0.4	0.5	0.9
MARYLAND POINT	4	0.5	0.6	0.6	1.0
FLAGSTAFF	7	1.8	4.8	14.2	2.0
VERNAL	4	0.4	6.2	1.7	3.6
YUMA	5	1.2	7.9	2.5	1.5
PLATTEVILLE	10	0.7	1.1	2.3	1.0
MONUMENT PEAK	17	0.7	1.8	1.5	1.0
RICHMOND	12	0.8	2.8	1.0	0.9
MAZATLAN	7	0.4	1.1	0.8	1.2
CABO SAN LUCAS	6	1.1	1.6	5.5	1.7
ENSENADA	5	1.0	7.2	2.9	2.8
SANTIAGO DE CUBA	5	1.6	14.8	11.5	2.8
NATAL	4	0.6	43.5	8.1	6.4
EASTER ISLAND	6	0.9	3.0	3.0	3.3
SANTIAGO	8	0.7	2.4	4.8	3.6
CERRO TOLOLO	6	1.2	8.8	3.1	1.7
SEST	2	0.6	0.5	2.5	3.0
AREQUIPA	11	0.9	1.7	2.8	1.8
CANBERRA	22	1.3	6.4	5.3	3.2
YARRAGADEE	10	0.8	1.3	2.3	1.4
HOBART	3	1.3	3.5	0.8	2.0
AMERICAN SAMOA	4	3.2	15.0	4.0	2.7
KWAJALEIN ATOLL	8	1.2	4.8	3.6	1.6
HUAHINE	13	1.9	5.5	3.8	1.5

Max : Maximum standard deviation of ITRF91 coordinates

Table 4

Statistics of the ITRF91 combined solution

Solution	N	SP cm	SU cm	WSX cm	NSX	A cm	B
SSC(GSFC) 92 R 03	56	1.9	2.7	0.9	1.00	0.5	1.5
SSC(NOAA) 92 R 01	37	0.9	4.0	0.7	0.70	0.5	1.5
SSC(USNO) 92 R 03	14	1.9	3.6	0.9	1.01	0.5	1.5
SSC(NAOMZ)92 R 01	25	0.8	1.5	0.9	1.17	0.5	1.5
SSC(JPL) 92 R 01	7	0.8	1.5	1.0	0.50	1.0	1.0
SSC(CSR) 92 L 01	99	9.4	10.7	3.0	0.96	1.5	1.0
SSC(GSFC) 92 L 01	88	6.2	8.6	3.4	1.18	1.5	3.0
SSC(DGFII)92 L 01	80	11.8	4.3	4.4	1.35	2.0	3.0
SSC(DUT) 92 L 01	52	4.2	2.4	2.1	1.03	1.5	1.0
SSC(GFZ) 92 L 01	93	6.7	7.5	2.4	0.82	1.5	2.0
SSC(GAOUA)92 L 01	67	4.4	14.5	3.9	1.18	2.5	2.0
SSC(NAL) 92 L 01	28	8.2	7.2	3.3	0.95	1.5	2.0
SSC(UTXMO)92 M 01	5	3.8	2.7	3.1	1.30	1.5	0.2
SSC(JPL) 92 M 01	5	3.6	2.4	3.1	0.82	3.0	0.0
SSC(SHA) 92 M 01	4	7.5	5.7	6.6	1.05	5.0	0.0
SSC(JPL) 91 P 01	14	1.1	1.8	1.4	0.87	0.0	1.0

(*) : A is the additive variance in cm and B is the factor of the formula (1).

Table 5

Statistics of the ITRF91 combined velocity field

Network	N	SP mm /year	SU mm /year	WSX mm /year	NSX	A mm /year	B
Nuvel1-NNR	90	9.5	11.7	4.0	0.92	3 horizontal 10 vertical	0.0
SSC(GSFC) 92 R 03	57	1.4	2.6	1.0	0.60	0.5	1.5
SSC(NOAA) 92 R 01	28	2.5	20.2	1.5	0.85	0.5	1.5
SSC(NAOMZ)92 R 01	9	0.9	2.1	0.9	1.02	0.5	1.5
SSC(CSR) 92 L 01	43	5.3	---	2.7	1.09	1.5	1.0
SSC(GSFC) 92 L 01	22	4.6	---	4.6	1.56	3.0	0.0
SSC(DGFII)92 L 01	45	25.9	---	4.9	1.50	2.0	3.0
SSC(DUT) 92 L 01	40	16.1	10.8	5.9	0.97	1.5	2.0
SSC(GFZ) 92 L 01	40	12.8	10.3	4.6	0.88	1.5	2.0

References

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The labels of the vectors shown in the figures are the following.

CI: referred to the ITRF91 velocity field.
N1: referred to the NUVEL NNR-1 model.
The other labels are those defined p. 110.

The figures are ordered according to their DOMES number.

Table T1

List of IERS sites

DOMES Number	Name	Country	Long. d	Long. m	Lat. d	Lat. m	Plate	(*)
10002	GRASSE	France	6	55	43	45	EURA	PC
10004	BREST	France	355	30	48	24	EURA	S
10302	TROMSO	Norway	18	56	69	40	EURA	SC
10317	NY-ALESUND	Norway	11	56	78	55	EURA	S
10325	HONEFOS	Norway	10	15	60	36	EURA	S
10329	TRYSIL	Norway	12	23	61	25	EURA	S
10402	ONSALA	Sweden	11	55	57	24	EURA	P
10405	MARTSBO	Sweden	17	16	60	36	EURA	S
10503	METSAHOVI	Finland	24	23	60	13	EURA	SC
11001	GRAZ	Austria	15	30	47	04	EURA	P
12205	BOROWIEC	Poland	17	04	52	17	EURA	S
12302	RIGA	URSS	24	04	56	57	EURA	S
12337	SIMEIS-KATZIVELY	URSS	33	58	44	24	EURA	S
12602	DIONYSOS	Greece	23	56	38	05	EURA	S
12612	ASKITES	Greece	25	34	40	56	EURA	S
12613	ROUMELLI	Greece	24	42	35	24	EURA	P
12614	KARITSA	Greece	20	40	39	44	EURA	S
12615	KATAVIA	Greece	27	47	35	57	EURA	S
12616	XRISOKALARIA	Greece	21	53	36	47	EURA	S
12706	LAMPEDUSA	Italy	12	34	35	31	EURA	S
12711	BOLOGNA	Italy	11	21	44	29	EURA	PC
12717	NOTO	Italy	14	59	36	53	EURA	SC
12718	TRIESTE	Italy	13	53	45	39	EURA	P
12725	CAGLIARI	Italy	9	00	39	08	EURA	S
12734	MATERA	Italy	16	37	40	42	EURA	PC
12749	MONTE VENDA	Italy	11	42	45	19	EURA	S
13201	CHILBOLTON	UK	358	37	51	11	EURA	S
13212	HERSTMONCEUX	UK		21	50	52	EURA	P
13296	CARNUTSY	UK	357	13	56	29	EURA	S
13407	MADRID-ROBLEDO	Spain	355	44	40	26	EURA	P
13411	MADRID-FACULTAD	Spain	356	16	40	27	EURA	S
13504	KOOTWIJK	Netherlands	5	49	52	11	EURA	S
13506	WESTERBORK	Netherlands	6	36	52	55	EURA	S
14001	ZIMMERWALD	Switzerland	7	28	46	53	EURA	P
14005	MONTE GENEROSO	Switzerland	9	01	45	56	EURA	S
14106	POTSDAM	GDR	13	04	52	23	EURA	P
14201	WETTZELL	Germany	12	53	49	09	EURA	PC
14202	HOHENBUNSTORF	Germany	10	29	53	03	EURA	S
14209	EFFELSBERG	Germany	6	53	50	32	EURA	S
20702	BAR GIYYORA	Israel	35	05	31	43	AFRC	P
20801	DIYARBAKIR	Turkey	40	12	37	55	EURA	S
20802	YOZGAT	Turkey	34	49	39	48	EURA	S
20803	MELENGICLICK	Turkey	33	11	37	23	EURA	S
20804	YIGILCA	Turkey	31	26	40	56	EURA	S
21602	WUHAN	China	114	20	30	32	EURA	S
21605	SHANGHAI	China	121	26	31	01	EURA	PC
21701	KASHIMA	Japan	140	40	35	57	NOAM	P
21702	MIZUSAWA	Japan	141	12	39	07	NOAM	S
21704	TOKYO	Japan	139	29	35	43	NOAM	S
21709	OKINAWA	Japan	127	43	26	08	EURA	S
21718	MIYAZAKI	Japan	131	29	32	05	EURA	S
21725	NOBEYAMA	Japan	138	28	35	56	NOAM	S
21726	SIMOSATO	Japan	135	56	33	34	EURA	P
21729	USUDA	Japan	138	29	36	12	EURA	S
21730	TSUKUBA	Japan	140	05	36	06	NOAM	S

21731	SHINTOTSUGAWA	Japan	141	51	43	32	NOAM	S
21732	CHICHIJIMA	Japan	142	13	27	06	PHIL	SC
21733	MINAMI TORI SHIMA	Japan	153	59	24	17	PCFC	SC
21735	TSUSHIMA	Japan	129	25	34	24	EURA	S
21736	ISHIGAKI SHIMA	Japan	124	10	24	21	PCFC	S
23902	DAEJEON	Korea	127	23	36	24	EURA	S
24901	BAHREIN (JUFFAR)	Bahrein	50	36	26	13	ARAB	S
30101	HELWAN	Egypt	31	21	29	52	AFRC	S
30302	JOHANNESBURG	S. Africa	27	42	-25	53	AFRC	P
30601	ASCENSION	GB	345	40	-7	57	SOAM	S
30802	DIEGO GARCIA	GB	72	22	-7	15	INDI	S
32809	LIBREVILLE	Gabon	9	24	0	24	AFRC	S
40104	ALGONQUIN	Canada	281	56	45	57	NOAM	S
40105	PENTICTON	Canada	240	23	49	19	NOAM	S
40118	WHITEHORSE	Canada	224	55	60	44	NOAM	S
40127	YELLOWKNIFE	Canada	245	32	62	29	NOAM	S
40129	VICTORIA	Canada	236	31	48	23	NOAM	S
40400	PASADENA	USA	241	50	34	12	PCFC	PC
40403	PALOS VERDES	USA	241	36	33	45	PCFC	P
40404	PEARBLOSSOM	USA	242	05	34	31	PCFC	S
40405	GOLDSTONE	USA	243	06	35	20	NOAM	PC
40406	SAN FRANCISCO	USA	237	33	37	48	NOAM	P
40407	PINYON FLATS	USA	243	33	33	26	PCFC	S
40408	FAIRBANKS	USA	212	29	64	58	NOAM	P
40409	KAENA POINT	USA	201	44	21	35	PCFC	S
40410	POINT REYES	USA	237	04	38	06	PCFC	P
40412	AUSTIN	USA	262	20	30	25	NOAM	S
40416	YAKATAGA	USA	217	31	60	05	NOAM	P
40417	PATRICK AFB	USA	279	24	28	14	NOAM	S
40419	KODIAK	USA	207	30	57	44	NOAM	P
40420	VANDENBERG AFB	USA	239	26	34	35	PCFC	PC
40421	NOME	USA	194	38	64	34	NOAM	S
40423	SANDPOINT	USA	343	31	55	21	NOAM	P
40424	KAUAI	USA	200	20	22	08	PCFC	P
40425	SOURDOUGH	USA	214	31	62	40	NOAM	S
40427	FORT ORD	USA	238	14	36	29	PCFC	P
40428	SANTA PAOLA	USA	241	00	34	12	PCFC	P
40430	BLACK BUTTE	USA	244	17	33	40	NOAM	P
40431	DEADMAN LAKE	USA	243	43	34	15	NOAM	P
40432	ELY	USA	244	55	39	19	NOAM	S
40433	QUINCY	USA	239	04	39	58	NOAM	PC
40434	MOUNT HOPKINS	USA	249	07	31	41	NOAM	S
40436	SAN DIEGO	USA	243	10	32	36	PCFC	S
40437	MAMMOTH LAKES	USA	241	04	37	38	NOAM	S
40438	BEAR LAKE	USA	248	35	41	56	NOAM	S
40439	OWENS VALLEY	USA	241	22	37	14	NOAM	PC
40440	WESTFORD	USA	288	31	42	37	NOAM	PC
40441	GREENBANK	USA	280	10	38	26	NOAM	S
40442	FORT DAVIS	USA	255	59	30	40	NOAM	PC
40445	MAUI	USA	203	44	20	43	PCFC	PC
40449	OCOTILLO	USA	244	12	32	47	PCFC	S
40451	WASHINGTON	USA	282	56	38	55	NOAM	PC
40452	BLOOMINGTON	USA	273	30	39	11	NOAM	S
40453	CARROLLTON	USA	274	53	33	34	NOAM	S
40454	LEONARD	USA	264	12	35	55	NOAM	S
40455	MILES CITY	USA	254	08	46	24	NOAM	S
40456	PIETON	USA	251	53	34	18	NOAM	S
40457	SEATLE	USA	237	45	47	41	NOAM	S
40460	LA JOLLA	USA	242	45	32	52	NOAM	S
40463	LOS ALAMOS	USA	253	45	35	47	NOAM	S
40472	COLORADO SPRINGS	USA	255	07	39	00	NOAM	S
40489	HAT CREEK	USA	238	32	40	49	NOAM	P
40490	MARYLAND POINT	USA	282	46	38	22	NOAM	P

40491	FLAGSTAFF	USA	258	22	35	13	NOAM	PC
40492	VERNAL	USA	250	26	40	20	NOAM	SC
40493	YUMA	USA	245	48	32	56	NOAM	PC
40496	PLATTEVILLE	USA	255	16	40	11	NOAM	PC
40497	MONUMENT PEAK	USA	243	35	32	54	PCFC	PC
40499	RICHMOND	USA	279	37	25	37	NOAM	PC
40504	MAZATLAN	Mexico	253	33	23	14	NOAM	P
40505	CABO SAN LUCAS	Mexico	250	08	22	55	PCFC	S
40506	ENSENADA	Mexico	243	50	31	15	PCFC	S
40701	SANTIAGO DE CUBA	Cuba	284	14	20	01	NOAM	S
41505	BUENOS AIRES	Argentina	301	29	-34	34	SOAM	S
41604	NATAL	Brazil	324	40	-5	56	SOAM	S
41703	EASTER ISLAND	Chile	250	34	-27	11	NAZC	P
41705	SANTIAGO	Chile	289	20	-33	09	SOAM	S
41706	CERRO TOLOLO	Chile	289	12	-30	10	SOAM	S
41709	SEST	Chile	289	16	-29	16	SOAM	S
42001	QUITO	Equador	281	25	-0	37	SOAM	S
42202	AREQUIPA	Peru	288	30	-16	28	SOAM	P
42501	BERMUDA	UK	295	21	32	21	NOAM	SC
43602	GRAND TURK	Bahama Is.	288	42	21	28	SOAM	S
50103	CANBERRA	Australia	148	59	-35	35	AUST	PC
50106	SMITHFIELD	Australia	138	39	-34	41	AUST	S
50107	YARRAGADEE	Australia	115	25	-29	05	AUST	P
50116	HOBART	Australia	147	26	-42	48	AUST	S
50126	TOWNSVILLE	Australia	146	46	-19	17	AUST	S
50208	WELLINGTON	N. Zealand	174	47	-41	17	AUST	S
50503	AMERICAN SAMOA	USA	189	17	-14	20	PCFC	S
50505	KWAJALEIN ATOLL	USA	167	29	9	24	PCFC	SC
92201	PAPEETE	France	210	26	-17	34	PCFC	S
92202	HUAHINE	France	208	58	-16	44	PCFC	P
97101	LE MOULE	France	298	40	16	20	CARB	S
97301	KOUROU	France	307	21	5	07	SOAM	S

(*) P: Primary S: Secondary C: Colocation

Table T2

DIRECTORY OF IERS STATIONS

DOMES Number	Site	CDP Number	DESIGNATION
10002	Grasse		
M001			Mark Caussols 3 (F 2)
M003		7605	Mobile VLBI mark 1989
S001		7835	SLR IAR
S002		7845	LLR IAR
10004	Brest		
M002		7604	Mobile VLBI mark 1989
10302	Tromso		
M001			Trig. point (N 5481)
M002		7602	Mobile VLBI and SLR mark
M003			GPS marker TSS GPSM
M004			Mark TSS III
M005			Mark WMC2
S001			TI4100/L1 20-DEC-87 - 26-OCT-88
S002			TI4100/L1 28-OCT-88 - 07-NOV-88
S003			TI4100/L1 07-NOV-88 - 21-SEP-89
S004			TI4100/L1 21-SEP-89 - 17-JUL-90
S006			TI4100/L1 17-JUL-90 - 22-AUG-90
S007			ROGUE SNR-8/L1 28-MAY-90 - 30-JUN-90
S008			ROGUE SNR-8/L1 01-JUL-90 - 18-JUL-90
S009			ROGUE SNR-8/L1 18-JUL-90 -
10317	Ny-Alesund		
M001			GPS Mark
S001			ROGUE / L1 17-JAN-91
10325	Honefoss		
M001			SK Tower GPS mark
S001			ROGUE / L1 14-JAN-91
10329	Trysil		
M001		7607	VLBI mark
10402	Onsala		
M003			NLS Mark 761331 (S7331)
M004			Mark 301 GPSM
M005			Mark 401
S001		7212	VLBI ref. pt. ONSALA85
S002		7213	VLBI ref. pt. ONSALA60
S011			TI4100/L1 18-DEC-87 -23-JAN-91
S012			ASHTECH/L1 27-JAN-91 -20-MAY-91
S013			ROGUE SNR-8/L1 31-MAY-91
10405	Martsbo		
S005			ASHTECH/L1 22-JAN-91 - 13-FEB-91
10503	Metsahovi		
M001			Mark (SF 348)
M002		7601	Mobile VLBI mark 1989
M003			24 m high bilby tower
S001		7805	SLR IAR
S009			ASHTECH L-XII/L1 ??-MAY-91
S010			ROGUE/L1 ??-???-??

11001	Graz		
M001			Mark (A171)
S002		7839	SLR IAR
12205	Borowiec		
S001		7811	SLR IAR
12302	Riga		
M001		7560	SLR mark
S002		1884	SLR IAR
12337	Simeis - Katzively		
M001		7561	Simeis SLR mark
S003		1873	Simeis fixed SLR IAR
S006		1893	Katzively Crimea fixed SLR IAR
12602	Dionysos		
M001			Central Pillar
M002		7515	Mark SLR Standard WEGENER disk
S001		7940	SLR IAR
12612	Askites		
M001		7510	Mark SLR 7510
12613	Roumelli		
M001		7517	Mark SLR 7517
12614	Karitsa		
M001		7520	Mark SLR 7520
12615	Katavia		
M001		7512	Mark SLR 7512
12616	Xrisokalaria		
M001		7525	Mark SLR 7525
12706	Lampedusa		
M001		7544	Mark SLR 7544
12711	Bologna		
M001			Pillar
M002		7546	Mark SLR 7546
S001		7230	Radiotelescope ref. pt.
12717	Noto		
S001		7547	Radiotelescope ref. pt.
M001		7543	Mark SLR
12718	Trieste		
M001			Mark (I 400130)
M002		7550	Mark SLR 7550
12725	Cagliari		
M001			ILS Mark (I 234165)
M002		7545	Mark SLR 7545
12734	Matera		
M001			Mark (I 201130)
M004		7541	Mark SLR 7541 "C"

M005		7540	Mark SLR 7540 "B"	
M007			Roof GPS Mark	
M008			Pole (CIGNET GPS mark)	
S001		7939	SLR IAR	
S005		7243	Fixed VLBI antenna	
S006			ROGUE/L1	22-JAN-91
S007			ROGUE/L1	??-???-??
12749	Monte Venda			
M001		7542	SLR mark	
13201	Chilbolton			
S002		7215	25m radiotelescope ref. pt.	
S301			Hermitage / GPS DMA TI4100 / L1	
13212	Herstmonceux			
M002			Primary pillar (GB 481)	
M005			Solar pillar	
M007			GPS reference mark	
S001		7840	SLR IAR	
S012			ROGUE SNR-8A/L1 04-SEP-91-	
13296	Carnusty			
M001		7603	Mobile VLBI mark 1989	
13407	Madrid-Robledo			
S001		1563	64m antenna DSS63	
S003		1561	26(34) antenna DSS61	
S010		1565	34m antenna DSS65	
S011			ROGUE/L1	21-MAR-90
S012			ROGUE/Bottom of the choke ring	21-MAR-90
S013			ROGUE/Top of the choke ring	21-MAR-90
13411	Madrid-Facultad			
S001			TRIMBLE 4000SLD/L1 22-JAN-91 - 13-FEB-91	
13504	Kootwijk			
M001			Perm. mark 1980	
M002		8833	Monument MTLRS 1984	
M003			GPS mark 339334-25	
S001		7833	SLR IAR (NL 233)	
S013			ROGUE/L1	20-JAN-91
14001	Zimmerwald			
M001			Mark (CH 99)	
S001		7810	SLR IAR	
14005	Monte Generoso			
M001			Mark (CH 65)	
M002		7590	Mark SLR	
14106	Potsdam			
M001			Pillar tour Helmert	
S001		1181	SLR IAR	
14201	Wettzell			
M001			Astro. Pillar	
M002			Trig. Point (D6843)	
M003		7595	SLR and GPS mark	
M004		7596	SLR mark	
M005		7597	SLR mark	
M006		7598	SLR and GPS (ROGUE) mark	
M007		7599	SLR mark	

M008			Mark 1000 (bottom of the TI4100 antenna 12-NOV-90 - 27-JUL-89)
M009			GPS mark 1200/top of tower
S004		7224	VLBI Ref. Point
S002		7834	SLR IAR
S013			TI4100/L1 12-NOV-87 - 27-JUL-89
S016			MINI MAC/L1 23-MAY-89 -
S017			ROGUE/L1 20-DEC-90
S018		8834	SLR WLRS IAR
S019			ROGUE SNR-8/L1 22-JUL-91-
14202	Hohenbunstorf		
M002		7600	Mobile VLBI mark 1989
14209	Effelsberg		
M001			Control network mark
S001		7203	100m radiotelescope ref. pt.
20702	Bar Giyyora		
M001		7530	SLR mark 7530
S001		7530	MOBLAS-2
20801	Diyarbakir		
M001		7575	Mark SLR
20802	Yozgat		
M001		7585	Mark SLR
20803	Melengiclick		
M001		7580	Mark SLR
20804	Yigilca		
M001		7587	Mark SLR
21602	Wuhan		
S003		7236	Wuhan fixed laser
21605	Shanghai		
M001			Mark connect with bedrock
S001		7837	SLR IAR
S008		7226	VLBI 6m radiotelescope ref. pt.
S009		7227	VLBI 25m antenna ref. pt.
21701	Kashima		
M001			Metal station mark (Denken 1)
S001		1856	26m VLBI antenna
S004		1857	34m VLBI antenna
21702	Mizusawa		
M001		7314	Mobile VLBI marker
S009		7314	Mobile VLBI
21704	Tokyo		
S001		7308	SLR CRLLAS IAR
21709	Okinawa		
S001		7301	SLR IAR HTLRS-1
21718	Miyazaki		
S001		7312	5m mobile VLBI
21725	Nobeyama		
S001		7244	6m VLBI antenna ref. pt.

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21726  Simosato
 M001                              Stone marker
 M002                        7838  SLR mark (center of the ring of the base
                                         pier)
 S001                        7838  SLR IAR fixed

21729  Usuda
 M001                              GPS mark Control RM roof
 S001                        7246  64M VLBI antenna IAR
 S002                              ROGUE/L1                          29-JAN-91
 S003                              ROGUE/Bottom of the choke ring    29-JAN-91
 S004                              ROGUE/Top of the choke ring       29-JAN-91

21730  Tsukuba
 M001                        7311  Mobile VLBI marker
 S001                        7311  5m mobile VLBI
 S002                              MINI MAC2816AT/L1 10-JUL-88 - 17-DEC-91
 S003                              MINI MAC2816AT/L1 18-DEC-91

21731  Shintotsugawa
 M001                        7315  Mobile VLBI marker
 S001                        7315  Mobile VLBI

21732  Chichijima
 S001                        7844  mobile VLBI
 S002                        7844  SLR IAR  HTLRS-1

21733  Minami Tori sima (Marcus)
 S001                        7300  SLR IAR  HTLRS-1
 S002                        7310  mobile VLBI

21735  Tsushima
 S001                        7302  SLR IAR HTLRS-1

21736  Ishigaki-shima
 S001                        7307  SLR IAR HTLRS-1

23602  Tai-Shi
 M001                              GPS mark
 S001                              Mini ROUGE/L1    ??-???-??-

23902  Daejeon
 S001                              TRIMBLE 4000SDT/L1

24901  Bahrein
 S001                              GPS DMA TI4100 / L1

30101  Helwan
 S001                        7831  SLR IAR fixed

30302  Johannesburg / Hartebeesthoek
 M002                              GPS mark below ROGUE antenna
 S001                        7232  26m VLBI antenna ref. pt.
 S014                              ROGUE/L1       15-JAN-91

30602  Ascension
 S003                              GPS OCS monitor station

30802  Diego Garcia
 S002                              GPS OCS monitor station

32809  Libreville
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 M001                          N'Koltang / Borne 1988
 S001                          TRIMBLE SLD/L1 22-JAN-91 - 13-FEB-91

33801  Port Harcourt


40104  Algonquin
 M002                          883160 GPS ARO N. pier
 S001                  7282    46m VLBI antenna ref. pt.
 S003                          ROGUE/L1       16-JAN-91 -

40105  Penticton
 M001                  7283    Mobile VLBI mark 7283
 S002                          TI4100/L1
 S003                          ROGUE SNR-8/L1  ??-???-??-

40118  Whitehorse
 M001                  7284    Mobile VLBI mark 7284

40127  Yellowknife
 M001                  7285    Mobile VLBI mark
 M002                          Mark 869211
 M003                          Mark 889201
 S001                  7296    VLBI antenna IAR
 S003                          TI4100/L1      01-JAN-87 - 02-JUL-89
 S004                          TI4100/L1      07-JUL-89 - 21-JAN-91
 S005                          ROGUE SNR-8/L1 21-JAN-91 - 19-MAR-91
 S006                          Mini ROGUE SNR-8C/L1 20-MAR-91-

40129  Victoria
 M001                  7289    Mobile VLBI mark
 M002                          PGC1 867001
 S001                          ROGUE/L1       16-JAN-91 -

40400  Pasadena
 M001                  7896    Mark SLR (JPL aries 2 1975)
 M003                  7263    Mobile VLBI Mark
 M005                  7264    Mobile VLBI MARK
 M006                  7272    Mobile VLBI mark (JPL MV3 1983)
 S004                          ROGUE/L1       6-NOV-90 -

40403  Palos Verdes
 M001                  7268    Mobile VLBI mark

40404  Pearblossom
 M001                  7254    Mobile VLBI mark (NCMN 1983)
 M002                  7253    Mobile VLBI mark

40405  Goldstone
 M001                  7085    MOBLAS 7085 Goldstone val
 M002                  7115    MOBLAS 7115-1979 standard NASA disk
 M006                  7265    Mojave NCMN 1983 NGS station disk
 M010                  7287    Mojave TLRS 1984 standard NASA disk
 M011                          Mojave NCMN 1 1983
 M013                  7288    Mojave mobile VLBI and TLRS mark
                               (Punchmark on sheared surface of 7287
                                mark)
 S009                  7222    Mojave fixed 12m VLBI ref. point
 S001                  1514    Mars 64m fixed VLBI ref. point (DSS14)
 S014                  1513    Venus 26m fixed VLBI ref. point (DSS13)
 S019                  7231    Mars 34m fixed VLBI ref. ponit (DSS15)
 S020                          TI4100/L1                11-NOV-86 - 18-JUL-8
 S024                          TI4100 FRPA-2/L1/L2            19-JUL-88
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 S025                                MINI MAC 2816AT/L1              05-FEB-89
 S026                                ROGUE/L1                        14-DEC-89
 S028                                ROGUE/Bottom of the choke ring  14-DEC-89
 S029                                MINI MAC 2816AT/Bottom antenna  05-FEB-89
 S030                                ROGUE/Top of the choke ring     14-DEC-89


40406  San Francisco (presidio)
 M001                        7252   Mobile VLBI mark
 M002                        7252   Mobile VLBI mark (PQ)

40407  Pinyon Flats
 M001                        7256   Mobile VLBI mark (NCMN 1981)
 M002                               Pinyon 1
 S001                               ROGUE/L1         6-NOV-90 -

40408  Fairbanks
 M001                               GPS pillar
 S001                               26m antenna ref. pt.
 S002                        7225   26m VLBI ref. point (GILMORE CREEK)
 S003                               ROGUE/L1        17-JAN-91

40409  Kaena Point (HAWAII)
 S001                               GPS OCS monitor station

40410  Point Reyes
 M001                        7251   Mobile VLBI mark

40412  Austin
 M001                        7890   Mark SLR 7890
 M002                               Austin monument
 M003                        7271   Mobile VLBI mark

40416  Yakataga
 M001                        7277   Mobile VLBI mark
 M002                        7277   Mobile VLBI mark (PQ)

40417  Patrick AFB
 M001                        7081   Mark SLR
 M002                        7069   Mark SLR

40419  Kodiak
 M001                        7278   Mobile VLBI mark

40420  Vandenberg
 M001                        7111   DMA disk MOBLAS 7111 (1981)
 M002                        7223   DMA disk VLBI 7223 (1983)
 M003                        7880   DMA disk TLRS 7880 (1983)
 M004                        7887   DMA disk TLRS 7887 (1983)

40421  Nome
 M001                        7279   Mobile VLBI mark

40423  Sandpoint
 M001                        7280   Mobile VLBI mark

40424  Kauai (Kokee Park)
 M004                               VERLOT radar building JPL GPS mark 3028-S
 M005                               CIGNET-GPS survey marker
 S001                        1311   9m VLBI ref. point
 S002                               TI4100/L1              -   -86 -
 S003                               TI4100 FRPA-2/L1       -APR-88 - 02-JUL-90
 S004                               TRIMBLE 4000SST/L1 02-JUL-90 - 17-MAR-92
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 S006                                ROGUE SNR-8/L1     21-NOV-90 -

40425  Sourdough
 M001                        7281   Mobile VLBI mark
 M002                        7281   Mobile VLBI mark (PQ)

40427  Fort Ord
 M001                        7266   Mobile VLBI mark (NCMN 1981)
 M002                        7241   Mobile VLBI mark
 M003                        7241   Mobile VLBI mark (PQ)

40428  Santa Paola
 M001                        7255  Mobile VLBI mark

40430  Black Butte
 M001                        7269  Mobile VLBI mark (NCMN 1982)

40431  Deadman Lake
 M001                        7267  Mobile VLBI mark

40432  Ely
 M001                        7286  Mobile VLBI mark R.M. 2 1954
 M002                        7257  Mobile VLBI mark

40433  Quincy
 M001                        7051   Steel plate MOBLAS 7051
 M002                        7109   MOBLAS 7109 (1981) Standard NASA disk
 M006                        7260   Quincy ARIES 1979
 M005                        7886   TLRS 7886 (1982) standard NASA disk
 M004                        7221   TLRS and VLBI    standard NASA disk

40434  Mount Hopkins
 M002                        7888   Mark SLR
 S001                        7921   SLR IAR (SAO)

40436  San Diego Otay Mountain
 M002                        7062   Mark SLR Circular 5" steel plate
 M003                        7035   Mark SLR 7035 1988

40437  Mammoth Lakes
 M001                        7259   Mobile VLBI mark

40438  Bear Lake
 M001                        7082   Mark SLR (4" x 4" Steel plate)
 M002                        7046   SLR mark

40439  Owens Valley
 M001                        7114   MOBLAS 7114 (1979) standard NASA disk
 M003                        7084   MOBLAS, TLRS 7084  standard NASA disk
 M004                        7853   Mobile VLBI Jul 87 standard NASA disk
 S002                        7207   40m VLBI ref. point

40440  Haystack/Westford
 M001                        7091   MOBLAS Haystack Inter Comp 1977
 M004                               Monument MICRO
 S002                        7205   Haystack / 37m VLBI ref. point
 S003                        7209   Westford / 18m VLBI ref. point
 S014                               TI4100/L1              -OCT-86 - 04-AUG-88
 S016                               TI4100 FRPA-2/L1/L2 05-AUG-88 - 14-FEB-89
 S017                               MINI MAC 2816AT/L1  29-JAN-89 -

40441  Greenbank
 S001                        7204   43m radiotelescope ref. pt.
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S004		7214	85-foot antenna ref. pt.
40442	Fort Davis		
M004			McDonald RM4 1977
M001		7086	MLRS, MOBLAS, TLRS-1 standard NASA disk
M005		7885	MLRS, MOBLAS, TLRS-1 standard NASA disk
M006		7080	MLRS mark 7080 1988
M008		7850	Mobile VLBI and SLR mark 7850 1988
M009		7900	Mobile VLBI mark (Havard RM 5 1977)
M010		7897	Mark SLR
S002		7206	LLR McDonald 2
S001		7086	LLR MLRS
S003		7216	85-foot VLBI ref. point (HRAS 085)
S017		7613	VLBA antenna IAR
40445	Maui		
M001		7210	HOLLAS fixed carriage bolt
M002		7120	MOBLAS 7120 (1980)
S005			LLR Haleakala transmitter
40449	Ocotillo		
M001		7270	Mobile VLBI mark (NCMN 1982)
40451	Washington		
M110			Greenbelt north GEOS(GSFC) GORF
M107		7064	Mobile SLR 7064 standard NASA disk
M108		7065	Mobile SLR 7065 standard NASA disk
M101		7101	MOBLAS 7101-1977 standard NASA disk
M102		7102	Mobile SLR 7102-1978 standard NASA disk
M103		7103	Mobile SLR 7103-1978 standard NASA disk
M104		7104	Mobile SLR 7104-1978 standard NASA disk
M105		7105	MOBLAS -7 7105-1981 standard NASA disk
M106		7100	Mobile SLR 7100-1977 standard NASA disk
M111		7899	TLRS 7899-1980 standars NASA disk
M112		7063	STALAS fixed Laser standard NASA disk
M113		7106	Mark SLR
M114		7125	Mark SLR 7125 1985 standard NASA disk
M115		8213	Mark SLR
M116		7130	Mark SLR 7130 1985 standard NASA disk
M117		7920	Mark SLR 7125-B standard NASA disk
M118		7889	Mark SLR 7889 1981 standard NASA disk
M119		7917	Mark SLR 7917 Steel plate SAO-3
M120		7918	Mark SLR standard NASA disk
M121		7919	Mark SLR standard NASA disk
M122		7083	Mark SLR standard NASA disk
40452	Bloomington		
M001		7291	Mobile VLBI mark
40453	Carrollton		
M001		7228	Mobile VLBI mark
40454	Leonard		
M001		7292	Mobile VLBI mark
40455	Miles City		
M001		7038	Mobile VLBI mark
40456	Pietown		
S001		7234	VLBA antenna
40457	Seattle		

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 M001                      7229   Mobile VLBI mark

40460  La Jolla
 M001                             SCRIPPS 1
 S001                             ROGUE/L1        5-NOV-90 -

40463  Los Alamos
 S001                      7611   VLBA antenna IAR

40489  Hat Creek
 M001                             Mark NCMN B
 S001                      7218   26m VLBI ref. point of radio telescope

40472  Colorado Springs
 S001                             GPS OCS monitor station

40490  Maryland Point
 S001                      7217   (26m) 85-foot radiotelescope

40491  Flagstaff
 M002                      7891   Mark SLR (RMT N 4 1981)
 M003                      7261   Mobile VLBI mark

40492  Vernal
 M001                      7892   Mobile SLR and VLBI mark (NCMN 1981)
 M002                      7290   Mobile SLR and VLBI mark (NCMN 1985)

40493  Yuma
 M001                      7894   Mobile SLR and VLBI mark

40496  Platteville
 M002                      7258   NCMN 1981 mobile VLBI NGS station disk
 M001                      7112   Moblas 7112-1980 standard NASA disk

40497  Monument Peak
 M001                      7110   ORT station 7110-1981 standard NASA disk
 M002                      7220   ARIES ORION STA 7220-1981
 M003                      7274   NCMN 1983 mobile VLBI NGS disk

40499  Richmond
 M001                             Timer 1962
 M002                      7295   Mark SLR
 S001                      7219   65 foot VLBI antenna
 S009                             TI4100 FRPA-2/L1/L2 09-FEB-88 - 24-FEB-89
 S011                             MINI MAC 2816AT/L1  05-FEB-89 -

40504  Mazatlan
 M001                      7122   MOBLAS 7122-1983 standard NASA disk

40505  Cabo San Lucas
 M001                      7882   Mark SLR 7882 1983

40506  Ensenada
 M001                      7883   SLR mark 7883

40701  Santiago de Cuba
 S001                      1953   SLR IAR

41505  Buenos Aires
 S006                             GPS DMA TI4100 / L1

41602 Fortaleza
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41604  Natal
 S001                      7929   SLR IAR

41703  Easter Island
 M001                      7061   TLRS-2 7061-1983 NASA-GSFC station disk
 M002                      7097   TLRS-2 7097-1986 NASA brass disk

41705  Santiago
 M001                      7400   Mark SLR
 M002                             Mark GPS
 S004                             ROGUE/L1       15-JAN-91 -
 S006                      1404   12m VLBI antenna IAR

41706  Cerro Tololo
 M001                      7401   Mark SLR

41709  Sest
 S001                      7239   VLBI antenna

42003  Quito
 S001                             GPS DMA TI4100 / L1

42202  Arequipa
 M002                             Satellite mark 1961
 M003                      7403   Mark SLR
 S001                      7907   SAO-2 fixed laser

42501  Bermuda
 M001                      7067   Mark SLR
 M002                      7294   Mobile VLBI mark

43602  Grand Turk
 M001                             Mark SKI 1952
 M002                      7068   Mark SLR

50103  Canberra-Tidbinbilla-Orroral
 M103                             Stromlo PZT4
 M106                      7843   Orroral center ground mark 7843
 S003                      7943   SAO-3 fixed laser
 S007                      7843   NLRS (coude mirror 7)
 S001                      1543   DSS43 Antenna
 S005                      1542   DSS42 Antenna
 S006                      1544   DSS44 Antenna
 S010                      1545   DSS45 Antenna
 S012                             Canberra/ROGUE SNR-8/L1 20-MAR-90-03-FEB-92
 S013                             Orroral/TRIMBLE SST /L1
 S014                             Canberra/ROGUE SNR-8/L1 03-FEB-92-10-MAY-92
 S015                             Canberra/ROGUE SNR-8/L1 11-MAY-92-
 S016                             Orroral/ASHTECH/L1      15-MAY-92-
 S017                             Canberra/ROGUE SNR-8/Bottom of the choke ring
                                                  11-MAY-92-
 S018                             Orroral/ASHTECH/Bottom antenna 15-MAY-92-
 S019                             Canberra/ROGUE SNR-8/Top of the choke ring
                                                  20-MAR-90-03-FEB-92


50106  Smithfield
 S005                             GPS DMA TI4100 / L1

50107  Yarragadee
 M001                      7090   MOBLAS 7090 brass disk
 M004                             Mark RM-4
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 S005                                ROGUE/L1       15-DEC-90 -

50116  Hobart
 M001                                West pillar
 M002                                North pillar
 S002                         7242   VLBI antenna ref. pt.
 S003                                MINIMAC 2816AT/L1  21-JAN-90 -

50126  Townsville
 M001                                Pillar on the office building roof
 S002                                TRIMBLE 4000SST/L1  25-JUL-90 -

50208  Wellington
 M001                                Pillar on the DOSLI building roof
 S001                                TRIMBLE 4000SST/L1  15-FEB-90 -

50503  American Samoa
 M001                         7096   Mark SLR

50505  Kwajalein Atoll
 M001                         7092   Mark SLR
 S003                         4968   Tardex 26m antenna ref. pt.
 S004                                GPS OCS monitor station

66001 Mc Murdo
S001                                 ROGUE SNR-8/L1

92201  Papeete (Pamatai)
 M002                                IGN Pole 1984
 S003                                ASHTECH/L1     22-JAN-91 - 13-FEB-91-
 S004                                ROGUE SNR-8/L1 ??-DEC-92 -

92202  Huahine  (Motu Hiumoo)
 M001                                Tube Huahine no. 5
 M002                         7121   MOBLAS-1 7121-1982 standard NASA disk
 M003                         7123   TLRS-2 7123  CSR reference
 M004                         7123   TLRS-2 7123  standard NASA disk
 M005                                Mark RM-1
 S008                                ASHTECH/L1     22-JAN-91 - 13-FEB-91

97101  Le Moule (Guadeloupe)
 M001                                RBGM / Borne
 S001                                ASHTECH/L1     22-JAN-91 - 13-FEB-91

97301  Kourou
 M201                                Pillar Diane I (84)
 S001                                ASHTECH/L1     22-JAN-91 - 13-FEB-91
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Table T3

Occupancies of IERS sites

Colocation

DOMES Number	Site	1	2	CDP Number	Years of occupancy
40104	Algonquin				
S001		R	P	7282	84-
M002		P	T		91
40412	Austin				
M001		L	T	7890	80,81
M003		R	T	7271	87
42501	Bermuda				
M001		L	T	7067	75-76,78
M002		R	T	7294	87
12711	Bologna/Medicina				
S001		R	P	7230	87-
M002		L	T	7546	88
50103	Canberra-Orroral-Tidbinbilla				
S005		R	P	1542	
S001		R	P	1543	78
S006		R	P	1544	
S010		R	P	1545	88-
M106/S007		L	P	7843	85-
S003		L	P	7943	76-82
S019		P	T		91
21732	Chichijima				
S001		R	T	7844	87,88,89
S002		L	T	7844	88
40408	Fairbanks				
S002		R	P	7225	84-
M001		P	T		91
40491	Flagstaff				
M003		R	T	7261	84,85,86,87,88,89,90
M002		L	T	7891	81
40442	Fort Davis-McDonald				
S003		R	P	7216	80-
M008		R	T	7850	88
M009		R	T	7900	88
S014		M	P	7080	88-
S001		M	P	7086	82,85,86,87,88
S002		M	P	7206	69-85
M006/S014		L	P	7080	88-
M001/S001/S016		L	P	7086	79,80,82,85,86,87,88
M005		L	T	7885	82

40405	Goldstone-Mojave				
S003		R	P	1512	
S014		R	P	1513	79-
S001		R	P	1514	78-
S019		R	P	7231	88-
S009		R	P	7222	83-
M013		R	T	7288	88
M001		L	T	7085	78
M002		L	T	7115	79-81
M006		L	T	7265	84
M013		L	T	7288	88,89,90,91
S030		P	T		91
10002	Grasse				
M003		R	T	7605	89
S002		M	P	7845	79-
S001		L	P	7835	79-
40440	Haystack-Westford				
S002		R	P	7205	76-
S003		R	P	7209	81-
M001		L	T	7091	78,79,80,88,90
30302	Johannesburg				
S001		R	P	7232	87-
M002		P	T		91
50505	Kwajalein Attol				
S003		R	P	4968	84,85,86,88
M001		L	T	7092	79-80
13407	Madrid				
S003		R	P	1561	83-
S005		R	P	1562	
S001		R	P	1563	79
S010		R	P	1565	88-
S013		P	T		91
12734	Matera				
S001		L	P	7939	83-
M004		L	T	7541	86
M005		L	T	7540	86
S005		R	P	7243	90-
M007		P	T		91
40445/40424	Maui/Kokee Park				
/S001		R	P	1311	84-
M002		R	T	7120	88
S005		M	P	7210	76-
M002		L	T	7120	80,81
M001		L	P	7210	79-
/M004		P	T		91
10503	Metsahovi				
M002		R	T	7601	89
S001		L	P	7805	78-

21733 Minami Tori Sima (Marcus)

S001	L	T	7300	89
S002	R	T	7310	90

40497/40436 Monument Peak/San Diego-Otay Mountain

M002	R	T	7220	81,82,83
M003	R	T	7274	84,85,86,87
M001	L	P	7110	81-
M002	L	T	7220	83-85
M003	L	T	7274	85
/M003	L	T	7035	88
/M002	L	T	7062	76,77,78,79,81,83,84

12717 Noto

S001	R	P	7547	89-
M001	L	T	7543	90

40439 Owens Valley

S002	R	P	7207	76-
M004	R	T	7853	87
M003	L	T	7084	78
M001	L	T	7114	79,80,81,82

40400 Pasadena

M003	R	T	7263	80,81,82,83,84,85,86,87,88
M005	R	T	7264	80,81,82,83,84
M006	R	T	7272	83
M001	L	T	7896	80
M006	P	T		91

40407 Pinyon Flats

M001	R	T	7256	81,83,84,85,86,87,88
M002	P	T		91

40496 Platteville

M002	R	T	7258	83,84,85,86,87,88,89
M001	L	T	7112	81-84,88,90,91

40433 Quincy

M004	R	T	7221	82,83,84,85,86,87,88,89
M006	R	T	7260	79
M001	L	T	7051	76,79,81
M002	L	P	7109	81-
M005	L	T	7886	83,84

40499 Richmond

S001	R	P	7219	83-
M002	L	T	7295	88,91

41705 Santiago

M001	L	T	7400	84
M002	P	T		91

21605 Shanghai

S008	R	P	7226	86-
S009	R	P	7227	88-

S001	L	P	7837	83-
10302 Tromso				
M002	R	T	7602	89
M002	L	T	7602	90
M003	P	T		91
21729 Usuda				
S001	R	P	7246	91
M001	P	T		91
40420 Vandenberg				
M001	R	T	7111	81,83
M002/S003	R	P	7223	83-
M001	L	T	7111	82
M004	L	T	7887	83
40492 Vernal				
M002	R	T	7290	86,87,88,89
M001	L	T	7892	81,82
40129 Victoria				
M001	R	P	7289	90
M002	P	T		91
40451/40490 Washington/Maryland Point				
/S001	R	P	7217	82-
M102	R	T	7102	89,90,91
M112	L	P	7063	76-81
M107	L	T	7064	77
M108	L	T	7065	77
M106	L	T	7100	77,78
M101	L	T	7101	78,79,82
M102	L	P	7102	78-89
M103	L	T	7103	79,82
M104	L	T	7104	79
M105	L	P	7105	81-
M114	L	T	7125	85,87
M116	L	T	7130	85-87
M119	L	T	7917	84-85
M120	L	T	7918	85,86,87,88,90,91
M121	L	T	7919	85-87
M117	L	T	7920	85-89
M118	L	T	7889	82-85
M111	L	T	7899	80
14201 Wettzell				
S004	R	P	7224	83-
S002	L	P	7834	78-
M003	L	T	7595	
M004/S010	L	T	7596	85
M005	L	T	7597	85
M006	L	T	7598	
M007	L	T	7599	84
M006	P	T	7598	91
50107 Yarragadee				
M001	L	P	7090	79-

M004		P	T		91
40127	Yellowknife				
M001		R	T	7285	84,85
S001		R	T	7296	91
M003		P	T		91
40493	Yuma				
M002		R	T	7273	81
M001		R	T	7894	83,84,85,86,87,88
M001		L	T	7894	83

Multiple SLR

42202	Arequipa				
M003		L	T	7403	90,91
S001		L	P	7907	76-
40438	Bear Lake				
M001		L	T	7082	76,79
M002		L	T	7046	90,91
12602	Dionysos				
S001		L	P	7940	84-
M002		L	T	7515	86,87,89,90
41703	Easter island				
M001		L	T	7061	83,84
M002		L	T	7097	87,88,89,90,91
92202	Huahine				
M002		L	T	7121	83-86
M003		L	T	7123	87-
13504	Kootwijk				
S001		L	P	7833	79-84
M002		L	T	8833	84,85,88,89,90
M003		P	T		91
40434	Mount Hopkins				
S001		L	P	7921	76-79,82
M001		L	T	7880	82
40417	Patrick AFB				
M001		L	T	7081	76
M002		L	P	7069	76-80
12302	Riga				
S002		L	P	1884	76-
M001		L	T	7560	91
12337	Simeis - Katzively				
S003		L	P	1873	76-
S006		L	P	1893	76-
M001		L	T	7561	91

Single SLR

50503 M001	American Samoa	L	T	7096	79-80
12612 M001	Askites	L	T	7510	86,87,89
20702 M001	Bar Giyyora	L	P	7530	85-
12205 S001	Borowiec	L	P	7811	76-83,88-
40505 M001	Cabo San Lucas	L	T	7882	84,88,92
12725 M002	Cagliari	L	T	7545	85,88,90
41706 M001	Cerro Tololo	L	T	7401	84,90,91
20801 M001	Diyarbakir	L	T	7575	87,89
40506 M001	Ensenada	L	T	7883	89,91,92
11001 S002	Graz	L	P	7839	83-
30101 S001	Helwan	L	P	7831	84-
13212 S001	Herstmonceux	L	T	7840	83-
21736 S001	Ishigaki-shima	L	T	7307	88
12614 M001	Karitsa	L	T	7520	86,89
12615 M001	Katavia	L	T	7512	86,87,89
12706 M001	Lampedusa	L	T	7544	87,89
40504 M001	Mazatlan	L	P	7122	83-
20803 M001	Melengiclick	L	T	7580	87,89
12749 M001	Monte Venda	L	T	7542	91

41604	Natal				
S001		L	P	7929	76-81
21709	Okinawa				
S001		L	T	7301	89
14106	Potsdam				
S001		L	P	1181	74-
12613	Roumelli				
M001		L	T	7517	86,87,89
40701	Santiago de Cuba				
S001		L	P	1953	76-
21726	Simosato				
S001		L	P	7838	82-
21704	Tokyo				
S001		L	P	7308	90-
12718	Trieste				
M002		L	T	7550	86,89
21735	Tsushima				
S001		L	T	7302	89
21602	Wuhan				
S003		L	P	7236	88-
12616	Xrisokalaria				
M001		L	T	7525	86,87,89,90
20804	Yigilca				
M001		L	T	7587	87,89
20802	Yozgat				
M001		L	T	7585	87,89
14001	Zimmerwald				
S001		L	P	7810	84-

Multiple VLBI

40432	Ely				
M001		R	T	7286	85,86,87,88,89
M002		R	T	7257	83,84
40427	Fort Ord				
M001		R	T	7266	81,83,84,85,87,88
M002		R	T	7241	88,89
40441	Greenbank				
S001		R	P	7204	76-82
S004		R	P	7214	89-

21701	Kashima				
S001		R	P	1856	84-
S004		R	P	1857	90-
40404	Pearblossom				
M001		R	T	7254	83,84,85,87,88
M002		R	T	7253	76,77,81,83

Single VLBI

40430	Black Butte				
M001		R	T	7269	83,84,85,86,87,88
40452	Bloomington				
M001		R	T	7291	87
10004	Brest				
M002		R	T	7604	89
13296	Carnusty				
M001		R	T	7603	89
40453	Carrollton				
M001		R	T	7228	87
13201	Chilbolton				
S002		R	P	7215	80
40431	Deadman Lake				
M001		R	T	7267	83,84,85,87,88
14209	Effelsberg				
S001		R	P	7203	79-83
40489	Hat Creek				
S001		R	P	7218	83-
50116	Hobart				
S002		R	P	7242	89-
14202	Hohenbunstorf				
M002		R	T	7600	89
40419	Kodiak				
M001		R	T	7278	84,85,86,87,88
40454	Leonard				
M001		R	T	7292	87
40463	Los Alamos				
S001		R	P	7611	91
40437	Mammoth Lakes				
M001		R	T	7259	83,84,86

40455	Miles City				
M001		R	T	7038	88
21718	Miyazaki				
S001		R	T	7312	90
21702	Mizusawa				
S009		R	T	7314	91
21725	Nobeyama				
S001		R	P	7244	89-
40421	Nome				
M001		R	T	7279	84,85,86
40449	Ocotillo				
M001		R	T	7270	83,84,85
10402	Onsala				
S002		R	P	7213	77-
40403	Palos Verdes				
M001		R	T	7268	80,81,83,85,87,88,89
40105	Penticton				
M001		R	T	7283	84,85
40456	Pietown				
M001		R	T	7234	89
40410	Point Reyes				
M001		R	T	7251	81,83,84,85,87,88
40423	Sandpoint				
M001		R	T	7280	84,85,86,87,88
40406	San Francisco (Presidio)				
M001		R	T	7252	81,83,84,85,87,88
40428	Santa Paola				
M001		R	T	7255	81,83,84,85,87,88,89
40457	Seattle				
M001		R	T	7229	87,88
21731	Shintotsugawa				
S001		R	T	7315	90
40425	Sourdough				
M001		R	T	7281	84,85,86,87,88
21730	Tsukuba				
S001		R	T	7311	87
10329	Trysil				
M001		R	T	7607	91
40118	Whitehorse				

M001	R	T	7284	84,85,86,88
40416 Yakataga				
M001	R	T	7277	84,85,86,87,88

Single GPS

10325 Honnefoss				
M001	P	T		91
10317 Ny-Alesund				
M001	P	T		91
40460 La Jolla				
M001	P	T		91

Table T4

Summary of available solutions for IERS sites

```
R :  1 SSC(NOAA) 92 R 01, estimation/AM0-2 1988
     2 SSC(GSFC) 92 R 03, estimation/NUVEL1 NNR 1979-1992 GLB833
     3 SSC(USNO) 92 R 01, NUVEL1 NNR, 17/10/1980
     4 SSC(JPL)  92 R 01, AM0-2,1988
     5 SSC(NAOMZ)92 R 01, estimation/AM0-2, 1988

M :  1 SSC(JPL)  92 M 01, AM0-2 1991
     2 SSC(UTXMO)92 M 01, AM0-2 1984
     2 SSC(SHA)  92 M 01, AM0-2 1988

L :  1 SSC(CSR)  92 L 01, estimation/NUVEL1 NNR 1988
     2 SSC(GSFC) 92 L 01, estimation/NUVEL1 NNR 1986 07 01
     3 SSC(GAOUA)92 L 01, AM0-2 1988
     4 SSC(GFZ)  92 L 01, estimation/NUVEL1 NNR 1988
     5 SSC(DGFII)92 L 01, estimation/AM0-2 1988
     6 SSC(DUT)  92 L 01, estimation /NUVEL1 NNR1988
     7 SSC(NAL)  92 L 01, AM0-2 1988

P :  1 SSC(JPL)  91 P 01, 1991.1
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SITE	DOMES NUMBER	CDP NUM.	R 12345	M 123	L 1234567	P 1
Algonquin	40104					
	S001	7282	R123 5			
	M002					P1
American Samoa	50503					
	M001	7096			L12 45	
Arequipa	42202					
	S001	7907			L1234567	
	M003	7403			L1 34	
Askites	12612					
	M001	7510			L123456	
Austin	40412					
	M001	7890			L 2 5	

	M003 7271 R 2		
Bar Giyyora	20702		
	M001 7530	L123456	
Bear Lake	40438		
	M001 7082	L12 45	
	M002 7046	L1 34 6	
Bermuda	42501		
	M001 7067	L12	
	M002 7294 R 2		
Black Butte	40430		
	M001 7269 R 2		
Bloomington	40452		
	M001 7291 R 2		
Bologna-Medicina	12711		
	S001 7230 R123 5		
	M002 7546	L123456	
Borowiec	12205		
	S001 7811	L12345 7	
Brest	10004		
	M002 7604 R 2		
Cabo San Lucas	40505		
	M001 7882	L123456	
Cagliari	12725		
	M002 7545	L123456	
Canberra-Orroral -Tidbinbilla	50103		
	S005 1542 R 4		
	S001 1543 R 4		
	S006 1544 R		
	S010 1545 R12 4		
	S007 7843	L1234567	
	S003 7943	L12 45	
	S019		P1
Carnusty	13296		

	M001 7603 R 2		
Carrollton	40453		
	M001 7228 R 2		
Cerro Tololo	41706		
	M001 7401	L12345	
Chichijima	21732		
	S001 7844 R 2		
	S002 7844	L 2 4	
Chilbolton	13201		
	S002 7215 R12		
Deadman Lake	40431		
	M001 7267 R 2		
Dionysos	12602		
	M002 7515	L123456	
	S001 7940	L1	
Diyarbakir	20802		
	M001 7575	L123456	
Easter Island	41703		
	M001 7061	L 2 45	
	M002 7097	L123456	
Effelsberg	14209		
	S001 7203 R12		
Ely	40432		
	M001 7286 R 2		
	M002 7257 R 2		
Ensenada	40506		
	M001 7883	L123456	
Fairbanks	40408		
	S002 7225 R123 5		
	M001		P1
Flagstaff	40491		
	M003 7261 R 2		
	M002 7891	L12 45	

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Fort Davis          40442
-McDonald
                     S003 7216 R12  5
                     M006 7080        M123   L1234567
                     M001 7086        M123   L1234567
                     S002 7206        M12
                     M005 7885               L12 45
                     M009 7900 R 2
                     M008 7850 R 2
                     S017 7613 R 2

Fort Ord            40427
                     M001 7266 R 2
                     M002 7241 R 2

Goldstone-Mojave    40405
                     S003 1512 R   4
                     S014 1513 R12 4
                     S001 1514 R   4
                     S019 7231 R 2 4
                     S009 7222 R12  5
                     M013 7288 R 2           L123456
                     M001 7085               L1
                     M002 7115               L12 45
                     M006 7265               L12345
                     S030                                  P1

Grasse              10002
                     S002 7845        M123
                     S001 7835               L1234567
                     M003 7605 R 2

Graz                11001
                     S002 7839               L1234567

Greenbank           40441
                     S001 7204 R12
                     S004 7214 R 23 5

Hat Creek           40489
                     S001 7218 R12  5

Haystack-Westford   40440
                     S002 7205 R12  5
                     S003 7209 R123 5
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                  M001 7091                L123456

Helwan            30101
                  S001 7831                L1234567

Herstmonceux      13212
                  S001 7840                L1234567

Hobart            50116
                  S002 7242 R12  5

Hohenbunstorf     14202
                  M002 7600 R 2

Honefoss          10325
                  M001                                    P1

Huahine           92202
                  M002 7121                L1234567
                  M002 7123                L123456

Ishigaki shima    21736
                  S001 7307                L 2

Johannesburg      30302
                  S001 7232 R123 5
                  M002                                    P1

Karitsa           12614
                  M001 7520                L123456

Kashima           21701
                  S001 1856 R12  5
                  S004 1857 R123 5

Katavia           12615
                  M001 7512                L123456

Kauai             40424
                  S001 1311 R123 5
                  M004                                    P1

Kodiak            40419
                  M001 7278 R 2

Kootwijk          13504
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	M002	8833			L123456	
	S001	7833			L1234 7	
	M003					P1
Kwajalein Atoll	50505					
	S003	4968	R12 5			
	M001	7092			L12 45	
La Jolla	40460					
	M001					P1
Lampedusa	12706					
	M001	7544			L123456	
Leonard	40454					
	M001	7292	R 2			
Los Alamos	40463					
	S001	7611	R12			
Madrid	13407					
	S001	1563	R 4			
	S003	1561	R 2 4			
	S010	1565	R12 4			
	S013					P1
Mammoth Lakes	40437					
	M001	7259	R 2			
Maryland Point	40490					
	S001	7217	R123 5			
Matera	12734					
	M004	7541			L12345	
	M005	7540			L12345	
	S001	7939			L1234567	
	S005	7243	R 23 5			
	M007					P1
Maui/ Kokee Park	40445/40424					
	/S001	1311	R123 5			
	M002	7120	R 2		L12 45	
	M001	7210		M123	L1234567	
Mazatlan	40504					

	M001	7122	L1234567
Melengiclick	20803		
	M001	7580	L123456
Metsahovi	10503		
	S001	7805	L1234 7
	M002	7601 R 2	
Minami Tori sima	21733		
	S001	7300	L
	S002	7310 R 2	
Miyazaki	21718		
	S001	7312 R 2	
Mizusawa	21702		
	S009	7314 R 2	
Miles City	40455		
	M001	7038 R 2	
Monte Generoso	14005		
	M002	7590	L2345
Monte Venda	12749		
	M001	7542	L 234
Monument	40497/40436		
Peak/San Diego-	M002	7220 R	L12 45
Otay Mountain	M003	7274 R 2	L1
	M001	7110	L1234567
	/M003	7035	L123456
	/M002	7062	L12 45
Mount Hopkins	40434		
	M002	7888	L12 45
	S001	7921	L12
Natal	41604		
	S001	7929	L12 45
Nobeyama	21725		
	S001	7244 R12 5	
Nome	40421		

	M001 7279 R 2		
Noto	12717		
	S001 7547 R123 5		
	M001 7543	L12 4 6	
Ny-Alesund	10317		
	M001		P1
Ocotillo	40449		
	M001 7270 R 2		
Onsala	10402		
	S002 7213 R12 5		
Owens Valley	40439		
	S002 7207 R12 5		
	M004 7853 R 2	L123456	
	M003 7084	L1	
	M001 7114	L12 45	
Palos Verdes	40403		
	M001 7268 R 2		
Pasadena	40400		
	M003 7263 R 2		
	M005 7264 R		
	M006 7272 R		P1
	M001 7896	L12 45	
Patrick AFB	40417		
	M002 7069	L12 5	
Pearblossom	40404		
	M001 7254 R 2		
	M002 7253 R 2		
Penticton	40105		
	M001 7283 R 2		
Pietown	40456		
	S001 7234 R12		
Pinyon Flats	40407		
	M001 7256 R 2		
	M002		P1

Platteville	40496		
	M002 7258 R12		
	M001 7112	L1234567	
Point Reyes	40410		
	M001 7251 R 2		
Potsdam	14106		
	S001 1181	L12345 7	
Quincy	40433		
	M004 7221 R 2		
	M006 7260 R		
	M001 7051	L12	
	M002 7109	L1234567	
	M005 7886	L123 5	
Richmond	40499		
	S001 7219 R123 5		
	M002 7295	L123456	
Riga	12302		
	S002 1884	L12345 7	
	M001 7560	L1	
Roumelli	12613		
	M001 7517	L123456	
Sandpoint	40423		
	M001 7280 R 2		
San Fransisco	40406		
	M001 7252 R 2		
Santa Paola	40428		
	M001 7255 R 2		
Santiago	41705		
	M001 7400	L12345	
	S006 1404 R123		
	M002		P1
Santiago de Cuba	40701		
	S001 1953	L12345 7	

Seattle	40457				
	M001	7229	R 2		
Sest	41709				
	S001	7239	R12		
Shanghai	21605				
	S008	7226	R 2		
	S009	7227	R12	5	
	S001	7837		L1234567	
Shintotsugawa	21731				
	S001	7315	R 2		
Simeis-Katzively	12337				
	S003	1873		L1 345 7	
	S006	1893		L1 345 7	
	M001	7561		L1	
Simosato	21726				
	M002	7838		L1234567	
Sourdough	40425				
	M001	7281	R 2		
Tokyo	21704				
	S002	7308		L1	
Trieste	12718				
	M002	7550		L123456	
Tromso	10302				
	M002	7602	R 2	L12 456	
	M003				P1
Trysil	10328				
	M001	7607	R12		
Tsukuba	21730				
	S001	7311	R 2		
Usuda	21729				
	S001	7246	R 2		
	S004				P1
Vandenberg	40420				

	M001 7111 R		
	M002 7223 R12 5		
	M004 7887	L 2	
Vernal	40492		
	M002 7290 R 2		
	M001 7892	L12 45	
Victoria	40129		
	M001 7289 R 2		
	M002		P1
Washington /Maryland Point	40451/40490		
	/S001 7217 R123 5		
	M112 7063	L12 45	
	M107 7064	L1 5	
	M108 7065	L1	
	M106 7100	L1	
	M101 7101	L1	
	M102 7102 R 2	L12 45	
	M103 7103	L12 45	
	M104 7104	L1	
	M105 7105	L1234567	
	M114 7125	L12 45	
	M116 7130	L1	
	M119 7917	L	
	M120 7918	L1234 6	
	M121 7919	L1	
	M117 7920	L1234 6	
	M118 7889	L	
	M111 7899	L12 45	
Wettzell	14201		
	S004 7224 R123 5		
	S002 7834	L1234567	
	M004 7596	L1 45	
	M005 7597	L1	
	M007 7599	L1	
	S018 8834	L1 34 7	
	M006 7598	L	P1
Whitehorse	40118		
	M001 7284 R 2		
Wuhan	21602		

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                S003 7236              L1

Xrisokalaria    12616
                M001 7525              L123456

Yakataga        40416
                M001 7277 R 2

Yaragadee       50107
                M001 7090              L1234567
                M004                                P1

Yellowknife     40127
                M001 7285 R 2
                S001 7296 R 2
                M003                                P1

Yigilca         20804
                M001 7587              L123456

Yozgat          20802
                M001 7585              L123456

Yuma            40493
                M002 7273 R
                M001 7894 R 2          L12 45

Zimmerwald      14001
                S001 7810              L1234567
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Table T5

Local eccentricities for IERS colocation sites

40104 Algonquin						
A	S001	M002	94.763	61.017	6.666	Ref: (14)
			0.003	0.003	0.003	
12711 Bologna						
A	M002	S001	-29.5309	29.9040	48.5558	Ref: (1),(2)
			.0005	.0011	.0049	
50103 Canberra-Orroral-Tidbinbilla						
A	S007	S003	-1071.832	-993.102	1255.304	Ref: (7)
			0.100	0.100	0.100	
		S010	-14458.347	4638.683	21870.028	Ref: (7)
			0.027	0.027	0.027	
-B	S005	S001	86.428	-51.970	-166.511	Ref: (11)
			0.010	0.005	0.010	
-B	S010	S001	40.658	-404.152	-367.185	Ref: (11)
			0.010	0.010	0.010	
21732 Chichijima						
A	S001	S002	-1716.283	-1462.147	-539.508	Ref: (12)
			0.040	0.040	0.040	
40408 Fairbanks						
A	S002	M001	-74.149	49.271	-31.235	Ref: (5)
			0.100	0.100	0.100	
40491 Flagstaff						
A	M002	M003	-15.9330	17.2130	14.3670	Ref: (2)
			.0010	.0030	.0030	
40442 Fort Davis						
A	M001	M005	0.000	0.000	0.000	Ref: (3)
			0.003	0.003	0.003	
		S001	4.356	-5.631	-3.556	Ref: (3)
			0.003	0.003	0.003	
		S002	-655.977	-228.944	-452.568	Ref: (3)
			0.003	0.003	0.003	

		S003	5914.3973	-3496.5099	-4031.8616	Ref: (2)
			.0035	.0120	.0069	
		M008	117.2017	135.0619	352.4838	Ref: (6)
			0.003	0.003	0.003	
B	S003	M006	-5810.0685	3621.2944	4362.4228	Ref: (2)
			.0026	.0100	.0059	
		M009	-16.9714	-39.9062	-95.3390	Ref: (6)
			0.003	0.003	0.003	

40405 Goldstone

A	S009	M013	-323.1130	148.2132	-43.9926	Ref: (2)
			.0070	.0129	.0097	
		M006	-304.746	137.590	-45.871	Ref: (3)
			0.003	0.003	0.003	
B	M001	S019	-144.572	-119.976	-229.148	Ref: (2)
			0.003	0.003	0.003	
		S009	-2776.813	-5226.260	-8428.647	Ref: (3)
			0.003	0.003	0.003	
		M002	2532.555	-14016.623	-15901.406	Ref: (3)
			0.003	0.003	0.003	
C	M002	S014	-267.5030	69.1790	-40.9430	Ref: (2)
			.0020	.0030	.0020	
D	M013	S030	2879.994	5222.210	8549.901	Ref: (17)
			0.011	0.011	0.011	

10002 Grasse

A	S001	S002	0.578	36.473	-4.438	Ref: (3)
			0.003	0.003	0.003	
		M003	6.015	-33.735	-8.102	Ref: (5)
			0.003	0.003	0.003	

30302 Hartebeesthoek

	S001	M002	-817.371	2103.044	203.124	Ref: (5)
			0.100	0.100	0.100	

40440 Haystack

A	M001	S002	-48.8650	12.2640	65.8060	Ref: (2),(3)
			.0010	.0020	.0020	
		S003	-247.0020	-851.7200	-800.4280	Ref: (2),(3)
			.0030	.0040	.0040	

13504 Kootwijk

A	M002	M003	-12.461	-37.503	23.024	Ref: (14)
			0.003	0.003	0.003	

50505 Kwajalein Atoll

A	M001	S003	-89.234	-702.977	544.240	Ref: (3),(4)
			0.003	0.003	0.003	

13407 Madrid

A	S010	S013	-134.193	159.660	164.320	Ref: (17)
			0.003	0.003	0.003	

12734 Matera

A	S001	S005	-26.115	-67.068	63.174	Ref: (18)
			0.003	0.003	0.003	
		M007	-14.128	-13.229	18.027	Ref (17)
			0.003	0.003	0.003	

40445/40424 Maui/Kokee Park

A	M001	S005	-.483	-.212	1.003	Ref: (3)
			0.003	0.003	0.003	
		M002	8.014	19.409	40.927	Ref: (3)
			0.003	0.003	0.003	
B	/S001	M001	77839.523	-349863.790	-145626.288	Ref: (1)
			.014	.006	.006	
		/M004	7.9413	-23.6167	-4.4070	Ref: (14),(15)
			0.003	0.003	0.003	
C	S005	S002	3.408	1.499	9.075	REF: (10)
			0.003	0.003	0.003	

10503 Metsahovi

A	S001	M002	-1942.700	-1512.472	1347.868	Ref: (9)
			0.003	0.003	0.003	

40497/40436 Monument Peak/ San Diego-Otay Mountain

A	M001	M002	-14.269	6.872	-.596	Ref: (3)
			0.003	0.003	0.003	
		M003	-11.3947	7.8021	2.5225	Ref: (2)
			.0040	.0020	.0010	
B	/M003	M003	42537.2846	-2592.2578	27616.9206	Ref: (2)
			.0061	.0180	.0170	
		/M002	0.7557	3.8313	5.6376	Ref: (6)
			0.003	0.003	0.003	

40439 Owens Valley

A	M004	M003	-169.108	55.235	-41.459	Ref: (3)

			0.003	0.003	0.003	
		M001	-1.223	-2.261	-3.617	Ref: (3)
			0.003	0.003	0.003	
		S002	820.4891	-549.1188	-87.1157	Ref: (2)
			.0052	.0085	.0085	
40400 Pasadena						
A	M001	M003	-94.0640	31.9450	-55.1210	Ref: (2)
			.0030	.0020	.0020	
		M006	-92.077	13.882	-77.173	Ref: (14)
			0.003	0.003	0.003	
40407 Pinyon						
	M001	M002	125.588	117.655	279.910	Ref: (14)
			0.003	0.003	0.003	
40496 Platteville						
A	M001	M002	-29.8944	9.0355	1.0253	Ref: (2)
			.0005	.0007	.0005	
40433 Quincy						
A	M002	M001	341.574	-288.820	-158.155	Ref: (3)
			0.003	0.003	0.003	
		M004	3.8898	-38.9866	-38.4094	Ref: (8)
			.0019	.0012	.0013	
		M005	-7.611	5.308	0.615	Ref: (3)
			0.003	0.003	0.003	
		M006	250.894	-256.753	-178.597	Ref: (3)
			0.003	0.003	0.003	
40499 Richmond						
A	M002	S001	-60.8770	0.9310	44.2120	Ref:(2),(4)
			.0030	.0020	.0020	
21605 Shanghai						
A	S001	S009	-598.875	-469.603	154.995	Ref: (2)
			.010	.010	.010	
10302 Tromso						
A	M002	M003	36.287	-33.115	-9.219	Ref: (15)
			0.003	0.003	0.003	
40420 Vandenberg						
A	M004	M002	-9226.714	5291.788	-1274.701	Ref: (6)

			0.011	0.011	0.011	
40451 Washington						
A	M105	M112	-4.947	-17.162	-19.125	Ref: (3)
			0.003	0.003	0.003	
		M107	-30.463	8.595	16.961	Ref: (3)
			0.003	0.003	0.003	
		M106	635.813	182.229	25.164	Ref: (3)
			0.003	0.003	0.003	
		M101	520.577	170.825	41.961	Ref: (3)
			0.003	0.003	0.003	
		M102	-33.112	-2.452	4.398	Ref: (3)
			0.003	0.003	0.003	
		M103	-34.066	1.868	9.839	Ref: (3)
			0.003	0.003	0.003	
		M104	376.110	153.626	64.228	Ref: (3)
			0.003	0.003	0.003	
		M111	645.036	181.778	22.412	Ref: (3)
			0.003	0.003	0.003	
14201 Wettzell						
A	S002	S004	10.003	-46.149	11.072	Ref: (3),(4)
			0.003	0.003	0.003	
		M004	52.559	55.916	-58.337	Ref: (13)
			0.003	0.003	0.003	
		M005	72.017	45.135	-70.501	Ref: (13)
			0.003	0.003	0.003	
		M006	49.388	25.831	-47.292	Ref: (19)
			0.003	0.003	0.003	
40127 Yellowknife						
A	M001	M003	-327.848	314.599	82.882	Ref: (16)
			0.003	0.003	0.003	
50103 Yarragadee						
A	M001	M004	-18.605	-12.471	-5.835	Ref (17)
			0.003	0.003	0.003	

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(8) Comparaison of VLBI and SLR geocentric site coordinates, J.R. Ray, J.W. Ryan, C. Ma, T.A. Clark, B.E. Schutz, R.J. Eanes, M.M. Watkins, B.D. Tapley, 29 March 1990.

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Table T6

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STATION COORDINATES IN THE ITRF91 FOR EPOCH 1988.0

DOMES NUMBER	NAME	CDP NUM.	NETWORK (*)	X m	Y m	Z m	SX m	SY m	SZ m	PLATE
10002M003	GRASSE	VLBI 7605	1	4581697.803	556125.630	4389351.303	0.010	0.009	0.011	EURA
10002S001	GRASSE	SLR 7835	6 7 8 9 10 11 12	4581691.789	556159.368	4389359.402	0.010	0.009	0.011	EURA
10002S002	GRASSE	LLR 7845	13 14 15	4581692.366	556195.840	4389354.964	0.011	0.010	0.011	EURA
10004M002	BREST	VLBI 7604	1	4228877.230	-333104.313	4747180.893	0.021	0.011	0.025	EURA
10302M002	TROMSO	VLBI 7602	1 6 7 9 10	2102904.242	721602.435	5958201.271	0.012	0.010	0.014	EURA
10302M003	TROMSO	GPS	16	2102940.529	721569.320	5958192.052	0.012	0.011	0.014	EURA
10317M001	NY-ALESUND	GPS	16	1202431.472	252626.728	6237770.879	0.021	0.022	0.019	EURA
10325M001	HONEFOSS	GPS	16	3132539.094	566401.706	5508609.829	0.020	0.023	0.022	EURA
10329M001	TRYSIL	VLBI 7607	1 2	2988029.302	655956.999	5578668.991	0.016	0.010	0.025	EURA
10402S002	ONSALA	VLBI 7213	1 2 4	3370606.195	711917.383	5349830.652	0.009	0.008	0.010	EURA
10503M002	METSAHOVI	VLBI 7601	1	2890652.911	1310295.231	5513958.620	0.019	0.014	0.029	EURA
10503S001	METSAHOVI	SLR 7805	6 10	2892595.611	1311807.703	5512610.752	0.020	0.015	0.030	EURA
11001S002	GRAZ	SLR 7839	6 7 9 10 11 12	4194426.704	1162693.884	4647246.546	0.012	0.012	0.012	EURA
12205S001	BOROWIEC	SLR 7811	6 7 8 10 11 12	3738332.895	1148246.355	5021815.630	0.030	0.026	0.018	EURA
12302M001	RIGA	SLR 7560	6	3183914.359	1421473.427	5322796.718	0.112	0.068	0.169	EURA
12302S002	RIGA	SLR 1884	6 7 8 10 11 12	3183896.084	1421496.873	5322803.438	0.029	0.028	0.024	EURA
12337M001	SIMEIS	SLR 7561	6	3783746.685	2551362.560	4441445.066	0.048	0.040	0.057	EURA
12337S003	SIMEIS	SLR 1873	6 8 10 11 12	3783902.669	2551404.978	4441257.611	0.036	0.033	0.028	EURA
12337S006	KATZIVELY	SLR 1893	6 8 10 11 12	3785944.926	2550780.531	4439461.458	0.041	0.036	0.029	EURA
12602M002	DIONYSOS	SLR 7515	6 7 8 9 10 11	4595216.444	2039435.331	3912629.525	0.014	0.013	0.013	EURA
12602S001	DIONYSOS	SLR 7940	6 7 11	4595218.153	2039464.660	3912614.046	0.130	0.115	0.103	EURA
12612M001	ASKITES	SLR 7510	6 7 8 9 10 11	4353444.910	2082666.296	4156506.673	0.014	0.013	0.013	EURA
12613M001	ROUMELLI	SLR 7517	6 7 8 9 10 11	4728694.688	2174373.384	3674572.979	0.014	0.013	0.013	EURA
12614M001	KARITSA	SLR 7520	6 7 8 9 10 11	4596042.633	1733476.786	4055720.876	0.016	0.015	0.014	EURA
12615M001	KATAVIA	SLR 7512	6 7 8 9 10 11	4573400.059	2409322.229	3723881.780	0.014	0.014	0.014	EURA
12616M001	XRISOKALAR	SLR 7525	6 7 8 9 10 11	4745949.560	1905705.941	3799169.067	0.015	0.014	0.014	EURA
12706M001	LAMPEDUSA	SLR 7544	6 7 8 9 10 11	5072832.016	1130886.239	3684836.985	0.015	0.015	0.014	EURA
12711M002	BOLOGNA	SLR 7546	6 7 8 9 10 11	4461399.709	919566.782	4449510.533	0.010	0.009	0.013	EURA
12711S001	BOLOGNA	VLBI 7230	1 2 3 4	4461370.178	919596.685	4449559.090	0.010	0.009	0.012	EURA
12717M001	NOTO	SLR 7543	6 7 9 10	4934529.054	1321133.200	3806522.622	0.021	0.020	0.018	EURA
12717S001	NOTO	VLBI 7547	1 2 3 4	4934563.293	1321201.139	3806484.342	0.012	0.010	0.013	EURA
12718M002	TRIESTE	SLR 7550	6 7 8 9 10 11	4336738.600	1071271.486	4537911.068	0.021	0.021	0.019	EURA
12725M002	CAGLIARI	SLR 7545	6 7 8 9 10 11	4893398.107	772673.310	4004140.990	0.015	0.015	0.014	EURA

12734M004	MATERA	SLR	7541	6	7	8	10	11			4641990.316	1393042.312	4133231.881	0.018	0.017	0.016	EURA
12734M005	MATERA	SLR	7540	6	8	10	11				4641984.587	1393057.743	4133233.499	0.022	0.020	0.018	EURA
12734M007	MATERA	GPS		16							4641950.949	1393056.717	4133280.264	0.010	0.009	0.010	EURA
12734S001	MATERA	SLR	7939	6	7	8	9	10	11	12	4641965.079	1393069.946	4133262.238	0.009	0.008	0.010	EURA
12734S005	MATERA	VLBI	7243	1	2	3	4				4641938.966	1393002.881	4133325.411	0.009	0.008	0.010	EURA
12749M001	MONTE VEND	SLR	7542	6	10	11					4399363.630	910506.485	4512940.877	0.041	0.035	0.042	EURA
13201S002	CHILBOLTON	VLBI	7215	1	2						4008310.205	-100650.884	4943794.685	0.018	0.012	0.024	EURA
13212S001	HERSTMONCE	SLR	7840	6	7	8	9	10	11	12	4033463.844	23662.335	4924305.057	0.011	0.011	0.011	EURA
13296M002	CARNUSTY	VLBI	7603	1							3526416.501	-171421.222	5294098.762	0.025	0.014	0.033	EURA
13407S001	MADRID	VLBI	1563	5							4849092.722	-360180.661	4115109.026	0.030	0.031	0.039	EURA
13407S003	MADRID	VLBI	1561	1	5						4849245.296	-360278.274	4114884.372	0.031	0.021	0.038	EURA
13407S010	MADRID	VLBI	1565	1	2	5					4849336.798	-360488.940	4114748.697	0.011	0.010	0.013	EURA
13407S013	MADRID	GPS		16							4849202.607	-360329.280	4114913.018	0.011	0.010	0.014	EURA
13504M002	KOOTWIJK	SLR	8833	6	7	8	9	10	11		3899237.877	396769.186	5015055.245	0.013	0.014	0.013	EURA
13504M003	KOOTWIJK	GPS		16							3899225.417	396731.683	5015078.270	0.013	0.014	0.013	EURA
13504S001	KOOTWIJK	SLR	7833	6	7	10	11	12			3899224.240	396742.920	5015073.931	0.030	0.026	0.018	EURA
14001S001	ZIMMERWALD	SLR	7810	6	7	8	9	10	11	12	4331283.637	567549.569	4633139.964	0.012	0.012	0.012	EURA
14005M002	MONTE GENE	SLR	7590	7	8	10	11				4390309.920	696752.021	4560835.908	0.022	0.023	0.017	EURA
14106S001	POTSDAM	SLR	1181	6	7	8	10	11	12		3800621.306	882005.328	5028859.503	0.022	0.020	0.017	EURA
14201M004	WETTZELL	SLR	7596	6	8	10					4075582.626	931837.199	4801559.877	0.009	0.009	0.010	EURA
14201M005	WETTZELL	SLR	7597	6							4075602.084	931826.419	4801547.712	0.009	0.009	0.010	EURA
14201M006	WETTZELL	GPS	7598	16							4075579.454	931807.114	4801570.920	0.009	0.009	0.010	EURA
14201M007	WETTZELL	SLR	7599	6							4075515.019	931753.440	4801630.965	0.232	0.096	0.309	EURA
14201S002	WETTZELL	SLR	7834	6	7	8	9	10	11	12	4075530.067	931781.283	4801618.213	0.008	0.008	0.009	EURA
14201S004	WETTZELL	VLBI	7224	1	2	3	4				4075540.070	931735.138	4801629.284	0.008	0.008	0.009	EURA
14201S018	WETTZELL	SLR	8834	6	10	11	12				4075577.052	931785.330	4801583.487	0.037	0.034	0.037	EURA
14202M002	HOHENBUNST	VLBI	7600	1							3778215.017	698644.653	5074053.513	0.015	0.011	0.020	EURA
14209S001	EFFELSBERG	VLBI	7203	1	2						4033947.628	486990.372	4900430.728	0.031	0.020	0.046	EURA
20702M001	BAR GIYYOR	SLR	7530	6	7	8	9	10	11		4443967.337	3121945.429	3334694.409	0.021	0.021	0.021	AFRC
20801M001	DIYARBAKIR	SLR	7575	6	7	8	9	10	11		3848635.995	3251760.920	3898909.261	0.016	0.016	0.016	EURA
20802M001	YOZGAT	SLR	7585	6	7	8	9	10	11		4029730.676	2802093.296	4062068.027	0.017	0.018	0.016	EURA
20803M001	MELENGICLI	SLR	7580	6	7	8	9	10	11		4247620.510	2778638.960	3851607.537	0.015	0.015	0.015	EURA
20804M001	YIGILCA	SLR	7587	6	7	8	9	10	11		4117362.012	2517076.835	4157679.076	0.016	0.015	0.015	EURA
21602S003	WUHAN	SLR	7236	6							-2266555.530	5009079.463	3222266.186	0.076	0.126	0.101	EURA
21605S001	SHANGHAI	SLR	7837	6	7	9	10	11	12		-2831087.765	4676203.421	3275172.855	0.016	0.015	0.017	EURA
21605S008	SHANGHAI	VLBI	7226	1							-2847698.152	4659872.909	3283958.895	0.274	0.238	0.215	EURA
21605S009	SHANGHAI	VLBI	7227	1	2	4					-2831686.630	4675733.806	3275327.817	0.012	0.012	0.016	EURA
21701S001	KASHIMA	VLBI	1856	1	2	4					-3997892.253	3276581.270	3724118.353	0.011	0.010	0.016	NOAM
21701S004	KASHIMA	VLBI	1857	1	2	3	4				-3997649.201	3276690.761	3724278.947	0.011	0.011	0.016	NOAM
21702S009	MIZUSAWA	VLBI	7314	1							-3862411.840	3105015.067	4001944.982	0.177	0.049	0.075	NOAM
21704S002	TOKYO	SLR	7308	6							-3942020.074	3368097.537	3702191.128	0.156	0.151	0.184	NOAM
21718S001	MIYAZAKI	VLBI	7312	1							-3582767.820	4052034.049	3369020.658	0.044	0.048	0.045	EURA
21725S001	NOBEYAMA	VLBI	7244	1	2	4					-3871168.206	3428274.004	3723697.714	0.016	0.015	0.020	NOAM
21726S001	SIMOSATO	SLR	7838	6	7	8	9	10	11	12	-3822388.343	3699363.479	3507573.135	0.012	0.012	0.013	EURA
21729S001	USUDA	VLBI	7246	1							-3855355.307	3427427.647	3740971.371	0.038	0.035	0.041	EURA

21729S004	USUDA	GPS		16								-3855262.530	3427432.494	3741020.923	0.024	0.023	0.030	EURA
21730S001	TSUKUBA	VLBI	7311	1								-3957172.884	3310237.933	3737709.026	0.027	0.023	0.029	NOAM
21731S001	SHINTOTSUG	VLBI	7315	1								-3642141.799	2861496.616	4370361.778	0.022	0.020	0.031	NOAM
21732S001	CHICHIJIMA	VLBI	7844	1								-4489356.546	3482989.581	2887931.225	0.059	0.053	0.058	PHIL
21732S002	CHICHIJIMA	SLR	7844	7	10							-4491072.714	3481527.502	2887391.725	0.064	0.069	0.073	PHIL
21733S001	MINAMI TOR	VLBI	7310	1								-5227446.825	2551379.195	2607604.784	0.035	0.023	0.033	PCFC
21736S001	ISHIGAKI S	SLR	7307	7								-3265754.061	4810000.687	2614265.524	0.161	0.096	0.105	PCFC
30101S001	HELWAN	SLR	7831	6	7	8	9	10	11	12		4728283.577	2879670.394	3156894.459	0.015	0.014	0.015	AFRC
30302M002	JOHANNESBU	GPS		16								5084625.746	2670366.555	-2768494.199	0.030	0.033	0.031	AFRC
30302S001	JOHANNESBU	VLBI	7232	1	2	3	4					5085442.804	2668263.359	-2768697.220	0.017	0.016	0.015	AFRC
40104M002	ALGONQUIN	GPS		16								918129.686	-4346071.206	4561977.805	0.008	0.009	0.009	NOAM
40104S001	ALGONQUIN	VLBI	7282	1	2	3	4					918034.923	-4346132.225	4561971.138	0.007	0.008	0.008	NOAM
40105M001	PENTICTON	VLBI	7283	1								-2058840.320	-3621286.398	4814420.783	0.020	0.030	0.039	NOAM
40118M001	WHITEHORSE	VLBI	7284	1								-2215213.533	-2209261.593	5540292.546	0.016	0.015	0.026	NOAM
40127M001	YELLOWKNIF	VLBI	7285	1								-1224124.424	-2689530.640	5633555.427	0.013	0.017	0.020	NOAM
40127M003	YELLOWKNIF	GPS		16								-1224452.272	-2689216.042	5633638.310	0.013	0.017	0.019	NOAM
40127S001	YELLOWKNIF	VLBI	7296	1								-1224399.352	-2689273.198	5633620.281	0.011	0.012	0.015	NOAM
40129M001	VICTORIA	VLBI	7289	1								-2341310.005	-3539083.860	4745768.394	0.024	0.037	0.045	NOAM
40129M002	VICTORIA	GPS		16								-2327187.951	-3522528.946	4764832.398	0.020	0.020	0.022	NOAM
40400M001	PASADENA	SLR	7896	6	7	8	10					-2493211.829	-4655229.581	3565574.508	0.012	0.014	0.014	PCFC
40400M003	PASADENA	VLBI	7263	1								-2493305.894	-4655197.636	3565519.386	0.012	0.014	0.014	PCFC
40400M006	PASADENA	GPS	7272	16								-2493303.906	-4655215.699	3565497.333	0.012	0.014	0.014	PCFC
40403M001	PALOS VERD	VLBI	7268	1								-2525452.709	-4670035.684	3522886.789	0.016	0.026	0.022	PCFC
40404M001	PEARBLOSSO	VLBI	7254	1								-2464070.825	-4649425.628	3593905.718	0.021	0.037	0.029	PCFC
40405M001	GOLDSTONE	SLR	7085	6								-2353394.094	-4641529.585	3676899.227	0.010	0.011	0.012	NOAM
40405M002	GOLDSTONE	SLR	7115	6	7	8	10					-2350861.531	-4655546.261	3660997.877	0.009	0.010	0.010	NOAM
40405M006	GOLDSTONE	SLR	7265	6	7	8	10	11				-2356475.648	-4646618.301	3668424.755	0.008	0.009	0.009	NOAM
40405M013	GOLDSTONE	VLBI	7288	1	6	7	8	9	10	11		-2356494.023	-4646607.681	3668426.656	0.009	0.010	0.010	NOAM
40405S001	GOLDSTONE	VLBI	1514	5								-2353621.109	-4641341.553	3677052.358	0.024	0.028	0.028	NOAM
40405S003	GOLDSTONE	VLBI	1512	5								-2350443.671	-4651980.856	3665631.003	0.027	0.029	0.031	NOAM
40405S009	GOLDSTONE	VLBI	7222	1	2	4						-2356170.901	-4646755.890	3668470.627	0.007	0.008	0.008	NOAM
40405S014	GOLDSTONE	VLBI	1513	1	2	5						-2351129.035	-4655477.079	3660956.933	0.008	0.010	0.010	NOAM
40405S019	GOLDSTONE	VLBI	7231	1	5							-2353538.666	-4641649.556	3676670.075	0.009	0.011	0.012	NOAM
40405S030	GOLDSTONE	GPS		16								-2353614.027	-4641385.464	3676976.571	0.015	0.014	0.015	NOAM
40406M001	PRESIDIO	VLBI	7252	1								-2707704.782	-4257609.608	3888374.206	0.013	0.019	0.016	NOAM
40406M002	PRESIDIOpq	VLBI	7252	1								-2707704.762	-4257609.588	3888374.174	0.021	0.033	0.030	NOAM
40407M001	PINYON FLA	VLBI	7256	1								-2369635.851	-4761324.959	3511116.161	0.012	0.015	0.016	PCFC
40407M002	PINYON FLA	GPS		16								-2369510.262	-4761207.305	3511396.070	0.012	0.015	0.016	PCFC
40408M001	FAIRBANKS	GPS		16								-2281621.221	-1453595.754	5756962.012	0.009	0.009	0.010	NOAM
40408S002	FAIRBANKS	VLBI	7225	1	2	3	4					-2281547.081	-1453645.035	5756993.244	0.008	0.008	0.009	NOAM
40410M001	POINT REYE	VLBI	7251	1								-2732333.012	-4217634.902	3914491.076	0.013	0.016	0.016	PCFC
40412M001	AUSTIN	SLR	7890	8								-754161.779	-5459061.354	3200743.990	0.337	0.306	0.144	NOAM
40412M003	AUSTIN	VLBI	7271	1								-737793.713	-5459892.258	3202990.491	0.013	0.037	0.022	NOAM
40416M001	YAKATAGA	VLBI	7277	1								-2529744.140	-1942091.305	5505028.007	0.020	0.016	0.037	NOAM
40416M002	YAKATAGApq	VLBI	7277	1								-2529744.159	-1942091.255	5505027.863	0.019	0.016	0.037	NOAM

40417M002	PATRICK AF	SLR	7069	7	8									917958.850	-5548370.440	2998776.559	0.293	0.199	0.229	NOAM
40419M001	KODIAK	VLBI	7278	1										-3026940.084	-1575911.779	5370362.511	0.015	0.014	0.022	NOAM
40420M002	VANDENBERG	VLBI	7223	1	2	4								-2678094.658	-4525450.829	3597410.158	0.008	0.009	0.009	PCFC
40420M004	VANDENBERG	SLR	7887	7										-2668867.944	-4530742.617	3598684.859	0.018	0.019	0.019	PCFC
40421M001	NOME	VLBI	7279	1										-2658150.347	-693821.890	5737236.648	0.019	0.013	0.031	NOAM
40423M001	SANDPOINT	VLBI	7280	1										-3425461.816	-1214669.119	5223858.283	0.020	0.015	0.029	NOAM
40424M004	KAUAI	GPS		16										-5543838.030	-2054587.801	2387809.434	0.010	0.010	0.011	PCFC
40424S001	KAUAI	VLBI	1311	1	2	3	4							-5543845.970	-2054564.184	2387813.841	0.009	0.009	0.010	PCFC
40425M001	SOURDOUGH	VLBI	7281	1										-2419993.405	-1664228.720	5643538.263	0.020	0.019	0.045	NOAM
40425M002	SOURDOUGHp	VLBI	7281	1										-2419993.388	-1664228.752	5643538.324	0.016	0.015	0.035	NOAM
40427M001	FORT ORD	VLBI	7266	1										-2697026.681	-4354393.324	3788077.635	0.016	0.022	0.020	PCFC
40427M002	FORT ORD	VLBI	7241	1										-2699840.170	-4359127.094	3781050.981	0.019	0.026	0.024	PCFC
40427M003	FORT ORDpq	VLBI	7241	1										-2699840.147	-4359127.073	3781051.021	0.019	0.029	0.024	PCFC
40428M001	SANTA PAOL	VLBI	7255	1										-2554476.581	-4608627.390	3582138.324	0.016	0.029	0.022	PCFC
40430M001	BLACK BUTT	VLBI	7269	1										-2306306.864	-4787914.438	3515736.452	0.015	0.024	0.020	NOAM
40431M001	DEADMAN LA	VLBI	7267	1										-2336819.571	-4732586.981	3570330.020	0.033	0.058	0.043	NOAM
40432M001	ELY	VLBI	7286	1										-2077236.217	-4486712.713	4018753.775	0.012	0.019	0.016	NOAM
40433M001	QUINCY	SLR	7051	6	7	8	10							-2516893.107	-4198845.054	4076411.549	0.009	0.009	0.009	NOAM
40433M002	QUINCY	SLR	7109	6	7	8	9	10	11	12				-2517234.684	-4198556.234	4076569.704	0.008	0.008	0.008	NOAM
40433M004	QUINCY	VLBI	7221	1										-2517230.794	-4198595.221	4076531.295	0.008	0.009	0.008	NOAM
40433M005	QUINCY	SLR	7886	6	7	8	10	11						-2517242.294	-4198550.927	4076570.320	0.009	0.009	0.009	NOAM
40434M002	MOUNT HOPK	SLR	7888	6	7	8	10							-1936744.226	-5077639.067	3331993.961	0.035	0.030	0.035	NOAM
40434S001	MOUNT HOPK	SLR	7921	6	7									-1936760.139	-5077707.119	3331922.582	0.080	0.090	0.092	NOAM
40436M002	SAN DIEGO	SLR	7062	6	7	8	10							-2428825.838	-4799750.495	3417272.703	0.010	0.013	0.013	PCFC
40436M003	SAN DIEGO	SLR	7035	6	7	8	9	10	11					-2428826.593	-4799754.326	3417267.065	0.010	0.013	0.013	PCFC
40437M001	MAMMOTH LA	VLBI	7259	1										-2448246.697	-4426738.365	3875435.954	0.047	0.087	0.074	NOAM
40438M001	BEAR LAKE	SLR	7082	6	7	8	10							-1735997.115	-4425048.342	4241430.535	0.034	0.035	0.029	NOAM
40438M002	BEAR LAKE	SLR	7046	6	7	9	10	11						-1736002.977	-4425049.606	4241427.142	0.017	0.016	0.016	NOAM
40439M001	OWENS VALL	SLR	7114	6	7	8	10							-2410422.364	-4477802.686	3838686.736	0.009	0.010	0.010	NOAM
40439M003	OWENS VALL	SLR	7084	6										-2410590.072	-4477745.411	3838648.737	0.313	0.409	0.429	NOAM
40439M004	OWENS VALL	VLBI	7853	1	6	7	8	9	10	11				-2410421.141	-4477800.425	3838690.354	0.008	0.010	0.009	NOAM
40439S002	OWENS VALL	VLBI	7207	1	2	4								-2409600.657	-4478349.551	3838603.237	0.007	0.009	0.009	NOAM
40440M001	WESTFORD	SLR	7091	6	7	8	9	10	11					1492453.769	-4457278.768	4296815.927	0.007	0.007	0.008	NOAM
40440S002	WESTFORD	VLBI	7205	1	2	4								1492404.905	-4457266.504	4296881.735	0.007	0.007	0.008	NOAM
40440S003	WESTFORD	VLBI	7209	1	2	3	4							1492206.767	-4458130.491	4296015.502	0.007	0.007	0.008	NOAM
40441S001	GREENBANK	VLBI	7204	1	2									882880.048	-4924482.295	3944130.661	0.008	0.010	0.011	NOAM
40441S004	GREENBANK	VLBI	7214	1	2	3	4							882325.737	-4925137.978	3943397.657	0.007	0.008	0.009	NOAM
40442M001	FORT DAVIS	SLR	7086	6	7	8	9	10	11	12	13	14	15	-1330125.264	-5328526.632	3236150.280	0.007	0.009	0.008	NOAM
40442M005	FORT DAVIS	SLR	7885	6	7	8	10							-1330125.264	-5328526.632	3236150.280	0.008	0.010	0.009	NOAM
40442M006	FORT DAVIS	SLR	7080	6	7	8	9	10	11	12	13	14	15	-1330020.935	-5328401.848	3236480.836	0.007	0.009	0.009	NOAM
40442M008	FORT DAVIS	VLBI	7850	1										-1330008.061	-5328391.571	3236502.763	0.008	0.010	0.009	NOAM
40442M009	FORT DAVIS	VLBI	7900	1										-1324227.838	-5332063.045	3232023.068	0.008	0.009	0.009	NOAM
40442S002	FORT DAVIS	LLR	7206	13	14									-1330781.239	-5328755.579	3235697.712	0.008	0.010	0.009	NOAM
40442S003	FORT DAVIS	VLBI	7216	1	2	4								-1324210.865	-5332023.139	3232118.406	0.007	0.008	0.008	NOAM
40442S017	FORT DAVIS	VLBI	7613	1										-1324008.995	-5332181.946	3231962.516	0.009	0.012	0.012	NOAM

40445M001	MAUI	SLR	7210	6	7	8	9	10	11	12	-5466006.470	-2404427.964	2242187.536	0.010	0.009	0.010	PCFC
40445M002	MAUI	VLBI	7120	1	6	7	8	10			-5465998.455	-2404408.555	2242228.463	0.010	0.010	0.010	PCFC
40445S005	MAUI	LLR	7210	13	14	15					-5466006.953	-2404428.176	2242188.539	0.011	0.010	0.011	PCFC
40449M001	OCOTILLO	VLBI	7270	1							-2335601.079	-4832244.160	3434392.639	0.029	0.056	0.040	PCFC
40451M101	WASHINGTON	SLR	7101	6							1131240.374	-4831179.734	3994148.471	0.009	0.009	0.010	NOAM
40451M102	WASHINGTON	VLBI	7102	1	6	7	8	10			1130686.684	-4831353.012	3994110.909	0.008	0.009	0.009	NOAM
40451M103	WASHINGTON	SLR	7103	6	7	8	10				1130685.731	-4831348.691	3994116.349	0.008	0.009	0.009	NOAM
40451M104	WASHINGTON	SLR	7104	6							1131095.907	-4831196.933	3994170.738	0.009	0.009	0.010	NOAM
40451M105	WASHINGTON	SLR	7105	6	7	8	9	10	11	12	1130719.797	-4831350.559	3994106.510	0.008	0.008	0.008	NOAM
40451M106	WASHINGTON	SLR	7100	6							1131355.610	-4831168.330	3994131.674	0.009	0.009	0.010	NOAM
40451M108	WASHINGTON	SLR	7065	6							1130691.688	-4831350.700	3994111.545	1.470	1.470	1.470	NOAM
40451M111	WASHINGTON	SLR	7899	6	7	8	10				1131364.833	-4831168.781	3994128.922	0.009	0.009	0.009	NOAM
40451M112	WASHINGTON	SLR	7063	6	7	8	10				1130714.850	-4831367.720	3994087.384	0.008	0.009	0.009	NOAM
40451M114	WASHINGTON	SLR	7125	6	7	8	10				1130745.849	-4831368.021	3994077.123	0.018	0.019	0.019	NOAM
40451M116	WASHINGTON	SLR	7130	6							1130735.357	-4831324.658	3994132.363	0.148	0.279	0.241	NOAM
40451M117	WASHINGTON	SLR	7920	6	7	9	10	11			1130741.988	-4831369.752	3994076.116	0.015	0.015	0.016	NOAM
40451M120	WASHINGTON	SLR	7918	6	7	9	10	11			1130705.380	-4831345.411	3994115.979	0.013	0.014	0.014	NOAM
40451S145	WASHINGTON	SLR	7919	6							1130705.821	-4831347.447	3994117.494	1.470	1.470	1.470	NOAM
40452M001	BLOOMINGTO	VLBI	7291	1							302384.541	-4941699.026	4007908.484	0.024	0.078	0.065	NOAM
40453M001	CARROLLTON	VLBI	7228	1							453520.718	-5300506.760	3507207.440	0.021	0.078	0.048	NOAM
40454M001	LEONARD	VLBI	7292	1							-522231.491	-5145676.875	3720152.369	0.013	0.043	0.029	NOAM
40455M001	MILES CITY	VLBI	7038	1							-1204438.913	-4239211.100	4596266.094	0.021	0.065	0.065	NOAM
40456S001	PIETOWN	VLBI	7234	1	2						-1640953.566	-5014816.031	3575411.962	0.008	0.010	0.010	NOAM
40457M001	SEATTLE	VLBI	7229	1							-2295347.885	-3638029.448	4693408.709	0.021	0.034	0.043	NOAM
40460M001	LA JOLLA	GPS		16							-2455521.581	-4767213.468	3441654.965	0.022	0.018	0.024	NOAM
40463S001	LOS ALAMOS	VLBI	7611	1	2						-1449752.220	-4975298.587	3709123.983	0.008	0.010	0.010	NOAM
40489S001	HAT CREEK	VLBI	7218	1	2	4					-2523969.848	-4123506.361	4147752.624	0.008	0.009	0.009	NOAM
40490S001	MARYLAND P	VLBI	7217	1	2	3	4				1106629.471	-4882907.169	3938086.962	0.007	0.009	0.010	NOAM
40491M002	FLAGSTAFF	SLR	7891	6	7	8	10				-1923976.638	-4850871.673	3658574.935	0.013	0.020	0.017	NOAM
40491M003	FLAGSTAFF	VLBI	7261	1							-1923992.572	-4850854.462	3658589.304	0.012	0.019	0.017	NOAM
40492M001	VERNAL	SLR	7892	6	7	8	10				-1631484.652	-4589133.906	4106749.638	0.033	0.036	0.031	NOAM
40492M002	VERNAL	VLBI	7290	1							-1631473.205	-4589128.910	4106759.900	0.013	0.024	0.020	NOAM
40493M001	YUMA	VLBI	7894	1	6	7	8	10			-2196777.829	-4887337.066	3448425.274	0.012	0.015	0.014	NOAM
40496M001	PLATTEVILL	SLR	7112	6	7	8	9	10	11		-1240678.144	-4720463.382	4094480.644	0.008	0.010	0.009	NOAM
40496M002	PLATTEVILL	VLBI	7258	1	2						-1240708.038	-4720454.346	4094481.669	0.008	0.010	0.009	NOAM
40497M001	MONUMENT P	SLR	7110	6	7	8	9	10	11	12	-2386277.917	-4802354.359	3444881.463	0.008	0.009	0.009	PCFC
40497M002	MONUMENT P	SLR	7220	6	7	8	10				-2386292.187	-4802347.486	3444880.868	0.009	0.010	0.009	PCFC
40497M003	MONUMENT P	VLBI	7274	1	6						-2386289.312	-4802346.560	3444883.988	0.008	0.009	0.009	PCFC
40499M002	RICHMOND	SLR	7295	6	7	8	9	10	11		961319.047	-5674090.962	2740489.559	0.008	0.008	0.009	NOAM
40499S001	RICHMOND	VLBI	7219	1	2	3	4				961258.169	-5674090.031	2740533.770	0.007	0.007	0.009	NOAM
40504M001	MAZATLAN	SLR	7122	6	7	8	9	10	11	12	-1660089.285	-5619100.413	2511637.895	0.011	0.011	0.012	NOAM
40505M001	CABO SAN L	SLR	7882	6	7	8	9	10	11		-1997241.733	-5528041.283	2468355.282	0.016	0.016	0.017	PCFC
40506M001	ENSENADA	SLR	7883	6	8	9	10	11			-2406126.796	-4898368.372	3290336.616	0.028	0.025	0.028	PCFC
40701S001	SANTIAGO D	SLR	1953	6	7	10	11	12			1474548.302	-5811242.321	2168944.978	0.026	0.022	0.028	NOAM
41604S001	NATAL	SLR	7929	6	7	8	10				5186467.973	-3653856.268	-654322.037	0.053	0.064	0.064	SOAM

41703M001	EASTER ISL	SLR	7061	7							-1884983.888	-5357606.803	-2892852.637	0.033	0.030	0.029	NAZC
41703M002	EASTER ISL	SLR	7097	6	7	8	9	10	11		-1884984.359	-5357608.139	-2892853.346	0.015	0.015	0.015	NAZC
41705M001	SANTIAGO	SLR	7400	6	7	8	10	11			1769699.816	-5044612.894	-3468260.027	0.025	0.023	0.025	SOAM
41705M002	SANTIAGO	GPS		16							1769724.645	-5044512.294	-3468396.454	0.035	0.031	0.028	SOAM
41705S006	SANTIAGO	VLBI	1404	1	2	3					1769692.993	-5044504.469	-3468435.102	0.027	0.036	0.029	SOAM
41706M001	CERRO TOLO	SLR	7401	6	7	8	9	10	11		1815517.247	-5213464.819	-3187999.301	0.017	0.017	0.017	SOAM
41709S001	SEST	VLBI	7239	1	2						1838237.892	-5258699.196	-3100588.877	0.020	0.030	0.018	SOAM
42202M003	AREQUIPA	SLR	7403	6	8	10	11				1942808.047	-5804069.695	-1796915.583	0.018	0.018	0.018	SOAM
42202S001	AREQUIPA	SLR	7907	6	7	8	9	10	11	12	1942792.009	-5804077.637	-1796919.252	0.012	0.012	0.012	SOAM
42501M001	BERMUDA	SLR	7067	6							2308538.608	-4874079.994	3393628.441	0.251	0.391	0.243	NOAM
42501M002	BERMUDA	VLBI	7294	1							2307209.584	-4874215.825	3394317.887	0.013	0.024	0.017	NOAM
43602M002	GRAND TURK	SLR	7068	6							1920482.895	-5619478.477	2318914.273	1.470	1.470	1.470	NOAM
50103S001	CANBERRA	VLBI	1543	5							-4460894.420	2682361.586	-3674748.805	0.022	0.020	0.020	AUST
50103S003	CANBERRA	SLR	7943	6	7	8	10				-4447548.818	2677134.073	-3694996.546	0.022	0.021	0.022	AUST
50103S005	CANBERRA	VLBI	1542	5							-4460980.848	2682413.556	-3674582.294	0.023	0.020	0.020	AUST
50103S007	CANBERRA	SLR	7843	6	7	8	9	10	11	12	-4446476.742	2678127.033	-3696251.657	0.014	0.014	0.014	AUST
50103S010	CANBERRA	VLBI	1545	1	2	5					-4460935.078	2682765.738	-3674381.621	0.022	0.020	0.020	AUST
50103S019	CANBERRA	GPS		16							-4460987.881	2682362.351	-3674626.680	0.028	0.031	0.032	AUST
50107M001	YARRAGADEE	SLR	7090	6	7	8	9	10	11	12	-2389006.501	5043329.279	-3078525.328	0.012	0.012	0.013	AUST
50107M004	YARRAGADEE	GPS		16							-2389025.105	5043316.809	-3078531.164	0.013	0.012	0.014	AUST
50116S002	HOBART	VLBI	7242	1	2	4					-3950236.326	2522347.510	-4311562.963	0.020	0.018	0.019	AUST
50503M001	AMERICAN S	SLR	7096	6	7	8	10				-6100045.824	-996203.352	-1568976.320	0.025	0.027	0.023	PCFC
50505M001	KWAJALEIN	SLR	7092	6	7	10					-6143447.285	1364700.183	1034163.208	0.015	0.012	0.016	PCFC
50505S003	KWAJALEIN	VLBI	4968	1	2	4					-6143536.518	1363997.207	1034707.449	0.014	0.012	0.015	PCFC
92202M002	HUAHINE	SLR	7121	6	7	8	9	10	11	12	-5345865.302	-2958246.616	-1824623.797	0.015	0.015	0.015	PCFC
92202M004	HUAHINE	SLR	7123	6	7	8	9	10	11		-5345866.716	-2958247.448	-1824624.286	0.014	0.014	0.014	PCFC

(*) 1 : SSC(GSFC) 92 R 03 2 : SSC(NOAA) 92 R 01 3 : SSC(USNO) 92 R 01 4 : SSC(NAOMZ)92 R 01

5 : SSC(JPL) 92 R 01 6 : SSC(CSR) 92 L 01 7 : SSC(GSFC) 92 L 01 8 : SSC(DGFII)92 L 01

9 : SSC(DUT) 92 L 01 10 : SSC(GFZ) 92 L 01 11 : SSC(GAOUA)92 L 01 12 : SSC(NAL) 92 L 01

13 : SSC(UTXMO)92 M 01 14 : SSC(JPL) 92 L 01 15 : SSC(SHA) 92 L 01 16 : SSC(JPL) 91 P 01

Table T7

TRANSFORMATION PARAMETERS FROM ITRF91 TO INDIVIDUAL SYSTEMS
(TO BE USED USING THE FORMULA BELOW)

NETWORK	T1 cm	T2 cm	T3 cm	D (10**-8)	R1 .001"	R2 .001"	R3 .001"
SSC(GSFC) 92 R 03	0.3	-1.2	-2.8	-0.05	1.1	1.2	-2.5
	0.8	0.8	0.8	0.11	0.3	0.3	0.2
SSC(NOAA) 92 R 01	2.1	0.4	-2.2	0.08	-4.6	9.9	-0.2
	0.9	0.9	0.8	0.11	0.4	0.3	0.2
SSC(USNO) 92 R 01	1.9	-4.4	0.8	-0.42	-0.4	-0.2	-0.2
	0.9	0.9	0.9	0.13	0.4	0.4	0.3
SSC(NAOMZ)92 R 01	3.3	-2.9	-4.8	0.06	-1.3	-1.0	-0.5
	0.8	0.8	0.8	0.11	0.3	0.3	0.2
SSC(JPL) 92 R 01	-1.9	1.1	-1.7	-0.50	2.5	1.1	0.7
	1.6	1.5	1.6	0.23	0.6	0.7	0.6
SSC(CSR) 92 L 01	0.0	0.0	0.0	0.00	-0.4	0.4	-0.9
SSC(GSFC) 92 L 01	-2.9	-1.4	0.3	0.31	-0.3	5.7	-7.3
	0.7	0.7	0.7	0.10	0.3	0.3	0.2
SSC(DGFII)92 L 01	0.7	-3.0	0.0	-0.37	-284.4	-44.5	5.7
	0.8	0.8	0.8	0.11	0.3	0.3	0.3
SSC(DUT) 92 L 01	0.1	0.6	-3.8	-0.65	0.8	1.7	-4.6
	0.7	0.7	0.6	0.10	0.3	0.3	0.2
SSC(GFZ) 92 L 01	-0.1	-0.2	3.0	0.06	0.1	0.1	-0.2
	0.8	0.7	0.7	0.11	0.3	0.3	0.2
SSC(GAOUA)92 L 01	-1.4	0.4	-7.2	-0.52	0.3	0.4	-1.4
	0.8	0.8	0.8	0.12	0.3	0.3	0.3
SSC(NAL) 92 L 01	0.4	-0.6	-3.5	0.08	1.0	1.6	0.6
	1.1	1.0	1.1	0.16	0.4	0.5	0.4
SSC(UTXMO)92 M 01	-0.1	-3.5	17.6	-3.20	-6.5	0.8	38.5
	2.5	3.0	2.5	0.36	1.2	0.9	1.0
SSC(JPL) 92 M 01	-6.5	-1.2	4.7	-1.97	-1.0	1.4	-44.7
	3.9	4.4	4.2	0.50	2.0	1.5	1.1
SSC(SHA) 92 M 01	-6.8	-0.5	1.9	-2.75	-0.3	0.1	3.2
	6.5	7.6	6.9	0.84	3.6	2.5	1.9
SSC(JPL) 91 P 01	-6.7	14.8	-17.0	-0.14	-0.4	-0.7	61.5
	1.0	1.1	1.0	0.14	0.5	0.4	0.4

$$\begin{vmatrix} XS \\ YS \\ ZS \end{vmatrix} = \begin{vmatrix} X \\ Y \\ Z \end{vmatrix} + \begin{vmatrix} T1 \\ T2 \\ T3 \end{vmatrix} + \begin{vmatrix} D & -R3 & R2 \\ R3 & D & -R1 \\ -R2 & R1 & D \end{vmatrix} \begin{vmatrix} X \\ Y \\ Z \end{vmatrix}$$

WHERE X,Y,Z ARE THE COORDINATES IN THE ITRF91 SYSTEM, AND XS,YS,ZS ARE THE COORDINATES IN THE INDIVIDUAL SYSTEM.

Table T8

RATE OF CHANGE OF THE TRANSFORMATION PARAMETERS

NETWORK	$\dot{T}1$ mm/y	$\dot{T}2$ mm/y	$\dot{T}3$ mm/y	$\dot{R}1$ mas/y	$\dot{R}2$ mas/y	$\dot{R}3$ mas/y
SSC(GSFC) 92 R 03	4.5	0.9	2.3	-0.043	-0.150	-0.173
	1.5	1.6	1.1	0.055	0.049	0.038
SSC(NOAA) 92 R 01	7.7	-6.4	-8.1	-0.361	-0.371	-0.173
	2.2	1.9	1.6	0.071	0.071	0.054
SSC(NAOMZ)92 R 01	-0.8	0.1	4.0	0.058	-0.115	0.017
	1.9	1.7	1.3	0.064	0.060	0.045
SSC(CSR) 92 L 01	3.0	0.4	2.1	-0.148	-0.149	0.025
	1.8	1.7	1.5	0.059	0.058	0.048
SSC(GSFC) 92 L 01	3.6	0.5	0.5	-0.062	-0.051	-0.190
	2.1	2.0	1.8	0.068	0.067	0.058
SSC(DUT) 92 L 01	4.8	4.3	1.7	0.072	-0.024	0.008
	2.1	2.0	1.8	0.079	0.074	0.065
SSC(GFZ) 92 L 01	-2.0	2.4	-1.3	-0.003	0.013	0.022
	1.9	1.9	1.7	0.075	0.072	0.064
SSC(DGFI) 92 L 01	3.9	3.5	-4.8	0.045	-0.125	-0.108
	2.0	2.1	1.9	0.077	0.067	0.057

Table T9

ITRF91 VELOCITY FIELD

DOMES Number	NAME		NETWORK (*) 1 2 3 4 5 6 7 8	Vx m/y	Vy m/y	Vz m/y	SVx m/y	SVy m/y	SVz m/y	Plate	(**)
10002	GRASSE	L	1 1 1 1 1	-0.0167	0.0165	0.0033	0.0026	0.0020	0.0027	EURA	CN
10004	BREST			-0.0108	0.0188	0.0109				EURA	N
10302	TROMSO			-0.0173	0.0131	0.0045				EURA	N
10317	NY-ALESUND			-0.0164	0.0104	0.0027				EURA	N
10325	HONEFOSS			-0.0157	0.0160	0.0073				EURA	N
10329	TRYSIL			-0.0161	0.0156	0.0068				EURA	N
10402	ONSALA	R	1 1 1	-0.0153	0.0155	0.0056	0.0014	0.0015	0.0018	EURA	CN
10503	METSAHOVI			-0.0181	0.0152	0.0059				EURA	N
11001	GRAZ	L	1 1 1 1 1	-0.0166	0.0168	0.0092	0.0024	0.0022	0.0026	EURA	CN
12205	BOROWIEC			-0.0164	0.0175	0.0082				EURA	N
12302	RIGA	L	1	-0.0180	0.0158	0.0065	0.0087	0.0057	0.0132	EURA	CN
12337	SIMEIS			-0.0195	0.0170	0.0068				EURA	N
12602	DIONYSOS	L	1 1 1	0.0025	0.0080	-0.0116	0.0087	0.0070	0.0082	EURA	C
12612	ASKITES	L	1 1 1 1	-0.0217	0.0217	0.0023	0.0071	0.0061	0.0071	EURA	C
12613	ROUMELLI	L	1 1 1	0.0077	0.0244	-0.0152	0.0101	0.0075	0.0092	EURA	C
12614	KARITSA	L	1 1 1 1	-0.0004	-0.0178	0.0043	0.0091	0.0076	0.0089	EURA	C
12615	KATAVIA	L	1 1 1	0.0068	0.0182	-0.0073	0.0096	0.0075	0.0088	EURA	C
12616	XRISOKALARIA	L	1 1 1	0.0170	-0.0058	-0.0078	0.0103	0.0075	0.0094	EURA	C
12706	LAMPEDUSA	L	1 1 1 1	-0.0042	0.0316	0.0199	0.0170	0.0120	0.0150	EURA	C
12711	BOLOGNA	R	1 1	-0.0204	0.0206	0.0053	0.0023	0.0027	0.0028	EURA	CN
12717	NOTO	R L	1 1 1	-0.0182	0.0177	0.0128	0.0027	0.0029	0.0029	EURA	CN
12718	TRIESTE	L	1 1 1 1	-0.0140	0.0189	0.0103	0.0086	0.0048	0.0090	EURA	CN
12725	CAGLIARI	L	1 1 1 1	-0.0096	0.0189	0.0132	0.0077	0.0040	0.0068	EURA	CN
12734	MATERA	R L	1 1 1 1 1 1	-0.0205	0.0187	0.0140	0.0019	0.0016	0.0020	EURA	CN
12749	MONTE VENDA			-0.0143	0.0191	0.0101				EURA	N
13201	CHILBOLTON			-0.0120	0.0183	0.0101				EURA	N
13212	HERSTMONCEUX	L	1 1 1 1 1	-0.0137	0.0157	0.0083	0.0024	0.0019	0.0027	EURA	CN
13296	CARNUSTY			-0.0127	0.0171	0.0090				EURA	N
13407	MADRID	R	1 1	-0.0106	0.0216	0.0067	0.0036	0.0033	0.0032	EURA	CN
13504	KOOTWIJK	L	1 1 1 1	-0.0155	0.0169	0.0058	0.0046	0.0037	0.0052	EURA	CN
14001	ZIMMERWALD	L	1 1 1 1 1	-0.0082	0.0199	0.0163	0.0036	0.0025	0.0038	EURA	CN
14005	MONTE GENEROSO			-0.0137	0.0192	0.0103				EURA	N
14106	POTSDAM	L	1 1 1	-0.0194	0.0146	0.0010	0.0078	0.0045	0.0097	EURA	CN

14201	WETTZELL	R	L	1	1	1	1	1		1	1	-0.0187	0.0175	0.0039	0.0013	0.0015	0.0018	EURA	CN
14202	HOHENBUNSTORF											-0.0150	0.0177	0.0087				EURA	N
14209	EFFELSBERG	R		1								-0.0129	0.0183	0.0096	0.0045	0.0042	0.0055	EURA	CN
20702	BAR GIYYORA		L					1	1	1		-0.0237	0.0153	0.0172	0.0110	0.0084	0.0088	AFRC	CN
20801	DIYARBAKIR		L			1		1	1	1		-0.0435	-0.0019	0.0117	0.0122	0.0116	0.0124	EURA	C
20802	YOZGAT		L			1		1	1	1		-0.0179	-0.0291	0.0013	0.0144	0.0135	0.0149	EURA	C
20803	MELENGICLICK		L			1		1	1	1		-0.0144	0.0007	0.0016	0.0103	0.0088	0.0099	EURA	C
20804	YIGILCA		L			1		1	1	1		-0.0161	0.0113	0.0004	0.0110	0.0097	0.0111	EURA	C
21602	WUHAN											-0.0246	-0.0041	-0.0108				EURA	N
21605	SHANGHAI	R	L	1	1		1			1	1	-0.0270	-0.0131	-0.0157	0.0031	0.0033	0.0038	EURA	CN
21701	KASHIMA	R		1	2	1						0.0003	-0.0016	-0.0129	0.0021	0.0020	0.0026	NOAM	CN
21702	MIZUSAWA											-0.0145	-0.0004	-0.0137				NOAM	N
21704	TOKYO											-0.0134	-0.0003	-0.0139				NOAM	N
21718	MIYAZAKI											-0.0218	-0.0083	-0.0131				EURA	N
21725	NOBEYAMA	R			1							-0.0166	0.0024	-0.0105	0.0098	0.0090	0.0096	NOAM	CN
21726	SIMOSATO		L				1	1	1	1		0.0060	-0.0036	-0.0081	0.0046	0.0044	0.0046	EURA	C
21729	USUDA											-0.0207	-0.0088	-0.0132				EURA	N
21730	TSUKUBA	R		1								0.0043	-0.0117	-0.0244	0.0034	0.0034	0.0037	NOAM	CN
21731	SHINTOTSUGAWA											-0.0160	-0.0006	-0.0129				NOAM	N
21732	CHICHIJIMA											0.0141	0.0170	0.0014				PHIL	N
21733	MINAMI TORI SIMA											0.0398	0.0587	0.0224				PCFC	N
21736	ISHIGAKI SHIMA											0.0634	0.0382	0.0089				PCFC	N
30101	HELWAN		L				1				1	-0.0200	0.0148	0.0219	0.0081	0.0058	0.0061	AFRC	CN
30302	JOHANNESBURG	R		1	1							-0.0064	0.0213	0.0126	0.0039	0.0038	0.0030	AFRC	CN
40104	ALGONQUIN	R		1	1							-0.0155	-0.0039	-0.0012	0.0010	0.0019	0.0015	NOAM	CN
40105	PENTICTON	R		1								-0.0238	-0.0164	0.0097	0.0011	0.0013	0.0015	NOAM	CN
40118	WHITEHORSE	R		1								-0.0117	0.0044	-0.0244	0.0024	0.0023	0.0034	NOAM	CN
40127	YELLOWKNIFE											-0.0216	-0.0013	-0.0053				NOAM	N
40129	VICTORIA											-0.0184	-0.0009	-0.0097				NOAM	N
40400	PASADENA	R		1								-0.0315	0.0189	0.0057	0.0011	0.0012	0.0015	PCFC	C
40403	PALOS VERDES	R		1								-0.0268	0.0312	0.0066	0.0012	0.0014	0.0016	PCFC	C
40404	PEARBLOSSOM	R		1								-0.0175	0.0261	-0.0065	0.0012	0.0014	0.0016	PCFC	C
40405	GOLDSTONE	R	L	2	1	1	1		1	1	1	-0.0141	0.0067	-0.0077	0.0010	0.0012	0.0013	NOAM	CN
40406	PRESIDIO	R		1								-0.0224	0.0220	0.0063	0.0011	0.0013	0.0015	NOAM	C
40407	PINYON FLATS	R		1								-0.0241	0.0152	0.0021	0.0011	0.0013	0.0015	PCFC	C
40408	FAIRBANKS	R		1	1	1						-0.0235	-0.0047	-0.0080	0.0013	0.0013	0.0015	NOAM	CN
40410	POINT REYES	R		1								-0.0290	0.0179	0.0224	0.0011	0.0013	0.0014	PCFC	C
40412	AUSTIN											-0.0129	-0.0007	-0.0043				NOAM	N
40416	YAKATAGA	R		1								-0.0280	0.0159	0.0388	0.0025	0.0021	0.0033	NOAM	C
40417	PATRICK AFB											-0.0122	-0.0009	0.0020				NOAM	N
40419	KODIAK	R		1								-0.0258	-0.0020	0.0076	0.0018	0.0016	0.0023	NOAM	CN

40420	VANDENBERG AFB	R		1	1						-0.0300	0.0291	0.0181	0.0014	0.0016	0.0016	PCFC	C
40421	NOME	R		1							-0.0305	-0.0097	-0.0001	0.0025	0.0021	0.0041	NOAM	CN
40423	SANDPOINT	R		1							-0.0247	-0.0011	-0.0065	0.0022	0.0019	0.0027	NOAM	CN
40424	KAUAI	R		1	1	1					-0.0111	0.0621	0.0303	0.0014	0.0016	0.0020	PCFC	CN
40425	SOURDOUGH	R		1							-0.0271	0.0036	-0.0225	0.0022	0.0018	0.0033	NOAM	CN
40427	FORT ORD	R		2							-0.0321	0.0241	0.0244	0.0010	0.0012	0.0014	PCFC	C
40428	SANTA PAOLA	R		1							-0.0351	0.0167	0.0142	0.0012	0.0014	0.0016	PCFC	C
40430	BLACK BUTTE	R		1							-0.0143	0.0107	-0.0145	0.0013	0.0015	0.0018	NOAM	C
40431	DEADMAN LAKE	R		1							-0.0420	-0.0465	0.0285	0.0027	0.0033	0.0039	NOAM	C
40432	ELY	R		1							-0.0164	0.0031	-0.0142	0.0012	0.0015	0.0016	NOAM	CN
40433	QUINCY	R	L	1			1	1	1	1 2	-0.0186	0.0090	-0.0100	0.0010	0.0012	0.0013	NOAM	CN
40434	MOUNT HOPKINS										-0.0134	-0.0006	-0.0086				NOAM	N
40436	SAN DIEGO		L				1	1	1		-0.0314	0.0253	0.0130	0.0066	0.0118	0.0087	PCFC	CN
40437	MAMMOTH LAKES	R		1							-0.0216	0.0052	-0.0043	0.0016	0.0019	0.0021	NOAM	CN
40438	BEAR LAKE		L					1	1	1	-0.0218	0.0166	0.0009	0.0036	0.0051	0.0050	NOAM	CN
40439	OWENS VALLEY	R	L	1	1		1	1	1	1 1	-0.0172	0.0068	-0.0079	0.0013	0.0016	0.0015	NOAM	CN
40440	WESTFORD	R	L	2	2	1	1		1	1 1	-0.0146	-0.0020	0.0003	0.0009	0.0011	0.0013	NOAM	CN
40441	GREENBANK	R		2	2						-0.0158	-0.0008	-0.0015	0.0010	0.0016	0.0014	NOAM	CN
40442	FORT DAVIS	R	L		1	1	2	1	1	2 3	-0.0119	-0.0008	-0.0086	0.0012	0.0015	0.0016	NOAM	CN
40445	MAUI	R	L	1			1		1	1 1	-0.0170	0.0604	0.0328	0.0014	0.0016	0.0019	PCFC	CN
40449	OCOTILLO										-0.0330	0.0298	0.0195				PCFC	N
40451	WASHINGTON	R	L	1			1		1	1 1	-0.0121	-0.0127	0.0104	0.0013	0.0020	0.0019	NOAM	CN
40452	BLOOMINGTON										-0.0159	-0.0011	-0.0002				NOAM	N
40453	CARROLLTON										-0.0141	-0.0010	0.0003				NOAM	N
40454	LEONARD										-0.0148	-0.0009	-0.0033				NOAM	N
40455	MILES CITY										-0.0180	-0.0010	-0.0057				NOAM	N
40456	PIETOWN	R		1	1						-0.0120	0.0073	-0.0153	0.0013	0.0020	0.0017	NOAM	CN
40457	SEATTLE										-0.0182	-0.0009	-0.0096				NOAM	N
40460	LA JOLLA										-0.0137	-0.0005	-0.0105				NOAM	N
40463	LOS ALAMOS										-0.0148	-0.0007	-0.0068				NOAM	N
40489	HAT CREEK	R		1	1						-0.0188	0.0045	-0.0082	0.0014	0.0016	0.0015	NOAM	CN
40490	MARYLAND POINT	R		1							-0.0144	0.0021	-0.0035	0.0011	0.0021	0.0017	NOAM	CN
40491	FLAGSTAFF	R		1							-0.0182	-0.0095	-0.0041	0.0012	0.0016	0.0017	NOAM	CN
40492	VERNAL	R	L	1					1		-0.0159	-0.0115	-0.0029	0.0012	0.0018	0.0018	NOAM	CN
40493	YUMA	R		1							-0.0174	-0.0093	-0.0051	0.0011	0.0014	0.0016	NOAM	CN
40496	PLATTEVILLE	R	L	1	1		1	1	1	1 1	-0.0155	-0.0026	-0.0094	0.0010	0.0015	0.0014	NOAM	CN
40497	MONUMENT PEAK	R	L	1			1	1	1	1 1	-0.0332	0.0282	0.0077	0.0011	0.0012	0.0014	PCFC	C
40499	RICHMOND	R	L	1	1	1	1		1		-0.0093	-0.0009	-0.0026	0.0011	0.0013	0.0015	NOAM	CN
40504	MAZATLAN		L				1	1	1	1 1	-0.0134	-0.0065	-0.0045	0.0023	0.0035	0.0025	NOAM	CN
40505	CABO SAN LUCAS		L						1		-0.0451	0.0254	0.0202	0.0064	0.0136	0.0073	PCFC	CN
40506	ENSENADA		L							1	-0.0344	0.0304	0.0200	0.0072	0.0122	0.0089	PCFC	CN

40701	SANTIAGO DE CUBA		L			1			-0.0023	0.0009	0.0040	0.0049	0.0141	0.0062	NOAM	CN
41604	NATAL		L				1		-0.0023	-0.0055	0.0123	0.0128	0.0096	0.0049	SOAM	CN
41703	EASTER ISLAND		L		1	1	1	1	0.0752	-0.0258	-0.0092	0.0034	0.0053	0.0037	NAZC	CN
41705	SANTIAGO								0.0009	-0.0054	0.0083				SOAM	N
41706	CERRO TOLOLO		L		1		1	1	0.0097	0.0012	0.0146	0.0036	0.0059	0.0043	SOAM	CN
41709	SEST								0.0001	-0.0051	0.0086				SOAM	N
42202	AREQUIPA		L		1	1	1	1	0.0083	0.0094	0.0147	0.0024	0.0033	0.0022	SOAM	CN
42501	BERMUDA								-0.0136	-0.0013	0.0074				NOAM	N
43602	GRAND TURK								-0.0096	-0.0009	0.0057				NOAM	N
50103	CANBERRA	R	L	1	1	1	1	1	-0.0374	-0.0032	0.0462	0.0036	0.0031	0.0031	AUST	CN
50107	YARRAGADEE		L			1	1	1	-0.0502	0.0047	0.0530	0.0028	0.0028	0.0027	AUST	CN
50116	HOBART	R		1	1				-0.0459	0.0116	0.0345	0.0054	0.0044	0.0054	AUST	CN
50503	AMERICAN SAMOA								-0.0183	0.0611	0.0325				PCFC	N
50505	KWAJALEIN ATOLL	R		1	1				0.0167	0.0662	0.0292	0.0039	0.0041	0.0030	PCFC	CN
92202	HUAHINE		L			1	1	1	-0.0457	0.0533	0.0280	0.0055	0.0040	0.0033	PCFC	CN

(*) 1 : GSFC 92 R 03 2 : NOAA 92 R 01 3 : NAOMZ 92 R 01 4 : CSR 92 L 01
5 : GSFC 92 L 01 6 : DGFI 92 L 01 7 : DUT 92 L 01 8 : GFZ 92 L 01
The number indicates how many station velocities were estimated in each site

(**) N Nuvel1-NNR Velocities
CN Velocities combined with Nuvel1-NNR
C Velocities combined with Nuvel1-NNR deweighted

Table T10

RESIDUALS AND STATISTICS

SITE NAME: GRASSE

DOMES NUMBER	CDP NUM.	*	RX m	RY m	RZ m	NX	NY	NZ	RE m	RN m	RU m
10002M003	7605	RG	0.003	0.011	-0.042	0.3	1.9	-3.5	0.011	-0.033	-0.026
10002M003	7605	GA	0.000	-0.003	0.003	-0.1	-0.9	0.9	-0.001	0.003	0.002
10002S001	7835	LT	-0.023	-0.019	-0.003	-0.6	-0.8	-0.1	-0.016	0.015	-0.020
10002S001	7835	LD	0.005	-0.003	0.019	0.2	-0.2	1.0	-0.004	0.011	0.016
10002S001	7835	GA	0.000	0.000	0.000	0.1	0.3	-0.3	0.000	0.000	0.000
10002S001	7835	LC	-0.005	-0.020	0.014	-0.3	-1.2	0.9	-0.019	0.015	0.005
10002S001	7835	LG	0.007	-0.017	0.009	0.5	-1.1	0.6	-0.018	0.003	0.010
10002S001	7835	LU	-0.007	-0.018	0.012	-0.5	-1.2	0.8	-0.017	0.015	0.002
10002S001	7835	LK	-0.009	-0.017	0.019	-0.3	-0.5	0.6	-0.016	0.021	0.005
10002S001	7835	LZ	-0.004	-0.010	0.018	-0.3	-0.6	1.2	-0.009	0.017	0.009
10002S002	7845	MJ	0.019	-0.003	0.004	0.6	-0.1	0.1	-0.005	-0.010	0.017
10002S002	7845	MX	0.004	0.022	0.001	0.3	0.7	0.1	0.021	-0.004	0.005
10002S002	7845	GA	0.000	0.000	0.000	-0.1	0.0	0.0	0.000	0.000	0.000
10002S002	7845	MS	-0.048	-0.019	-0.010	-1.0	-0.4	-0.2	-0.013	0.027	-0.043
				0.015			0.7		0.014		0.016
TROMSO											
10302M002	7602	LZ	0.034	0.031	0.006	0.3	0.5	0.2	0.018	-0.037	0.020
10302M002	7602	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
10302M002	7602	LU	-0.018	0.003	0.002	-0.9	0.1	0.1	0.008	0.016	-0.004
10302M002	7602	RG	0.004	-0.005	0.001	0.5	-0.7	0.1	-0.006	-0.002	0.002
10302M002	7602	LG	-0.046	0.082	0.002	-0.7	1.8	0.1	0.093	0.016	-0.004
10302M002	7602	LC	0.012	0.008	0.022	0.5	0.4	0.6	0.003	-0.006	0.026
10302M003		GA	0.000	0.000	0.000	0.0	-0.1	0.1	0.000	0.000	0.000
10302M003		PJ	-0.002	0.005	-0.005	-0.1	0.4	-0.4	0.005	-0.002	-0.004
				0.022			0.4		0.026		0.012
TRYSIL											
10329M001	7607	RG	0.004	0.007	-0.011	0.2	0.9	-0.4	0.006	-0.010	-0.007
10329M001	7607	RN	-0.002	-0.005	0.005	-0.2	-0.8	0.3	-0.005	0.005	0.003
				0.006			0.5		0.007		0.005
ONSALA											
10402S002	7213	RN	0.003	0.000	0.003	0.5	0.1	0.3	0.000	-0.002	0.004
10402S002	7213	RM	-0.009	0.000	-0.007	-1.5	-0.1	-1.2	0.001	0.003	-0.011
10402S002	7213	RG	0.006	0.000	0.008	1.1	0.0	1.2	-0.001	-0.001	0.011
				0.005			0.7		0.002		0.009
METSAHOVI											
10503M002	7601	GA	0.000	-0.001	0.001	0.0	-0.1	0.1	0.001	0.000	0.000
10503M002	7601	RG	-0.001	0.002	-0.011	-0.1	0.3	-0.6	0.002	-0.005	-0.010
10503S001	7805	LZ	0.346	-0.547	0.698	0.6	-1.3	3.4	-0.641	0.271	0.649
10503S001	7805	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
10503S001	7805	LC	0.348	-0.597	0.642	1.7	-4.2	3.1	-0.687	0.259	0.591
				0.346			1.5		0.320		0.393
GRAZ											
11001S002	7839	LT	0.043	0.003	0.057	1.0	0.2	1.6	-0.008	0.008	0.071
11001S002	7839	LK	0.018	-0.008	0.038	0.7	-0.3	1.5	-0.012	0.015	0.038

11001S002	7839	LG	0.007	-0.007	-0.009	0.4	-0.4	-0.6	-0.008	-0.010	-0.003
11001S002	7839	LU	-0.012	0.000	-0.016	-0.8	0.0	-1.1	0.003	-0.003	-0.019
11001S002	7839	LZ	-0.004	0.008	-0.009	-0.2	0.5	-0.6	0.008	-0.005	-0.008
11001S002	7839	LC	-0.002	-0.001	0.011	-0.1	-0.1	0.7	0.000	0.009	0.007
				0.021			0.6			0.008	0.034

BOROWIEC

12205S001	7811	LZ	0.085	0.020	-0.017	1.5	0.4	-0.9	-0.006	-0.080	0.040
12205S001	7811	LG	-0.198	0.082	0.110	-3.5	2.3	4.2	0.137	0.198	-0.015
12205S001	7811	LT	-0.294	-0.154	0.154	-2.6	-1.7	2.5	-0.061	0.352	-0.079
12205S001	7811	LC	0.016	-0.028	-0.219	0.2	-0.5	-1.9	-0.032	-0.140	-0.168
12205S001	7811	LD	0.040	-0.046	-0.065	1.2	-1.4	-2.4	-0.056	-0.060	-0.036
12205S001	7811	LK	0.026	-0.004	-0.039	0.8	-0.1	-1.4	-0.012	-0.043	-0.016
				0.120			1.7			0.136	0.079

RIGA

12302S002	1884	LD	-0.043	-0.400	-0.106	-0.2	-1.4	-0.7	-0.348	0.111	-0.199
12302S002	1884	LG	-0.034	0.079	0.131	-1.1	2.2	4.7	0.086	0.071	0.110
12302S002	1884	LZ	0.000	-0.032	-0.130	0.0	-0.4	-3.7	-0.029	-0.060	-0.116
12302S002	1884	LT	0.233	0.097	0.010	2.7	1.4	0.2	-0.007	-0.206	0.147
12302S002	1884	LC	-0.044	-0.051	-0.211	-0.7	-1.2	-2.5	-0.029	-0.065	-0.210
12302S002	1884	LK	0.015	-0.040	-0.023	0.5	-1.3	-0.8	-0.042	-0.011	-0.021
				0.136			1.6			0.129	0.148

KATZIVELY

12337S003	1873	LC	-0.040	0.057	0.003	-0.4	0.7	0.0	0.070	0.003	0.001
12337S003	1873	LT	-0.157	-0.029	0.034	-0.7	-0.2	0.3	0.063	0.126	-0.081
12337S003	1873	LZ	-0.075	0.063	0.014	-0.6	0.6	0.3	0.094	0.029	-0.010
12337S003	1873	LK	-0.065	0.031	0.016	-1.7	0.9	0.5	0.062	0.037	-0.015
12337S003	1873	LD	0.063	-0.035	-0.019	1.9	-1.1	-0.7	-0.064	-0.036	0.010
12337S006	1893	LC	0.075	0.061	0.135	0.7	1.0	1.3	0.009	0.030	0.163
12337S006	1893	LT	-0.116	0.011	-0.092	-0.3	0.0	-0.6	0.073	-0.003	-0.129
12337S006	1893	LK	-0.024	-0.001	-0.017	-0.5	0.0	-0.5	0.012	0.003	-0.026
12337S006	1893	LD	0.009	-0.021	0.011	0.2	-0.6	0.4	-0.022	0.010	0.005
12337S006	1893	LZ	0.006	0.010	-0.030	0.0	0.1	-0.4	0.005	-0.029	-0.013
				0.059			0.6			0.051	0.071

DIONYSOS

12602M002	7515	LZ	-0.008	0.015	0.003	-0.3	0.5	0.2	0.017	0.004	0.001
12602M002	7515	LG	0.007	0.000	0.002	0.4	0.0	0.1	-0.003	-0.003	0.006
12602M002	7515	LU	0.000	0.005	-0.001	0.0	0.3	-0.1	0.004	-0.002	0.001
12602M002	7515	LC	-0.005	-0.002	0.007	-0.2	-0.1	0.3	0.000	0.009	0.000
12602M002	7515	LK	-0.014	-0.020	-0.008	-0.6	-0.8	-0.3	-0.012	0.006	-0.021
12602M002	7515	LD	0.013	-0.001	-0.007	0.6	0.0	-0.3	-0.006	-0.013	0.005
12602S001	7940	LG	-0.053	-0.078	-0.530	-0.6	-0.9	-5.8	-0.050	-0.369	-0.388
12602S001	7940	LC	1.002	-0.183	-0.154	1.0	-0.2	-0.2	-0.574	-0.638	0.570
12602S001	7940	LK	0.834	0.227	0.790	2.1	1.5	7.1	-0.131	0.099	1.160
				0.318			1.6			0.224	0.450

ASKITES

12612M001	7510	LU	-0.001	0.002	-0.002	-0.1	0.1	-0.1	0.002	-0.002	-0.002
12612M001	7510	LK	-0.014	-0.028	0.011	-0.5	-1.1	0.4	-0.019	0.024	-0.012
12612M001	7510	LZ	0.006	0.011	-0.005	0.2	0.4	-0.3	0.007	-0.010	0.004
12612M001	7510	LC	0.000	0.003	0.006	0.0	0.2	0.2	0.003	0.003	0.005
12612M001	7510	LD	-0.004	0.002	-0.001	-0.2	0.1	0.0	0.004	0.001	-0.002
12612M001	7510	LG	0.011	0.004	-0.001	0.5	0.2	0.0	-0.001	-0.008	0.008
				0.009			0.3			0.010	0.007

ROUMELLI

12613M001	7517	LD	-0.010	0.006	0.003	-0.4	0.2	0.1	0.010	0.006	-0.003
12613M001	7517	LU	0.009	-0.001	-0.006	0.6	-0.1	-0.4	-0.004	-0.009	0.002
12613M001	7517	LZ	-0.003	0.018	0.005	-0.1	0.7	0.3	0.018	0.001	0.007
12613M001	7517	LC	0.004	0.000	0.014	0.2	0.0	0.7	-0.001	0.010	0.011
12613M001	7517	LK	-0.017	-0.028	-0.022	-0.7	-1.1	-0.9	-0.018	-0.002	-0.035
12613M001	7517	LG	0.001	0.004	0.003	0.1	0.2	0.1	0.003	0.001	0.004
				0.012			0.4			0.009	0.015

KARITSA

12614M001	7520	LU	-0.013	0.021	0.010	-0.8	1.3	0.7	0.024	0.011	0.003
12614M001	7520	LC	-0.030	0.005	-0.011	-1.0	0.2	-0.3	0.015	0.009	-0.027
12614M001	7520	LK	0.057	-0.094	-0.046	2.2	-3.6	-1.8	-0.108	-0.049	-0.014
12614M001	7520	LD	-0.005	0.026	-0.001	-0.2	1.0	-0.1	0.026	-0.004	0.003
12614M001	7520	LG	0.002	0.000	0.001	0.1	0.0	0.1	0.000	0.000	0.002
12614M001	7520	LZ	0.009	0.024	0.014	0.2	0.5	0.7	0.020	0.000	0.022
				0.031			1.0			0.037	0.015

KATAVIA

12615M001	7512	LG	0.015	-0.001	0.001	0.7	0.0	0.0	-0.008	-0.007	0.011
12615M001	7512	LU	0.007	0.000	0.002	0.4	0.0	0.1	-0.003	-0.002	0.006
12615M001	7512	LC	0.002	0.010	-0.001	0.1	0.5	-0.1	0.007	-0.005	0.004
12615M001	7512	LD	0.004	-0.001	-0.016	0.2	-0.1	-0.6	-0.003	-0.015	-0.007
12615M001	7512	LK	-0.041	-0.024	0.032	-1.6	-0.9	1.2	-0.002	0.054	-0.020
12615M001	7512	LZ	-0.007	0.011	-0.011	-0.2	0.4	-0.6	0.013	-0.009	-0.007
				0.015			0.5			0.017	0.011

XRISOKALARIA

12616M001	7525	LK	-0.051	0.028	0.008	-2.0	1.1	0.3	0.045	0.029	-0.025
12616M001	7525	LU	0.019	-0.005	-0.006	1.2	-0.3	-0.4	-0.012	-0.014	0.009
12616M001	7525	LC	-0.004	-0.010	-0.005	-0.2	-0.5	-0.2	-0.008	0.001	-0.009
12616M001	7525	LD	0.012	-0.006	0.006	0.5	-0.3	0.3	-0.010	0.000	0.011
12616M001	7525	LZ	0.001	0.010	-0.001	0.0	0.3	0.0	0.009	-0.003	0.003
12616M001	7525	LG	-0.006	0.004	0.005	-0.2	0.2	0.2	0.006	0.006	0.000
				0.016			0.6			0.017	0.012

LAMPEDUSA

12706M001	7544	LZ	0.012	0.008	0.006	0.3	0.2	0.4	0.005	-0.003	0.014
12706M001	7544	LD	0.003	-0.011	-0.020	0.1	-0.3	-0.6	-0.011	-0.016	-0.011
12706M001	7544	LU	0.014	0.000	0.002	0.9	0.0	0.1	-0.003	-0.006	0.012
12706M001	7544	LK	-0.040	0.021	0.000	-1.5	0.8	0.0	0.029	0.020	-0.028
12706M001	7544	LG	0.011	-0.003	0.001	0.4	-0.1	0.0	-0.005	-0.005	0.009
12706M001	7544	LC	-0.013	-0.008	-0.008	-0.5	-0.4	-0.3	-0.005	0.002	-0.016
				0.014			0.5			0.012	0.016

BOLOGNA

12711M002	7546	LD	0.059	-0.067	-0.035	1.2	-0.9	-0.7	-0.077	-0.056	0.007
12711M002	7546	LK	0.005	-0.139	0.008	0.1	-3.2	0.2	-0.137	0.022	-0.011
12711M002	7546	LZ	-0.009	-0.123	0.015	0.0	-0.6	0.4	-0.119	0.035	-0.013
12711M002	7546	LU	0.006	-0.158	0.034	0.3	-4.4	1.3	-0.156	0.043	0.005
12711M002	7546	LC	0.046	-0.098	-0.018	0.4	-1.8	-0.2	-0.105	-0.031	0.005
12711M002	7546	LG	-0.027	-0.037	0.061	-0.3	-0.3	0.7	-0.031	0.067	0.019
12711M002	7546	GA	0.000	0.000	0.000	0.0	0.2	-0.1	0.000	0.000	0.000
12711S001	7230	GA	0.000	0.000	0.001	0.0	-0.2	0.3	0.000	0.001	0.001
12711S001	7230	RM	0.008	0.003	0.008	0.8	0.4	0.8	0.001	0.000	0.012
12711S001	7230	RG	-0.003	0.004	-0.005	-0.4	0.8	-0.5	0.004	-0.002	-0.005
12711S001	7230	RU	0.026	-0.029	0.007	0.8	-1.1	0.1	-0.033	-0.009	0.019
12711S001	7230	RN	-0.005	0.002	-0.008	-0.7	0.4	-0.8	0.004	-0.003	-0.009

				0.050			1.0			0.061	0.011
NOTO											
12717M001	7543	LC	-0.002	-0.015	0.000	0.0	-0.7	0.0	-0.014	0.003	-0.004
12717M001	7543	LG	-0.036	0.101	0.013	-0.8	2.0	0.3	0.107	0.016	0.001
12717M001	7543	LZ	0.027	0.026	0.004	0.6	0.5	0.2	0.019	-0.016	0.028
12717M001	7543	LU	0.002	-0.008	-0.006	0.1	-0.4	-0.3	-0.008	-0.005	-0.004
12717S001	7547	RN	-0.003	0.004	0.014	-0.2	0.4	1.0	0.004	0.013	0.007
12717S001	7547	RM	-0.006	0.003	-0.024	-0.6	0.4	-2.4	0.004	-0.017	-0.019
12717S001	7547	RU	0.034	-0.008	0.010	2.8	-0.8	0.7	-0.016	-0.010	0.031
12717S001	7547	RG	-0.016	-0.001	0.012	-1.6	-0.1	1.2	0.003	0.019	-0.005
				0.026			0.9			0.029	0.017
TRIESTE											
12718M002	7550	LG	0.001	0.001	0.007	0.0	0.0	0.2	0.001	0.004	0.006
12718M002	7550	LC	-0.032	0.008	0.003	-0.5	0.2	0.0	0.015	0.022	-0.018
12718M002	7550	LK	0.053	-0.052	-0.032	1.8	-1.7	-1.1	-0.063	-0.050	0.005
12718M002	7550	LD	-0.011	0.033	0.002	-0.3	0.7	0.0	0.034	0.003	-0.001
12718M002	7550	LU	-0.018	0.014	0.006	-1.0	0.6	0.3	0.018	0.014	-0.006
12718M002	7550	LZ	0.018	0.051	0.019	0.1	0.4	0.6	0.045	-0.008	0.034
				0.027			0.6			0.030	0.016
CAGLIARI											
12725M002	7545	LC	-0.001	-0.014	-0.008	0.0	-0.7	-0.3	-0.014	-0.004	-0.008
12725M002	7545	LG	-0.005	0.002	0.002	-0.2	0.1	0.1	0.003	0.004	-0.003
12725M002	7545	LZ	0.000	0.012	0.003	0.0	0.3	0.2	0.012	0.001	0.004
12725M002	7545	LD	0.006	0.018	0.004	0.2	0.7	0.1	0.017	-0.003	0.009
12725M002	7545	LU	0.006	-0.005	0.000	0.3	-0.3	0.0	-0.006	-0.003	0.004
12725M002	7545	LK	-0.012	0.014	-0.006	-0.5	0.5	-0.2	0.016	0.001	-0.011
				0.008			0.3			0.009	0.007
MATERA											
12734M004	7541	LC	-0.018	0.016	0.028	-0.5	0.7	0.7	0.020	0.030	0.008
12734M004	7541	LK	0.050	-0.060	-0.033	1.9	-2.2	-1.3	-0.072	-0.045	0.002
12734M004	7541	LD	-0.006	0.012	0.006	-0.3	0.5	0.3	0.014	0.006	0.002
12734M004	7541	LG	-0.013	0.009	0.024	-0.4	0.3	0.9	0.012	0.025	0.008
12734M004	7541	LZ	-0.014	0.013	-0.004	-0.6	0.6	-0.3	0.017	0.003	-0.010
12734M005	7540	LZ	-0.011	0.021	0.014	-0.5	1.0	0.9	0.023	0.013	0.006
12734M005	7540	LK	0.042	-0.069	-0.059	1.5	-2.4	-2.2	-0.078	-0.058	-0.023
12734M005	7540	LC	-0.011	0.014	0.057	-0.2	0.4	0.9	0.016	0.048	0.032
12734M005	7540	LD	-0.016	0.017	0.007	-0.6	0.7	0.3	0.021	0.012	-0.003
12734M007		PJ	0.023	0.009	0.017	2.1	0.7	1.1	0.003	-0.003	0.029
12734M007		GA	-0.002	0.000	-0.001	-0.6	-0.1	-0.2	-0.001	-0.002	0.001
12734S001	7939	LG	0.000	0.013	-0.009	0.0	0.8	-0.5	0.012	-0.009	-0.003
12734S001	7939	GA	0.000	0.000	0.000	0.0	-0.3	0.2	0.000	0.000	0.000
12734S001	7939	LU	-0.006	0.015	-0.019	-0.4	1.0	-1.2	0.016	-0.014	-0.013
12734S001	7939	LC	0.018	0.018	0.018	1.0	1.1	1.0	0.012	-0.001	0.028
12734S001	7939	LZ	0.005	0.023	-0.011	0.3	1.4	-0.7	0.021	-0.016	0.001
12734S001	7939	LD	0.002	0.019	-0.014	0.1	1.0	-0.7	0.018	-0.016	-0.004
12734S001	7939	LK	-0.015	-0.003	-0.009	-0.6	-0.1	-0.4	0.001	0.003	-0.018
12734S001	7939	LT	-0.019	-0.012	-0.033	-0.5	-0.5	-0.9	-0.006	-0.011	-0.038
12734S005	7243	RG	-0.024	0.000	0.015	-2.7	0.0	1.5	0.007	0.026	-0.008
12734S005	7243	RU	0.008	-0.009	0.001	0.9	-1.2	0.1	-0.010	-0.003	0.004
12734S005	7243	RN	-0.010	-0.004	0.011	-1.0	-0.6	0.9	-0.001	0.016	-0.001
12734S005	7243	GA	0.002	0.003	-0.001	0.6	1.0	-0.3	0.001	0.002	-0.003
12734S005	7243	RM	0.011	-0.005	-0.023	0.9	-0.7	-1.8	-0.008	-0.024	-0.008
				0.021			0.8			0.024	0.015
MONTE VENDA											

12749M001	7542	LK	-0.023	-0.075	0.043	-0.6	-1.3	0.9	-0.069	0.057	0.004
12749M001	7542	LZ	-0.040	0.074	-0.020	-0.1	0.4	-0.3	0.081	0.003	-0.031
12749M001	7542	LC	0.026	0.013	-0.022	0.6	0.5	-0.5	0.007	-0.036	0.004
				0.043			0.6			0.052	0.018

CHILBOLTON

13201S002	7215	RN	-0.011	0.016	-0.041	-0.5	1.1	-1.3	0.016	-0.017	-0.039
13201S002	7215	RG	0.005	-0.005	0.012	0.4	-0.6	0.7	-0.005	0.004	0.012
				0.019			0.7			0.012	0.029

HERSTMONCEUX

13212S001	7840	LZ	0.011	0.013	0.008	0.8	0.8	0.5	0.013	-0.004	0.013
13212S001	7840	LG	0.003	-0.002	0.000	0.2	-0.1	0.0	-0.002	-0.002	0.002
13212S001	7840	LK	0.014	-0.018	0.010	0.4	-0.6	0.3	-0.018	-0.005	0.016
13212S001	7840	LD	-0.007	0.010	0.005	-0.4	0.5	0.3	0.010	0.009	0.000
13212S001	7840	LT	-0.005	-0.009	-0.020	-0.1	-0.4	-0.6	-0.008	-0.008	-0.019
13212S001	7840	LC	-0.015	-0.008	-0.001	-0.9	-0.5	-0.1	-0.008	0.011	-0.011
13212S001	7840	LU	0.001	0.000	-0.008	0.1	0.0	-0.5	0.000	-0.006	-0.006
				0.010			0.4			0.009	0.012

MADRID-ROBLEDO

13407S003	1561	RJ	0.002	-0.015	0.007	0.1	-0.9	0.4	-0.015	0.004	0.007
13407S003	1561	RG	-0.033	0.012	-0.065	-0.5	0.8	-1.0	0.010	-0.028	-0.068
13407S010	1565	RG	0.005	-0.001	0.005	0.5	-0.1	0.5	0.000	0.001	0.007
13407S010	1565	GA	0.000	0.000	0.000	-0.2	0.0	-0.1	0.000	0.000	0.000
13407S010	1565	RJ	-0.004	0.015	-0.010	-0.3	0.8	-0.5	0.015	-0.004	-0.010
13407S010	1565	RN	0.009	-0.003	0.007	1.0	-0.4	0.6	-0.002	-0.001	0.012
13407S013		PJ	-0.016	0.006	-0.018	-1.6	0.4	-1.2	0.005	-0.003	-0.024
13407S013		GA	0.001	0.000	0.001	0.5	-0.1	0.2	-0.001	0.001	0.000
				0.017			0.6			0.009	0.026

KOOTWIJK

13504M002	8833	LD	0.007	0.019	-0.002	0.3	0.7	-0.1	0.018	-0.008	0.004
13504M002	8833	LC	0.000	-0.006	0.023	0.0	-0.2	0.4	-0.006	0.014	0.018
13504M002	8833	GA	0.000	0.000	0.000	-0.1	0.0	-0.1	0.000	0.000	0.000
13504M002	8833	LZ	0.018	-0.013	0.002	0.3	-0.2	0.1	-0.015	-0.012	0.012
13504M002	8833	LU	0.000	-0.007	0.003	0.0	-0.4	0.2	-0.007	0.003	0.002
13504M002	8833	LK	0.022	0.010	0.046	0.8	0.4	1.8	0.007	0.011	0.051
13504M002	8833	LG	0.023	0.018	-0.011	0.8	0.6	-0.5	0.015	-0.026	0.007
13504M003		PJ	-0.009	-0.004	-0.014	-0.8	-0.3	-1.0	-0.003	-0.001	-0.017
13504M003		GA	0.001	0.000	0.001	0.2	0.1	0.2	0.001	0.001	0.000
13504S001	7833	LT	-0.025	0.046	0.021	-0.2	0.5	0.3	0.048	0.029	0.004
13504S001	7833	LZ	-0.024	-0.026	-0.028	-0.3	-0.4	-1.8	-0.024	0.003	-0.038
13504S001	7833	LG	0.007	-0.026	0.007	0.3	-1.0	0.3	-0.027	0.001	0.009
13504S001	7833	LC	0.014	0.090	0.078	0.2	1.9	1.0	0.088	0.030	0.075
13504S001	7833	LK	-0.010	0.000	0.059	-0.3	0.0	2.1	0.001	0.044	0.041
				0.026			0.6			0.025	0.030

ZIMMERWALD

14001S001	7810	LZ	-0.004	0.015	0.003	-0.2	0.7	0.2	0.015	0.003	0.001
14001S001	7810	LT	-0.010	-0.006	-0.035	-0.3	-0.3	-1.0	-0.005	-0.016	-0.033
14001S001	7810	LG	0.010	-0.010	-0.006	0.6	-0.6	-0.3	-0.011	-0.010	0.002
14001S001	7810	LD	0.011	0.015	0.009	0.5	0.7	0.4	0.013	-0.003	0.015
14001S001	7810	LU	0.006	0.001	0.005	0.4	0.0	0.3	0.000	-0.001	0.008
14001S001	7810	LK	0.012	-0.003	-0.001	0.4	-0.1	0.0	-0.004	-0.009	0.007
14001S001	7810	LC	-0.025	-0.004	-0.001	-1.5	-0.3	-0.1	-0.001	0.018	-0.018
				0.012			0.5			0.010	0.016

MONTE GENEROSO

14005M002	7590	LK	0.002	-0.035	0.013	0.1	-1.3	0.5	-0.035	0.011	0.007
14005M002	7590	LD	-0.003	0.054	0.015	-0.1	2.0	0.6	0.054	0.007	0.014
14005M002	7590	LZ	-0.012	-0.023	0.005	-0.3	-0.5	0.3	-0.021	0.015	-0.007
14005M002	7590	LG	0.006	-0.015	-0.035	0.2	-0.5	-1.5	-0.016	-0.028	-0.023
				0.024			0.8		0.027		0.014

POTSDAM

14106S001	1181	LZ	0.016	0.021	-0.023	0.2	0.4	-1.3	0.017	-0.030	-0.005
14106S001	1181	LT	0.019	-0.006	-0.090	0.3	-0.1	-2.2	-0.010	-0.069	-0.061
14106S001	1181	LC	0.016	0.011	-0.075	0.3	0.3	-1.3	0.007	-0.061	-0.048
14106S001	1181	LG	0.012	-0.031	0.069	0.4	-0.9	2.7	-0.033	0.038	0.058
14106S001	1181	LD	-0.018	0.007	0.013	-0.7	0.3	0.6	0.010	0.021	0.001
14106S001	1181	LK	0.002	0.000	0.010	0.1	0.0	0.4	0.000	0.005	0.009
				0.035			0.9		0.033		0.040

WETTZELL

14201M004	7596	LZ	-0.006	0.015	-0.018	-0.3	0.8	-1.2	0.016	-0.010	-0.016
14201M004	7596	GA	0.000	-0.001	0.001	0.1	-0.3	0.3	-0.001	0.000	-0.001
14201M004	7596	LC	-0.037	0.075	0.007	-0.5	1.9	0.1	0.082	0.019	-0.008
14201M004	7596	LD	-0.007	0.019	-0.008	-0.3	0.7	-0.3	0.020	-0.003	-0.007
14201M005	7597	GA	0.000	0.000	0.000	0.0	0.1	0.0	0.000	0.000	0.000
14201M005	7597	LC	-0.028	-0.029	0.038	-0.4	-0.7	0.4	-0.022	0.050	0.007
14201M006	7598	PJ	0.018	0.010	0.029	1.7	0.7	2.1	0.005	0.004	0.035
14201M006	7598	GA	-0.001	0.000	-0.001	-0.5	-0.2	-0.4	0.000	-0.002	0.000
14201S002	7834	LT	-0.025	-0.017	-0.055	-0.6	-0.8	-1.6	-0.011	-0.015	-0.060
14201S002	7834	LG	0.014	0.009	-0.008	0.8	0.5	-0.5	0.006	-0.017	0.004
14201S002	7834	LC	0.010	0.005	0.021	0.6	0.3	1.1	0.002	0.006	0.023
14201S002	7834	LU	-0.002	0.009	-0.016	-0.2	0.6	-1.0	0.009	-0.010	-0.012
14201S002	7834	GA	0.000	0.000	0.000	0.1	-0.3	0.2	0.000	0.000	0.000
14201S002	7834	LK	-0.011	-0.010	-0.019	-0.4	-0.4	-0.8	-0.007	-0.003	-0.023
14201S002	7834	LD	-0.060	0.084	0.011	-2.9	4.0	0.5	0.095	0.037	-0.018
14201S002	7834	LZ	-0.006	0.015	-0.019	-0.4	0.9	-1.3	0.016	-0.011	-0.016
14201S004	7224	RU	0.014	-0.006	0.014	1.5	-0.8	1.4	-0.009	0.000	0.019
14201S004	7224	RG	0.008	-0.001	0.011	1.3	-0.3	1.3	-0.003	0.001	0.013
14201S004	7224	RM	-0.012	-0.005	-0.009	-2.4	-1.0	-1.5	-0.002	0.004	-0.015
14201S004	7224	GA	0.000	0.004	-0.001	0.0	1.3	-0.3	0.001	0.000	-0.004
14201S004	7224	RN	0.006	-0.002	0.005	0.7	-0.4	0.5	-0.003	0.000	0.007
14201S018	8834	LT	0.010	0.031	0.027	0.1	0.2	0.3	0.028	0.005	0.032
14201S018	8834	LK	-0.002	-0.004	-0.003	-0.1	-0.2	-0.1	-0.004	0.000	-0.004
14201S018	8834	LZ	-0.050	0.038	-0.023	0.0	0.0	-0.1	0.048	0.015	-0.044
14201S018	8834	LC	0.016	0.010	0.032	0.2	0.2	0.3	0.007	0.007	0.036
				0.023			0.8		0.023		0.022

EFFELSBERG

14209S001	7203	RG	-0.006	-0.010	0.010	-0.1	-0.4	0.2	-0.009	0.012	0.003
14209S001	7203	RN	0.002	0.005	-0.004	0.1	0.3	-0.1	0.005	-0.004	-0.001
				0.007			0.2		0.008		0.002

BAR GIYYORA

20702M001	7530	LU	0.032	-0.020	0.018	1.2	-0.8	0.7	-0.035	0.008	0.022
20702M001	7530	LC	-0.062	-0.003	-0.042	-0.7	0.0	-0.6	0.034	-0.008	-0.066
20702M001	7530	LG	-0.017	0.022	-0.023	-0.7	1.0	-1.0	0.028	-0.019	-0.013
20702M001	7530	LK	-0.014	-0.004	0.025	-0.5	-0.1	1.0	0.005	0.029	0.002
20702M001	7530	LZ	-0.067	-0.017	-0.090	-0.4	-0.1	-0.8	0.024	-0.043	-0.102
20702M001	7530	LD	0.044	-0.017	-0.012	0.9	-0.3	-0.2	-0.040	-0.024	0.016
				0.037			0.6		0.028		0.051

DIYARBAKIR

20801M001	7575	LC	0.003	-0.004	0.000	0.1	-0.2	0.0	-0.005	0.000	-0.001
20801M001	7575	LZ	-0.016	0.023	-0.009	-0.3	0.4	-0.2	0.028	-0.008	-0.003
20801M001	7575	LK	-0.048	0.021	0.016	-1.8	0.8	0.6	0.047	0.027	-0.008
20801M001	7575	LU	0.001	-0.007	0.000	0.1	-0.4	0.0	-0.006	0.002	-0.002
20801M001	7575	LD	0.022	0.001	-0.017	0.7	0.0	-0.6	-0.013	-0.024	0.003
20801M001	7575	LG	0.040	-0.007	0.005	1.3	-0.3	0.2	-0.031	-0.012	0.024
				0.019			0.6			0.022	0.011

YOZGAT

20802M001	7585	LD	0.020	0.005	-0.008	0.7	0.1	-0.3	-0.008	-0.019	0.010
20802M001	7585	LZ	-0.029	0.003	0.001	-0.4	0.0	0.0	0.019	0.014	-0.016
20802M001	7585	LK	-0.005	0.001	0.031	-0.2	0.0	1.2	0.004	0.026	0.017
20802M001	7585	LG	0.020	0.022	0.006	0.6	0.6	0.2	0.006	-0.013	0.026
20802M001	7585	LU	-0.010	-0.002	-0.013	-0.6	-0.1	-0.7	0.004	-0.004	-0.016
20802M001	7585	LC	0.009	-0.014	0.001	0.3	-0.5	0.0	-0.017	0.001	0.001
				0.015			0.4			0.014	0.016

MELENGICLICK

20803M001	7580	LG	0.021	-0.018	0.003	0.8	-0.7	0.1	-0.026	-0.003	0.008
20803M001	7580	LK	-0.023	0.087	0.009	-0.9	3.3	0.3	0.086	-0.010	0.028
20803M001	7580	LU	-0.009	-0.014	-0.002	-0.5	-0.9	-0.1	-0.007	0.007	-0.013
20803M001	7580	LC	0.004	-0.016	0.011	0.2	-0.7	0.4	-0.015	0.011	0.003
20803M001	7580	LZ	-0.024	-0.005	-0.014	-0.6	-0.1	-0.6	0.009	0.003	-0.027
20803M001	7580	LD	0.028	-0.006	0.001	1.1	-0.2	0.1	-0.021	-0.011	0.017
				0.025			0.8			0.028	0.018

YIGILCA

20804M001	7587	LU	-0.006	-0.003	-0.003	-0.4	-0.2	-0.2	0.000	0.002	-0.007
20804M001	7587	LK	0.000	0.055	0.015	0.0	2.1	0.6	0.047	-0.008	0.031
20804M001	7587	LG	0.003	-0.009	-0.001	0.1	-0.3	0.0	-0.009	0.001	-0.002
20804M001	7587	LZ	0.019	-0.001	-0.003	0.4	0.0	-0.1	-0.010	-0.012	0.010
20804M001	7587	LD	-0.001	-0.010	0.003	0.0	-0.4	0.1	-0.008	0.006	-0.002
20804M001	7587	LC	0.010	-0.020	-0.007	0.4	-0.9	-0.3	-0.022	-0.004	-0.006
				0.016			0.5			0.016	0.014

SHANGHAI

21605S001	7837	LC	0.048	-0.043	-0.055	1.0	-0.8	-1.1	-0.019	-0.015	-0.081
21605S001	7837	GA	0.000	0.000	0.000	-0.1	0.1	0.3	0.000	0.000	0.000
21605S001	7837	LU	0.018	-0.037	-0.141	0.5	-1.5	-5.7	0.003	-0.100	-0.108
21605S001	7837	LG	0.015	-0.031	-0.043	0.4	-0.9	-1.2	0.004	-0.019	-0.052
21605S001	7837	LZ	0.050	-0.044	-0.085	1.1	-1.0	-1.6	-0.019	-0.040	-0.098
21605S001	7837	LT	-0.011	0.038	0.000	-0.1	0.7	0.0	-0.010	-0.019	0.032
21605S001	7837	LK	0.021	-0.002	-0.009	0.8	-0.1	-0.3	-0.017	-0.001	-0.016
21605S009	7227	RM	-0.005	0.015	0.027	-0.7	2.2	3.4	-0.003	0.015	0.028
21605S009	7227	RN	-0.002	-0.009	-0.008	-0.1	-0.6	-0.4	0.006	-0.003	-0.009
21605S009	7227	GA	0.010	-0.012	-0.033	1.0	-1.2	-3.3	0.016	-0.032	-0.007
21605S009	7227	RG	0.002	-0.015	-0.013	0.2	-1.5	-1.0	0.006	-0.004	-0.018
				0.038			1.3			0.026	0.055

KASHIMA

21701S001	1856	RG	-0.002	-0.006	0.001	-0.3	-0.9	0.1	0.006	0.002	-0.001
21701S001	1856	RN	-0.004	-0.003	0.000	-0.3	-0.3	0.0	0.004	-0.001	0.001
21701S001	1856	RM	0.003	0.005	-0.001	0.4	0.9	-0.1	-0.005	-0.001	0.000
21701S004	1857	RG	0.028	-0.006	-0.010	4.1	-1.0	-1.0	-0.013	0.007	-0.027
21701S004	1857	RM	-0.022	0.017	0.015	-3.1	2.5	1.7	0.000	-0.004	0.031
21701S004	1857	RU	-0.030	-0.017	-0.013	-1.9	-1.9	-1.3	0.033	-0.018	0.003
21701S004	1857	RN	-0.007	0.006	0.019	-0.4	0.4	0.9	0.000	0.010	0.019

				0.013			1.3			0.011	0.017
NOBEYAMA											
21725S001	7244	RN	-0.099	0.138	0.144	-1.0	1.5	1.5	-0.038	0.020	0.219
21725S001	7244	RG	0.004	0.003	-0.009	0.2	0.2	-0.5	-0.004	-0.007	-0.006
21725S001	7244	RM	-0.001	-0.003	0.001	-0.1	-0.3	0.1	0.003	0.002	0.000
				0.074			0.7			0.018	0.126
SIMOSATO											
21726S001	7838	LU	-0.014	0.013	0.010	-0.9	0.9	0.6	0.000	-0.002	0.022
21726S001	7838	LD	-0.037	-0.028	0.008	-1.8	-1.3	0.4	0.046	0.003	0.010
21726S001	7838	LK	0.024	0.055	0.058	0.9	2.1	2.2	-0.057	0.037	0.049
21726S001	7838	LC	0.044	-0.048	-0.046	2.7	-3.0	-2.7	0.004	-0.003	-0.080
21726S001	7838	LZ	0.001	0.009	-0.014	0.1	0.4	-0.7	-0.007	-0.014	-0.003
21726S001	7838	LG	-0.023	0.013	0.016	-1.3	0.8	0.9	0.006	-0.001	0.030
21726S001	7838	LT	0.032	0.051	-0.002	0.7	1.5	-0.1	-0.058	-0.008	0.010
				0.032			1.3			0.027	0.039
CHICHIJIMA											
21732S001	7844	GA	0.000	0.000	0.000	-0.1	0.0	0.0	0.000	0.000	0.000
21732S001	7844	RG	0.157	0.062	0.009	3.3	1.6	0.2	-0.145	0.048	-0.073
21732S002	7844	LZ	-0.189	-0.308	-0.032	-1.6	-2.7	-0.3	0.360	-0.011	-0.050
21732S002	7844	LG	-0.287	-0.342	-0.077	-4.0	-2.6	-0.5	0.446	-0.076	-0.019
21732S002	7844	GA	0.114	0.068	0.009	2.8	1.7	0.2	0.022	-0.022	-0.129
				0.160			1.7			0.189	0.070
HELWAN											
30101S001	7831	LT	0.062	-0.024	0.135	0.8	-0.3	1.8	-0.053	0.097	0.102
30101S001	7831	LD	0.090	0.009	-0.113	3.9	0.4	-4.9	-0.039	-0.139	0.015
30101S001	7831	LU	-0.020	-0.094	0.109	-1.3	-5.9	6.4	-0.070	0.127	-0.004
30101S001	7831	LZ	-0.005	-0.086	0.094	-0.1	-2.3	4.1	-0.071	0.105	0.004
30101S001	7831	LG	0.011	0.130	-0.087	0.4	5.0	-3.3	0.105	-0.114	0.024
30101S001	7831	LK	-0.032	0.000	-0.025	-1.2	0.0	-0.9	0.017	-0.008	-0.037
30101S001	7831	LC	-0.039	0.099	-0.097	-1.7	4.7	-4.4	0.105	-0.093	-0.033
				0.078			2.8			0.090	0.044
JOHANNESBURG											
30302M002		PJ	-0.009	-0.006	0.003	-0.5	-0.3	0.2	-0.001	-0.002	-0.011
30302M002		GA	0.313	0.153	-0.103	3.1	1.5	-1.0	-0.347	-0.106	0.020
30302S001	7232	RM	-0.006	-0.002	0.006	-0.6	-0.3	0.8	0.001	0.003	-0.008
30302S001	7232	RU	-0.024	0.044	0.030	-0.6	1.7	1.3	0.050	0.027	-0.013
30302S001	7232	RG	0.016	0.006	-0.008	1.1	0.6	-0.8	-0.002	0.000	0.018
30302S001	7232	RN	0.009	-0.011	-0.015	0.5	-0.9	-1.1	-0.014	-0.012	0.009
30302S001	7232	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
				0.081			0.9			0.098	0.013
ALGONQUIN											
40104M002		GA	-0.001	0.001	0.000	-0.2	0.5	0.1	0.002	0.000	0.000
40104M002		PJ	0.011	-0.017	-0.008	0.9	-1.6	-0.6	0.008	-0.019	0.007
40104S001	7282	GA	0.000	0.000	0.000	0.1	-0.2	0.0	0.000	0.000	0.000
40104S001	7282	RG	0.000	0.000	-0.002	0.0	0.0	-0.2	0.000	-0.001	-0.001
40104S001	7282	RU	-0.005	0.010	0.000	-1.0	1.2	0.0	-0.003	0.008	-0.007
40104S001	7282	RM	0.001	0.000	0.002	0.3	0.0	0.3	0.001	0.002	0.002
40104S001	7282	RN	0.002	0.001	0.001	0.4	0.1	0.2	0.002	0.001	0.001
				0.005			0.5			0.006	0.004
YELLOWKNIFE											

40127M001	7285	GA	0.000	0.000	0.000	0.0	0.1	-0.1	0.000	0.000	0.000
40127M001	7285	RG	-0.002	-0.029	0.118	-0.2	-1.5	3.1	0.010	0.031	0.117
40127M003		GA	0.000	-0.001	0.001	-0.1	-0.2	0.2	0.001	0.001	0.000
40127M003		PJ	0.003	0.012	-0.012	0.2	1.0	-1.0	-0.002	0.005	-0.016
				0.035			0.9			0.012	0.059

PASADENA

40400M001	7896	LD	-0.183	0.125	-0.003	-6.8	4.6	-0.1	-0.220	0.010	-0.021
40400M001	7896	GA	0.000	0.000	0.000	0.1	-0.1	0.3	0.000	0.000	0.000
40400M001	7896	LG	0.065	0.016	-0.125	2.1	0.5	-4.8	0.050	-0.078	-0.107
40400M001	7896	LC	0.030	-0.118	-0.069	0.5	-1.4	-1.0	0.082	-0.108	0.036
40400M001	7896	LZ	0.082	-0.033	-0.128	2.1	-0.9	-3.3	0.088	-0.100	-0.080
40400M003	7263	GA	-0.001	0.000	0.000	-0.3	0.2	-0.2	0.000	0.000	0.001
40400M003	7263	RG	0.009	-0.026	0.021	1.0	-1.6	1.6	0.020	0.007	0.027
40400M006	7272	GA	0.000	0.000	-0.001	0.0	0.1	-0.5	0.000	-0.001	0.001
40400M006	7272	PJ	0.001	-0.005	0.032	0.1	-0.5	2.3	0.003	0.024	0.021
				0.065			1.9			0.072	0.048

GOLDSTONE

40405M001	7085	LC	-0.183	-0.146	0.069	-1.0	-0.6	0.3	-0.097	-0.067	0.214
40405M001	7085	GB	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40405M002	7115	LC	-0.045	-0.030	0.094	-1.5	-0.9	2.7	-0.026	0.051	0.092
40405M002	7115	LZ	0.000	0.016	-0.014	0.0	0.4	-0.3	-0.008	-0.003	-0.020
40405M002	7115	LG	0.021	0.105	-0.020	1.1	5.5	-1.1	-0.029	0.043	-0.096
40405M002	7115	LD	-0.065	0.077	-0.109	-2.8	3.5	-5.0	-0.093	-0.067	-0.095
40405M002	7115	GB	0.007	-0.053	0.055	0.3	-2.4	2.5	-0.002	0.077	-0.005
40405M002	7115	GD	0.000	0.000	0.000	0.1	-0.3	0.1	0.000	0.000	0.000
40405M006	7265	GA	0.000	-0.001	-0.001	-0.1	-0.2	-0.3	0.001	-0.001	0.000
40405M006	7265	LZ	-0.015	0.016	-0.017	-0.8	0.8	-0.8	-0.020	-0.010	-0.016
40405M006	7265	LK	0.021	0.033	0.030	0.7	1.1	1.1	0.004	0.047	-0.015
40405M006	7265	LD	0.015	-0.022	-0.015	0.6	-0.9	-0.6	0.023	-0.020	0.002
40405M006	7265	LC	-0.001	0.057	-0.011	0.0	1.2	-0.2	-0.026	0.020	-0.047
40405M006	7265	LG	0.007	0.003	0.041	0.3	0.1	2.2	0.005	0.037	0.019
40405M013	7288	LD	0.018	-0.008	-0.024	0.6	-0.3	-1.0	0.019	-0.019	-0.015
40405M013	7288	GA	-0.009	-0.004	0.022	-1.2	-0.3	2.2	0.008	0.022	0.003
40405M013	7288	GC	0.000	0.000	0.000	0.0	-0.1	-0.1	0.000	0.000	0.000
40405M013	7288	LG	-0.006	0.001	-0.017	-0.3	0.0	-0.9	-0.006	-0.015	-0.008
40405M013	7288	LK	0.082	-0.016	-0.040	3.1	-0.6	-1.6	0.080	-0.019	-0.042
40405M013	7288	LC	0.016	0.006	0.003	0.8	0.3	0.2	0.011	0.010	-0.008
40405M013	7288	LU	0.027	0.010	0.011	1.7	0.6	0.7	0.019	0.021	-0.011
40405M013	7288	RG	-0.006	0.004	0.006	-0.6	0.2	0.5	-0.008	0.005	0.003
40405M013	7288	LZ	-0.006	0.018	-0.015	-0.3	1.0	-0.7	-0.013	-0.005	-0.019
40405S009	7222	GB	0.005	-0.045	0.047	0.5	-4.1	4.2	0.026	0.057	-0.017
40405S009	7222	GA	0.000	0.000	0.000	0.2	0.1	-0.1	0.000	0.000	0.000
40405S009	7222	RG	-0.004	0.004	-0.008	-0.7	0.7	-1.3	-0.005	-0.005	-0.006
40405S009	7222	RM	-0.001	0.000	0.002	-0.2	0.1	0.4	-0.001	0.002	0.001
40405S009	7222	RN	-0.001	0.005	-0.008	-0.3	0.7	-1.1	-0.004	-0.005	-0.008
40405S014	1513	RN	0.003	-0.031	0.013	0.4	-3.4	1.3	0.016	-0.005	0.029
40405S014	1513	RG	0.001	0.000	0.002	0.1	0.0	0.2	0.001	0.001	0.001
40405S014	1513	GD	0.000	0.003	0.000	-0.2	1.0	-0.2	-0.003	0.000	0.001
40405S014	1513	RJ	0.004	0.015	-0.019	0.3	0.9	-1.1	-0.003	-0.007	-0.024
40405S019	7231	RG	0.003	-0.027	0.034	0.4	-3.3	3.8	0.014	0.015	0.038
40405S019	7231	GB	-0.001	0.004	-0.004	-0.2	1.4	-1.5	-0.004	-0.005	0.002
40405S019	7231	RJ	-0.002	-0.017	0.020	-0.1	-1.0	1.2	0.006	0.007	0.024
40405S030		PJ	-0.003	-0.006	-0.022	-0.3	-0.6	-1.6	0.000	-0.022	-0.007
40405S030		GC	0.002	0.007	0.014	0.2	0.7	1.2	0.001	0.002	0.015
				0.036			1.3			0.029	0.047

PINYON FLATS

40407M001	7256	RG	0.006	-0.031	-0.011	0.8	-2.2	-0.9	0.019	-0.023	0.015
40407M001	7256	GA	0.000	0.000	0.000	-0.1	0.2	0.1	0.000	0.000	0.000
40407M002		PJ	-0.016	0.016	0.015	-1.3	1.6	1.1	-0.022	0.016	0.003

40407M002		GA	0.001	-0.001	-0.001	0.3	-0.5	-0.2	-0.002	0.000	-0.001
				0.012			0.9			0.014	0.008
FAIRBANKS											
40408M001		PJ	-0.015	-0.014	0.003	-1.2	-1.0	0.2	0.004	-0.017	0.011
40408M001		GA	0.001	0.001	0.000	0.3	0.2	-0.1	-0.001	0.000	0.000
40408S002	7225	RU	0.007	0.003	-0.007	1.4	0.5	-1.1	0.001	0.004	-0.009
40408S002	7225	RM	-0.002	0.002	0.003	-0.4	0.4	0.4	-0.003	0.001	0.003
40408S002	7225	GA	0.000	0.000	0.000	-0.1	-0.1	0.0	0.000	0.000	0.000
40408S002	7225	RG	-0.002	-0.004	0.005	-0.4	-0.7	0.7	0.003	-0.001	0.006
40408S002	7225	RN	-0.001	0.001	0.000	-0.2	0.2	0.1	-0.001	0.000	0.001
				0.005			0.5			0.005	0.006
PATRICK AFB											
40417M002	7069	LD	0.064	-0.002	0.115	0.2	0.0	0.5	0.063	0.096	0.065
40417M002	7069	LG	-0.072	0.002	-0.090	-0.2	0.0	-0.4	-0.071	-0.073	-0.054
				0.071			0.3			0.077	0.060
VANDENBERG AFB											
40420M002	7223	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40420M002	7223	RM	0.003	-0.014	0.012	0.5	-2.0	1.7	0.010	0.004	0.015
40420M002	7223	RG	-0.003	0.007	-0.008	-0.6	1.2	-1.2	-0.006	-0.004	-0.008
40420M002	7223	RN	0.001	0.005	-0.005	0.2	0.7	-0.6	-0.002	-0.001	-0.007
40420M004	7887	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40420M004	7887	LG	0.234	0.522	-0.207	0.8	0.5	-0.8	-0.063	0.150	-0.587
				0.143			0.7			0.047	0.240
KAUAI											
40424M004		PJ	0.007	0.009	-0.023	0.9	0.6	-1.5	-0.006	-0.018	-0.018
40424M004		GB	-0.001	0.000	0.001	-0.3	-0.1	0.3	-0.001	0.001	0.000
40424S001	1311	RU	-0.014	-0.010	0.002	-2.9	-1.7	0.3	0.005	-0.005	0.017
40424S001	1311	RM	0.028	0.012	-0.021	4.7	2.4	-3.5	-0.001	-0.008	-0.036
40424S001	1311	RN	-0.007	0.007	0.006	-0.8	0.6	0.5	-0.009	0.004	0.006
40424S001	1311	RG	-0.012	-0.001	0.008	-2.0	-0.2	1.0	-0.003	0.003	0.014
40424S001	1311	GB	0.000	0.000	0.000	0.2	-0.2	0.4	0.000	0.000	0.000
				0.011			1.5			0.007	0.017
QUINCY											
40433M001	7051	LG	-0.005	-0.015	0.000	-0.3	-0.9	0.0	0.003	-0.010	0.012
40433M001	7051	LC	-0.048	0.020	0.129	-1.2	0.4	2.4	-0.051	0.094	0.088
40433M001	7051	LD	-0.118	0.060	-0.003	-4.7	2.4	-0.1	-0.131	-0.008	0.006
40433M001	7051	GA	0.002	-0.001	0.000	0.7	-0.2	-0.2	0.001	0.000	0.002
40433M001	7051	LZ	0.004	0.020	0.027	0.1	0.5	0.6	-0.007	0.033	0.002
40433M002	7109	LU	0.008	-0.013	0.011	0.6	-0.9	0.7	0.014	0.004	0.012
40433M002	7109	LK	0.010	-0.008	0.040	0.4	-0.3	1.6	0.012	0.029	0.027
40433M002	7109	LZ	-0.002	-0.009	0.003	-0.1	-0.6	0.2	0.003	-0.003	0.009
40433M002	7109	GA	0.000	0.000	0.000	-0.2	0.2	-0.1	0.000	0.000	0.000
40433M002	7109	LT	0.008	-0.004	0.010	0.5	-0.2	0.3	0.009	0.008	0.006
40433M002	7109	LD	0.025	-0.034	0.010	1.3	-1.7	0.5	0.039	-0.003	0.019
40433M002	7109	LG	-0.001	-0.011	0.006	0.0	-0.7	0.4	0.005	-0.002	0.012
40433M002	7109	LC	0.012	0.012	-0.015	0.8	0.8	-1.0	0.004	-0.001	-0.022
40433M004	7221	RG	0.005	0.002	-0.008	0.8	0.3	-0.9	0.003	-0.003	-0.009
40433M004	7221	GA	0.000	0.000	0.000	-0.2	0.0	0.1	0.000	0.000	0.000
40433M005	7886	LD	-0.159	-0.097	-0.231	-1.0	-0.9	-2.3	-0.087	-0.283	-0.021
40433M005	7886	LG	-0.007	0.022	-0.031	-0.2	0.9	-1.6	-0.017	-0.014	-0.032
40433M005	7886	LZ	-0.002	-0.012	-0.001	-0.1	-0.7	-0.1	0.004	-0.008	0.008
40433M005	7886	LC	-0.017	0.052	0.006	-0.7	1.7	0.2	-0.042	0.027	-0.024
40433M005	7886	LK	-0.012	0.037	0.026	-0.4	1.4	1.0	-0.029	0.037	-0.003
40433M005	7886	GA	0.001	-0.001	0.001	0.2	-0.3	0.2	0.000	0.001	-0.001

				0.047			0.9			0.055	0.024
MOUNT HOPKINS											
40434M002	7888	LZ	-0.002	0.012	0.043	0.0	0.3	0.6	-0.006	0.043	0.014
40434M002	7888	LG	-0.013	0.026	0.023	-0.3	0.7	0.5	-0.022	0.030	-0.005
40434M002	7888	LC	0.026	-0.023	0.089	0.4	-0.2	1.2	0.032	0.070	0.057
40434M002	7888	LD	-0.001	-0.024	-0.041	0.0	-0.8	-1.2	0.007	-0.047	-0.002
40434S001	7921	LC	-0.009	-0.028	0.022	-0.2	-0.4	0.3	0.001	0.003	0.037
40434S001	7921	LG	0.074	0.046	-0.218	0.5	0.5	-1.0	0.053	-0.150	-0.174
				0.063			0.5			0.055	0.077
SAN DIEGO											
40436M002	7062	LG	-0.012	-0.005	0.002	-0.5	-0.2	0.1	-0.008	-0.003	0.010
40436M002	7062	LZ	-0.003	0.028	0.023	0.0	0.6	0.3	-0.015	0.032	-0.008
40436M002	7062	LC	-0.073	-0.092	-0.055	-1.0	-1.3	-0.9	-0.023	-0.108	0.067
40436M002	7062	LD	0.046	0.026	0.004	1.3	0.9	0.1	0.029	0.027	-0.034
40436M002	7062	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40436M003	7035	LU	-0.011	0.014	0.015	-0.7	0.9	0.9	-0.016	0.017	0.001
40436M003	7035	LZ	-0.003	0.028	0.023	0.0	0.6	0.3	-0.015	0.032	-0.008
40436M003	7035	LK	-0.016	0.009	0.014	-0.6	0.4	0.6	-0.018	0.013	0.007
40436M003	7035	GA	0.000	0.000	0.000	0.1	-0.1	0.0	0.000	0.000	0.000
40436M003	7035	LD	0.020	-0.002	-0.024	0.6	-0.1	-0.8	0.019	-0.016	-0.018
40436M003	7035	LG	-0.010	-0.017	-0.012	-0.5	-0.7	-0.6	-0.002	-0.021	0.011
40436M003	7035	LC	-0.016	0.011	-0.014	-0.7	0.4	-0.5	-0.019	-0.011	-0.010
				0.027			0.5			0.028	0.023
BEAR LAKE											
40438M001	7082	LC	-0.057	-0.035	0.144	-0.9	-0.5	1.8	-0.040	0.072	0.135
40438M001	7082	LZ	0.038	0.017	0.014	0.1	0.1	0.0	0.029	0.031	-0.013
40438M001	7082	LD	0.048	-0.019	-0.051	0.5	-0.3	-0.7	0.052	-0.038	-0.034
40438M001	7082	LG	0.006	0.006	-0.005	0.2	0.2	-0.2	0.004	0.002	-0.010
40438M002	7046	LK	0.026	0.009	0.042	1.0	0.3	1.6	0.021	0.043	0.015
40438M002	7046	LZ	0.001	0.023	0.012	0.0	0.2	0.1	-0.007	0.024	-0.008
40438M002	7046	LU	0.000	0.002	0.015	0.0	0.1	0.9	-0.001	0.013	0.008
40438M002	7046	LG	-0.006	-0.037	-0.053	-0.2	-1.4	-2.5	0.008	-0.064	-0.008
40438M002	7046	LC	-0.010	0.014	0.003	-0.5	0.7	0.1	-0.014	0.008	-0.005
				0.039			0.7			0.034	0.047
OWENS VALLEY											
40439M001	7114	LD	0.006	-0.031	0.027	0.2	-1.3	1.1	0.020	0.007	0.036
40439M001	7114	LG	0.029	0.014	-0.009	1.5	0.7	-0.6	0.019	0.008	-0.026
40439M001	7114	GA	0.000	0.000	-0.001	0.0	-0.1	-0.2	0.000	0.000	0.001
40439M001	7114	LZ	-0.020	-0.004	0.029	-0.8	-0.2	1.1	-0.016	0.016	0.028
40439M001	7114	LC	-0.033	0.060	0.027	-1.2	1.8	0.8	-0.058	0.044	-0.014
40439M004	7853	LD	0.012	-0.030	0.012	0.5	-1.3	0.5	0.024	-0.003	0.024
40439M004	7853	LG	0.010	0.017	-0.003	0.5	0.9	-0.2	0.001	0.010	-0.017
40439M004	7853	LC	-0.012	-0.051	-0.042	-0.5	-2.1	-1.8	0.014	-0.064	0.015
40439M004	7853	LU	-0.031	0.022	-0.041	-1.7	1.3	-2.2	-0.038	-0.030	-0.028
40439M004	7853	GA	0.000	0.000	0.000	0.2	0.1	0.1	0.000	0.000	0.000
40439M004	7853	RG	-0.004	-0.013	0.008	-0.5	-0.9	0.6	0.002	-0.002	0.015
40439M004	7853	LZ	-0.021	-0.005	0.028	-0.8	-0.2	1.1	-0.016	0.014	0.028
40439M004	7853	LK	-0.030	-0.010	0.010	-1.2	-0.4	0.4	-0.022	-0.006	0.024
40439S002	7207	RN	0.008	0.005	-0.008	1.3	0.7	-1.0	0.004	-0.001	-0.011
40439S002	7207	RM	0.000	0.007	0.015	0.1	0.8	1.6	-0.003	0.015	0.004
40439S002	7207	RG	-0.001	-0.004	-0.003	-0.2	-0.6	-0.4	0.001	-0.005	0.002
40439S002	7207	GA	-0.005	-0.006	0.000	-0.9	-0.7	0.0	-0.008	0.000	0.000
				0.021			0.8			0.021	0.020
WESTFORD											

40440M001	7091	GA	0.000	0.000	-0.001	-0.4	0.2	-0.5	0.000	0.000	0.000
40440M001	7091	LC	-0.026	0.034	-0.042	-1.5	1.5	-1.8	-0.014	-0.003	-0.058
40440M001	7091	LK	0.038	0.018	0.009	1.5	0.7	0.4	0.042	0.010	0.003
40440M001	7091	LD	-0.066	-0.073	0.128	-2.6	-3.2	5.6	-0.086	0.062	0.122
40440M001	7091	LU	0.030	-0.025	0.018	1.8	-1.5	1.1	0.020	-0.009	0.036
40440M001	7091	LG	0.028	-0.046	0.044	1.3	-2.4	2.6	0.012	-0.003	0.068
40440M001	7091	LZ	0.159	0.007	0.062	7.6	0.3	2.7	0.153	0.016	0.074
40440S002	7205	RM	-0.001	0.006	0.002	-0.2	1.0	0.2	0.001	0.005	-0.003
40440S002	7205	GA	0.000	0.000	0.001	0.4	-0.1	0.7	0.000	0.001	0.001
40440S002	7205	RN	-0.007	0.003	-0.007	-1.5	0.5	-1.3	-0.006	-0.002	-0.008
40440S002	7205	RG	-0.003	-0.006	-0.002	-0.6	-1.1	-0.4	-0.005	-0.005	0.002
40440S003	7209	RG	0.000	0.003	-0.005	0.0	0.6	-1.1	0.001	-0.002	-0.006
40440S003	7209	RM	0.002	-0.008	0.003	0.4	-1.5	0.5	-0.001	-0.003	0.007
40440S003	7209	RU	-0.002	0.008	-0.003	-0.2	1.7	-0.5	0.001	0.004	-0.008
40440S003	7209	GA	0.000	-0.003	0.003	-0.1	-0.8	0.7	0.001	0.004	0.000
40440S003	7209	RN	0.000	0.001	0.000	0.0	0.3	0.0	0.000	0.001	-0.001
				0.038			1.6			0.034	0.043

GREENBANK

40441S001	7204	RG	-0.004	0.008	-0.007	-0.7	1.1	-1.0	-0.002	-0.001	-0.011
40441S001	7204	RN	0.004	-0.010	0.009	0.7	-1.3	1.2	0.002	0.001	0.014
40441S004	7214	RM	0.004	0.003	-0.002	0.9	0.5	-0.4	0.005	0.000	-0.003
40441S004	7214	RG	-0.006	-0.010	0.010	-1.2	-1.2	1.5	-0.008	0.003	0.013
40441S004	7214	RN	-0.005	-0.012	-0.001	-0.8	-1.0	-0.1	-0.007	-0.008	0.007
40441S004	7214	RU	0.005	0.004	-0.003	1.0	0.8	-0.5	0.005	0.000	-0.004
				0.007			0.8			0.005	0.010

FORT DAVIS

40442M001	7086	GA	0.000	0.000	0.000	-0.2	0.2	0.3	0.000	0.000	0.000
40442M001	7086	LZ	-0.006	-0.015	-0.021	-0.3	-1.0	-1.2	-0.002	-0.027	0.003
40442M001	7086	LT	0.020	0.012	-0.015	1.1	0.6	-0.6	0.017	-0.005	-0.022
40442M001	7086	MS	0.128	0.056	0.063	2.6	1.1	1.3	0.111	0.098	-0.041
40442M001	7086	LC	-0.002	-0.046	0.013	-0.1	-2.9	0.8	0.010	-0.012	0.046
40442M001	7086	LD	0.041	-0.014	-0.020	1.9	-0.7	-0.9	0.043	-0.019	-0.007
40442M001	7086	LG	-0.036	0.026	0.000	-2.3	1.6	0.0	-0.041	0.008	-0.014
40442M001	7086	LK	0.031	0.019	-0.011	1.2	0.7	-0.4	0.026	0.003	-0.028
40442M001	7086	MX	0.001	-0.043	-0.036	0.0	-2.5	-2.3	0.012	-0.052	0.017
40442M001	7086	LU	0.015	0.007	-0.015	1.0	0.5	-0.9	0.013	-0.007	-0.017
40442M001	7086	MJ	0.019	-0.027	-0.007	0.6	-0.9	-0.2	0.025	-0.017	0.015
40442M005	7885	LC	0.054	-0.065	0.038	1.0	-0.6	0.5	0.068	0.007	0.063
40442M005	7885	GA	-0.001	0.000	0.000	-0.3	0.1	0.1	0.000	0.000	0.000
40442M005	7885	LZ	-0.010	0.024	-0.008	-0.6	1.5	-0.4	-0.016	0.003	-0.022
40442M005	7885	LD	0.057	-0.072	-0.019	2.1	-2.7	-0.7	0.073	-0.044	0.039
40442M005	7885	LG	0.040	-0.077	0.003	1.0	-1.6	0.1	0.058	-0.031	0.058
40442M006	7080	LZ	-0.011	0.025	-0.015	-0.6	1.5	-0.8	-0.016	-0.002	-0.026
40442M006	7080	MJ	0.016	-0.015	-0.025	0.5	-0.5	-0.8	0.019	-0.027	-0.003
40442M006	7080	LT	-0.015	-0.057	0.033	-0.8	-2.7	1.3	0.000	-0.002	0.068
40442M006	7080	MX	0.002	-0.020	0.035	0.1	-1.2	2.2	0.007	0.021	0.034
40442M006	7080	LD	0.025	-0.005	-0.003	1.0	-0.2	-0.1	0.025	-0.002	-0.003
40442M006	7080	LU	0.009	0.042	-0.029	0.6	2.8	-1.8	-0.002	-0.003	-0.052
40442M006	7080	LK	0.003	0.033	-0.006	0.1	1.3	-0.2	-0.005	0.012	-0.031
40442M006	7080	GA	-0.001	-0.002	0.006	-0.2	-0.2	1.0	0.002	0.006	0.003
40442M006	7080	MS	-0.036	-0.109	-0.041	-0.7	-2.2	-0.8	-0.008	-0.094	0.078
40442M006	7080	LC	-0.003	0.009	0.007	-0.2	0.5	0.4	-0.005	0.010	-0.003
40442M006	7080	LG	0.020	-0.019	-0.045	1.2	-1.2	-2.8	0.024	-0.046	-0.010
40442M008	7850	RG	-0.001	0.003	0.006	-0.1	0.2	0.6	-0.002	0.007	0.001
40442M008	7850	GA	0.000	0.000	-0.001	0.1	0.0	-0.2	0.000	0.000	-0.001
40442M009	7900	GA	-0.002	0.000	0.001	-0.7	-0.1	0.2	-0.002	0.001	0.000
40442M009	7900	RG	0.015	0.009	-0.010	1.9	0.4	-0.8	0.013	-0.002	-0.015
40442S002	7206	GA	0.001	-0.003	0.000	0.4	-0.9	-0.1	0.003	0.000	0.000
40442S002	7206	MX	-0.074	0.061	-0.003	-2.2	3.6	-0.2	-0.087	0.019	-0.037
40442S002	7206	MJ	-0.057	0.077	0.026	-1.9	2.6	0.9	-0.074	0.053	-0.040
40442S003	7216	GA	0.000	0.000	0.000	0.3	0.0	-0.2	0.000	0.000	0.000
40442S003	7216	RG	-0.005	0.014	0.003	-1.0	2.8	0.7	-0.008	0.009	-0.009
40442S003	7216	GA	0.002	0.004	-0.012	0.5	0.3	-1.7	0.004	-0.010	0.006

40442S003	7216	RM	-0.002	-0.011	0.006	-0.4	-2.3	1.1	0.001	-0.001	0.013
40442S003	7216	RN	-0.004	-0.009	0.006	-0.7	-1.2	0.8	-0.001	0.000	0.011
				0.031			1.1			0.032	0.030

MAUI

40445M001	7210	LC	0.011	-0.012	0.036	0.7	-0.8	2.4	0.015	0.036	0.008
40445M001	7210	LU	-0.004	-0.018	0.027	-0.2	-1.2	1.8	0.015	0.021	0.019
40445M001	7210	LG	-0.016	0.002	0.025	-0.2	0.0	0.3	-0.008	0.018	0.021
40445M001	7210	LK	0.019	-0.022	0.048	0.8	-0.9	1.9	0.028	0.048	0.009
40445M001	7210	GB	-0.023	0.009	-0.016	-1.6	1.5	-2.7	-0.021	-0.020	-0.007
40445M001	7210	LT	0.011	-0.035	0.008	0.7	-0.9	0.2	0.036	0.006	0.007
40445M001	7210	GA	0.000	0.000	0.000	-0.1	-0.1	0.0	0.000	0.000	0.000
40445M001	7210	LZ	0.007	-0.004	0.031	0.4	-0.2	1.9	0.007	0.030	0.007
40445M001	7210	LD	0.042	0.020	0.006	2.0	1.0	0.3	-0.001	0.022	-0.041
40445M002	7120	LZ	-0.015	0.013	-0.016	-0.5	0.3	-0.7	-0.017	-0.018	0.003
40445M002	7120	RG	-0.030	0.012	-0.003	-1.4	1.0	-0.2	-0.023	-0.011	0.020
40445M002	7120	LC	-0.060	-0.001	-0.044	-1.8	-0.1	-1.7	-0.023	-0.061	0.036
40445M002	7120	LD	0.002	-0.075	0.031	0.1	-3.4	1.4	0.070	0.019	0.037
40445M002	7120	LG	-0.013	0.003	0.031	-0.1	0.0	0.3	-0.008	0.025	0.021
40445M002	7120	GA	0.001	0.001	0.000	0.4	0.2	0.2	-0.001	-0.001	0.001
40445S005	7210	MS	-0.045	0.072	-0.012	-0.9	1.4	-0.2	-0.084	-0.015	0.007
40445S005	7210	MJ	0.002	-0.033	0.001	0.1	-1.1	0.0	0.031	-0.003	0.011
40445S005	7210	MX	0.019	-0.026	0.003	0.9	-0.7	0.2	0.032	0.005	-0.006
40445S005	7210	GA	0.000	0.000	0.000	-0.1	0.1	0.0	0.000	0.000	0.000
				0.025			0.9			0.028	0.018

WASHINGTON

40451M101	7101	LC	-0.080	0.035	0.065	-0.5	0.1	0.3	-0.070	0.083	0.000
40451M101	7101	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40451M102	7102	LD	-0.054	0.014	-0.036	-2.3	0.6	-1.6	-0.049	-0.012	-0.043
40451M102	7102	RG	0.013	-0.030	0.028	1.5	-1.0	1.2	0.006	0.002	0.043
40451M102	7102	LZ	0.017	0.015	-0.015	1.0	0.9	-0.9	0.020	-0.005	-0.018
40451M102	7102	LG	0.016	0.025	-0.023	0.6	1.1	-1.1	0.022	-0.005	-0.030
40451M102	7102	LC	0.008	0.002	0.019	0.3	0.1	0.5	0.009	0.015	0.012
40451M102	7102	GA	-0.001	-0.001	0.001	-0.5	-0.3	0.3	0.001	0.001	0.002
40451M103	7103	LC	0.047	-0.010	0.034	1.4	-0.2	0.6	0.043	0.014	0.037
40451M103	7103	GA	0.000	0.000	0.000	-0.1	0.1	0.1	0.000	0.000	0.000
40451M103	7103	LD	0.015	0.004	-0.014	0.6	0.2	-0.6	0.016	-0.010	-0.009
40451M103	7103	LG	0.009	0.021	-0.014	0.3	0.6	-0.5	0.013	0.001	-0.023
40451M103	7103	LZ	-0.011	-0.013	0.002	-0.7	-0.9	0.1	-0.014	-0.005	0.009
40451M104	7104	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40451M104	7104	LC	-0.074	0.056	-0.045	-0.6	0.2	-0.2	-0.059	0.010	-0.084
40451M105	7105	LC	0.007	0.000	0.004	0.5	0.0	0.3	0.007	0.002	0.004
40451M105	7105	LU	0.006	0.008	0.003	0.4	0.5	0.2	0.008	0.007	-0.003
40451M105	7105	LT	-0.015	0.011	0.005	-1.0	0.7	0.4	-0.012	0.013	-0.007
40451M105	7105	LD	-0.051	-0.027	0.001	-2.4	-1.3	0.0	-0.056	-0.008	0.012
40451M105	7105	LZ	-0.011	-0.013	0.002	-0.7	-0.9	0.1	-0.013	-0.005	0.009
40451M105	7105	LG	-0.009	-0.002	-0.009	-0.1	0.0	-0.1	-0.009	-0.007	-0.006
40451M105	7105	GA	0.000	0.000	0.000	0.2	0.0	-0.1	0.000	0.000	0.000
40451M105	7105	LK	0.011	0.016	0.001	0.4	0.6	0.0	0.015	0.009	-0.009
40451M106	7100	LC	-0.049	-0.055	-0.354	0.0	-0.1	-0.4	-0.060	-0.303	-0.189
40451M106	7100	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
40451M111	7899	LG	-0.007	0.026	-0.040	-0.2	0.6	-1.0	-0.001	-0.014	-0.046
40451M111	7899	LZ	-0.011	-0.013	0.002	-0.7	-0.9	0.1	-0.014	-0.005	0.009
40451M111	7899	LD	0.067	0.075	-0.037	1.8	2.1	-1.1	0.082	0.008	-0.068
40451M111	7899	LC	0.032	-0.039	0.042	0.4	-0.3	0.4	0.022	0.004	0.062
40451M111	7899	GA	0.000	0.000	0.000	0.0	0.0	0.1	0.000	0.000	0.000
40451M112	7063	LG	-0.009	-0.001	-0.011	-0.1	0.0	-0.1	-0.009	-0.008	-0.008
40451M112	7063	LD	0.005	0.006	0.023	0.2	0.3	1.0	0.006	0.021	0.011
40451M112	7063	GA	0.000	0.001	-0.001	0.1	0.2	-0.4	0.000	-0.001	0.000
40451M112	7063	LZ	-0.011	-0.014	0.001	-0.7	-0.9	0.0	-0.013	-0.006	0.009
40451M112	7063	LC	0.011	-0.009	0.088	0.4	-0.2	2.5	0.009	0.062	0.064
40451M114	7125	LC	-0.006	0.071	0.008	-0.2	1.6	0.2	0.010	0.051	-0.050
40451M114	7125	LZ	0.005	-0.014	0.002	0.4	-0.9	0.1	0.002	-0.008	0.013
40451M114	7125	LD	-0.041	0.017	-0.007	-1.0	0.5	-0.2	-0.036	0.011	-0.025

40451M114	7125	LG	0.012	0.012	-0.005	0.3	0.3	-0.2	0.014	0.002	-0.010
40451M117	7920	LU	0.010	0.024	0.014	0.6	1.4	0.8	0.015	0.024	-0.007
40451M117	7920	LC	0.020	0.011	0.010	0.5	0.1	0.1	0.022	0.011	0.002
40451M117	7920	LZ	0.008	-0.032	-0.034	0.5	-2.2	-2.1	0.000	-0.047	0.005
40451M117	7920	LK	-0.017	0.028	0.040	-0.6	0.9	1.4	-0.011	0.050	0.001
40451M117	7920	LG	-0.060	0.027	0.020	-1.9	0.9	0.8	-0.052	0.040	-0.019
40451M120	7918	LG	-0.007	0.009	0.001	-0.4	0.5	0.0	-0.004	0.007	-0.008
40451M120	7918	LZ	-0.006	-0.016	-0.002	-0.4	-1.0	-0.1	-0.010	-0.010	0.010
40451M120	7918	LK	0.044	0.027	0.003	1.5	1.1	0.1	0.049	0.013	-0.011
40451M120	7918	LC	0.013	-0.010	0.005	0.5	-0.2	0.1	0.011	-0.005	0.013
40451M120	7918	LU	-0.004	0.003	-0.001	-0.2	0.1	0.0	-0.003	0.001	-0.003
				0.039			0.7			0.039	0.038

PIETOWN

40456S001	7234	RG	-0.007	-0.012	0.009	-1.4	-1.7	1.3	-0.003	0.000	0.016
40456S001	7234	RN	0.007	0.015	-0.012	1.4	1.9	-1.5	0.002	0.000	-0.020
				0.011			1.3			0.002	0.018

LOS ALAMOS

40463S001	7611	RG	-0.003	-0.008	-0.001	-0.5	-1.1	-0.1	0.000	-0.006	0.006
40463S001	7611	RN	0.004	0.010	0.001	0.7	1.3	0.2	0.001	0.007	-0.008
				0.006			0.7			0.005	0.007

HAT CREEK

40489S001	7218	RN	0.001	0.005	-0.001	0.1	0.6	-0.1	-0.002	0.002	-0.004
40489S001	7218	RG	-0.004	-0.002	0.003	-0.7	-0.3	0.5	-0.002	0.000	0.005
40489S001	7218	RM	0.008	-0.002	-0.004	1.0	-0.2	-0.5	0.008	-0.001	-0.005
				0.004			0.4			0.004	0.005

MARYLAND POINT

40490S001	7217	RG	0.003	0.005	0.002	0.6	0.7	0.2	0.004	0.004	-0.002
40490S001	7217	RN	-0.006	-0.004	0.014	-0.6	-0.1	0.4	-0.007	0.009	0.010
40490S001	7217	RU	0.003	0.000	0.006	0.5	0.0	0.7	0.003	0.004	0.005
40490S001	7217	RM	-0.005	-0.007	-0.008	-0.8	-0.8	-1.0	-0.006	-0.010	0.000
				0.006			0.5			0.006	0.006

FLAGSTAFF

40491M002	7891	LC	-0.132	-0.167	0.218	-1.8	-1.8	2.4	-0.061	0.062	0.293
40491M002	7891	LD	-0.150	-0.144	-0.003	-4.4	-4.7	-0.1	-0.086	-0.111	0.153
40491M002	7891	LZ	-0.039	-0.055	0.096	-0.8	-1.3	1.8	-0.016	0.041	0.109
40491M002	7891	LG	-0.036	-0.063	0.109	-0.9	-1.6	3.2	-0.010	0.048	0.122
40491M002	7891	GA	0.000	0.000	0.000	0.2	0.2	-0.2	0.000	0.000	0.000
40491M003	7261	GA	0.000	-0.002	0.001	-0.2	-0.7	0.5	0.002	0.002	-0.001
40491M003	7261	RG	0.012	0.062	-0.025	1.5	3.9	-2.0	-0.012	0.015	-0.066
				0.090			1.8			0.048	0.142

VERNAL

40492M001	7892	LC	-0.003	0.032	0.055	-0.1	0.5	0.7	-0.014	0.061	0.014
40492M001	7892	LZ	-0.007	-0.026	0.008	-0.2	-0.7	0.2	0.002	-0.011	0.025
40492M001	7892	LG	0.005	0.015	-0.011	0.1	0.4	-0.4	-0.001	0.002	-0.019
40492M001	7892	LD	0.148	0.017	0.068	0.6	0.1	0.4	0.133	0.094	-0.006
				0.052			0.4			0.062	0.017

YUMA

40493M001	7894	LG	-0.056	0.015	-0.012	-1.2	0.3	-0.3	-0.057	-0.015	0.002

40493M001	7894	LD	-0.164	0.017	-0.179	-2.8	0.5	-4.4	-0.157	-0.179	-0.054
40493M001	7894	LZ	-0.026	0.017	0.031	-0.3	0.3	0.3	-0.031	0.028	0.013
40493M001	7894	LC	-0.016	0.019	0.014	-0.3	0.2	0.2	-0.022	0.018	-0.002
40493M001	7894	RG	0.004	-0.003	0.009	0.6	-0.3	1.0	0.005	0.007	0.006
				0.066			1.2			0.079	0.025

PLATTEVILLE

40496M001	7112	GA	0.000	0.000	0.000	0.0	0.0	-0.1	0.000	0.000	0.000
40496M001	7112	LC	0.002	-0.011	0.008	0.1	-0.6	0.4	0.004	-0.001	0.013
40496M001	7112	LZ	-0.010	-0.017	0.033	-0.4	-0.7	1.1	-0.005	0.013	0.036
40496M001	7112	LU	0.005	-0.005	0.006	0.3	-0.3	0.4	0.006	0.003	0.007
40496M001	7112	LD	-0.018	-0.005	-0.035	-0.8	-0.2	-1.7	-0.016	-0.032	-0.015
40496M001	7112	LK	-0.005	-0.021	0.056	-0.2	-0.9	2.2	0.001	0.029	0.053
40496M001	7112	LG	0.008	0.030	-0.005	0.5	1.8	-0.3	0.001	0.016	-0.027
40496M002	7258	RG	0.002	0.007	-0.008	0.3	0.8	-1.1	0.000	-0.002	-0.011
40496M002	7258	RN	-0.002	-0.009	0.006	-0.3	-0.8	0.6	0.001	-0.002	0.011
40496M002	7258	GA	0.000	0.000	0.000	0.0	0.0	0.1	0.000	0.000	0.000
				0.016			0.7			0.011	0.023

MONUMENT PEAK

40497M001	7110	LU	-0.010	-0.008	0.015	-0.7	-0.5	1.0	-0.005	0.006	0.018
40497M001	7110	LC	0.000	0.016	-0.006	0.0	1.1	-0.4	-0.007	0.003	-0.015
40497M001	7110	LG	-0.011	-0.006	0.009	-0.7	-0.4	0.6	-0.007	0.002	0.013
40497M001	7110	GA	0.000	0.000	0.000	0.1	0.1	-0.2	0.000	0.000	0.000
40497M001	7110	LT	-0.007	-0.022	-0.002	-0.4	-0.9	-0.1	0.004	-0.014	0.018
40497M001	7110	LD	0.018	-0.037	0.022	0.8	-1.8	1.1	0.033	0.005	0.033
40497M001	7110	LZ	-0.018	-0.006	0.007	-1.1	-0.4	0.5	-0.013	-0.001	0.015
40497M001	7110	LK	-0.002	-0.002	0.028	-0.1	-0.1	1.1	-0.001	0.022	0.017
40497M002	7220	LG	0.023	-0.012	-0.001	0.8	-0.5	0.0	0.026	-0.001	0.000
40497M002	7220	GA	-0.001	0.001	0.000	-0.4	0.4	0.1	-0.001	0.000	0.002
40497M002	7220	LC	0.018	-0.018	-0.023	0.6	-0.4	-0.7	0.024	-0.023	-0.005
40497M002	7220	LD	0.053	-0.048	0.000	2.1	-2.1	0.0	0.069	-0.011	0.016
40497M002	7220	LZ	0.008	-0.029	0.002	0.2	-0.9	0.0	0.020	-0.011	0.020
40497M003	7274	GA	-0.003	0.024	0.002	-0.6	1.3	0.1	0.024	0.004	-0.003
40497M003	7274	RG	0.004	0.018	-0.010	0.6	2.0	-1.3	-0.005	0.001	-0.021
40497M003	7274	LC	0.003	-0.033	-0.026	0.1	-0.8	-0.8	0.017	-0.037	0.009
40497M003	7274	GA	0.000	-0.003	0.002	0.0	-0.8	0.5	0.002	0.002	-0.001
				0.017			0.7			0.018	0.015

RICHMOND

40499M002	7295	LD	0.013	-0.016	-0.028	0.4	-0.6	-1.0	0.010	-0.033	0.004
40499M002	7295	LC	0.023	0.011	-0.039	0.9	0.4	-1.7	0.024	-0.033	-0.023
40499M002	7295	LK	-0.084	0.016	0.067	-3.0	0.6	2.5	-0.081	0.073	0.002
40499M002	7295	LU	0.022	0.017	-0.020	1.3	1.0	-1.1	0.024	-0.013	-0.020
40499M002	7295	GA	0.000	0.000	0.000	0.1	-0.1	0.1	0.000	0.000	0.000
40499M002	7295	LZ	-0.015	0.004	-0.016	-0.6	0.2	-0.8	-0.014	-0.012	-0.013
40499M002	7295	LG	-0.046	-0.007	-0.019	-1.8	-0.3	-0.7	-0.047	-0.017	-0.009
40499S001	7219	RN	0.001	0.000	0.003	0.2	0.1	0.6	0.001	0.003	0.001
40499S001	7219	RU	-0.004	0.003	0.001	-0.7	0.6	0.3	-0.003	0.003	-0.003
40499S001	7219	RM	0.003	-0.008	0.003	0.6	-1.5	0.5	0.002	-0.001	0.008
40499S001	7219	RG	0.001	0.002	-0.003	0.3	0.5	-0.6	0.002	-0.002	-0.003
40499S001	7219	GA	-0.001	0.000	-0.001	-0.2	0.1	-0.3	0.000	-0.001	0.000
				0.023			0.8			0.028	0.010

MAZATLAN

40504M001	7122	LZ	-0.007	0.005	0.003	-0.4	0.3	0.1	-0.008	0.003	-0.001
40504M001	7122	LD	0.025	-0.011	-0.002	1.0	-0.5	-0.1	0.027	-0.003	0.002
40504M001	7122	LK	0.011	0.012	0.013	0.4	0.5	0.5	0.007	0.018	-0.009
40504M001	7122	LT	0.009	-0.014	-0.004	0.4	-0.6	-0.2	0.013	-0.008	0.008
40504M001	7122	LU	-0.003	-0.003	0.000	-0.2	-0.2	0.0	-0.002	-0.001	0.003
40504M001	7122	LC	0.000	0.016	-0.003	0.0	1.0	-0.2	-0.004	0.003	-0.015

40504M001	7122	LG	-0.011	-0.009	-0.002	-0.7	-0.6	-0.1	-0.008	-0.006	0.010
				0.010			0.4			0.011	0.008

CABO SAN LUCAS

40505M001	7882	LG	-0.040	-0.033	0.009	-1.4	-1.3	0.3	-0.026	-0.009	0.044
40505M001	7882	LZ	-0.026	-0.009	-0.012	-0.7	-0.4	-0.3	-0.022	-0.018	0.011
40505M001	7882	LK	0.010	0.058	-0.003	0.4	2.2	-0.1	-0.010	0.020	-0.055
40505M001	7882	LC	0.022	0.026	-0.025	0.6	0.4	-0.6	0.012	-0.011	-0.039
40505M001	7882	LU	0.016	0.024	-0.002	1.0	1.5	-0.1	0.007	0.010	-0.027
40505M001	7882	LD	-0.022	-0.102	0.020	-0.7	-3.5	0.6	0.014	-0.022	0.103
				0.034			1.1			0.016	0.055

ENSENADA

40506M001	7883	LD	0.082	-0.028	-0.005	2.7	-1.0	-0.2	0.086	0.001	-0.012
40506M001	7883	LZ	-0.084	0.007	0.056	-1.6	0.2	1.1	-0.079	0.032	0.055
40506M001	7883	LC	-0.061	0.034	0.002	-0.9	0.4	0.0	-0.069	0.004	-0.002
40506M001	7883	LU	0.039	0.048	0.161	0.6	0.7	1.4	0.014	0.169	0.032
40506M001	7883	LK	-0.055	0.017	-0.026	-1.7	0.6	-0.8	-0.057	-0.027	-0.006
				0.061			1.0			0.072	0.029

SANTIAGO DE CUBA

40701S001	1953	LZ	0.019	-0.036	0.019	0.8	-2.1	0.8	0.010	0.004	0.044
40701S001	1953	LK	-0.022	0.053	-0.026	-0.7	1.8	-0.8	-0.009	-0.005	-0.062
40701S001	1953	LC	-0.196	-0.081	0.027	-2.7	-0.6	0.3	-0.210	0.015	0.038
40701S001	1953	LG	-0.123	0.138	0.121	-1.3	1.5	1.3	-0.085	0.169	-0.113
40701S001	1953	LT	0.296	0.234	-0.209	3.3	3.4	-2.2	0.345	-0.144	-0.216
				0.138			1.6			0.148	0.115

NATAL

41604S001	7929	LG	-0.030	0.009	0.002	-0.7	0.2	0.0	-0.010	-0.001	-0.030
41604S001	7929	LZ	0.024	-0.022	0.001	0.3	-0.2	0.0	-0.004	0.004	0.032
41604S001	7929	LD	0.361	0.587	-1.019	0.8	0.9	-1.5	0.688	-1.018	0.062
41604S001	7929	LC	0.158	-0.031	0.033	1.4	-0.3	0.2	0.066	0.048	0.142
				0.359			0.6			0.435	0.081

EASTER ISLAND

41703M002	7097	LZ	0.052	0.015	0.054	1.3	0.5	0.7	0.044	0.034	-0.053
41703M002	7097	LD	0.028	0.014	0.043	1.1	0.6	1.9	0.022	0.028	-0.040
41703M002	7097	LG	-0.024	0.011	0.010	-1.1	0.6	0.5	-0.026	0.008	-0.007
41703M002	7097	LU	-0.001	-0.025	-0.010	-0.1	-1.5	-0.6	0.007	0.002	0.025
41703M002	7097	LK	-0.017	0.021	-0.071	-0.6	0.8	-2.7	-0.023	-0.069	0.019
41703M002	7097	LC	0.003	-0.004	0.010	0.2	-0.2	0.5	0.004	0.010	-0.002
				0.030			0.9			0.030	0.030

SANTIAGO

41705M001	7400	LK	0.029	-0.008	-0.019	1.0	-0.3	-0.6	0.025	-0.006	0.024
41705M001	7400	LG	-0.008	0.010	-0.027	-0.2	0.3	-0.7	-0.004	-0.029	0.005
41705M001	7400	LZ	-0.041	0.038	0.002	-1.0	1.1	0.0	-0.026	-0.025	-0.042
41705M001	7400	LD	-0.021	-0.018	0.026	-0.6	-0.6	0.9	-0.025	0.027	-0.006
41705M001	7400	LC	0.017	-0.020	0.019	0.5	-0.3	0.4	0.010	0.030	0.010
41705S006	1404	RU	-0.051	0.060	0.110	-1.1	1.0	2.3	-0.028	0.052	-0.122
41705S006	1404	RN	0.015	-0.024	-0.012	0.6	-0.6	-0.3	0.007	0.005	0.030
41705S006	1404	RG	0.001	-0.002	-0.022	0.0	-0.1	-1.0	0.000	-0.018	0.014
				0.034			0.7			0.024	0.048

CERRO TOLOLO

41706M001	7401	LD	0.015	0.008	0.048	0.6	0.4	2.1	0.017	0.040	-0.027
41706M001	7401	LU	-0.108	0.060	-0.258	-0.7	0.6	-2.3	-0.082	-0.269	0.049
41706M001	7401	LC	0.014	-0.025	0.001	0.7	-1.2	0.0	0.004	0.015	0.024
41706M001	7401	LG	0.022	0.029	-0.025	0.2	0.3	-0.2	0.030	-0.032	-0.005
41706M001	7401	LK	-0.044	-0.001	-0.092	-1.7	0.0	-3.7	-0.042	-0.087	0.034
41706M001	7401	LZ	0.001	0.011	0.047	0.1	0.6	1.9	0.005	0.036	-0.032
				0.075			1.2			0.088	0.031

SEST

41709S001	7239	RN	-0.013	0.025	0.007	-0.8	0.9	0.5	-0.004	-0.007	-0.027
41709S001	7239	RG	0.009	-0.021	-0.007	0.6	-0.8	-0.5	0.001	0.005	0.023
				0.015			0.6			0.005	0.025

AREQUIPA

42202M003	7403	LD	0.030	-0.014	0.030	1.3	-0.6	1.3	0.024	0.035	0.013
42202M003	7403	LZ	0.001	0.041	0.036	0.0	1.5	0.6	0.014	0.023	-0.047
42202M003	7403	LC	-0.019	-0.004	-0.011	-1.1	-0.2	-0.6	-0.019	-0.011	0.001
42202M003	7403	LK	0.005	-0.013	-0.019	0.2	-0.5	-0.7	0.001	-0.014	0.019
42202S001	7907	LT	0.004	0.023	0.025	0.2	1.5	1.7	0.011	0.018	-0.026
42202S001	7907	LZ	-0.019	0.012	0.023	-1.1	0.8	1.3	-0.014	0.018	-0.024
42202S001	7907	LU	0.008	-0.001	-0.019	0.5	0.0	-1.2	0.008	-0.018	0.009
42202S001	7907	LG	-0.010	-0.030	-0.015	-0.6	-2.0	-0.9	-0.019	-0.007	0.029
42202S001	7907	LD	0.000	0.019	0.024	0.0	1.0	1.2	0.006	0.017	-0.024
42202S001	7907	LK	-0.018	0.035	-0.019	-0.7	1.4	-0.8	-0.006	-0.029	-0.032
42202S001	7907	LC	0.021	-0.034	-0.020	1.3	-2.0	-1.2	0.009	-0.008	0.043
				0.021			0.9			0.017	0.028

CANBERRA

50103S001	1543	RJ	0.000	0.002	-0.006	0.0	0.1	-0.4	-0.002	-0.005	0.004
50103S001	1543	GB	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
50103S003	7943	LZ	-0.115	0.013	0.099	-0.8	0.1	0.9	0.048	0.141	0.028
50103S003	7943	LD	-0.027	-0.092	-0.085	-0.3	-0.8	-0.8	0.093	-0.083	0.029
50103S003	7943	LC	-0.134	0.062	-0.098	-5.3	2.7	-3.8	0.016	0.005	0.176
50103S003	7943	LG	0.071	-0.036	0.047	4.2	-2.1	2.8	-0.006	-0.008	-0.092
50103S003	7943	GA	-0.244	0.142	-0.193	-2.4	1.4	-1.9	-0.270	-0.200	-0.063
50103S005	1542	GB	0.000	0.000	0.000	0.0	0.0	0.1	0.000	0.000	0.000
50103S005	1542	RJ	0.000	0.002	-0.007	0.0	0.1	-0.4	-0.002	-0.005	0.005
50103S007	7843	LC	0.034	0.010	0.027	2.1	0.6	1.7	-0.026	0.008	-0.035
50103S007	7843	LU	-0.028	0.023	-0.032	-1.7	1.3	-1.9	-0.005	-0.005	0.048
50103S007	7843	LG	0.031	-0.027	0.040	1.8	-1.6	2.3	0.007	0.009	-0.056
50103S007	7843	LK	-0.028	-0.037	-0.059	-1.1	-1.5	-2.3	0.046	-0.045	0.038
50103S007	7843	LT	-0.046	0.055	-0.053	-2.1	2.0	-1.7	-0.024	-0.004	0.086
50103S007	7843	LD	-0.067	0.040	0.126	-1.1	0.6	1.9	0.000	0.148	-0.010
50103S007	7843	LZ	0.031	-0.003	-0.037	0.5	0.0	-0.9	-0.013	-0.046	-0.001
50103S007	7843	GA	0.000	0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000
50103S010	1545	GB	0.000	0.000	0.000	0.0	0.0	-0.1	0.000	0.000	0.000
50103S010	1545	RG	0.009	-0.014	0.001	0.5	-1.0	0.1	0.007	-0.008	-0.013
50103S010	1545	RN	-0.028	0.014	-0.004	-1.1	0.7	-0.2	0.003	0.015	0.027
50103S010	1545	RJ	0.000	-0.002	0.013	0.0	-0.1	0.7	0.002	0.009	-0.008
50103S010	1545	GA	0.011	0.022	0.008	0.4	0.8	0.3	-0.025	0.008	0.004
				0.061			1.3			0.064	0.053

YARRAGADEE

50107M001	7090	LG	-0.001	-0.007	0.012	-0.1	-0.5	0.7	0.004	0.007	-0.011
50107M001	7090	LK	-0.027	0.000	-0.038	-1.1	0.0	-1.5	0.025	-0.027	0.029
50107M001	7090	GA	0.000	0.000	0.000	-0.1	-0.1	0.0	0.000	0.000	0.000
50107M001	7090	LD	0.011	-0.040	0.010	0.5	-1.9	0.4	0.008	-0.011	-0.040
50107M001	7090	LC	0.001	0.017	0.019	0.1	1.2	1.2	-0.009	0.024	0.004
50107M001	7090	LT	0.012	-0.010	-0.007	0.7	-0.6	-0.4	-0.006	-0.013	-0.009
50107M001	7090	LU	-0.020	0.035	-0.025	-1.3	2.3	-1.6	0.003	-0.002	0.047

50107M001	7090	LZ	0.032	-0.007	0.008	2.0	-0.4	0.5	-0.026	-0.003	-0.021
50107M004		GA	0.001	0.000	0.000	0.2	0.2	-0.1	0.000	0.000	-0.001
50107M004		PJ	-0.015	-0.009	0.009	-0.9	-0.7	0.5	0.017	0.007	-0.006
				0.017			0.8			0.013	0.023

HOBART

50116S002	7242	RN	0.026	-0.011	-0.031	1.0	-0.5	-1.4	-0.005	-0.041	0.000
50116S002	7242	RM	-0.010	0.004	0.018	-1.0	0.5	2.0	0.002	0.021	-0.004
50116S002	7242	RG	0.037	-0.016	-0.063	1.6	-0.8	-3.2	-0.007	-0.073	0.014
				0.029			1.3			0.035	0.008

AMERICAN SAMOA

50503M001	7096	LZ	0.053	-0.139	-0.033	1.0	-1.3	-1.4	0.146	-0.039	-0.020
50503M001	7096	LC	0.014	-0.208	-0.064	0.2	-5.0	-1.4	0.208	-0.057	0.035
50503M001	7096	LD	-0.017	0.265	0.139	-0.7	9.1	4.8	-0.265	0.129	-0.059
50503M001	7096	LG	0.003	-0.145	-0.058	0.1	-5.2	-2.1	0.143	-0.051	0.034
				0.124			3.2			0.150	0.040

KWAJALEIN ATOLL

50505M001	7092	LZ	0.086	0.091	0.078	1.2	0.8	2.6	-0.108	0.087	-0.050
50505M001	7092	LC	0.074	0.038	0.051	0.8	0.7	1.0	-0.053	0.061	-0.055
50505M001	7092	GA	0.000	0.000	0.000	0.0	-0.1	-0.2	0.000	0.000	0.000
50505M001	7092	LG	-0.003	0.070	0.077	-0.1	2.3	2.5	-0.068	0.073	0.030
50505S003	4968	RG	-0.040	0.000	0.015	-2.5	0.0	1.5	0.009	0.009	0.041
50505S003	4968	GA	0.000	0.001	0.002	0.1	0.3	0.6	0.000	0.002	0.000
50505S003	4968	RN	-0.040	0.005	0.017	-1.8	0.4	1.0	0.004	0.010	0.042
50505S003	4968	RM	0.018	-0.004	-0.026	2.0	-0.7	-3.2	0.000	-0.022	-0.022
				0.044			1.2			0.048	0.036

HUAHINE

92202M002	7121	LD	-0.037	0.005	0.034	-1.4	0.1	0.9	-0.022	0.041	0.019
92202M002	7121	LZ	-0.026	0.021	0.026	-0.5	0.3	0.6	-0.031	0.028	0.005
92202M002	7121	LK	-0.058	0.059	-0.042	-2.3	2.3	-1.6	-0.079	-0.034	0.033
92202M002	7121	LG	0.047	-0.078	-0.004	2.8	-4.1	-0.2	0.091	-0.004	-0.002
92202M002	7121	LU	0.013	0.000	0.018	0.7	0.0	0.9	0.006	0.014	-0.016
92202M002	7121	LC	-0.019	0.045	0.004	-0.7	2.2	0.2	-0.049	0.002	-0.006
92202M002	7121	LT	-0.022	0.010	-0.041	-0.6	0.3	-0.9	-0.019	-0.036	0.025
92202M004	7123	LK	0.148	-0.128	-0.084	5.9	-4.9	-3.2	0.184	-0.100	-0.041
92202M004	7123	LG	-0.118	0.044	-0.011	-7.0	2.3	-0.6	-0.096	0.013	0.082
92202M004	7123	LU	-0.012	-0.005	0.021	-0.7	-0.3	1.3	-0.002	0.024	0.006
92202M004	7123	LZ	0.011	0.016	-0.001	0.3	0.3	0.0	-0.009	-0.006	-0.017
92202M004	7123	LC	0.040	0.006	0.024	2.0	0.3	1.3	0.014	0.012	-0.044
92202M004	7123	LD	0.068	0.044	-0.002	2.7	1.6	-0.1	-0.006	-0.025	-0.077
				0.050			1.9			0.055	0.038

(*)

RG: SSC(GSFC) 92 R 03 RN: SSC(NOAA) 92 R 01 RU: SSC(USNO) 92 R 01

RM: SSC(NAOMZ)92 R 01 RJ: SSC(JPL) 92 R 01 LC: SSC(CSR) 92 L 01

LG: SSC(GSFC) 92 L 01 LD: SSC(DGFII)92 L 01 LU: SSC(DUT) 92 L 01

LZ: SSC(GFZ) 92 L 01 LK: SSC(GAOUA)92 L 01 LT: SSC(NAL) 92 L 01

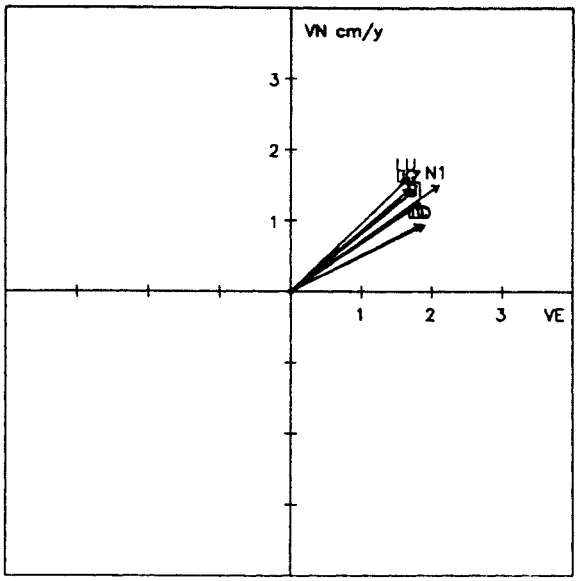
MX: SSC(UTXMO)92 M 01 MJ: SSC(JPL) 92 M 01 MS: SSC(SHA) 92 M 01

PJ: SSC(JPL) 91 P 01 GA: LOCAL TIE SET A GB: LOCAL TIE SET B

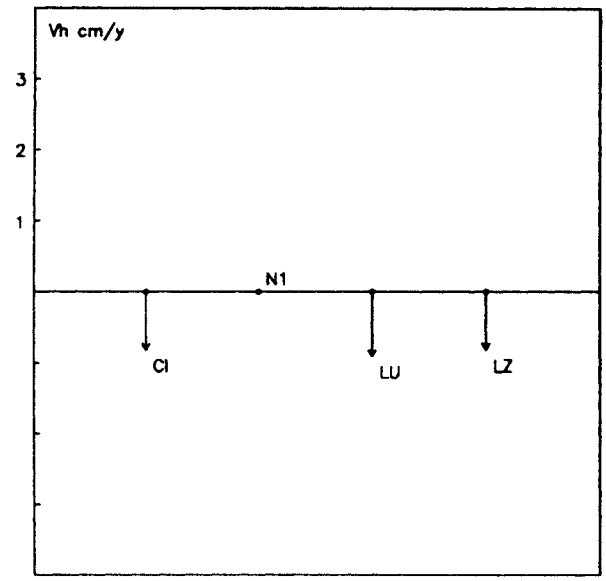
GC: LOCAL TIE SET C GD: LOCAL TIE SET D

Site velocities, as given by the ITRF91 combined velocity field, NUVEL NNR-1, and the individual velocity fields

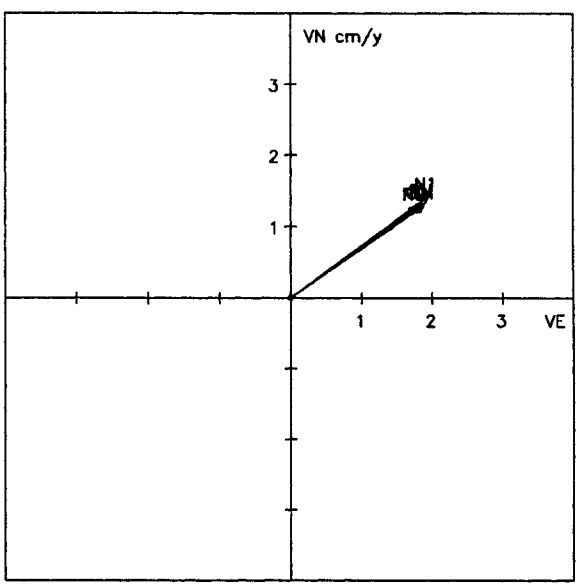
10002 GRASSE Horizontal Velocities EURA



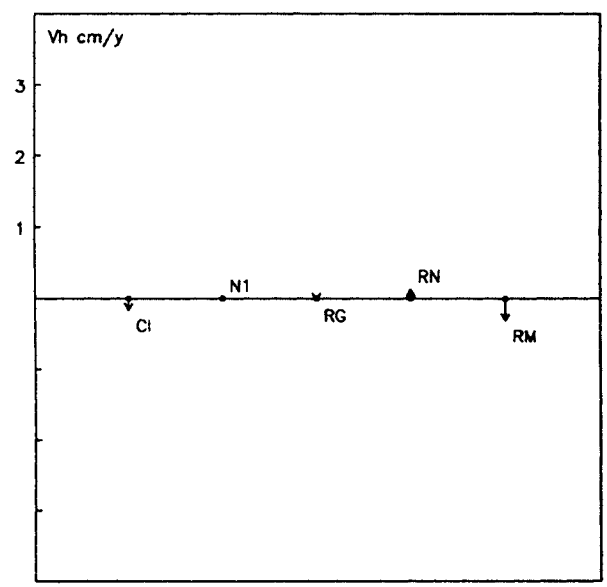
10002 GRASSE Vertical Velocities



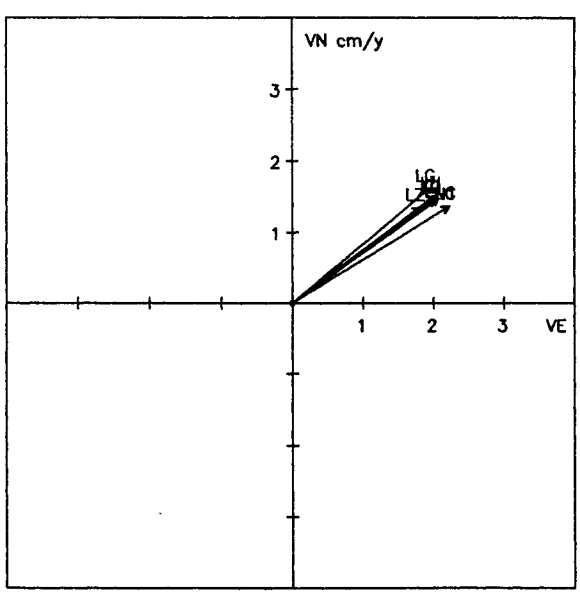
10402 ONSALA Horizontal Velocities EURA



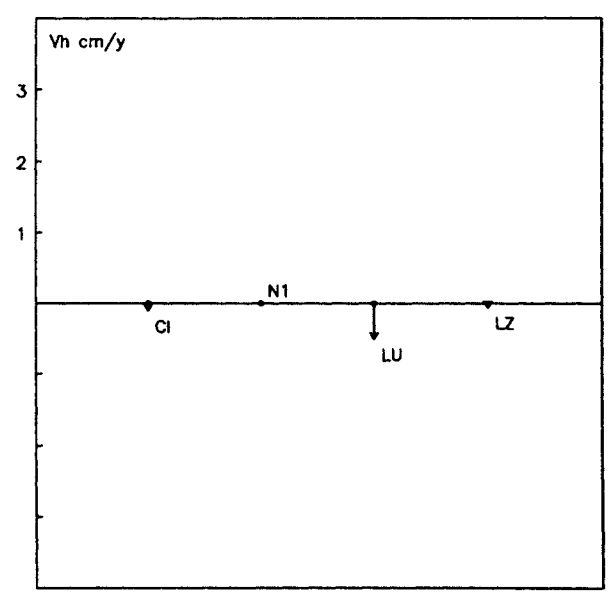
10402 ONSALA Vertical Velocities



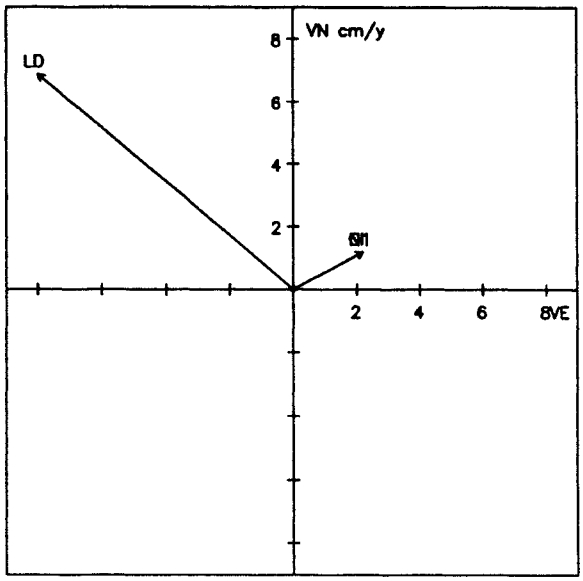
11001 GRAZ Horizontal Velocities EURA



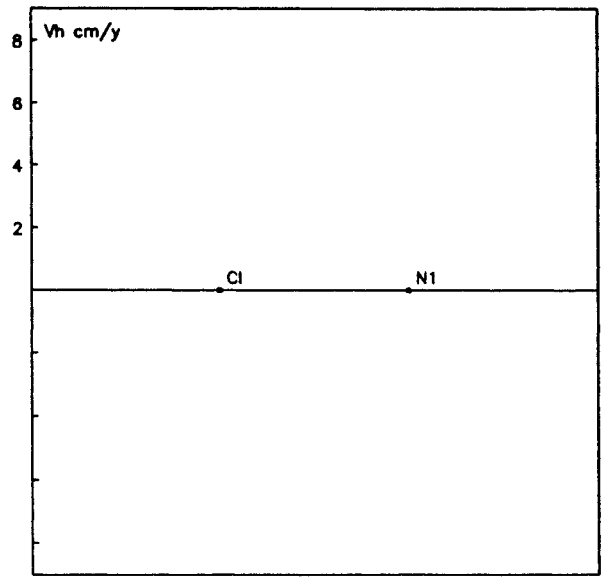
11001 GRAZ Vertical Velocities



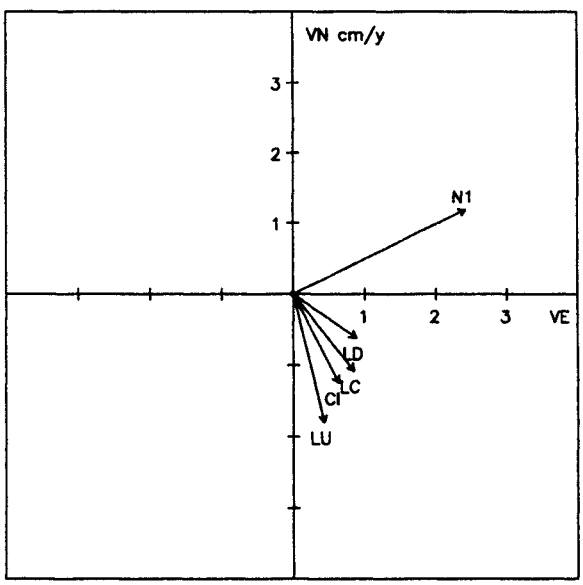
12302 RIGA 2-D Velocities EURA



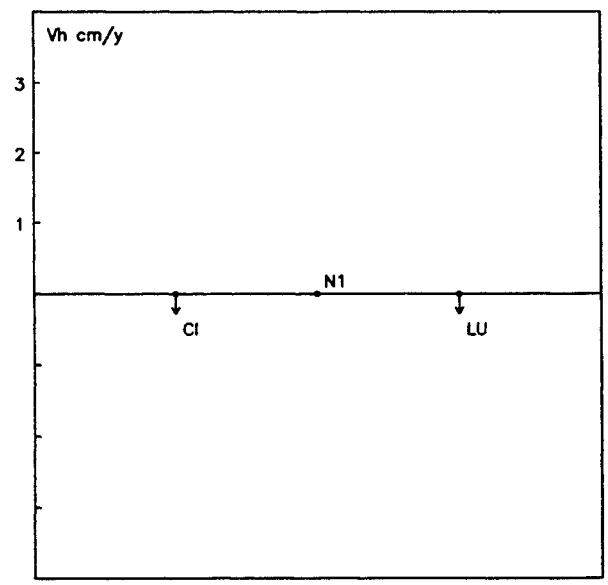
12302 RIGA Vertical Velocities



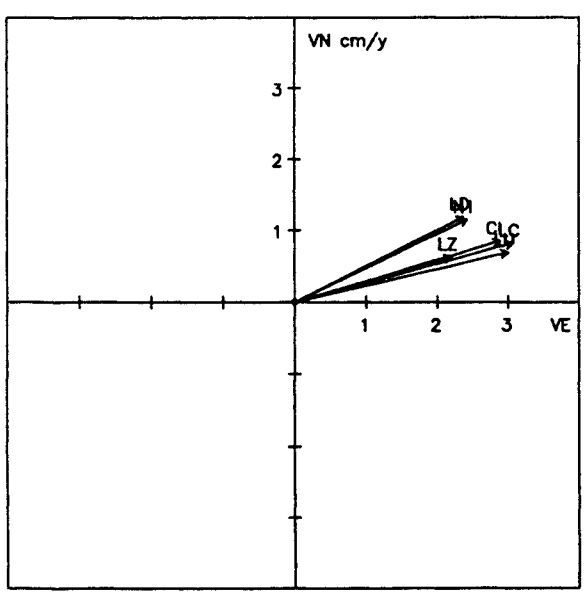
12602 DIONYSOS 2-D Velocities EURA N1 Deweighted



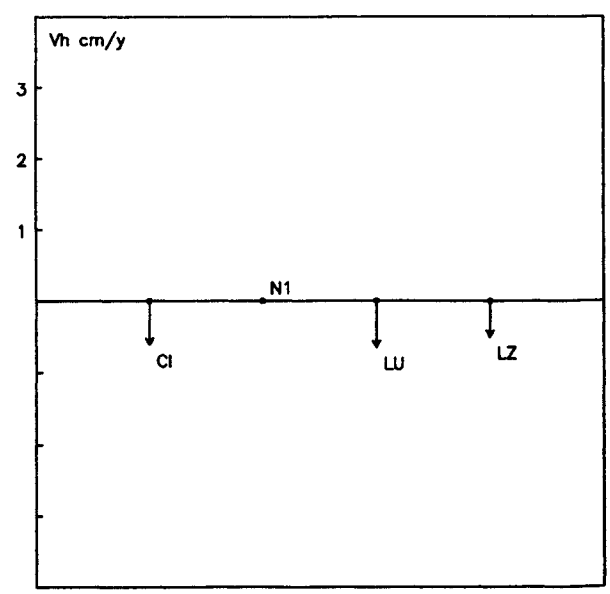
12602 DIONYSOS Vertical Velocities



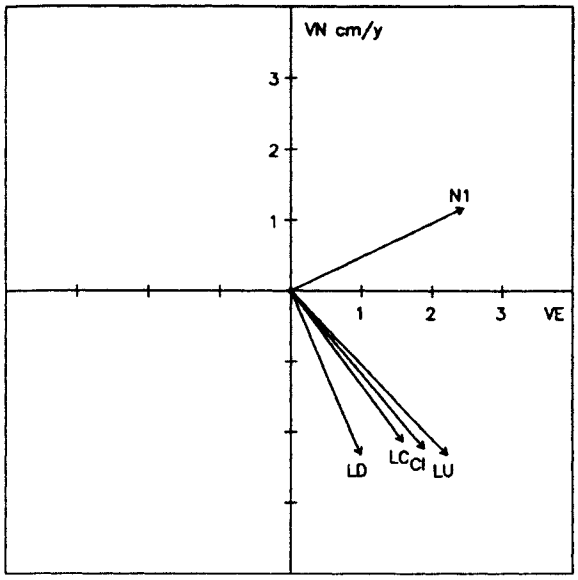
12612 ASKITES 2-D Velocities EURA N1 Deweighted



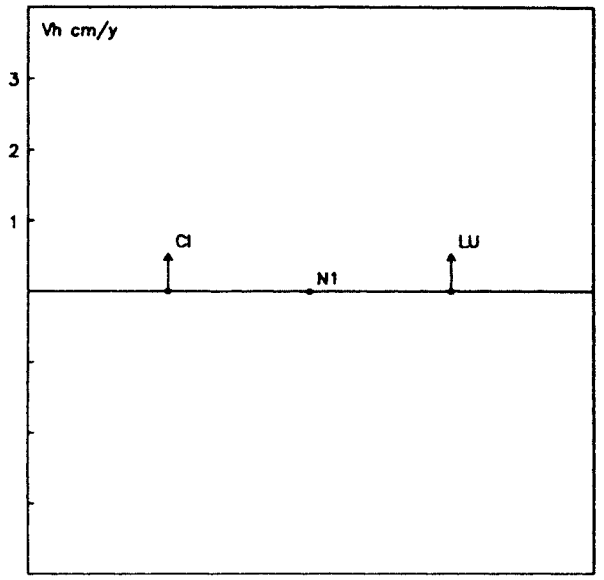
12612 ASKITES Vertical Velocities



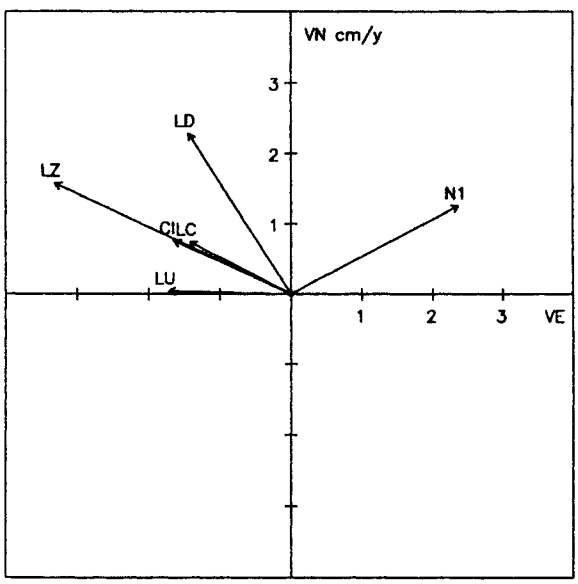
12613 ROUMELLI 2-D Velocities EURA N1 Deweighted



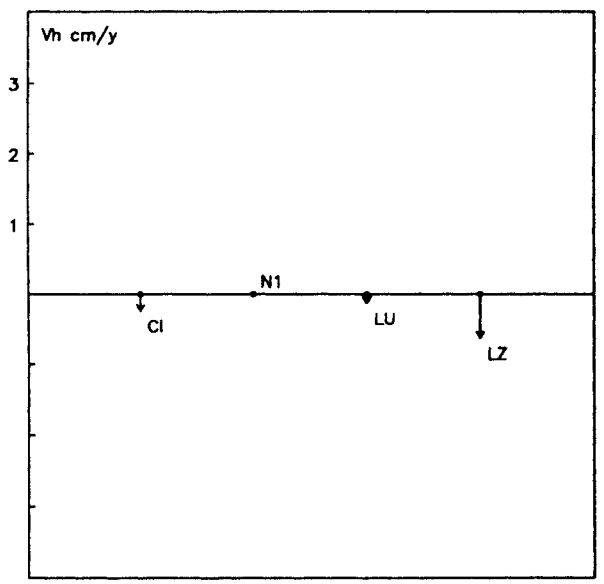
12613 ROUMELLI Vertical Velocities



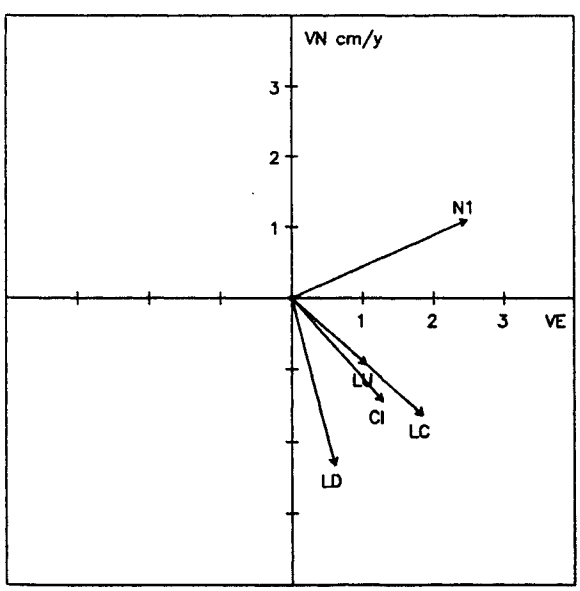
12614 KARITSA 2-D Velocities EURA N1 Deweighted



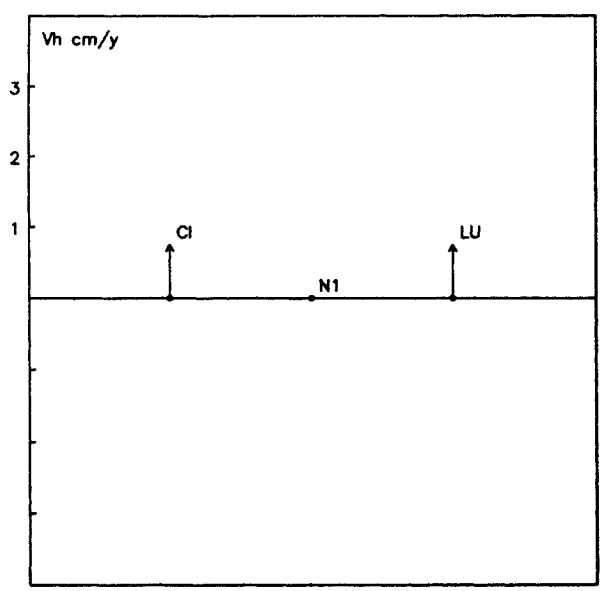
12614 KARITSA Vertical Velocities



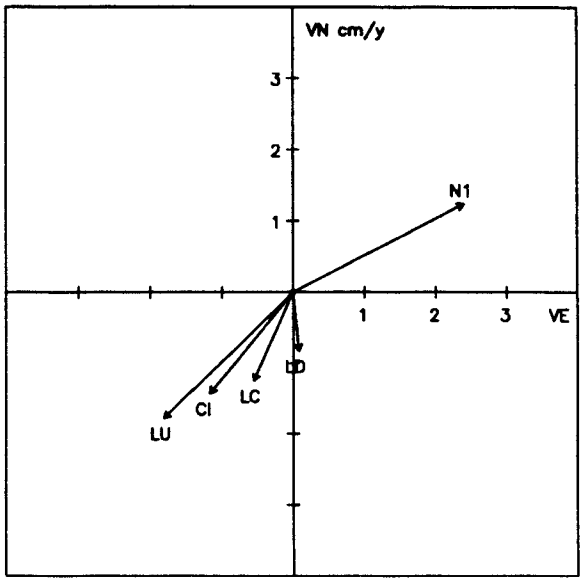
12615 KATAVIA 2-D Velocities EURA N1 Deweighted



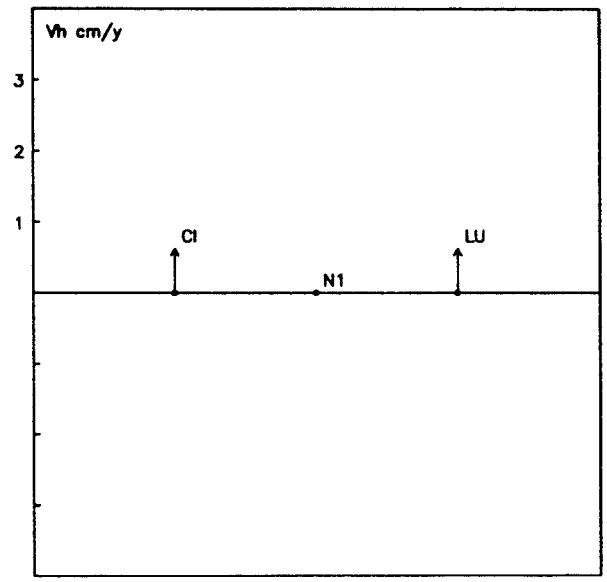
12615 KATAVIA Vertical Velocities



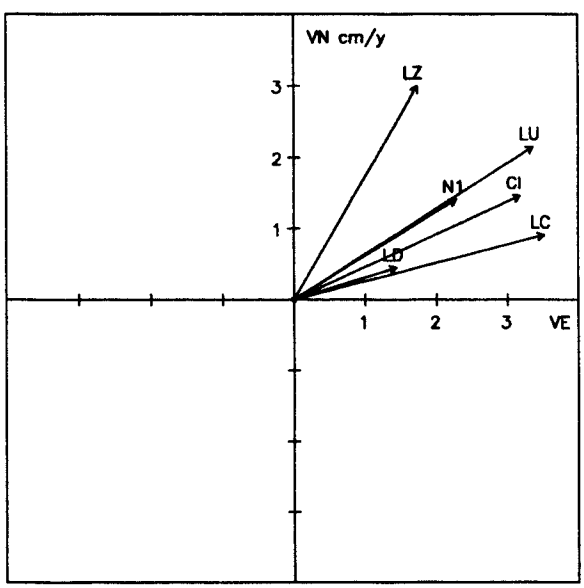
12616 XRISOKALARIA 2-D Velocities EURA N1 Deweighted



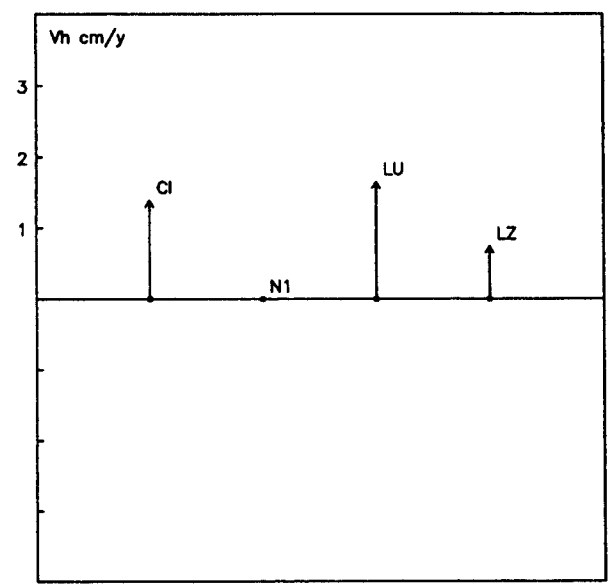
12616 XRISOKALARIA Vertical Velocities



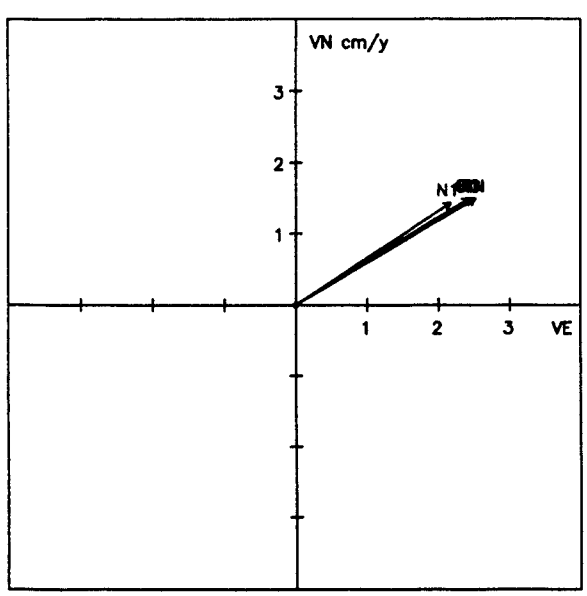
12706 LAMPEDUSA 2-D Velocities EURA N1 Deweighted



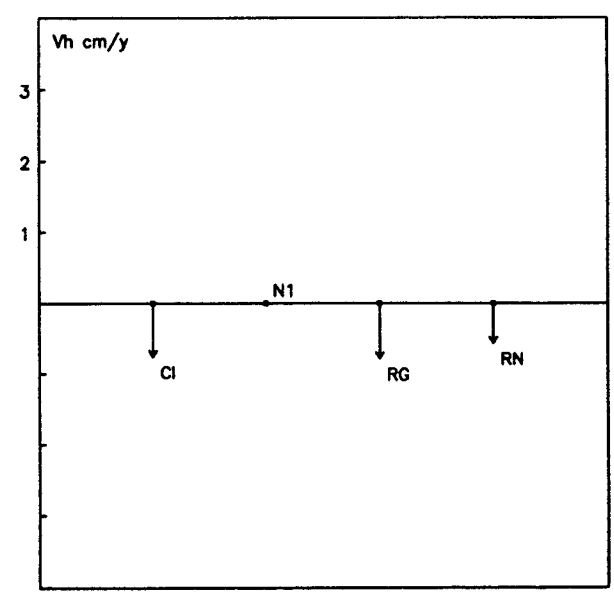
12706 LAMPEDUSA Vertical Velocities



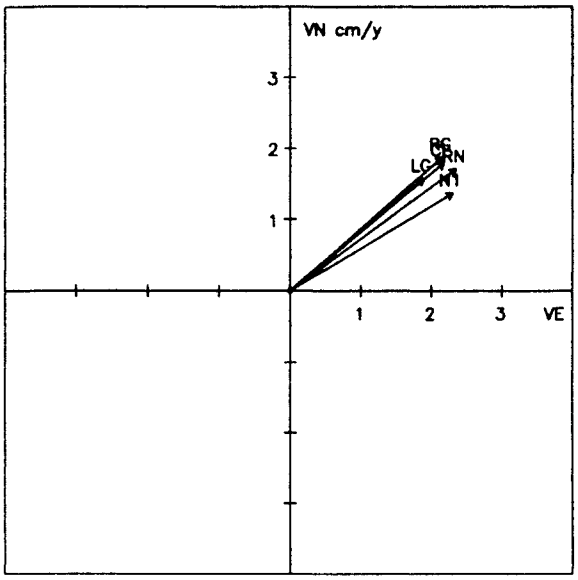
12711 BOLOGNA 2-D Velocities EURA



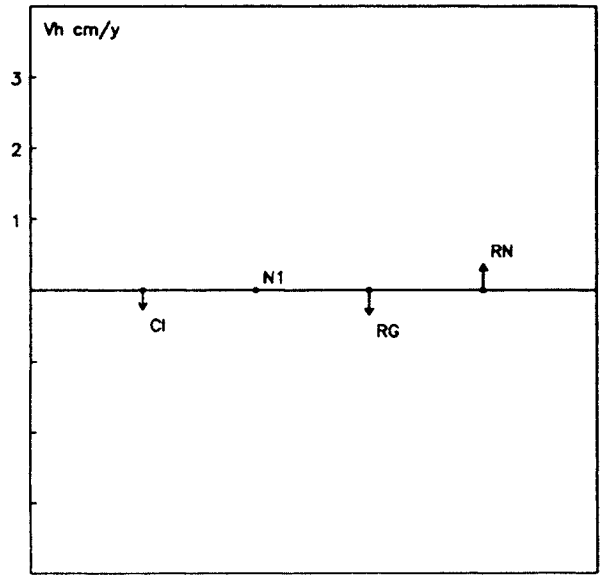
12711 BOLOGNA Vertical Velocities



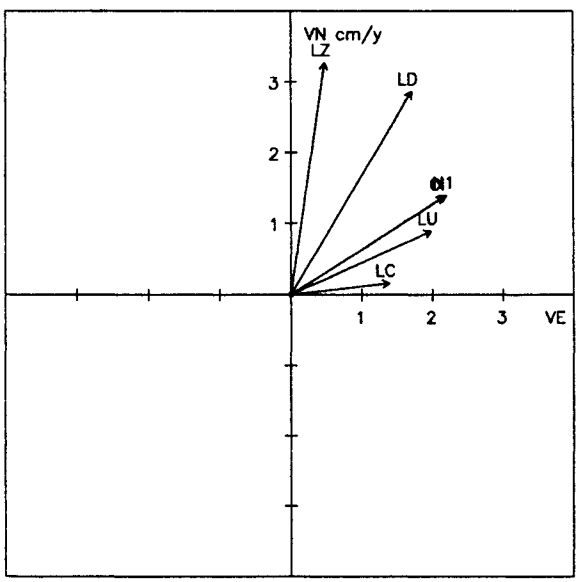
12717 NOTO 2-D Velocities EURA



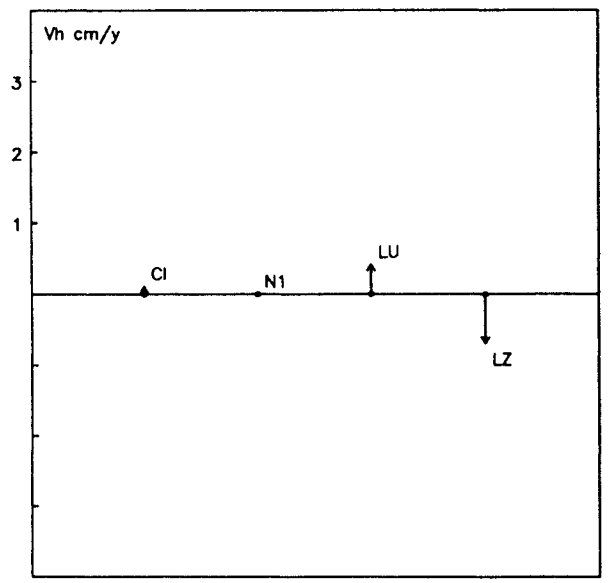
12717 NOTO Vertical Velocities



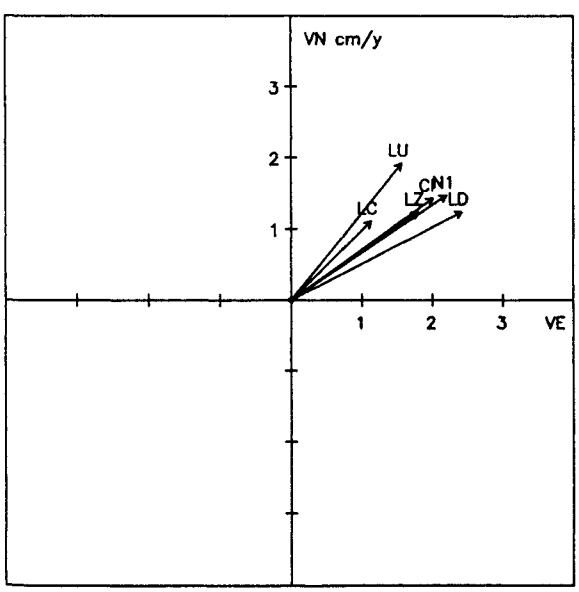
12718 TRIESTE 2-D Velocities EURA



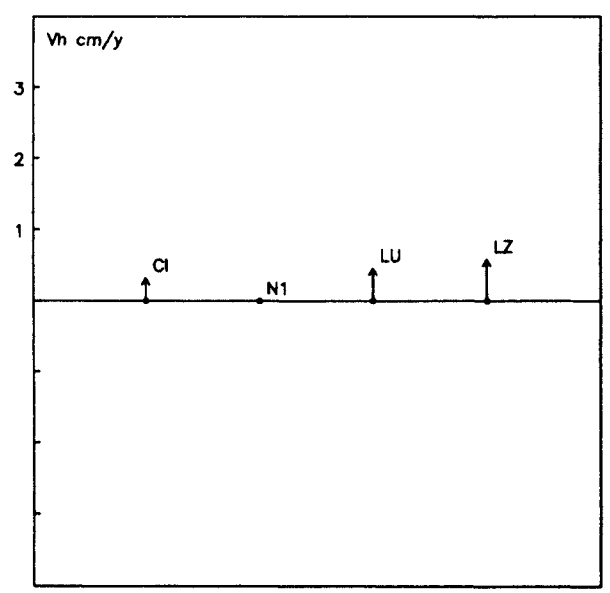
12718 TRIESTE Vertical Velocities



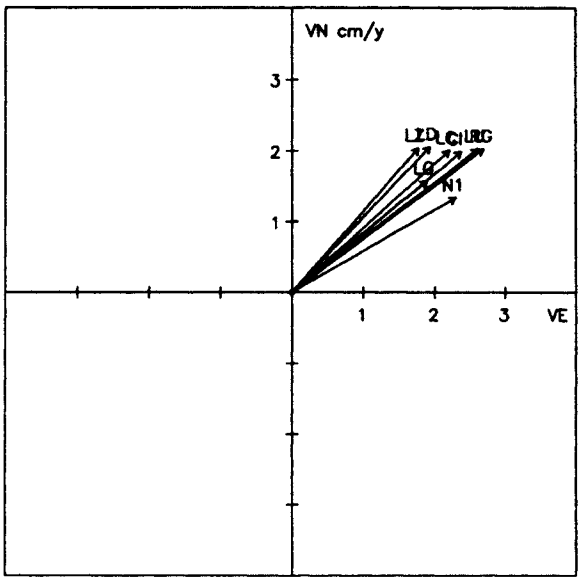
12725 CAGLIARI 2-D Velocities EURA



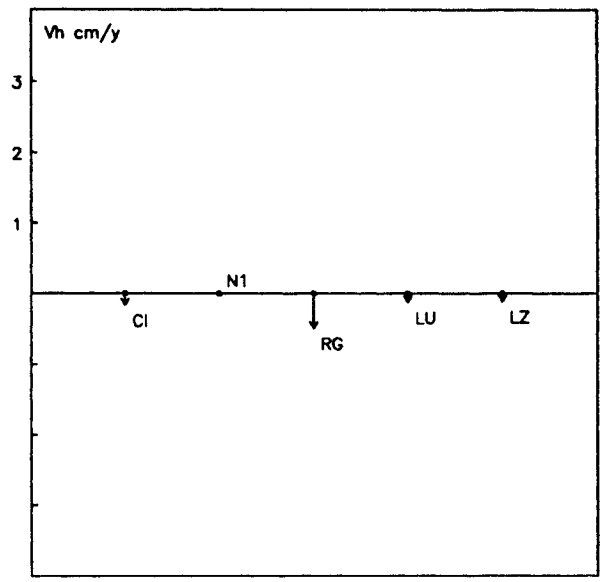
12725 CAGLIARI Vertical Velocities



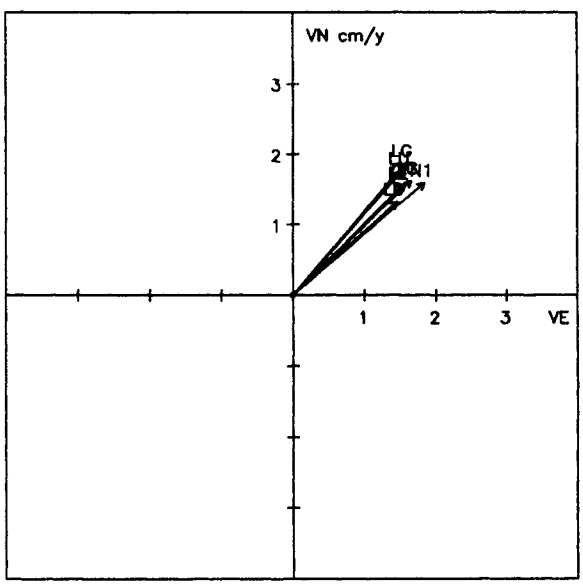
12734 MATERA 2-D Velocities EURA



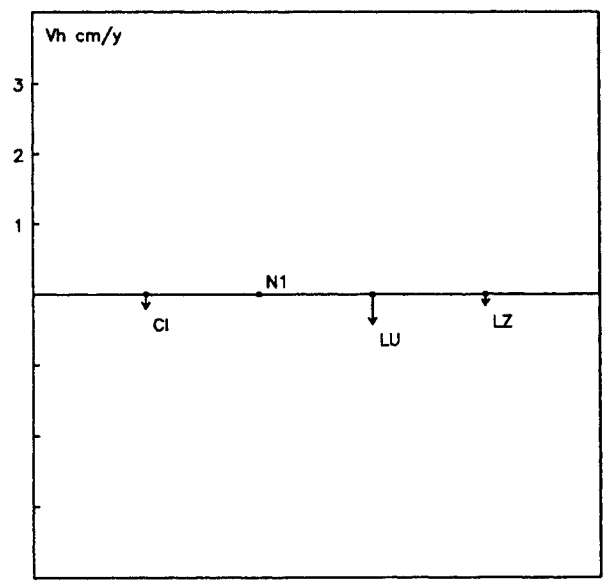
12734 MATERA Vertical Velocities



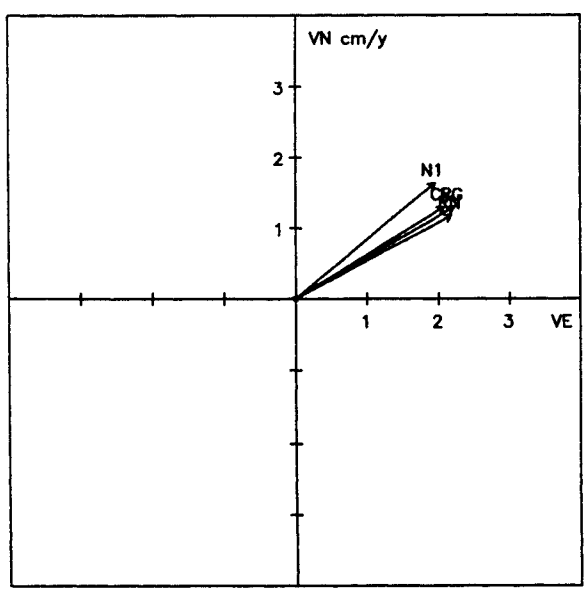
13212 HERSTMONCEUX 2-D Velocities EURA



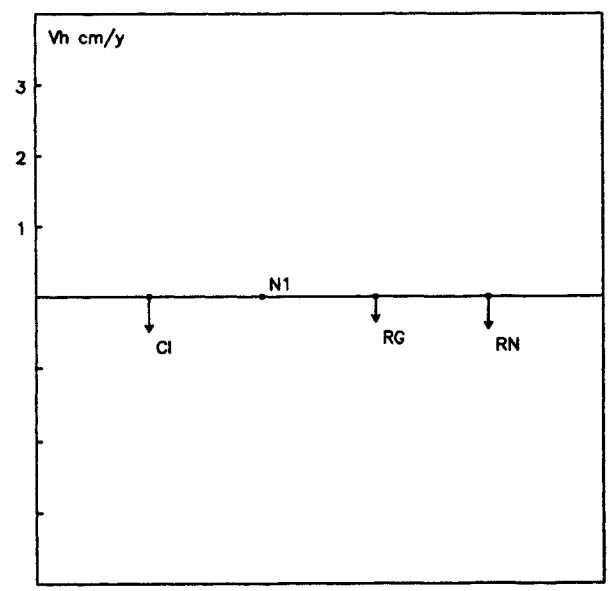
13212 HERSTMONCEUX Vertical Velocities



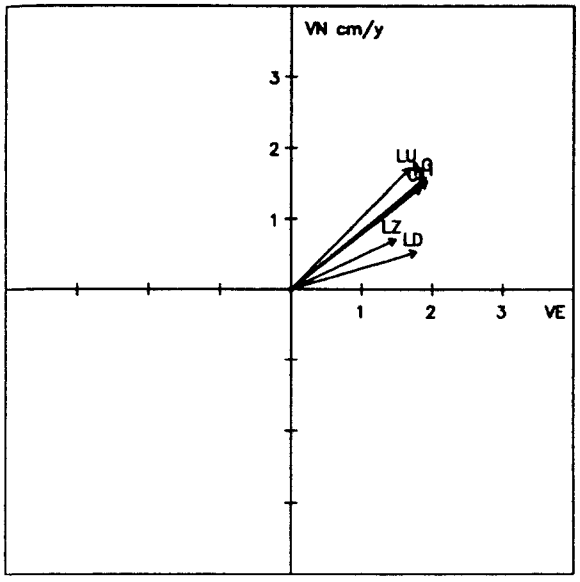
13407 MADRID 2-D Velocities EURA



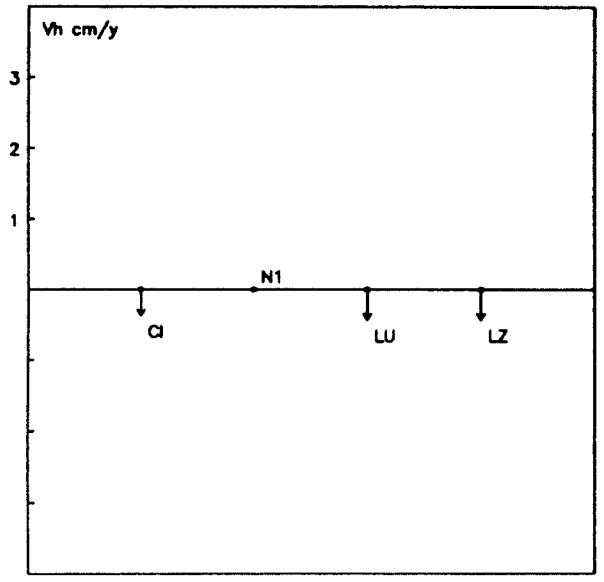
13407 MADRID Vertical Velocities



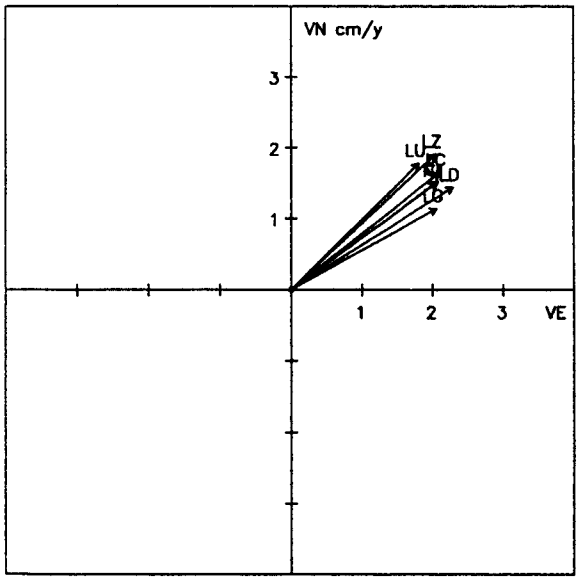
13504 KOOTWIJK 2-D Velocities EURA



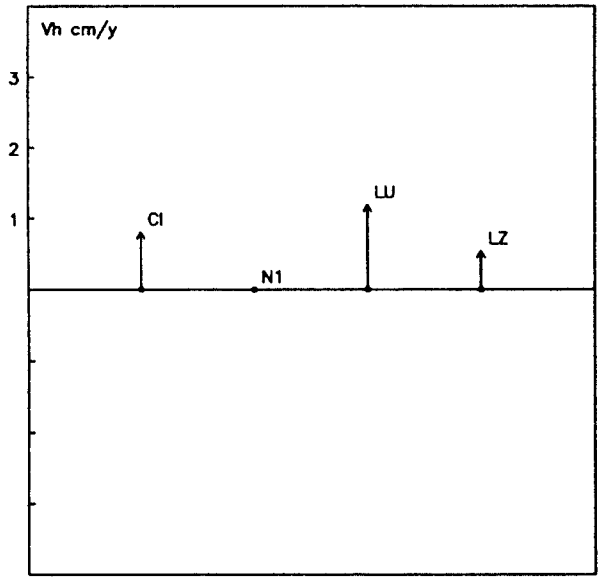
13504 KOOTWIJK Vertical Velocities



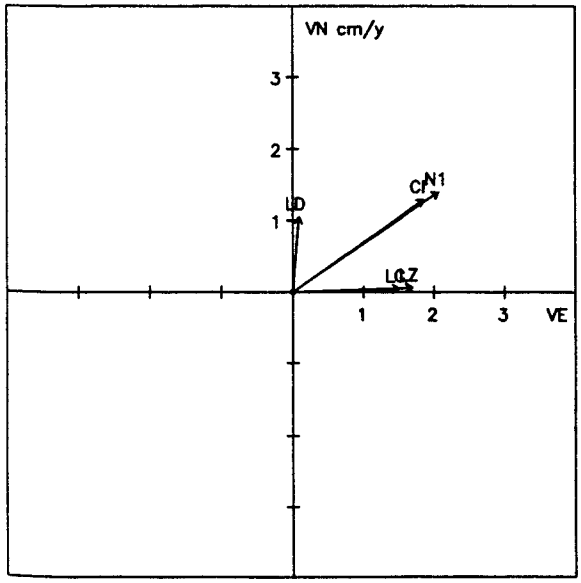
14001 ZIMMERWALD 2-D Velocities EURA



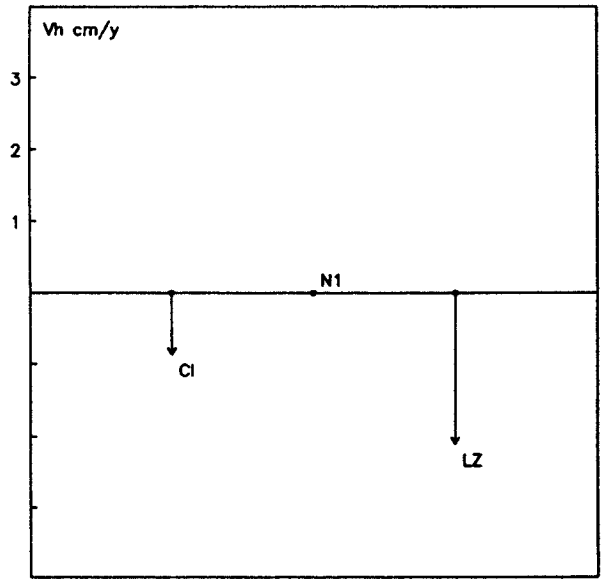
14001 ZIMMERWALD Vertical Velocities



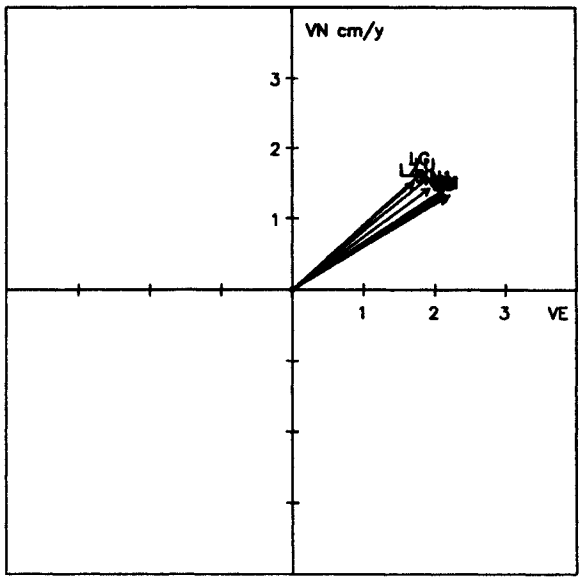
14106 POTSDAM 2-D Velocities EURA



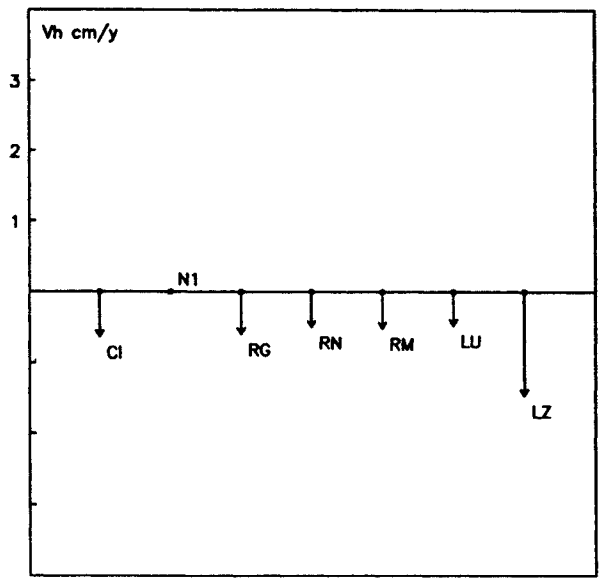
14106 POTSDAM Vertical Velocities



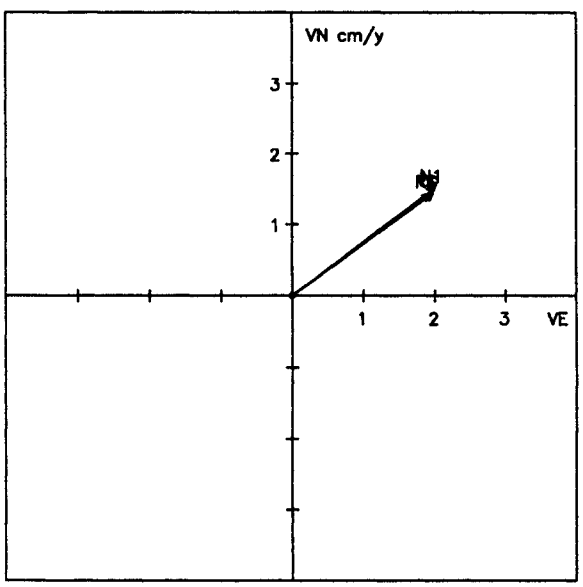
14201 WETTZELL 2-D Velocities EURA



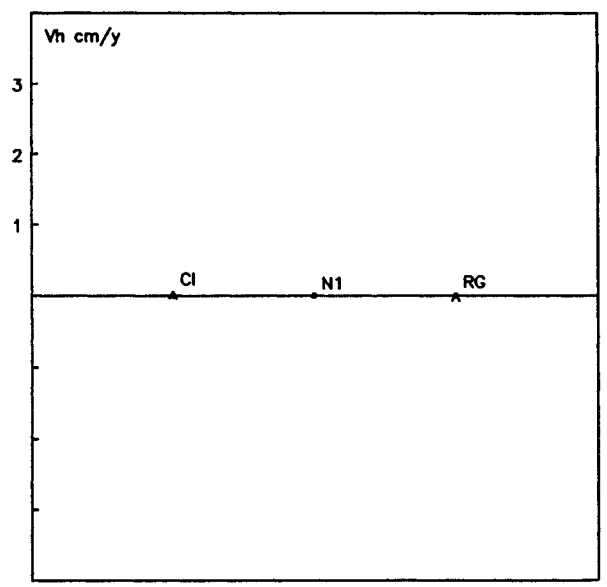
14201 WETTZELL Vertical Velocities



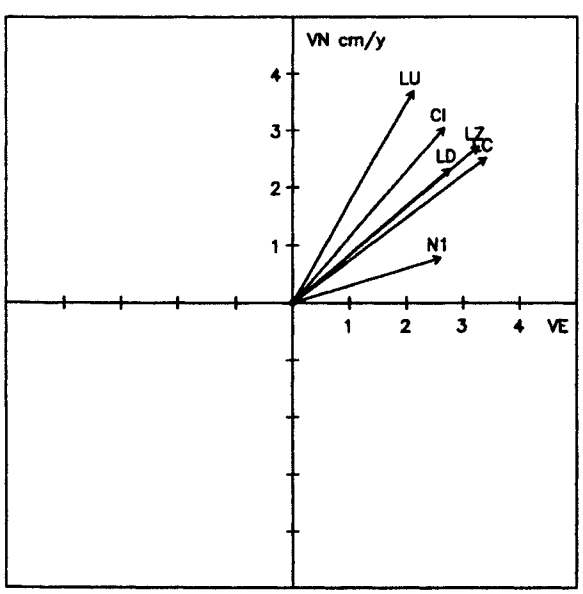
14209 EFFELSBERG 2-D Velocities EURA



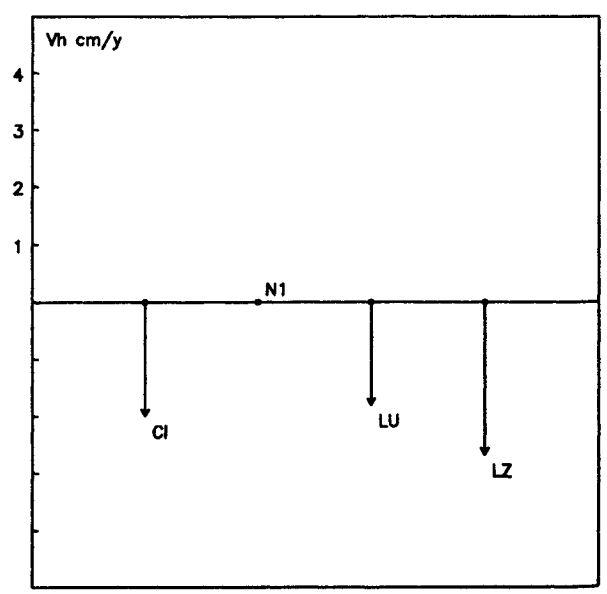
14209 EFFELSBERG Vertical Velocities



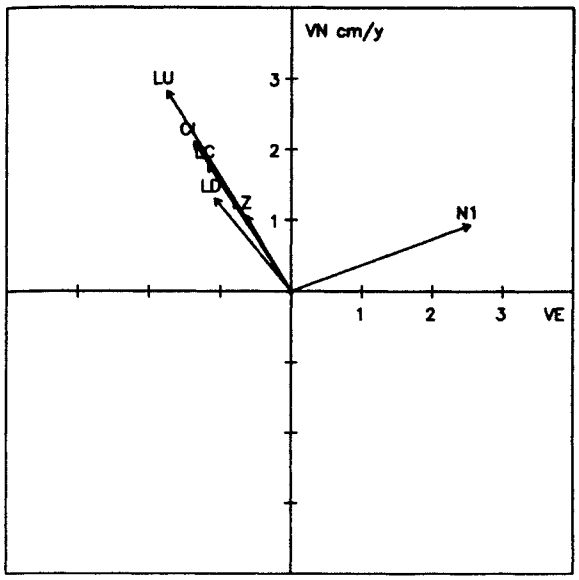
20801 DIYARBAKIR 2-D Velocities EURA N1 Deweighted



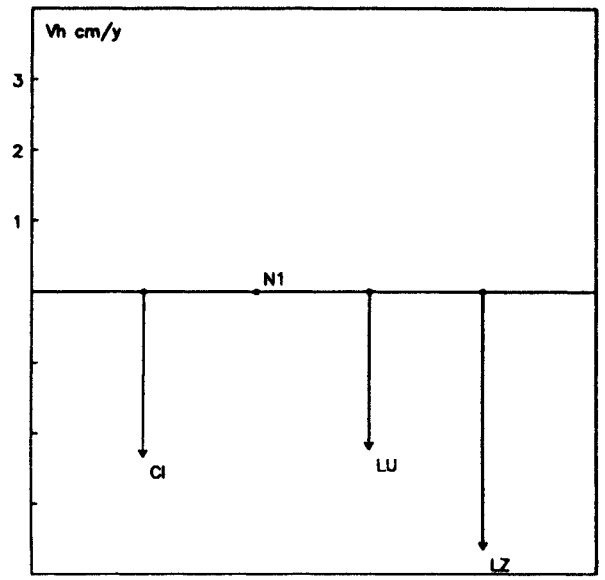
20801 DIYARBAKIR Vertical Velocities



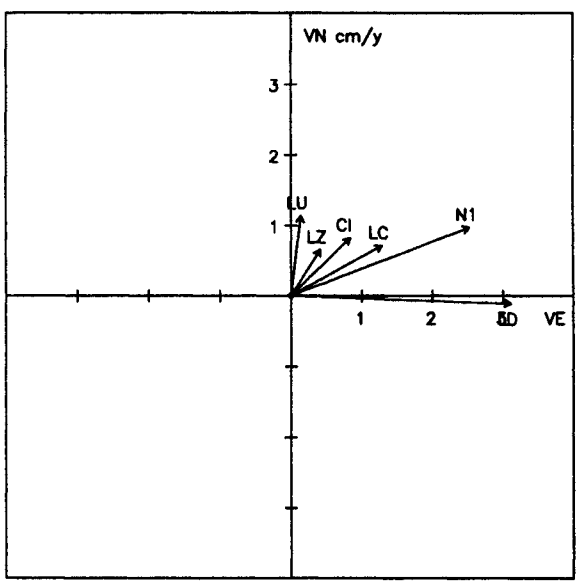
20802 YOZGAT 2-D Velocities EURA N1 Deweighted



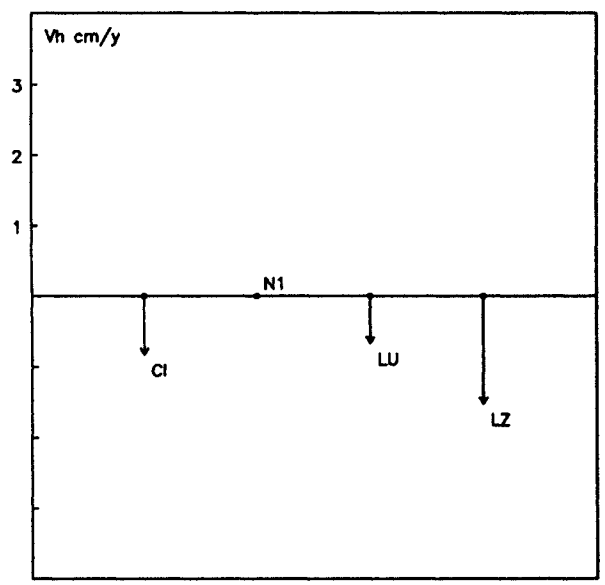
20802 YOZGAT Vertical Velocities



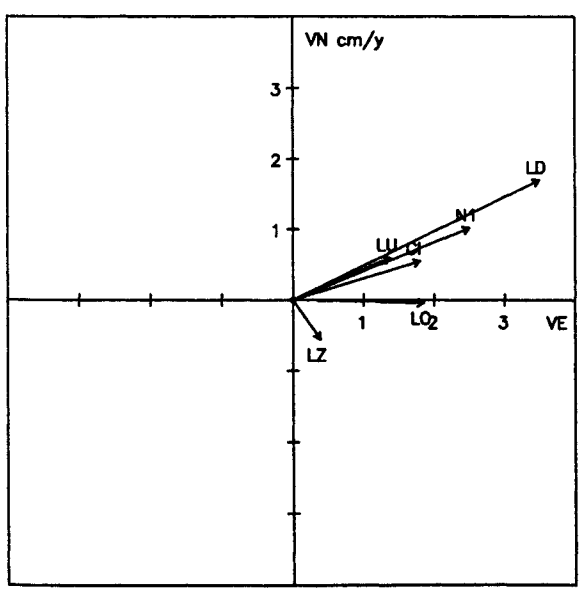
20803 MELENGICLICK 2-D Velocities EURA N1 Deweighted



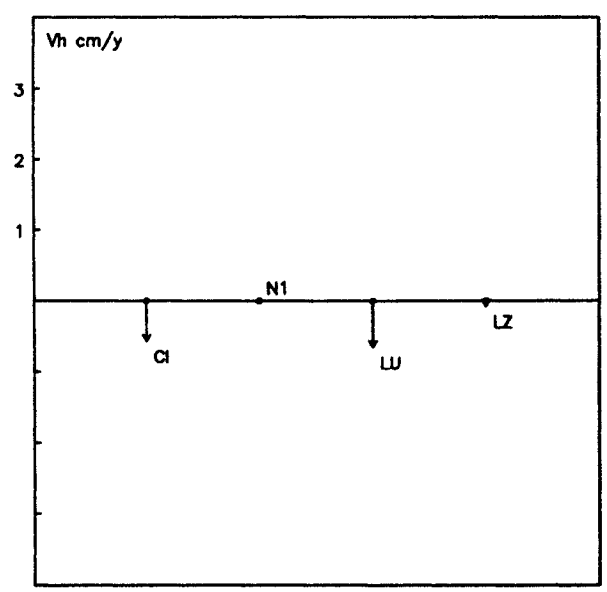
20803 MELENGICLICK Vertical Velocities



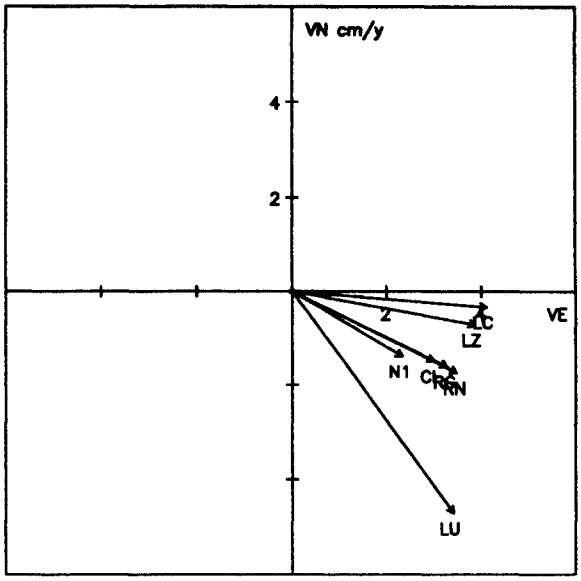
20804 YIGILCA 2-D Velocities EURA N1 Deweighted



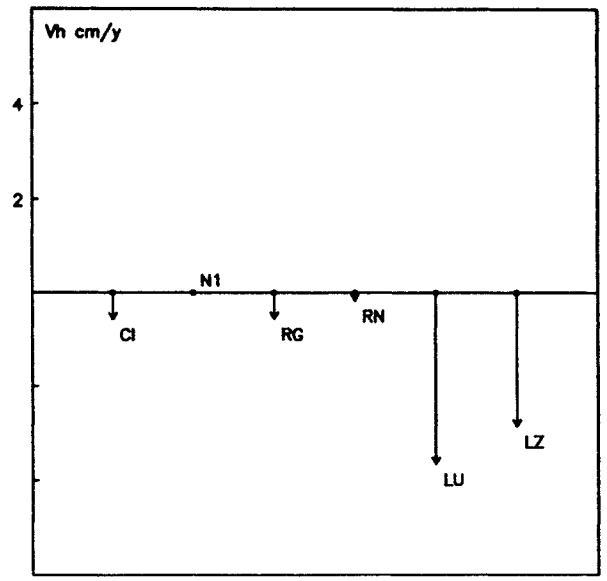
20804 YIGILCA Vertical Velocities



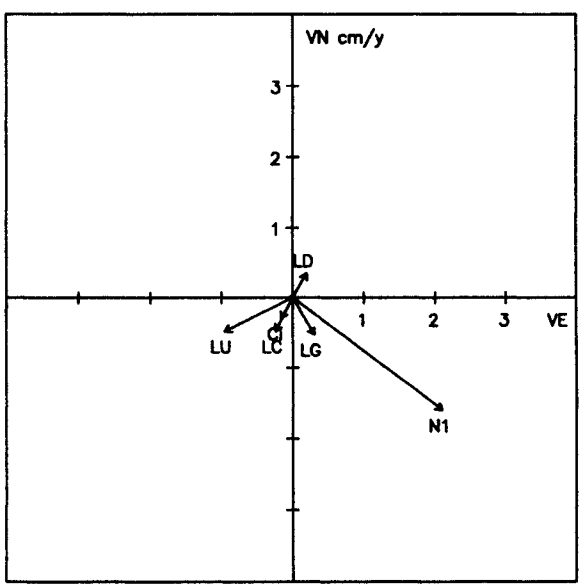
21605 SHANGHAI 2-D Velocities EURA



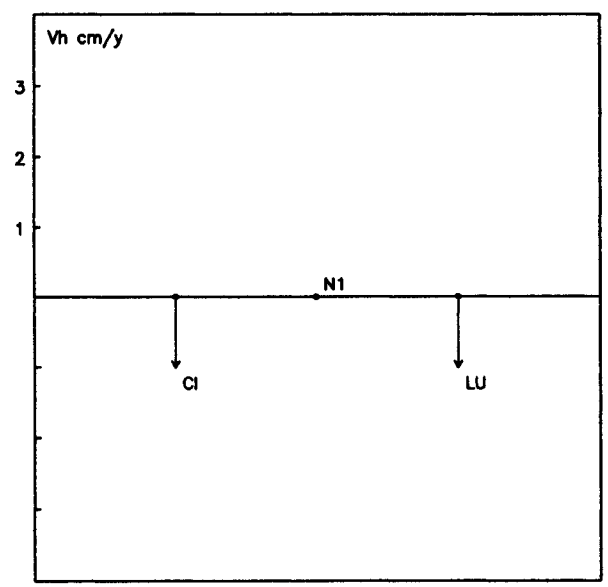
21605 SHANGHAI Vertical Velocities



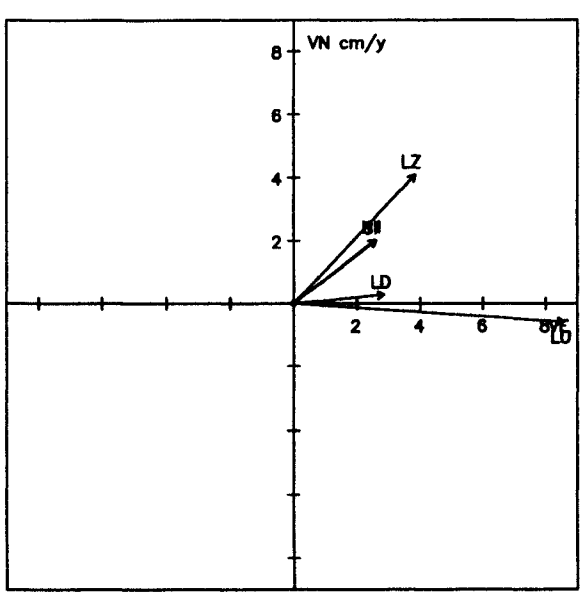
21726 SIMOSATO 2-D Velocities EURA N1 Deweighted



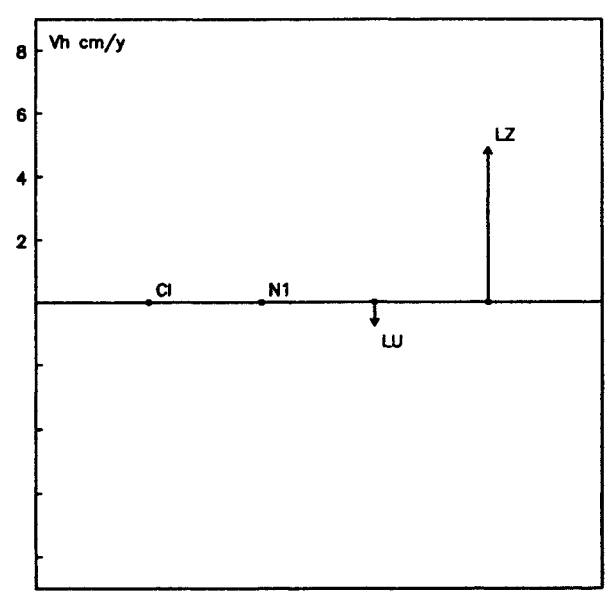
21726 SIMOSATO Vertical Velocities



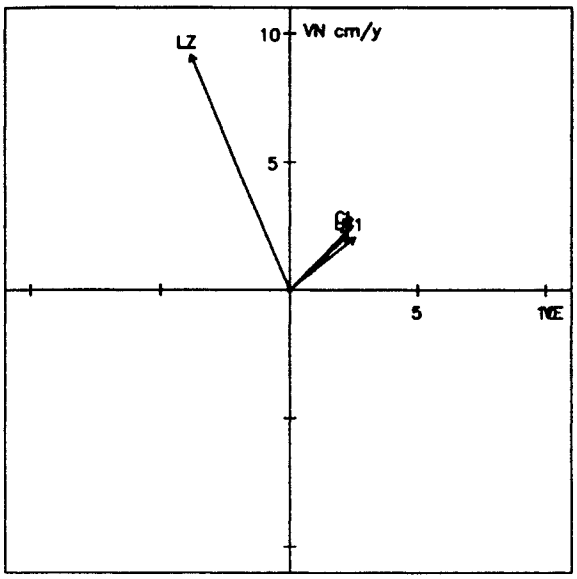
20702 BAR GIYYORA 2-D Velocities AFRC



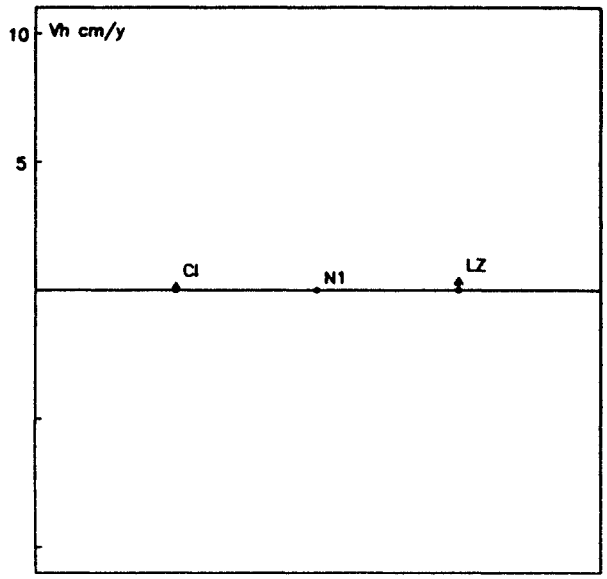
20702 BAR GIYYORA Vertical Velocities



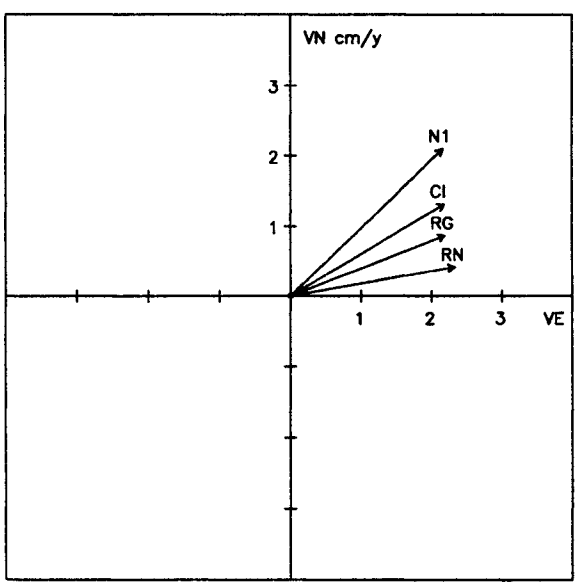
30101 HELWAN 2-D Velocities AFRC



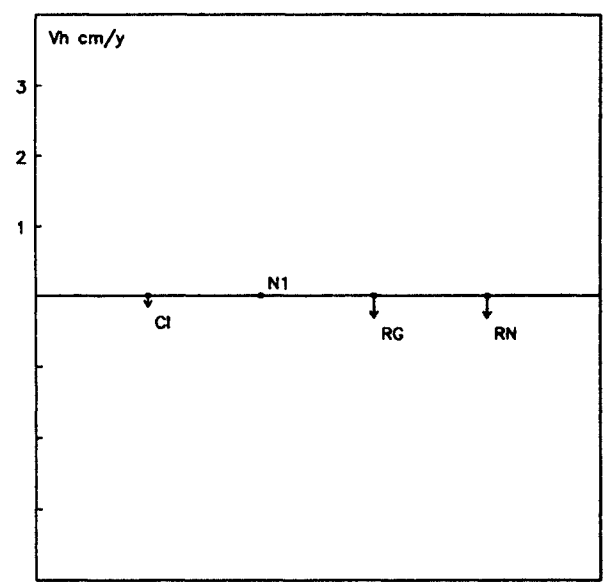
30101 HELWAN Vertical Velocities



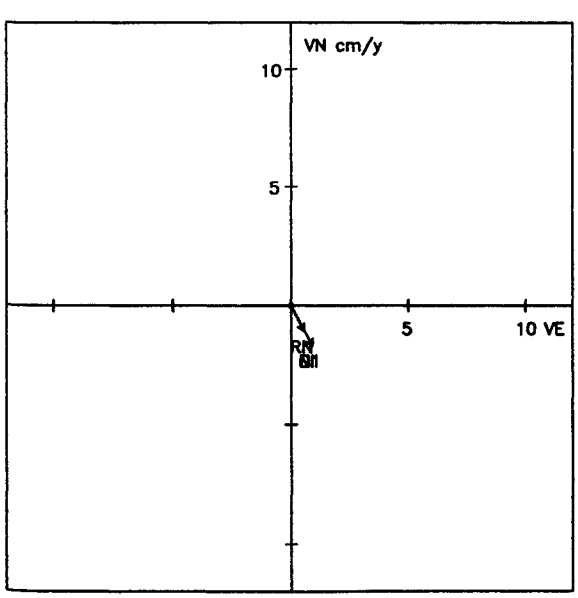
30302 JOHANNESBURG 2-D Velocities AFRC



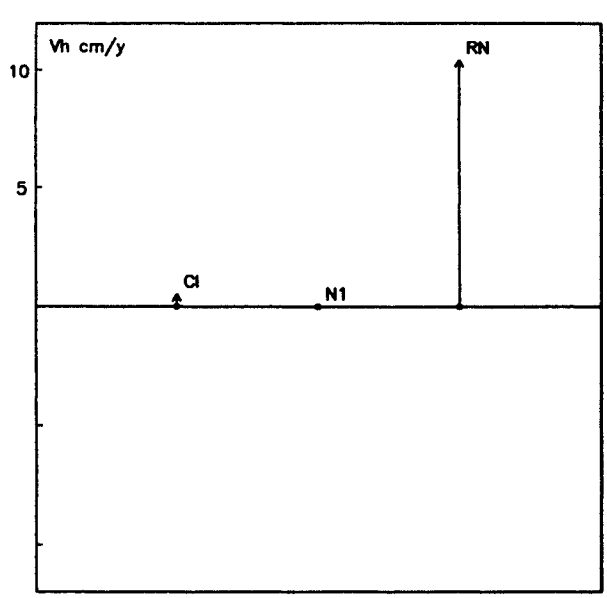
30302 JOHANNESBURG Vertical Velocities



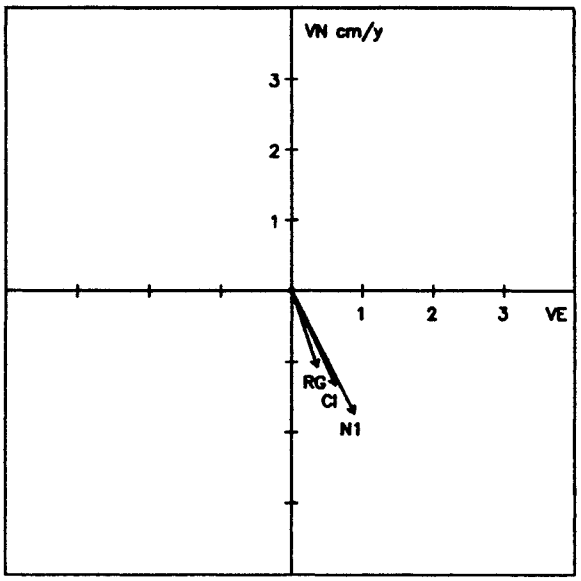
21725 NOBEYAMA 2-D Velocities NOAM



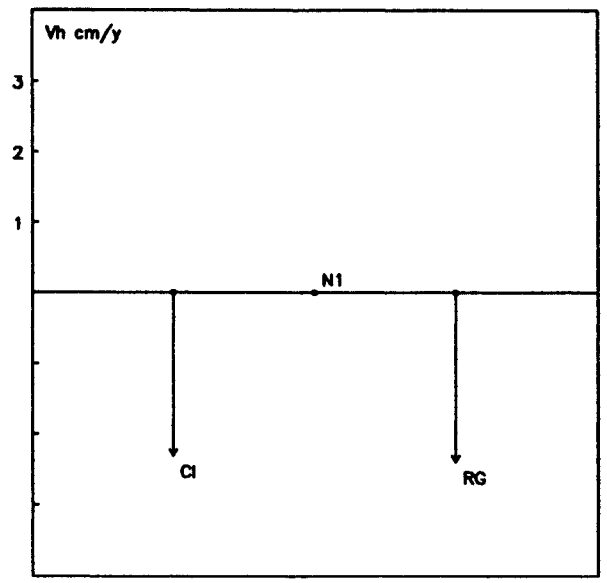
21725 NOBEYAMA Vertical Velocities



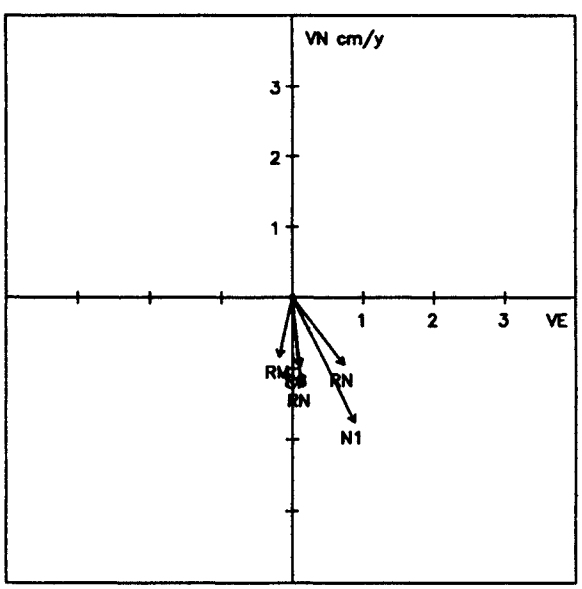
21730 TSUKUBA 2-D Velocities NOAM



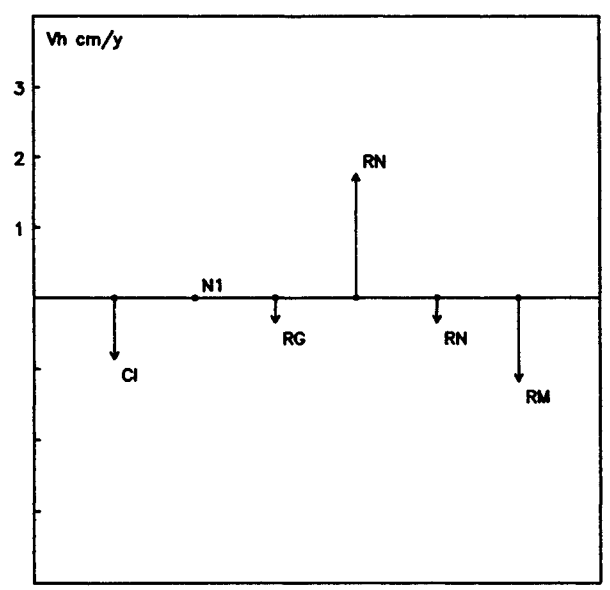
21730 TSUKUBA Vertical Velocities



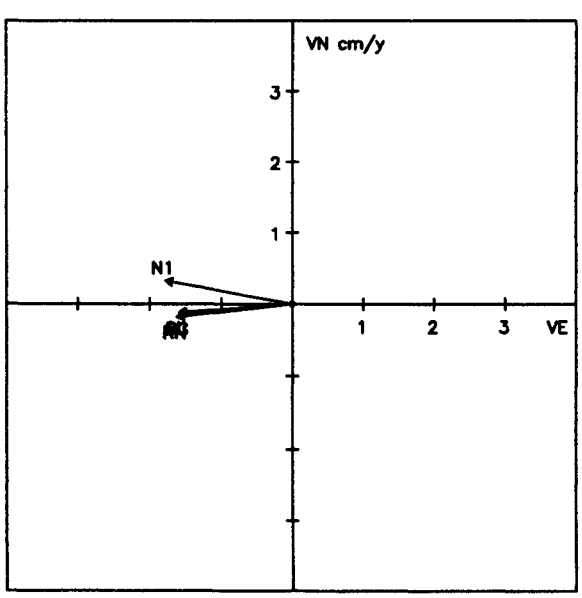
21701 KASHIMA 2-D Velocities NOAM



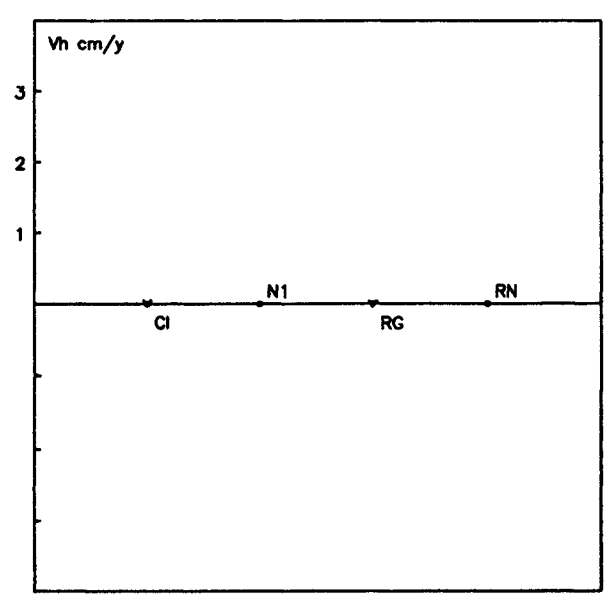
21701 KASHIMA Vertical Velocities



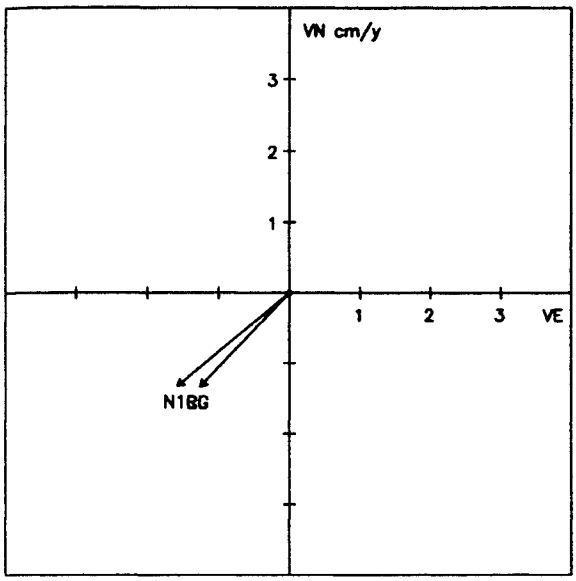
40104 ALGONQUIN 2-D Velocities NOAM



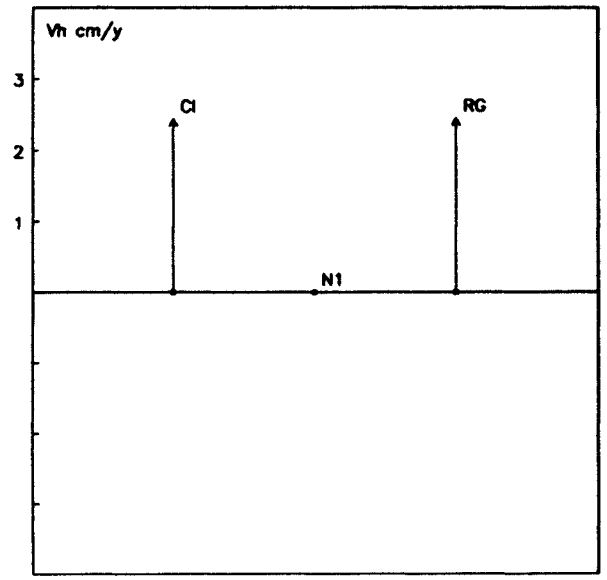
40104 ALGONQUIN Vertical Velocities



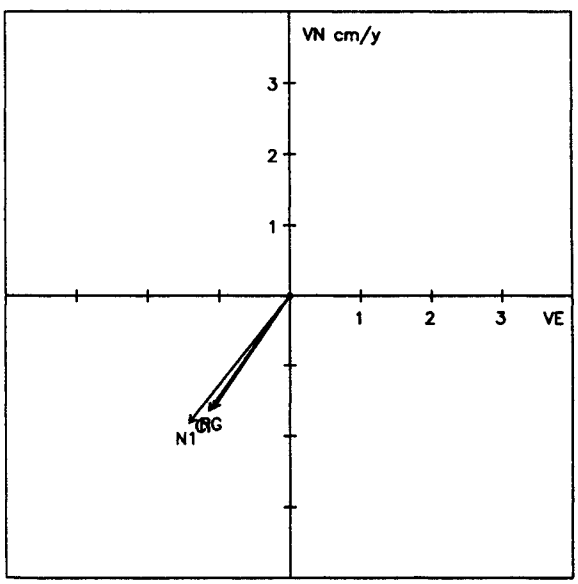
40105 PENTICTON 2-D Velocities NOAM



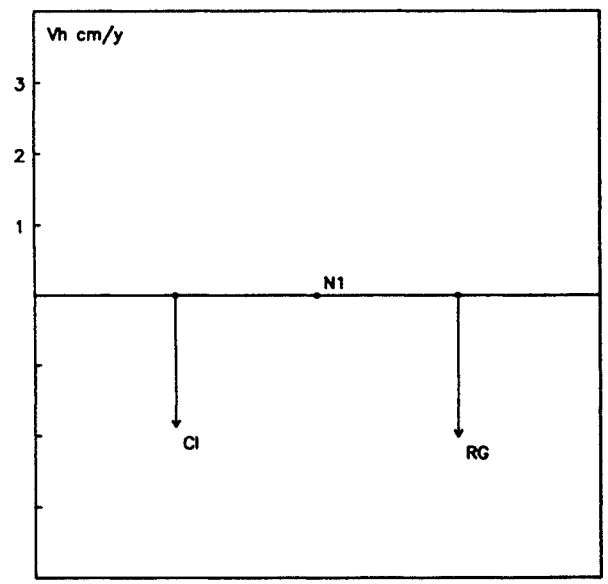
40105 PENTICTON Vertical Velocities



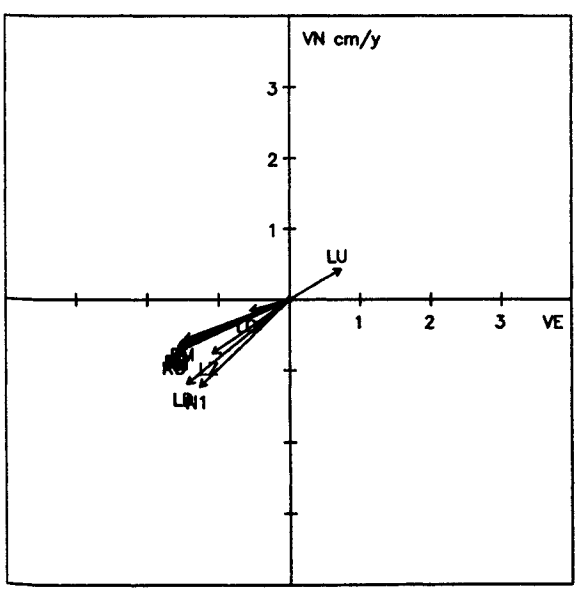
40118 WHITEHORSE 2-D Velocities NOAM



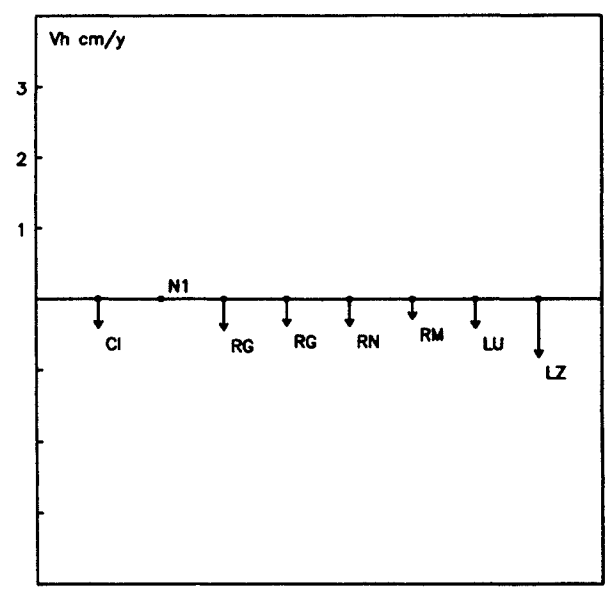
40118 WHITEHORSE Vertical Velocities



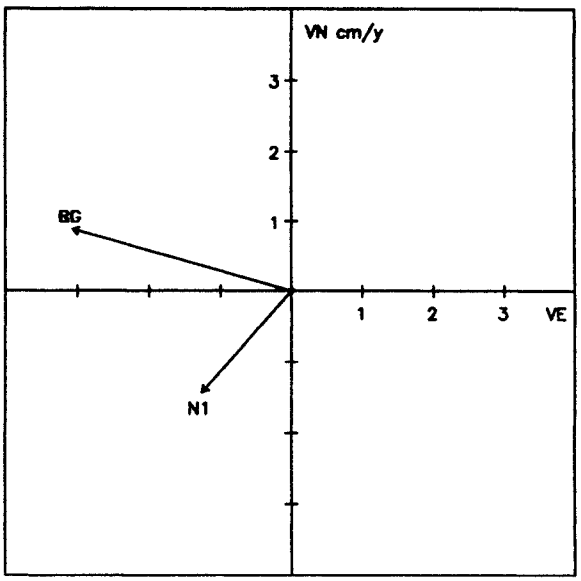
40405 GOLDSTONE 2-D Velocities NOAM



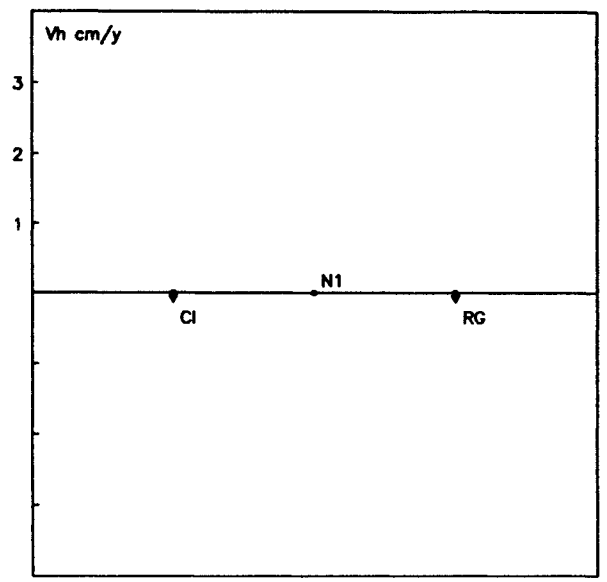
40405 GOLDSTONE Vertical Velocities



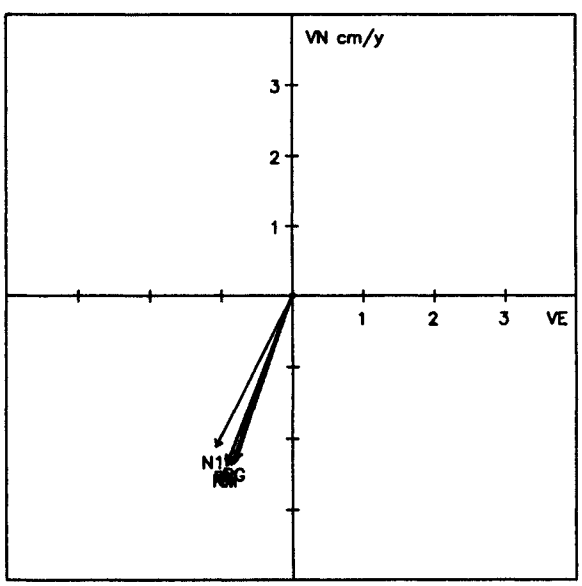
40406 PRESIDIO 2-D Velocities NOAM N1 Deweighted



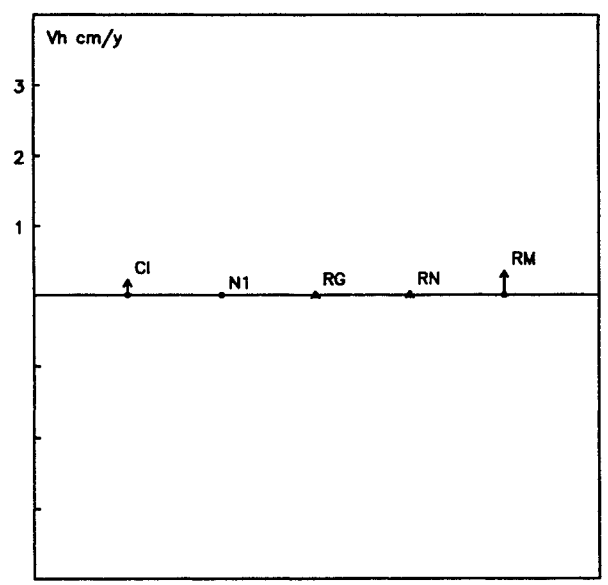
40406 PRESIDIO Vertical Velocities



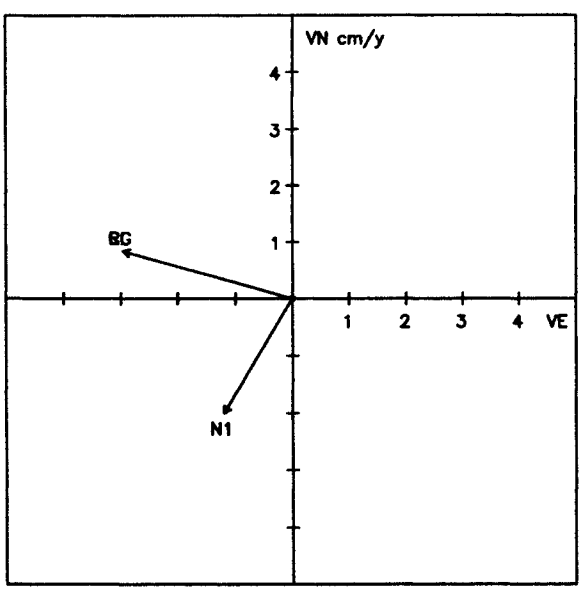
40408 FAIRBANKS 2-D Velocities NOAM



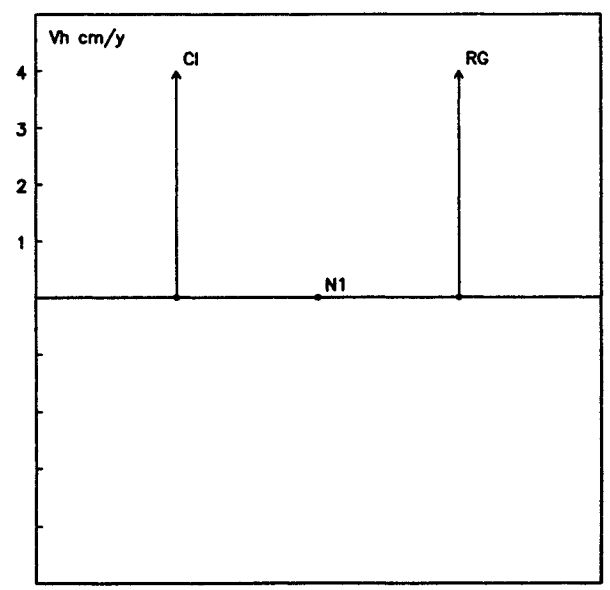
40408 FAIRBANKS Vertical Velocities



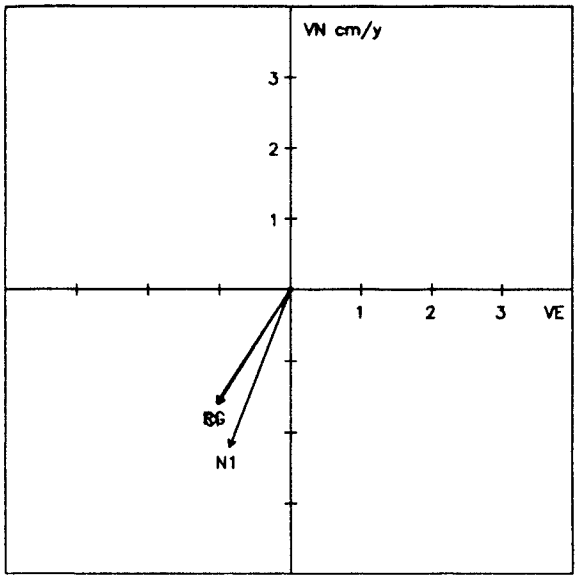
40416 YAKATAGA 2-D Velocities NOAM N1 Deweighted



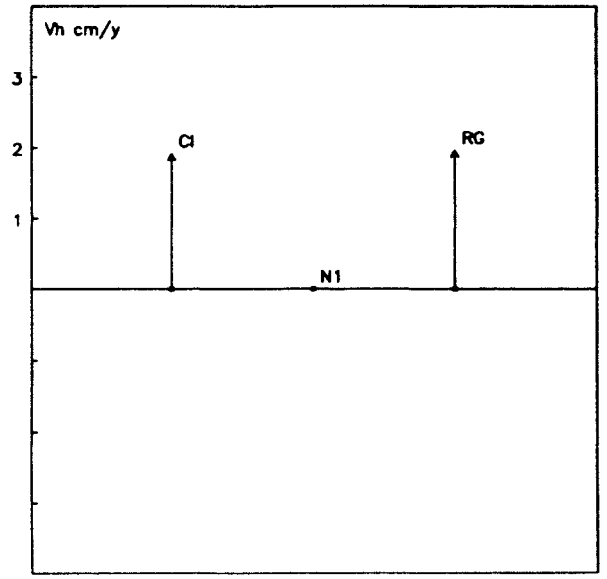
40416 YAKATAGA Vertical Velocities



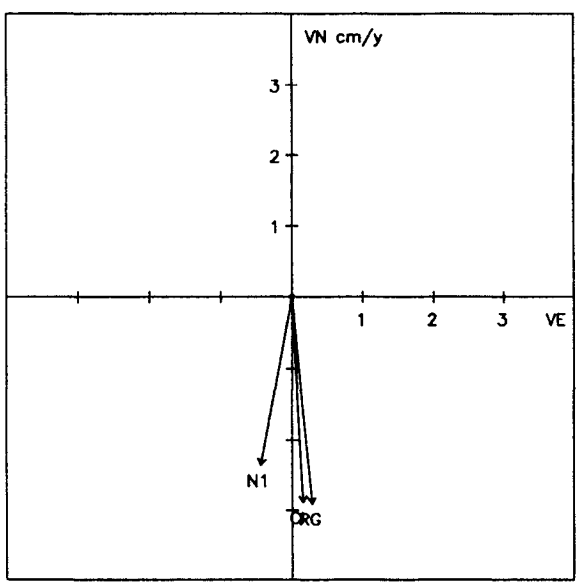
40419 KODIAK 2-D Velocities NOAM



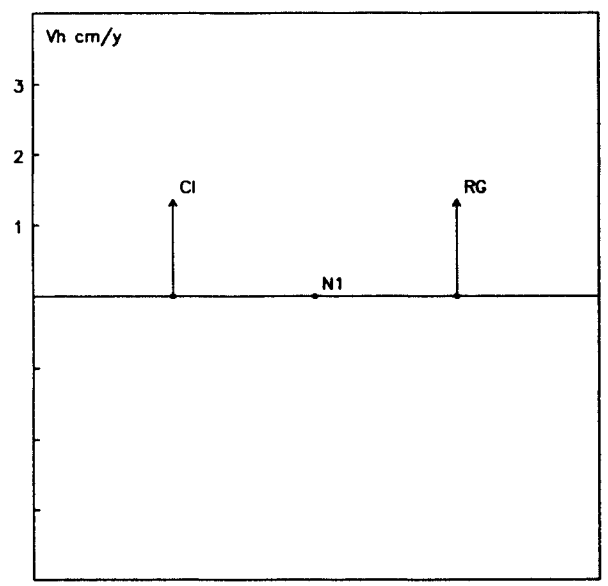
40419 KODIAK Vertical Velocities



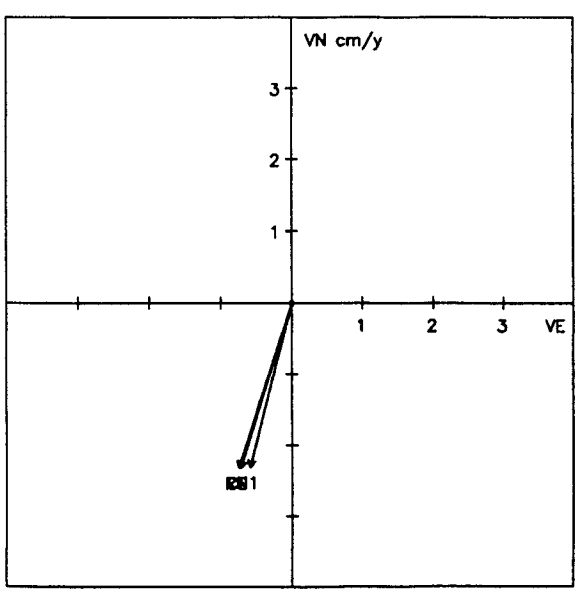
40421 NOME 2-D Velocities NOAM



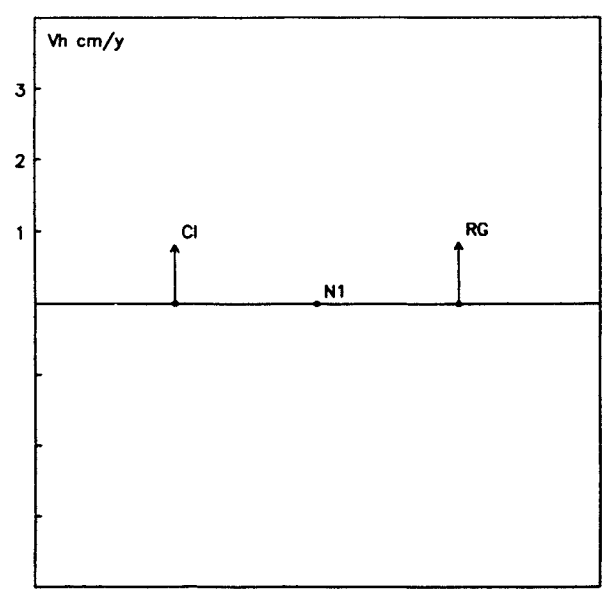
40421 NOME Vertical Velocities



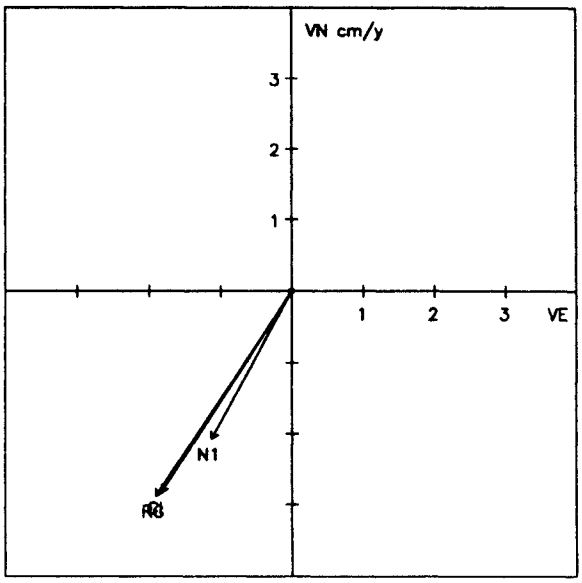
40423 SANDPOINT 2-D Velocities NOAM



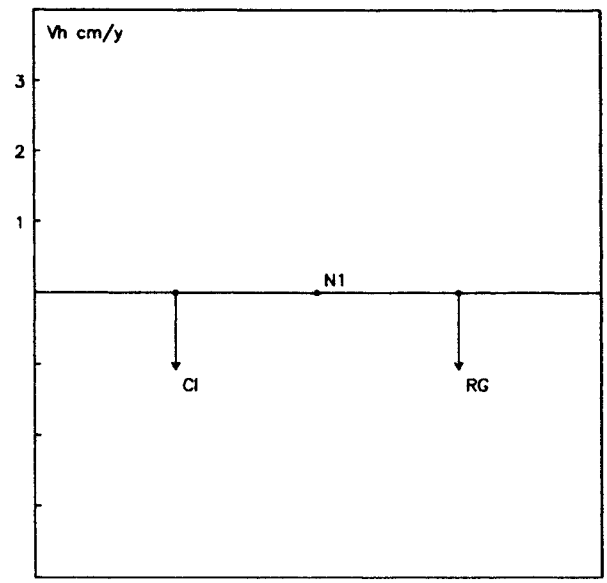
40423 SANDPOINT Vertical Velocities



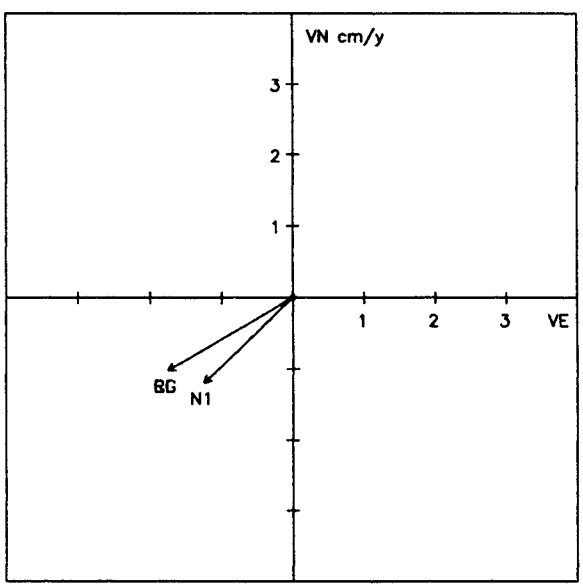
40425 SOURDOUGH 2-D Velocities NOAM



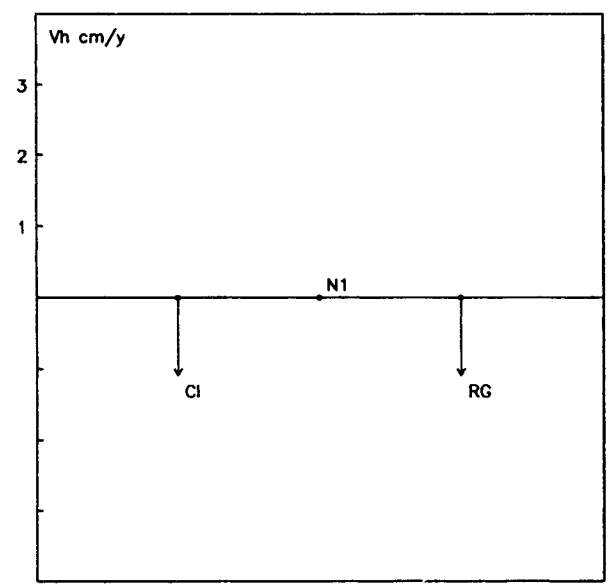
40425 SOURDOUGH Vertical Velocities



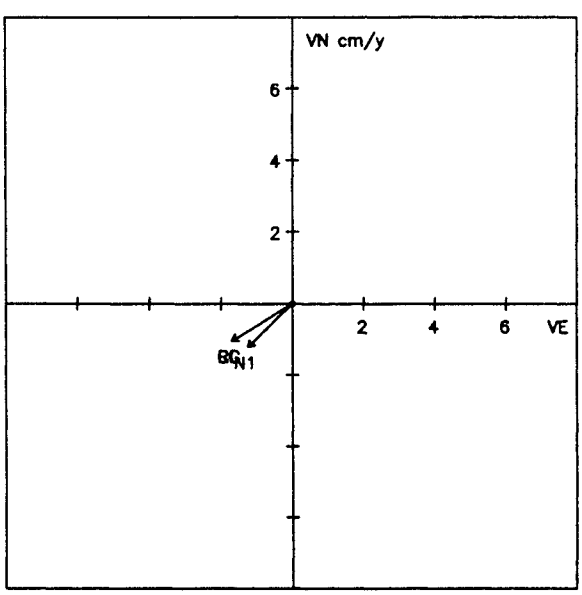
40430 BLACK BUTTE 2-D Velocities NOAM N1 Deweighted



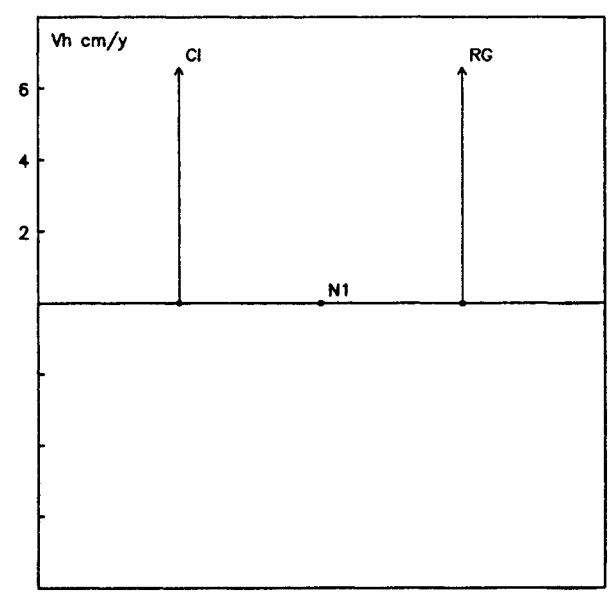
40430 BLACK BUTTE Vertical Velocities



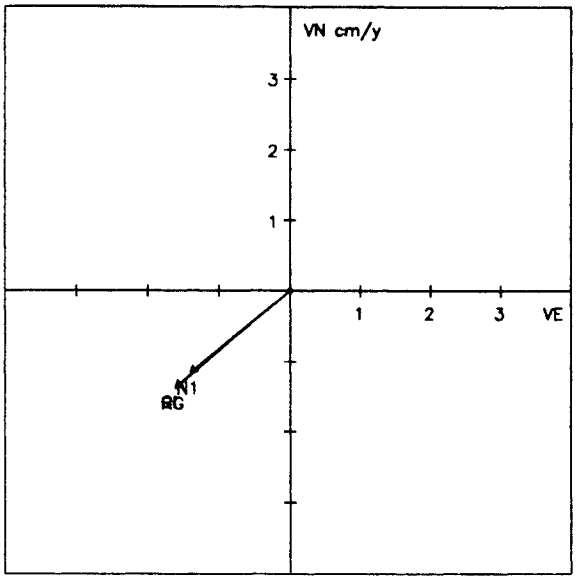
40431 DEADMAN LAKE 2-D Velocities NOAM N1 Deweighted



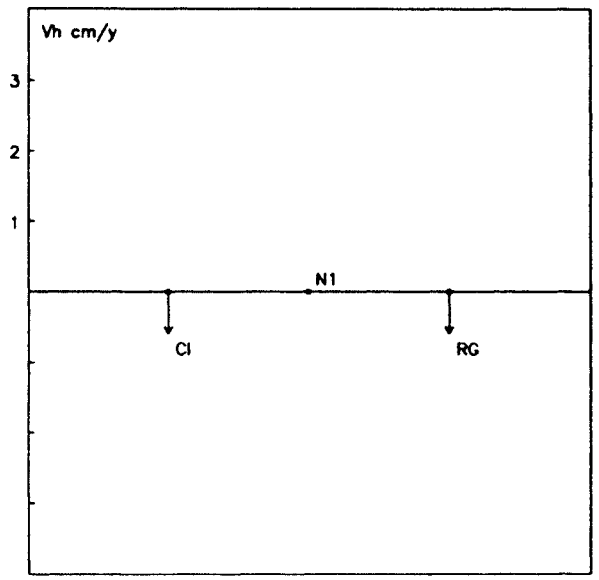
40431 DEADMAN LAKE Vertical Velocities



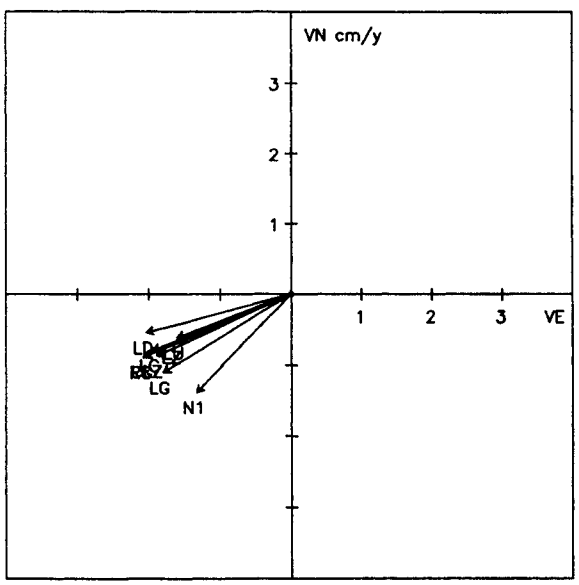
40432 ELY 2-D Velocities NOAM



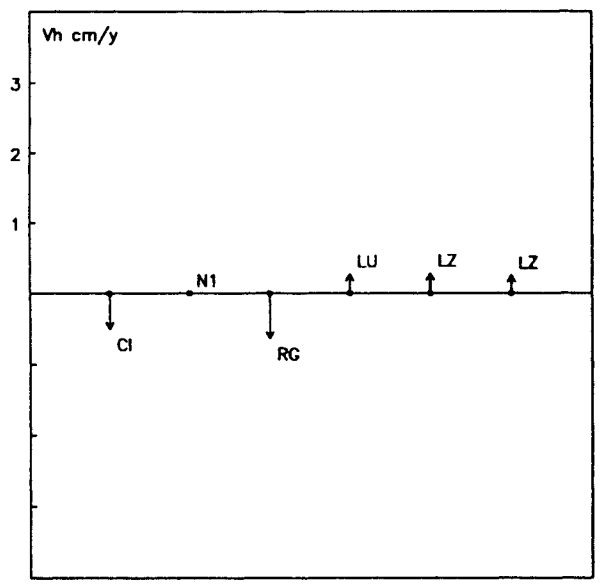
40432 ELY Vertical Velocities



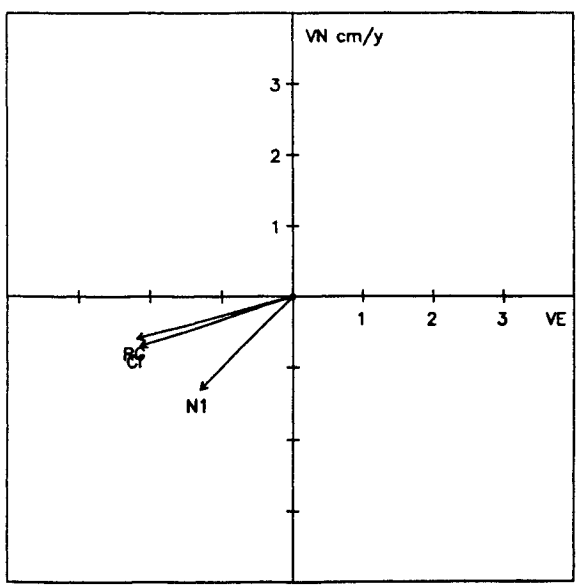
40433 QUINCY 2-D Velocities NOAM



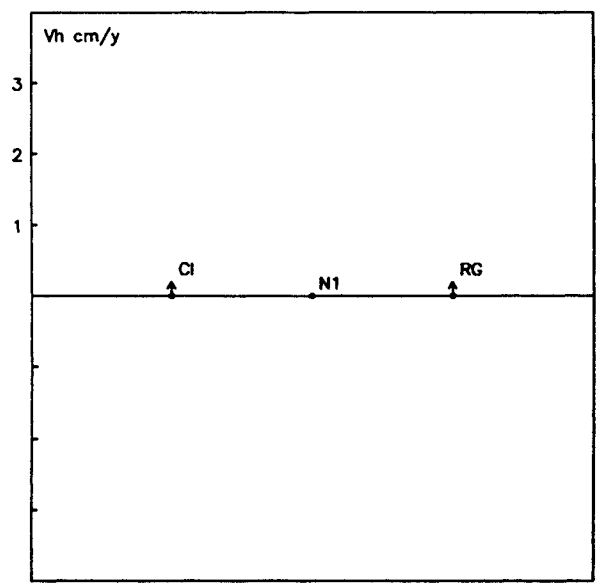
40433 QUINCY Vertical Velocities



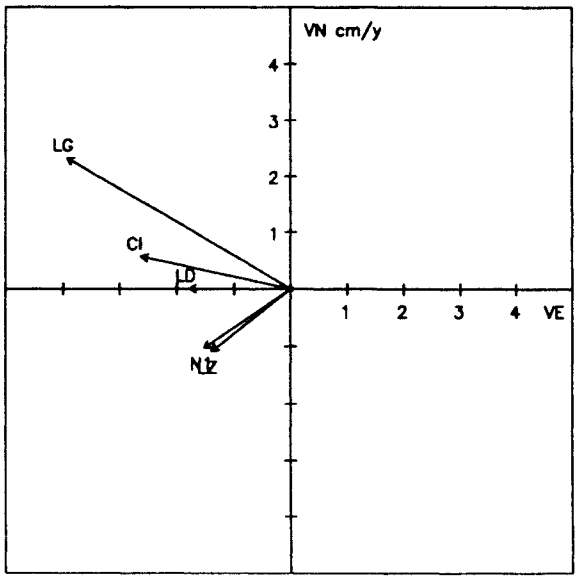
40437 MAMMOTH LAKES 2-D Velocities NOAM



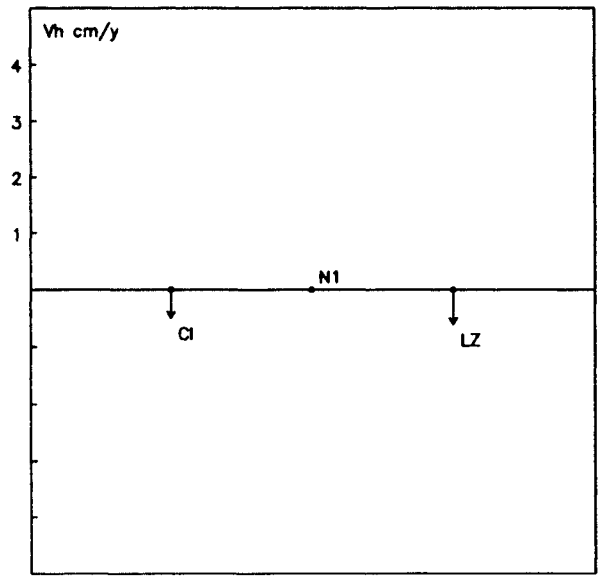
40437 MAMMOTH LAKES Vertical Velocities



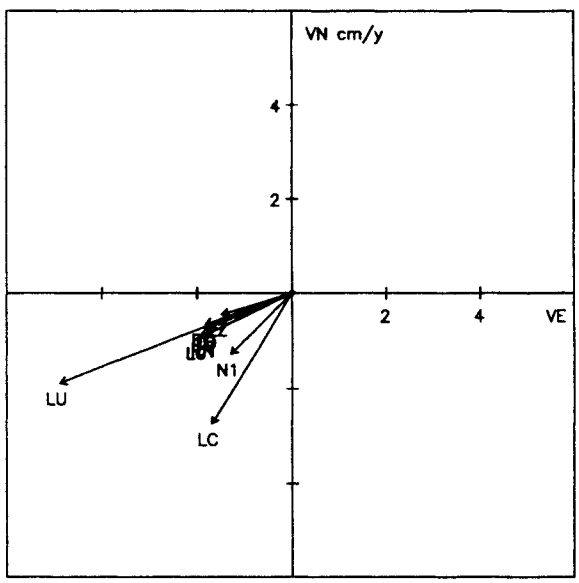
40438 BEAR LAKE 2-D Velocities NOAM



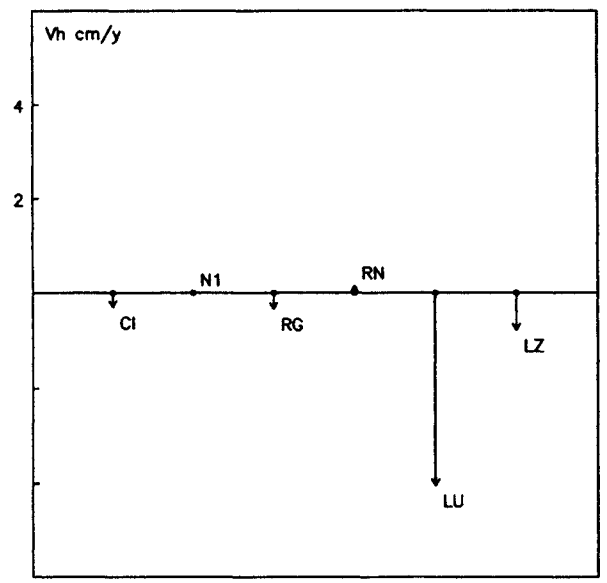
40438 BEAR LAKE Vertical Velocities



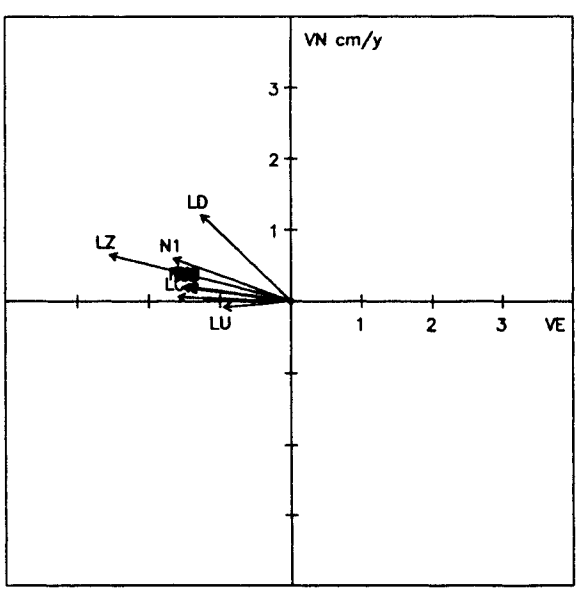
40439 OWENS VALLEY 2-D Velocities NOAM



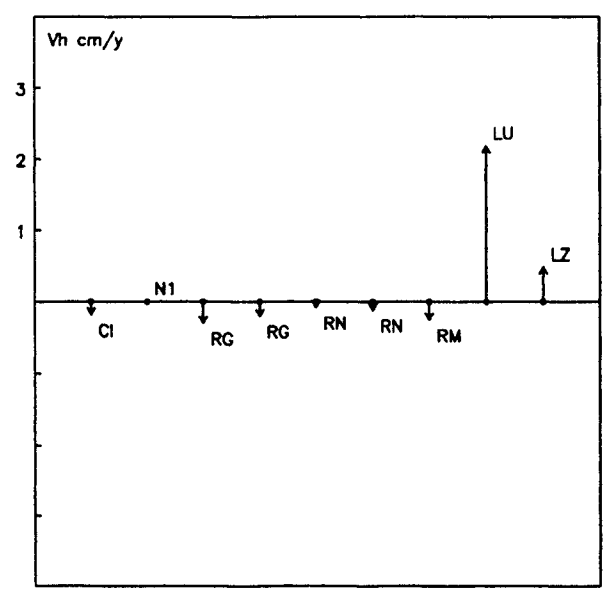
40439 OWENS VALLEY Vertical Velocities



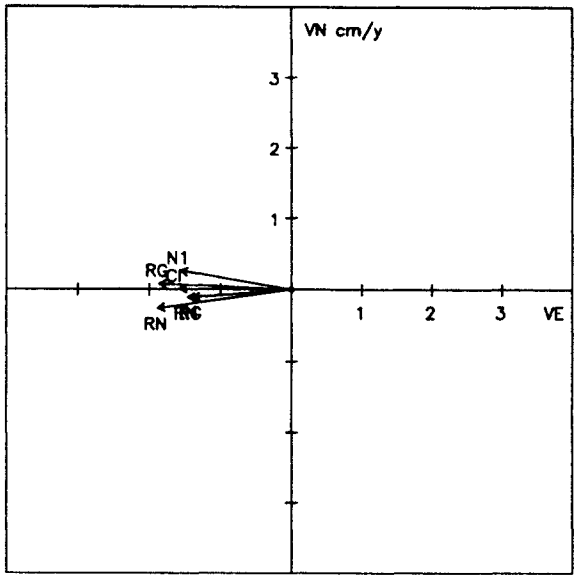
40440 WESTFORD 2-D Velocities NOAM



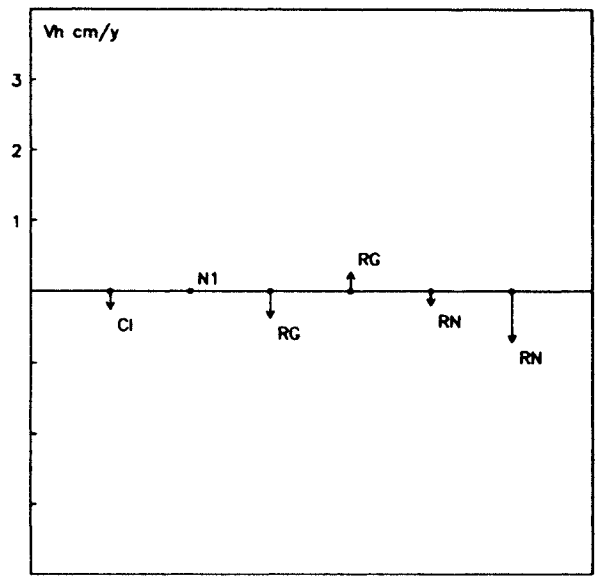
40440 WESTFORD Vertical Velocities



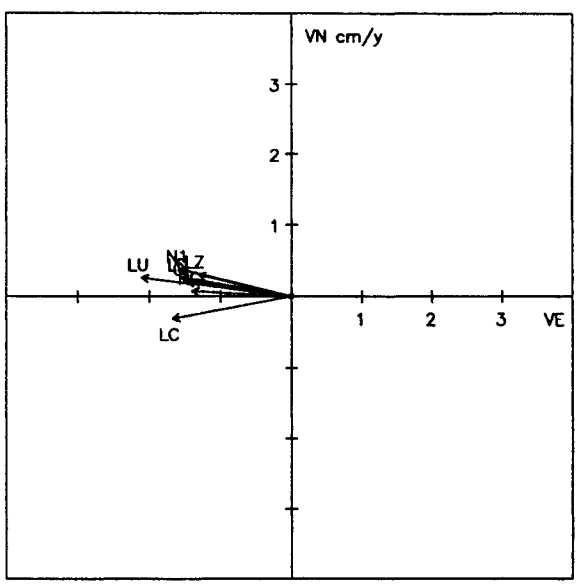
40441 GREENBANK 2-D Velocities NOAM



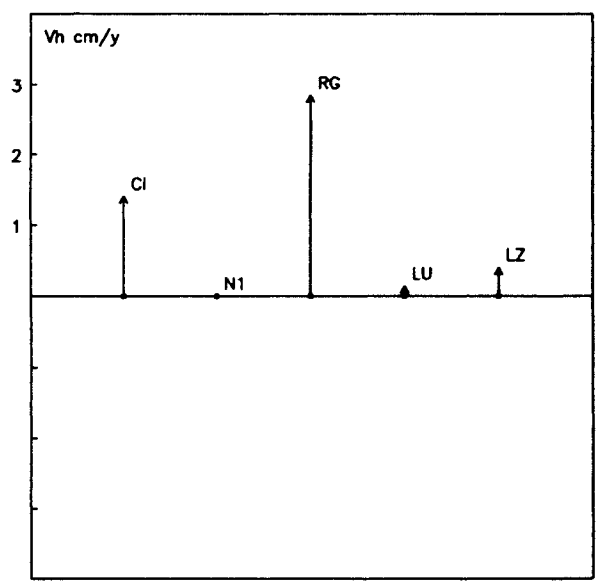
40441 GREENBANK Vertical Velocities



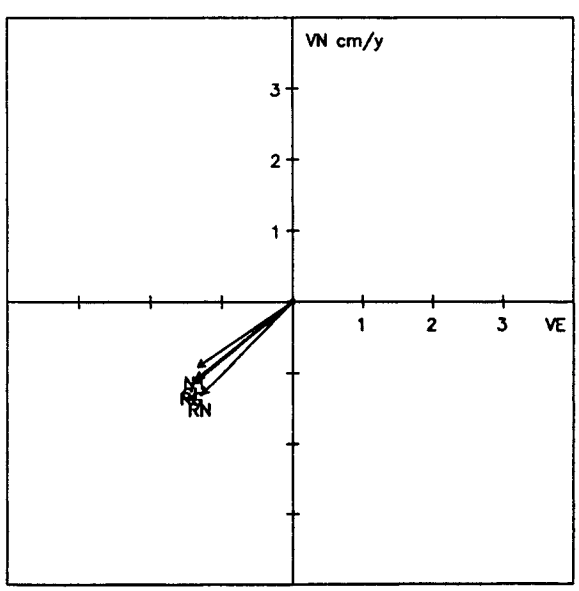
40451 WASHINGTON 2-D Velocities NOAM



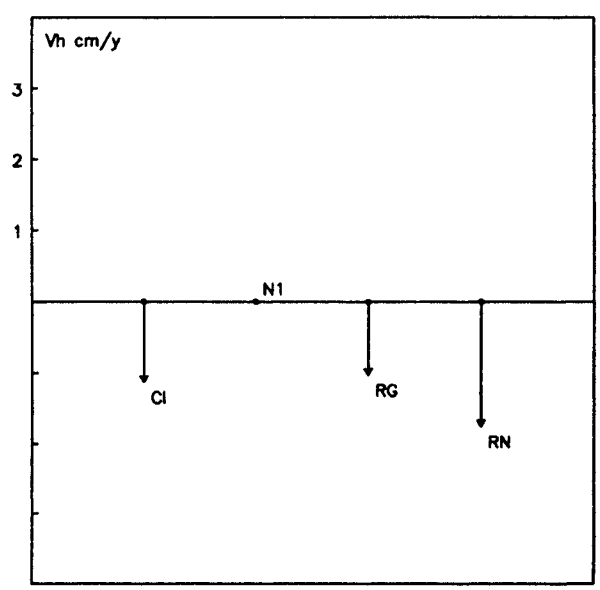
40451 WASHINGTON Vertical Velocities



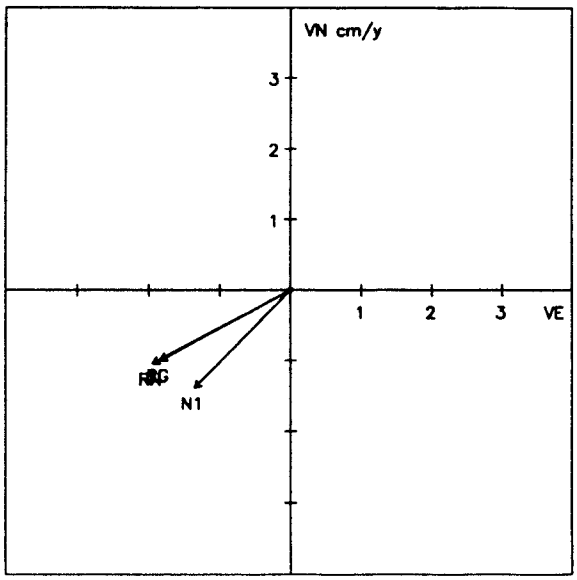
40456 PIETOWN 2-D Velocities NOAM



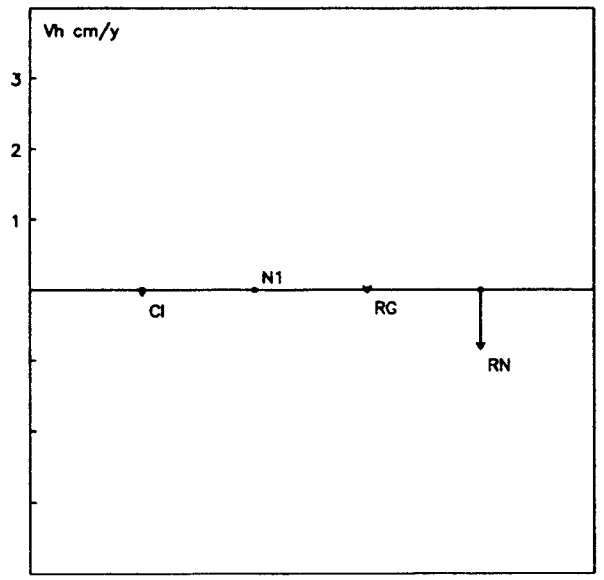
40456 PIETOWN Vertical Velocities



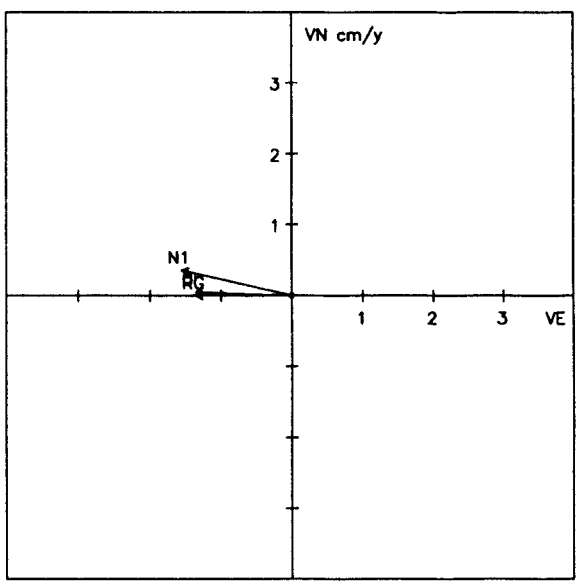
40489 HAT CREEK 2-D Velocities NOAM



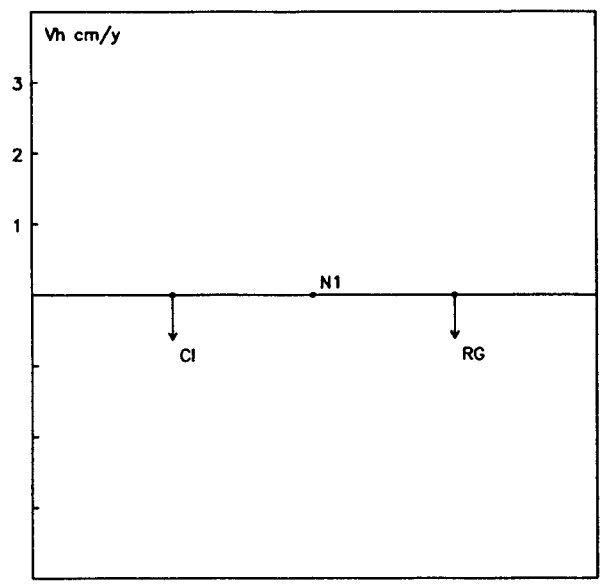
40489 HAT CREEK Vertical Velocities



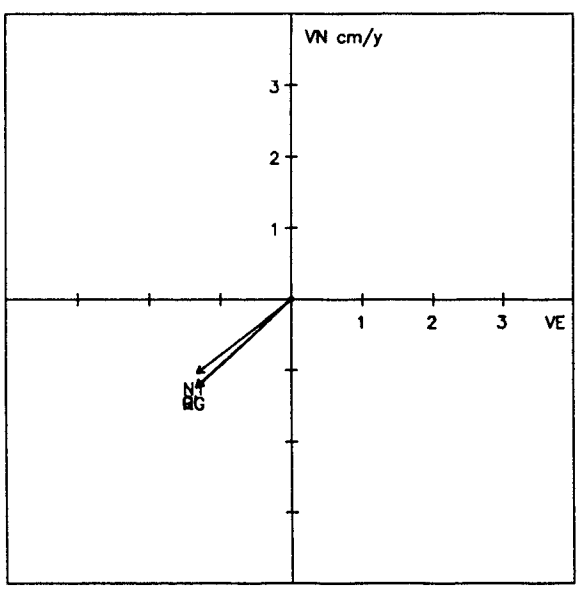
40490 MARYLAND POINT 2-D Velocities NOAM



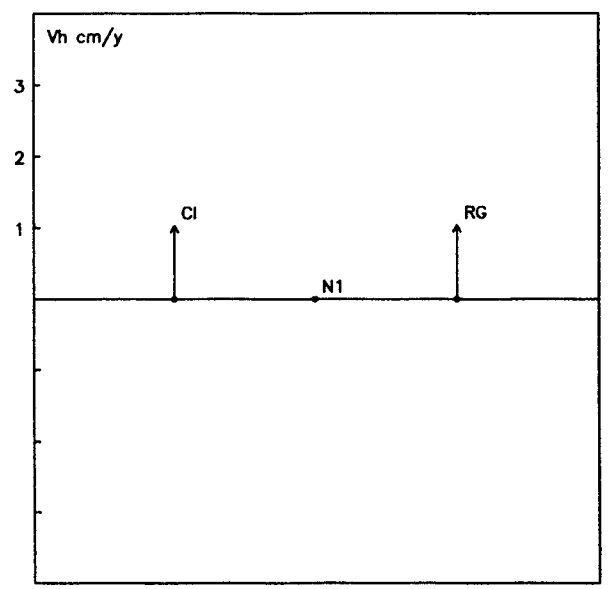
40490 MARYLAND POINT Vertical Velocities



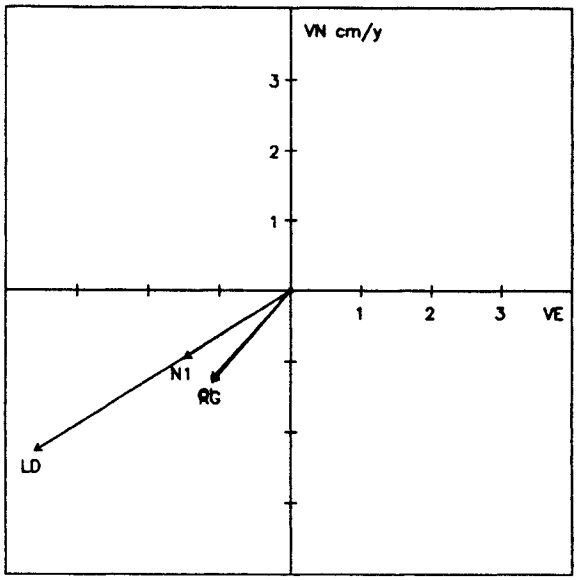
40491 FLAGSTAFF 2-D Velocities NOAM



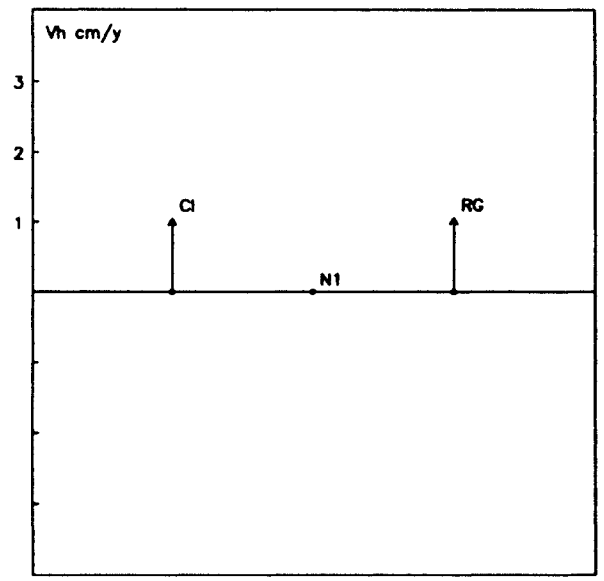
40491 FLAGSTAFF Vertical Velocities



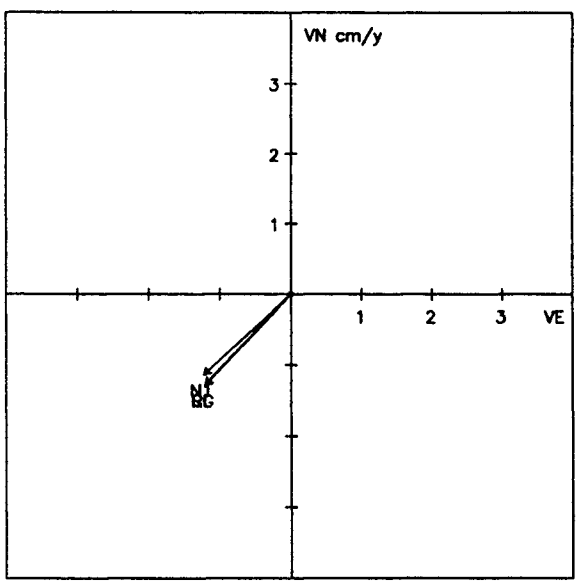
40492 VERNAL 2-D Velocities NOAM



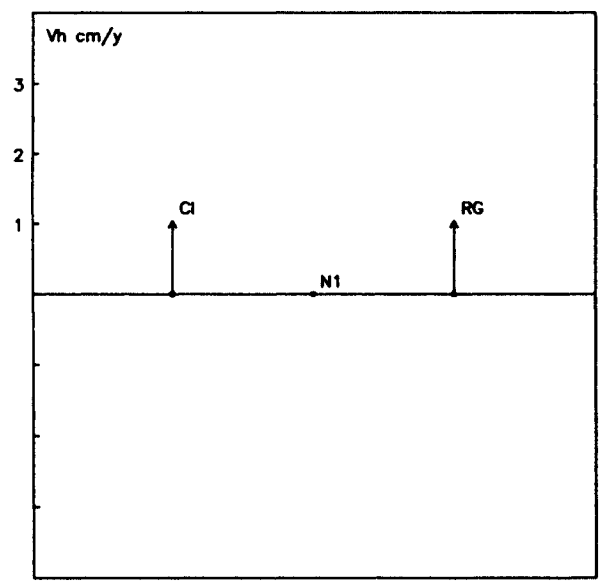
40492 VERNAL Vertical Velocities



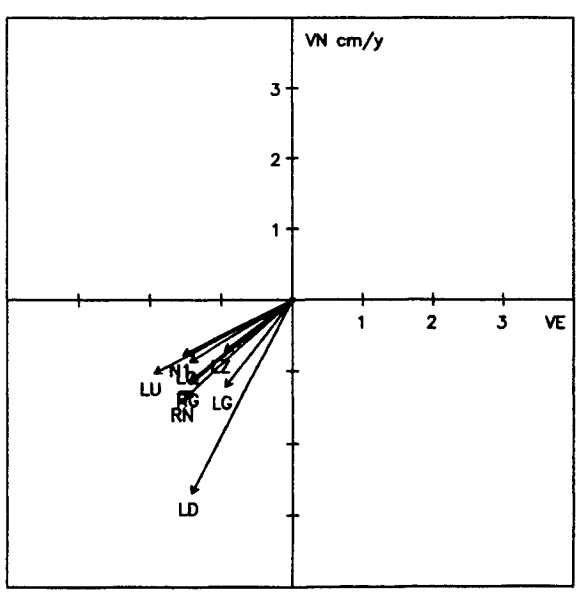
40493 YUMA 2-D Velocities NOAM



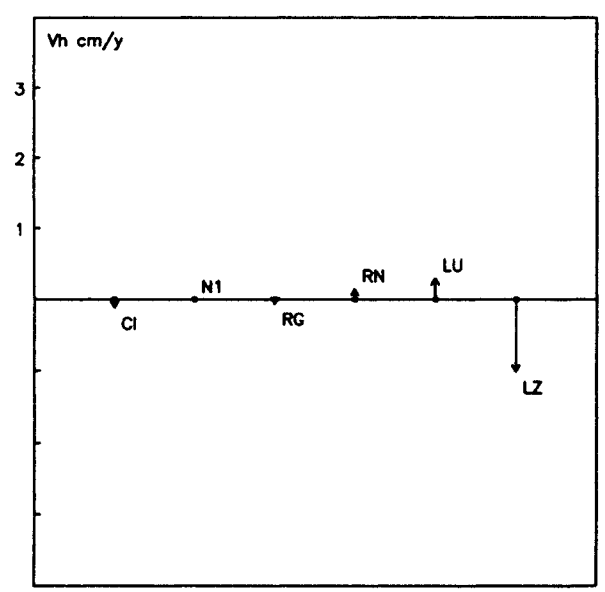
40493 YUMA Vertical Velocities



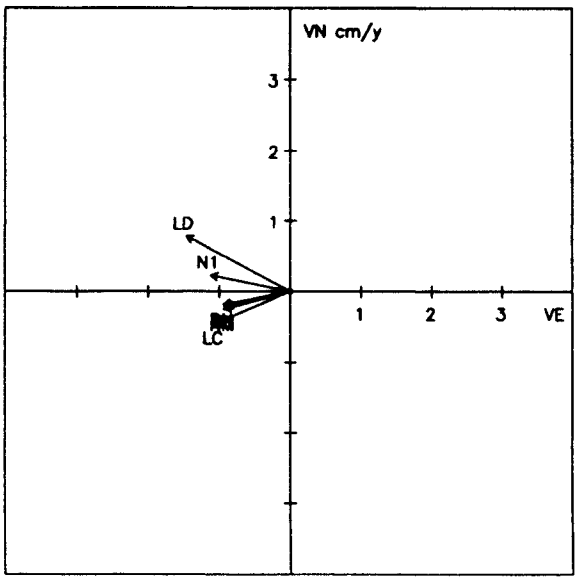
40496 PLATTEVILLE 2-D Velocities NOAM



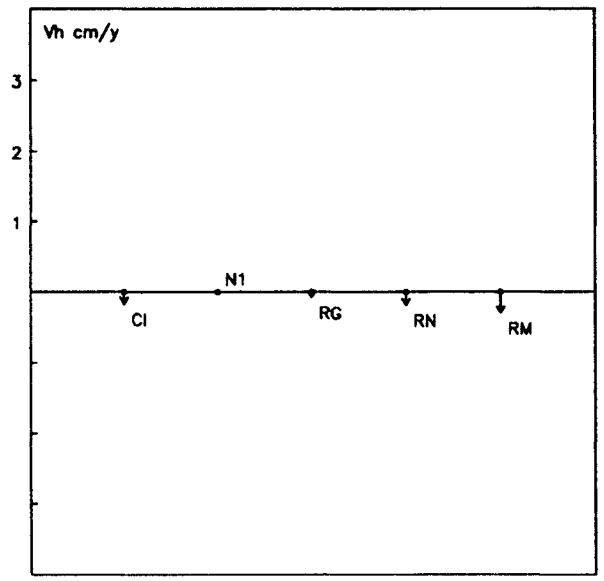
40496 PLATTEVILLE Vertical Velocities



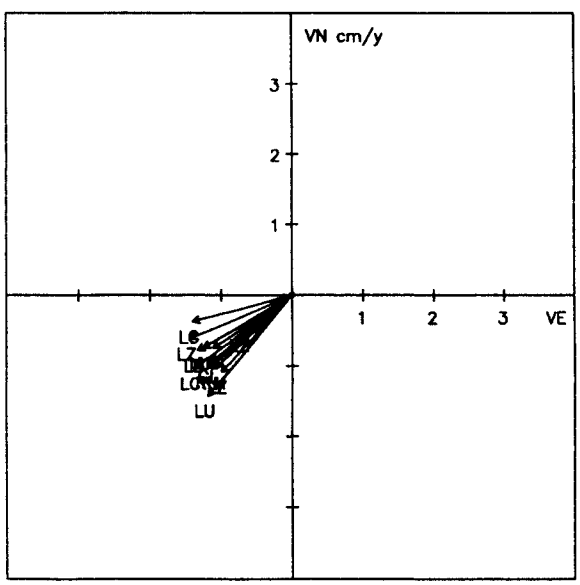
40499 RICHMOND 2-D Velocities NOAM



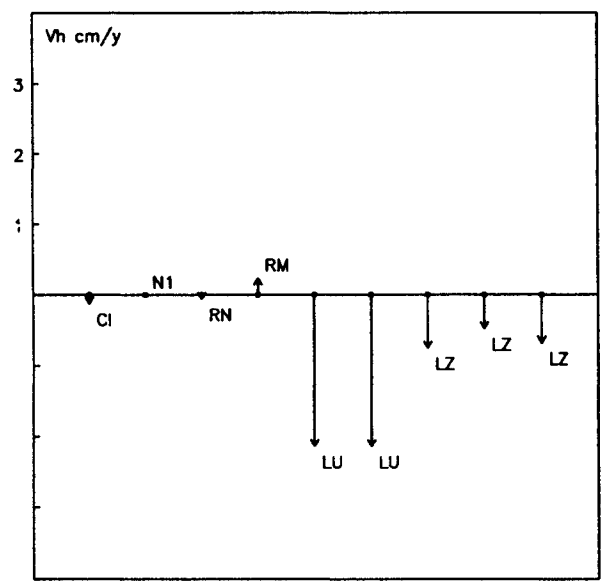
40499 RICHMOND Vertical Velocities



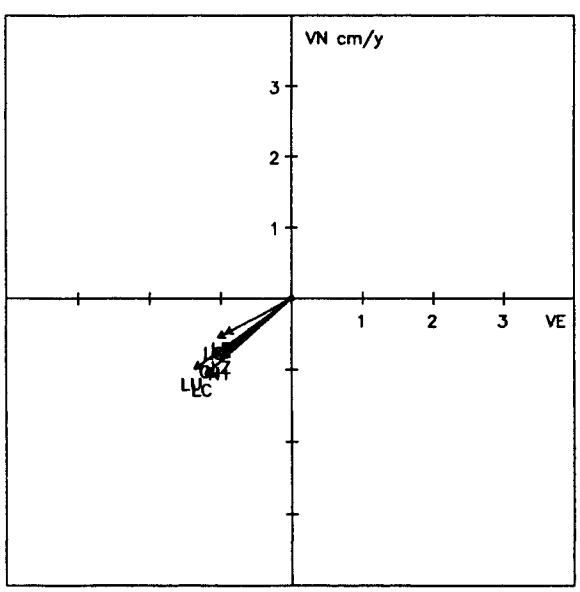
40442 FORT DAVIS 2-D Velocities NOAM



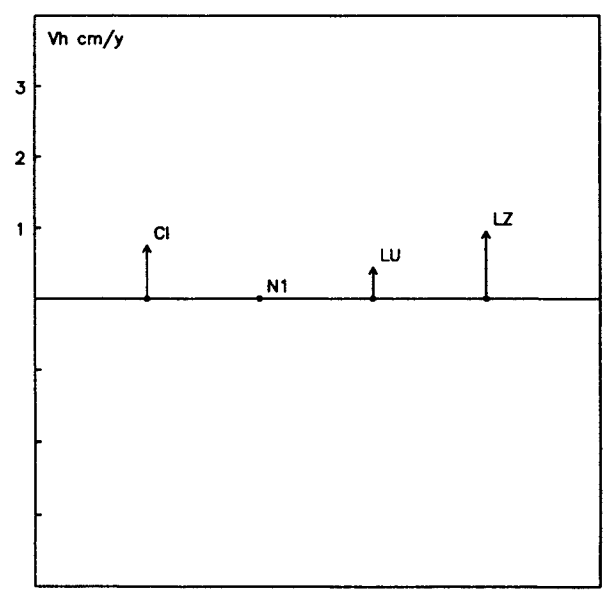
40442 FORT DAVIS Vertical Velocities



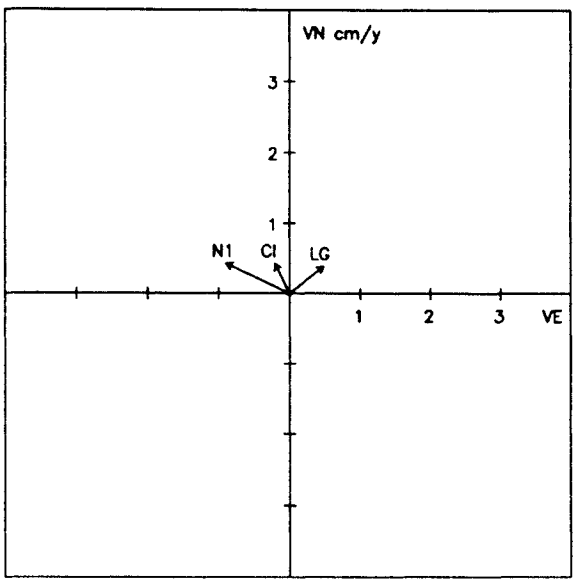
40504 MAZATLAN 2-D Velocities NOAM



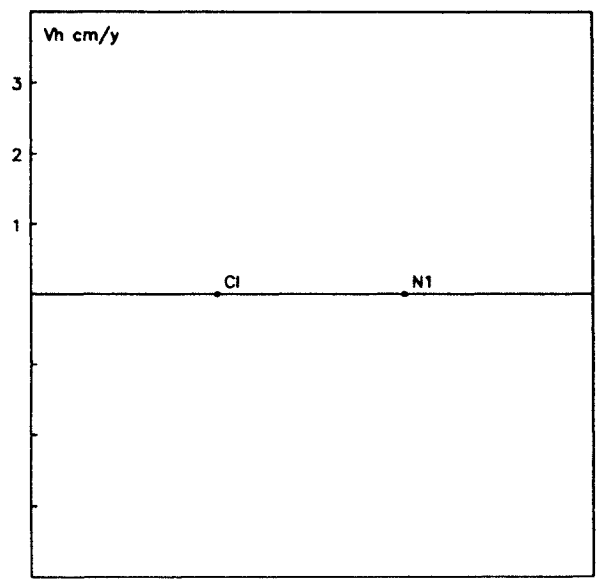
40504 MAZATLAN Vertical Velocities



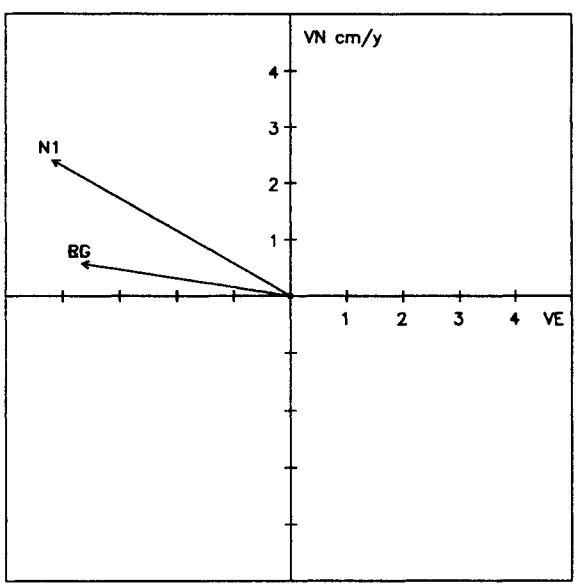
40701 SANTIAGO DE CUBA 2-D Velocities NOAM



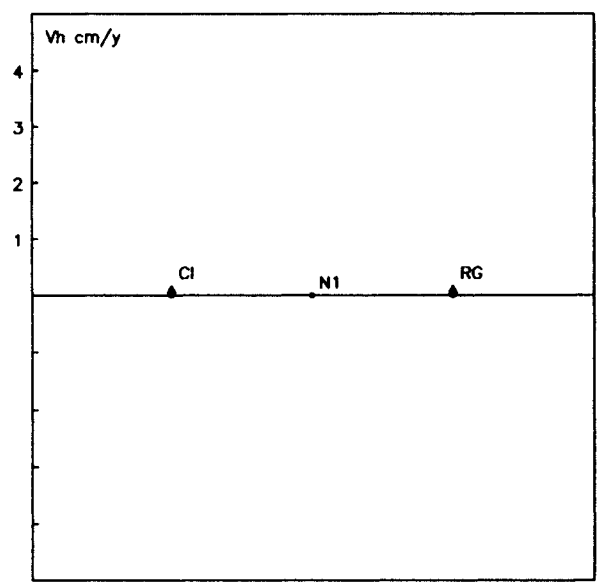
40701 SANTIAGO DE CUBA Vertical Velocities



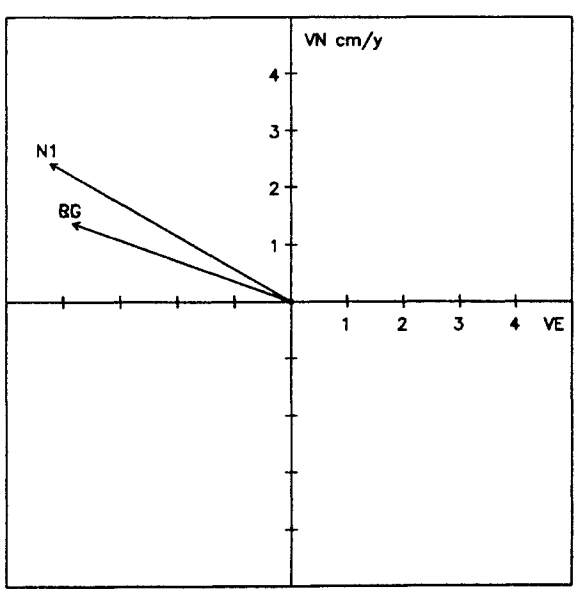
40400 PASADENA 2-D Velocities PCFC N1 Deweighted



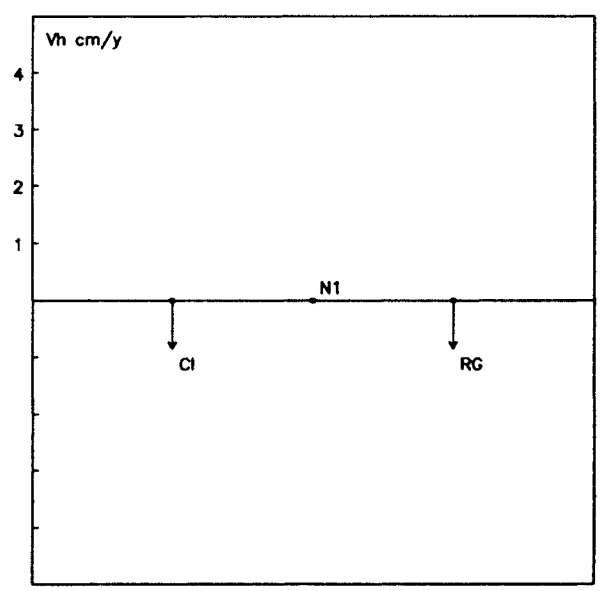
40400 PASADENA Vertical Velocities



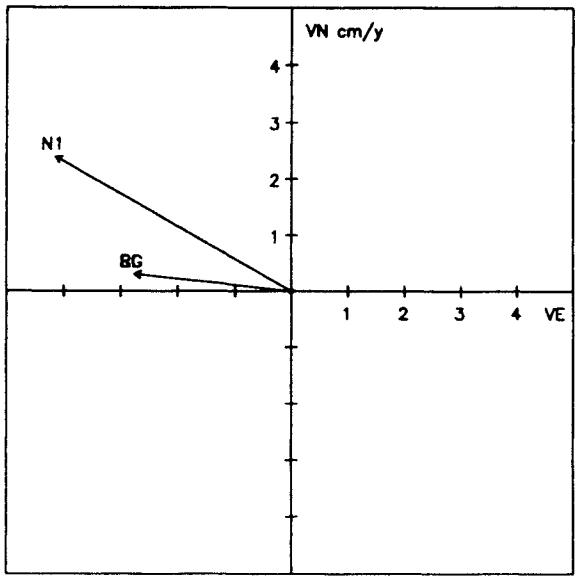
40403 PALOS VERDES 2-D Velocities PCFC N1 Deweighted



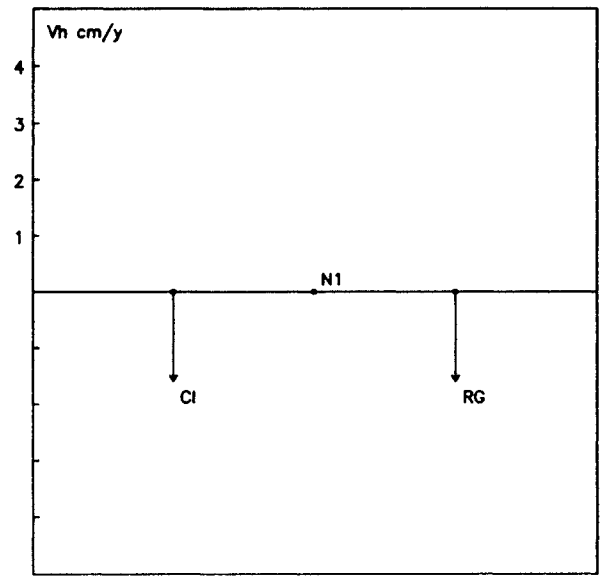
40403 PALOS VERDES Vertical Velocities



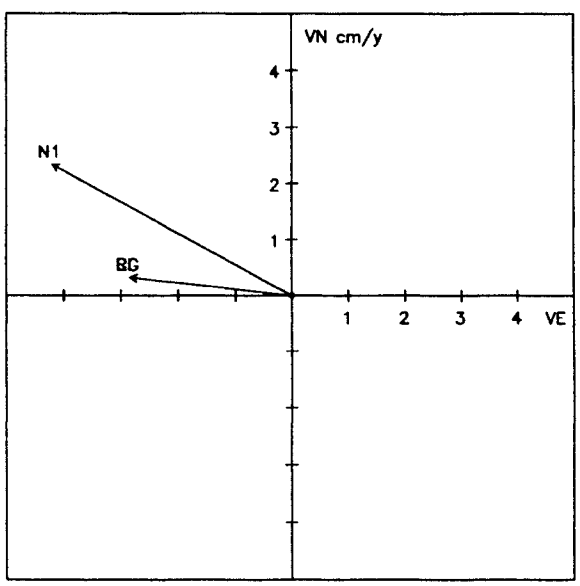
40404 PEARBLOSSOM 2-D Velocities PCFC N1 Deweighted



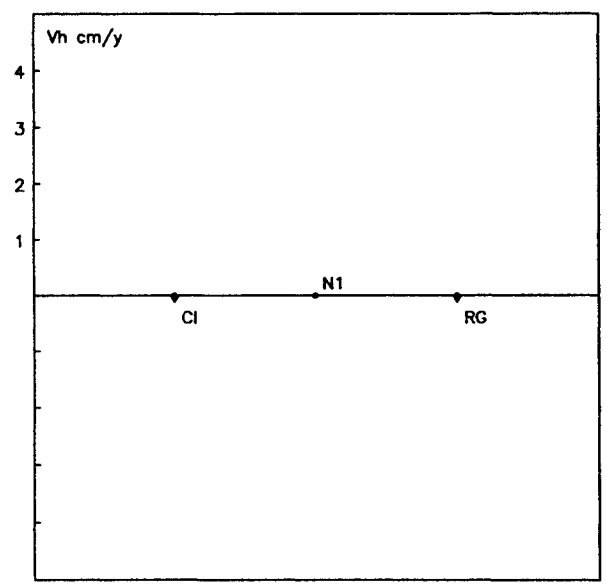
40404 PEARBLOSSOM Vertical Velocities



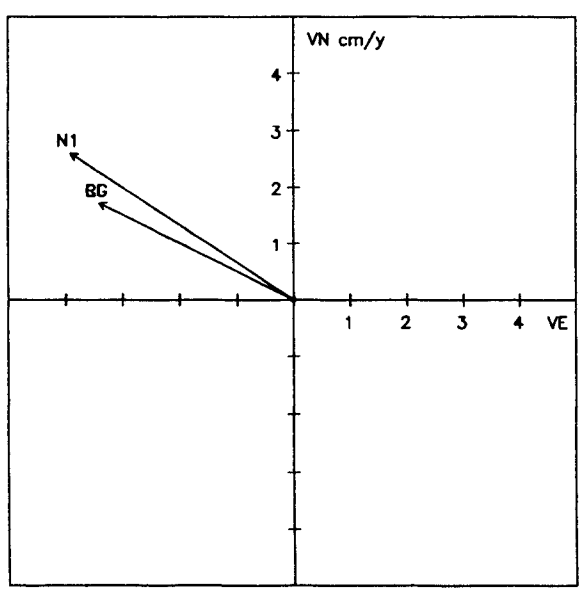
40407 PINYON FLATS 2-D Velocities PCFC N1 Deweighted



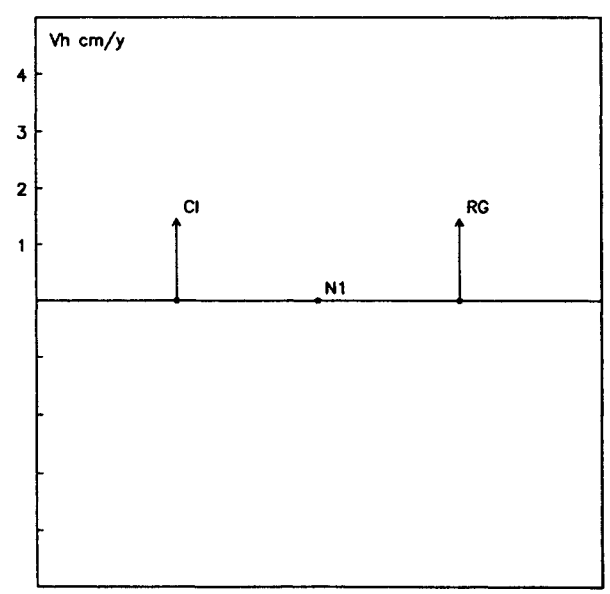
40407 PINYON FLATS Vertical Velocities



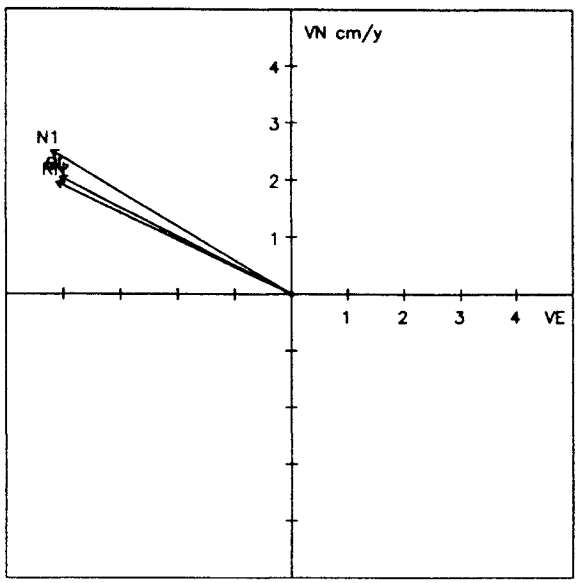
40410 POINT REYES 2-D Velocities PCFC N1 Deweighted



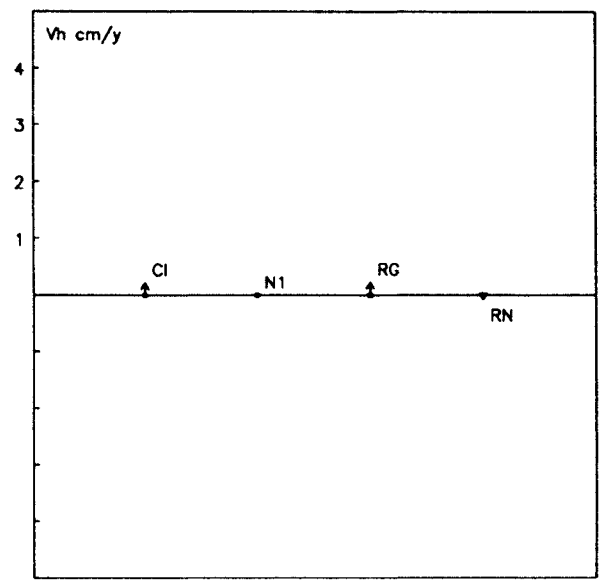
40410 POINT REYES Vertical Velocities



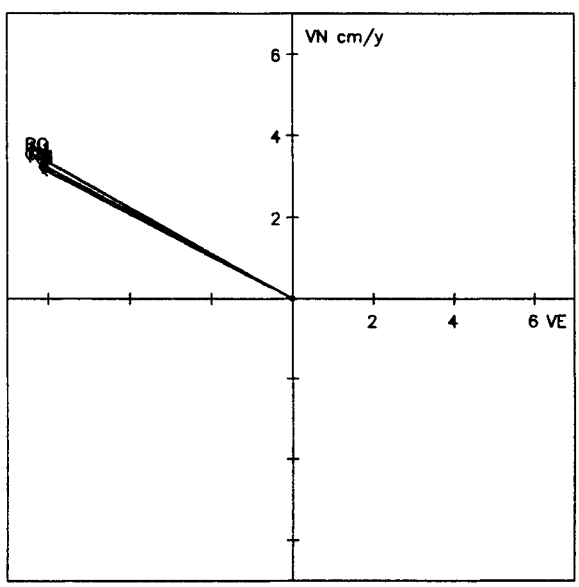
40420 VANDENBERG AFB 2-D Velocities PCFC N1 Deweighted



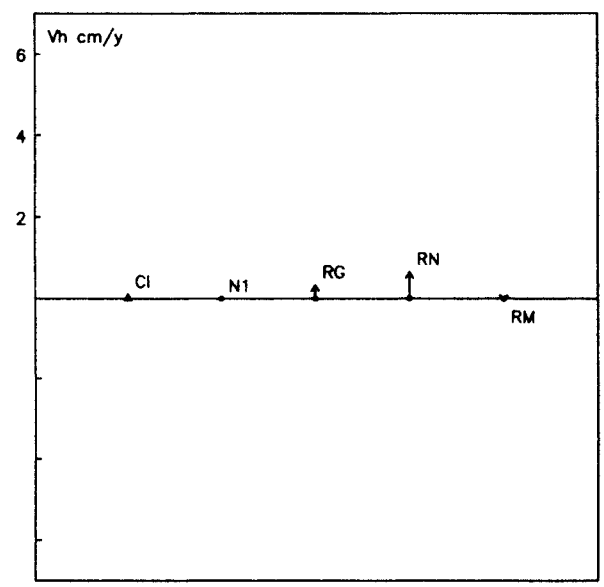
40420 VANDENBERG AFB Vertical Velocities



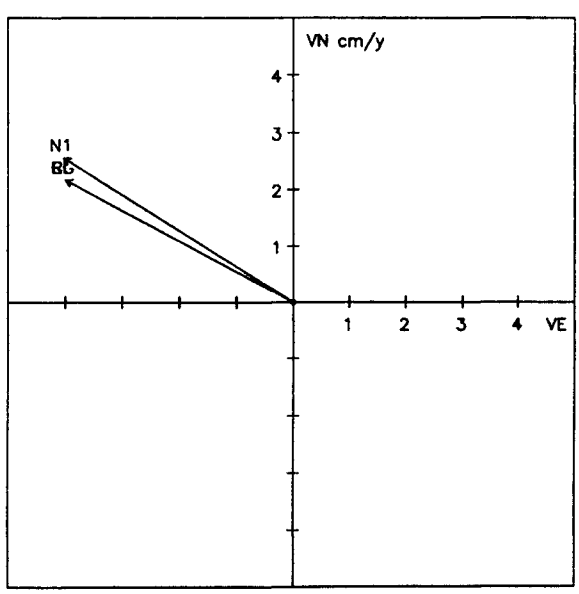
40424 KAUAI 2-D Velocities PCFC



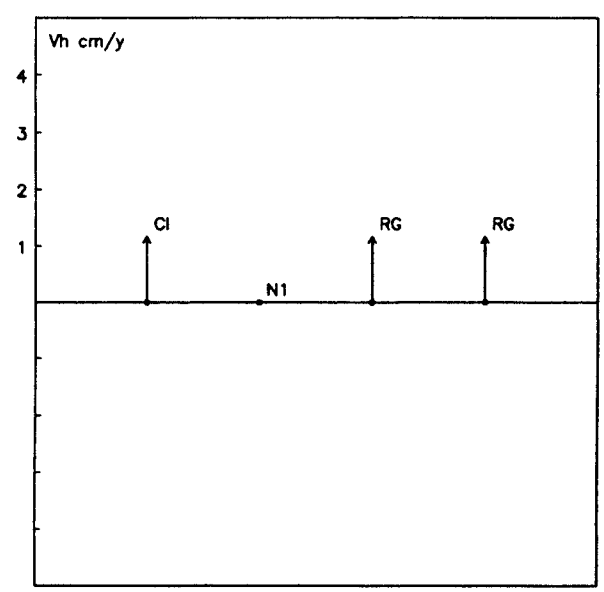
40424 KAUAI Vertical Velocities



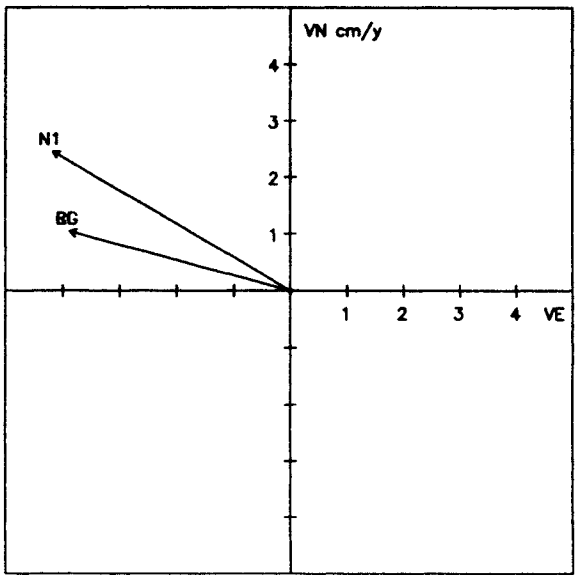
40427 FORT ORD 2-D Velocities PCFC N1 Deweighted



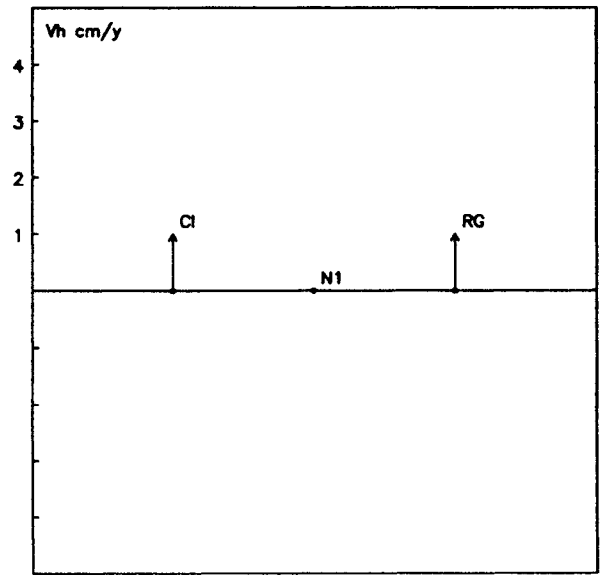
40427 FORT ORD Vertical Velocities



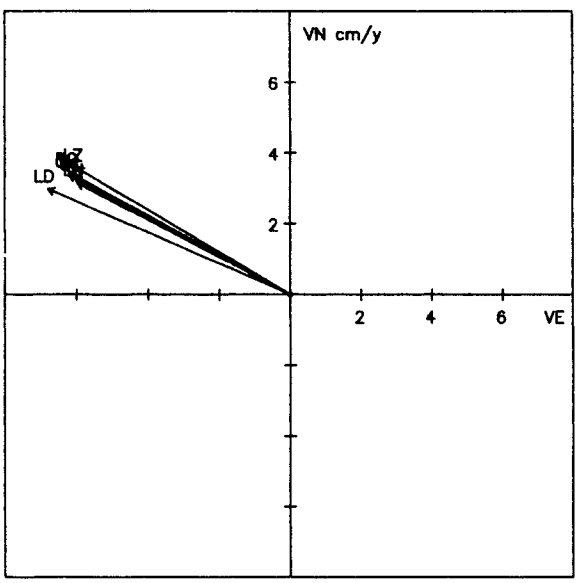
40428 SANTA PAOLA 2-D Velocities PCFC N1 Deweighted



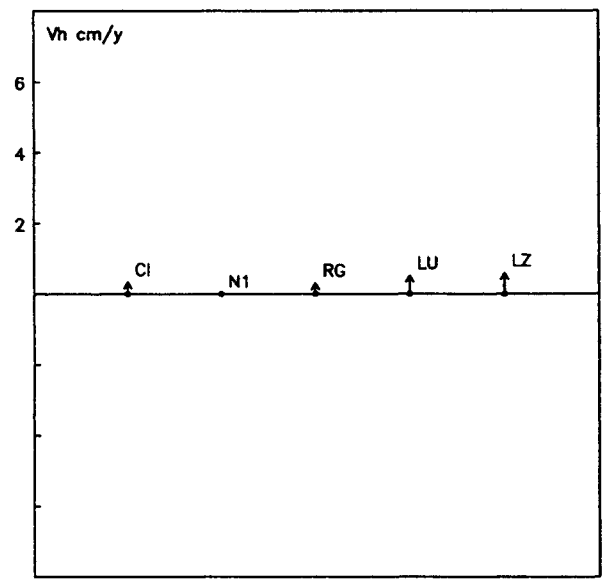
40428 SANTA PAOLA Vertical Velocities



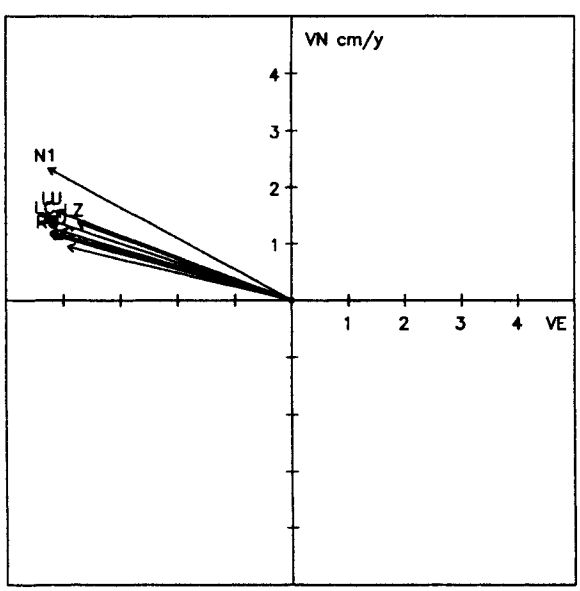
40445 MAUI 2-D Velocities PCFC



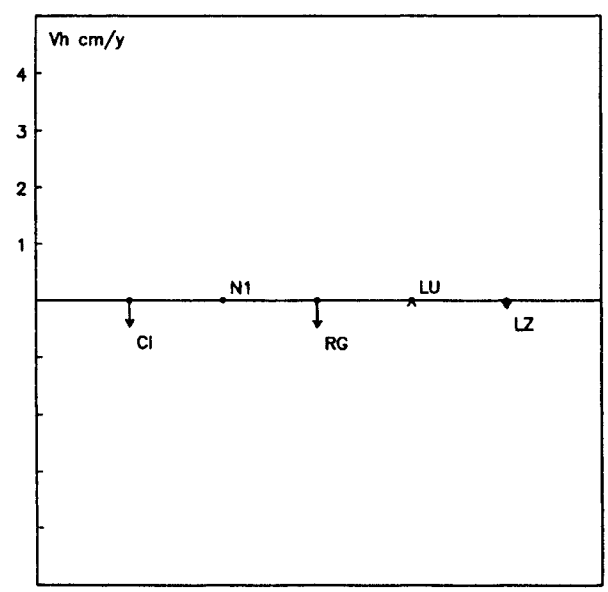
40445 MAUI Vertical Velocities



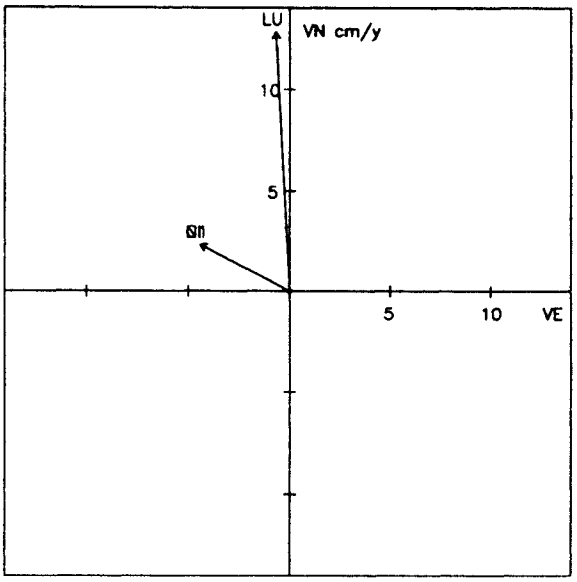
40497 MONUMENT PEAK 2-D Velocities PCFC N1 Deweighted



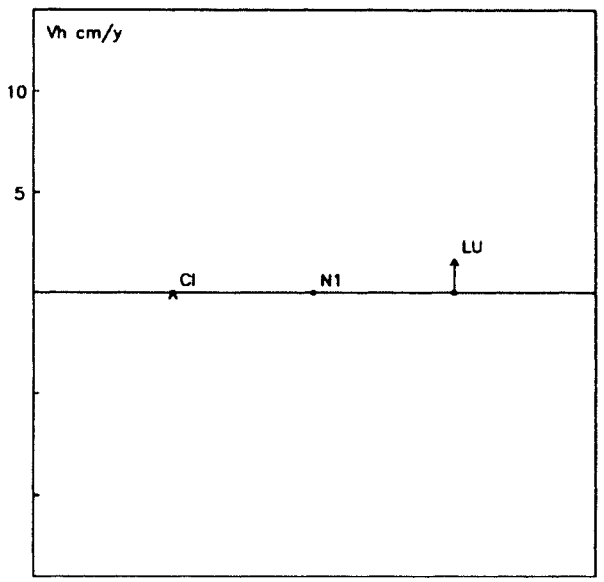
40497 MONUMENT PEAK Vertical Velocities



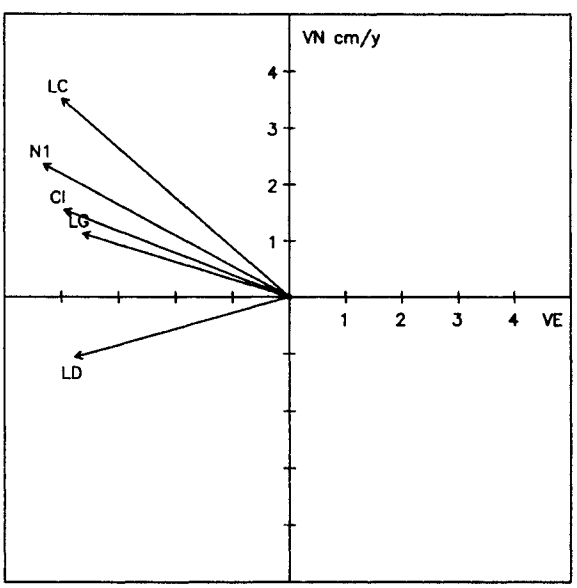
40506 ENSENADA 2-D Velocities PCFC



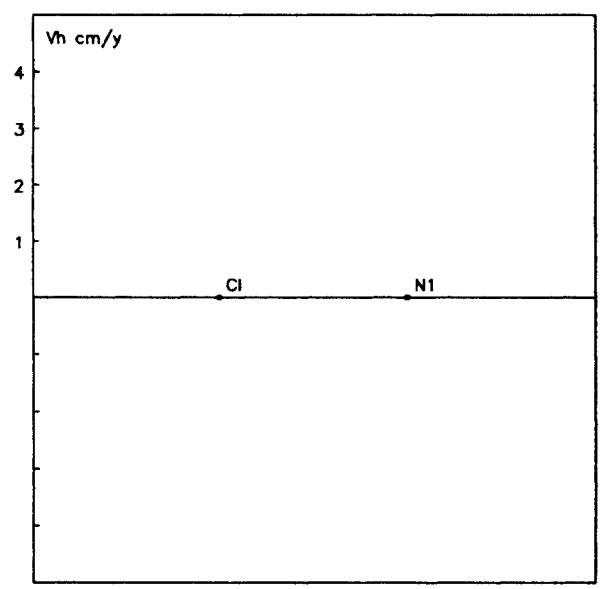
40506 ENSENADA Vertical Velocities



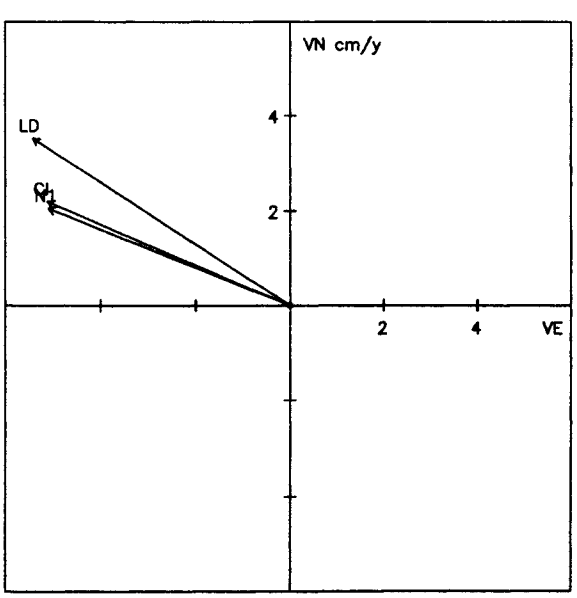
40436 SAN DIEGO 2-D Velocities PCFC



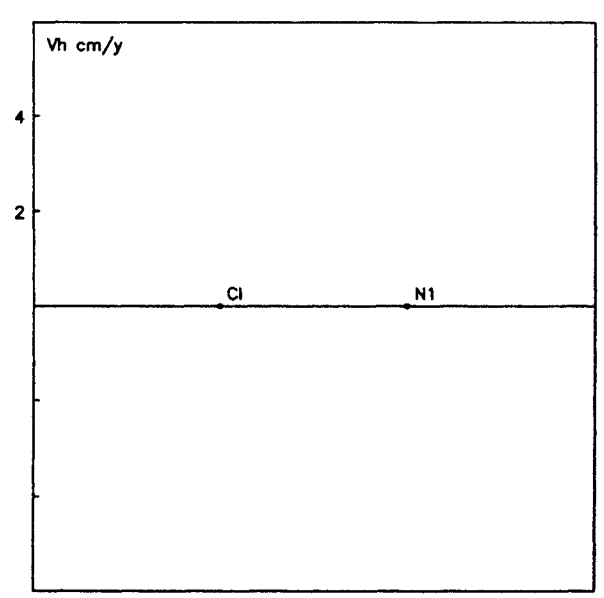
40436 SAN DIEGO Vertical Velocities



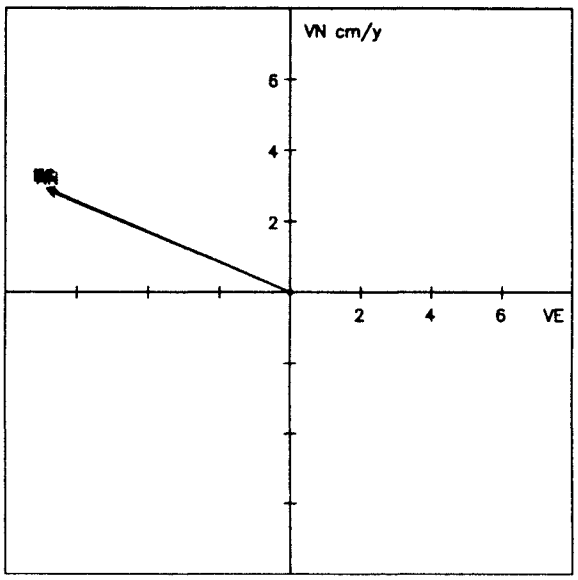
40505 CABO SAN LUCAS 2-D Velocities PCFC



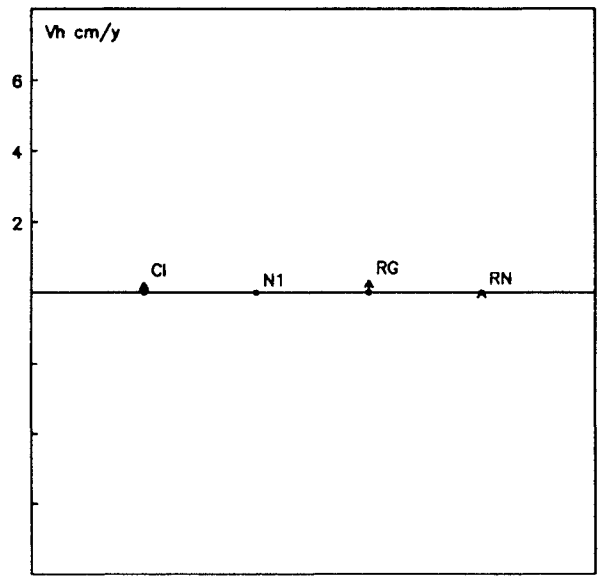
40505 CABO SAN LUCAS Vertical Velocities



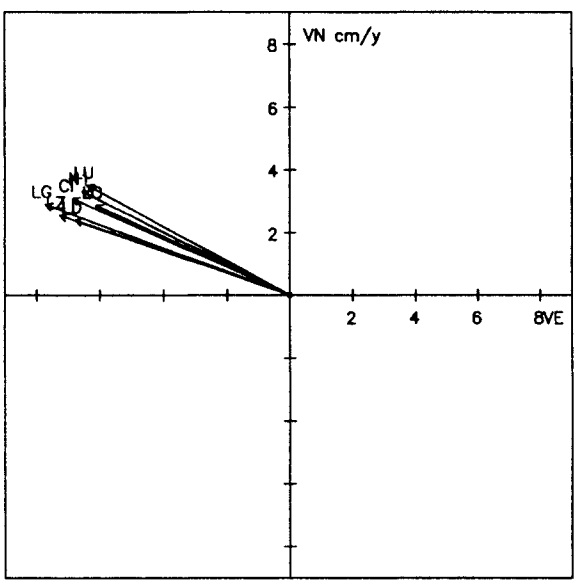
50505 KWAJALEIN ATOLL 2-D Velocities PCFC



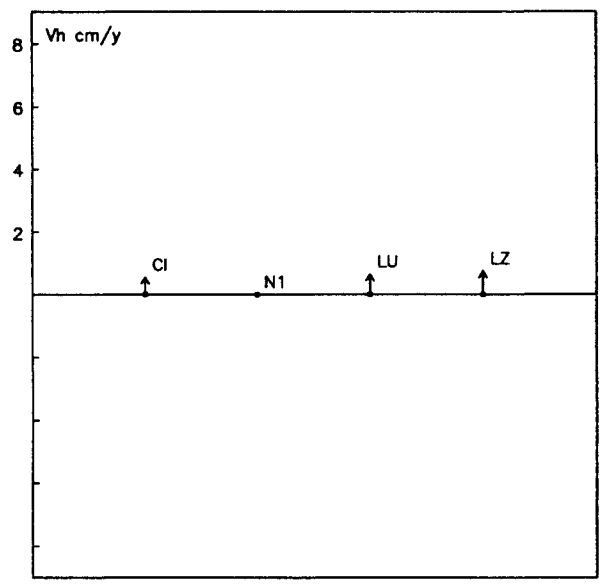
50505 KWAJALEIN ATOLL Vertical Velocities



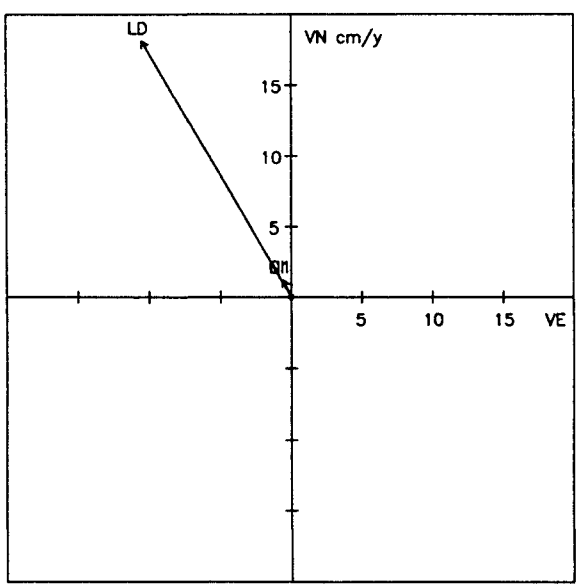
92202 HUAHINE 2-D Velocities PCFC



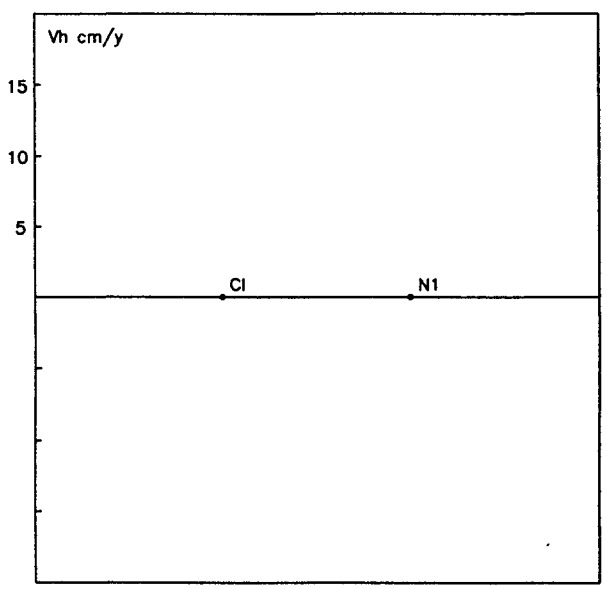
92202 HUAHINE Vertical Velocities



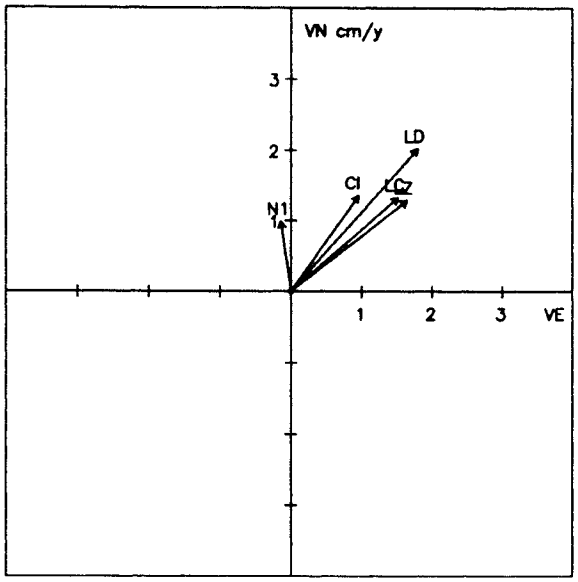
41604 NATAL 2-D Velocities SOAM



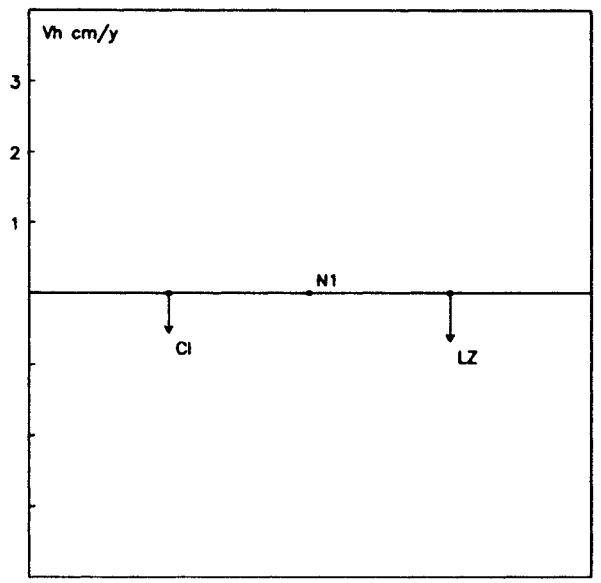
41604 NATAL Vertical Velocities



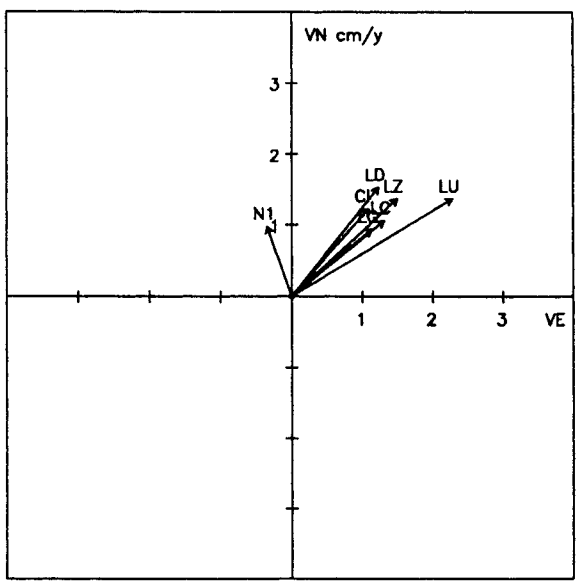
41706 CERRO TOLOLO 2-D Velocities SOAM



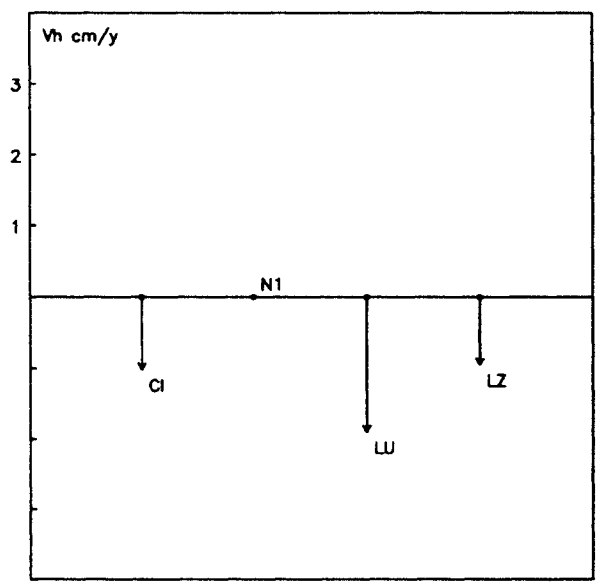
41706 CERRO TOLOLO Vertical Velocities



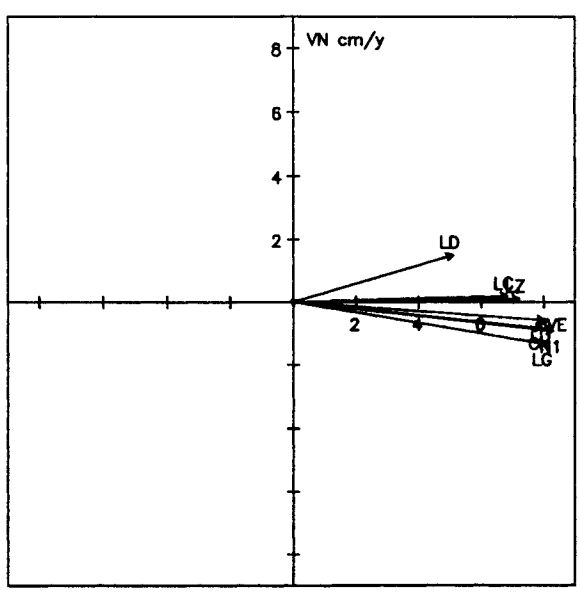
42202 AREQUIPA 2-D Velocities SOAM



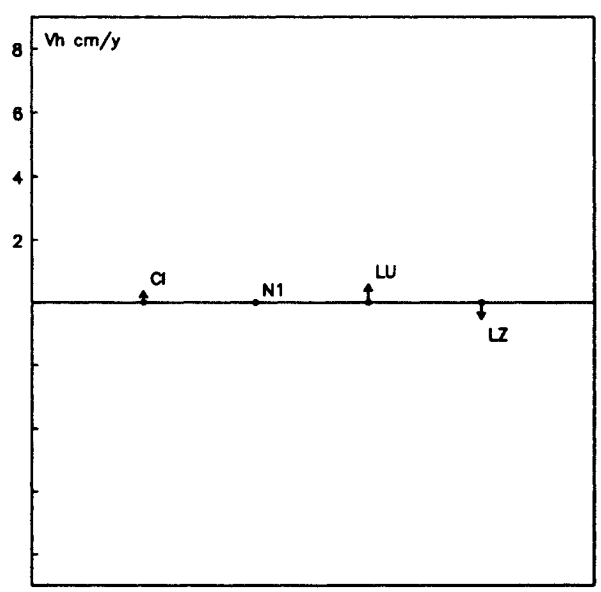
42202 AREQUIPA Vertical Velocities



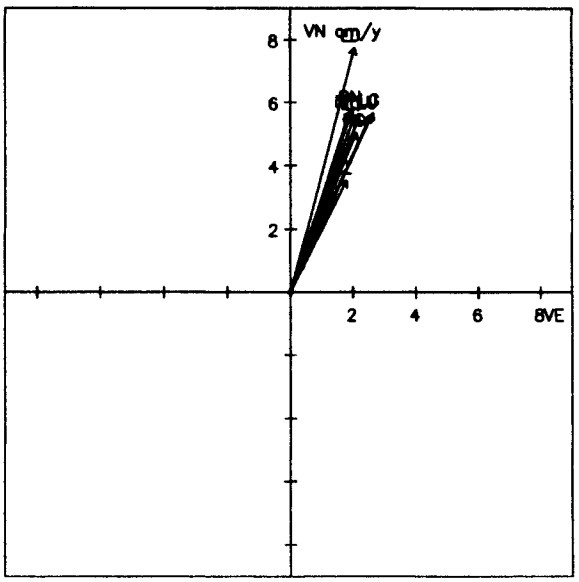
41703 EASTER ISLAND 2-D Velocities NAZC



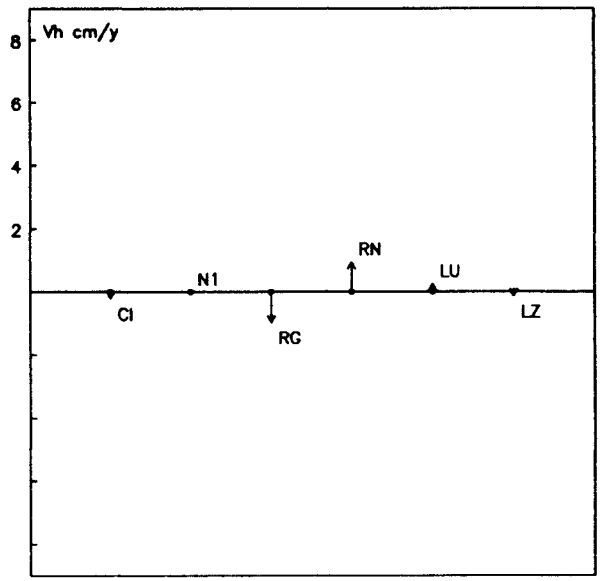
41703 EASTER ISLAND Vertical Velocities



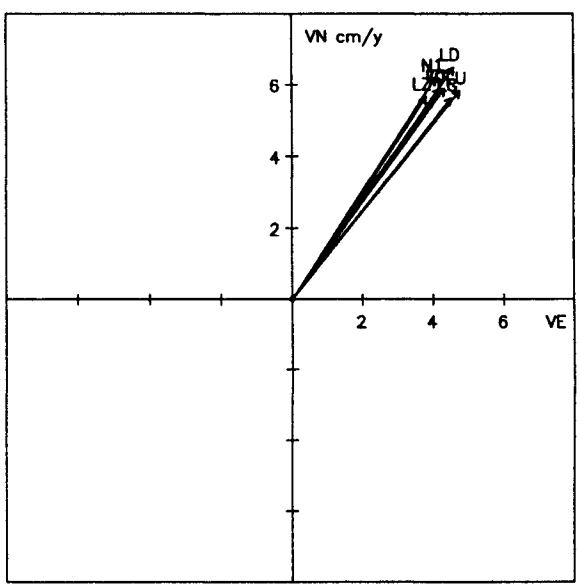
50103 CANBERRA 2-D Velocities AUST



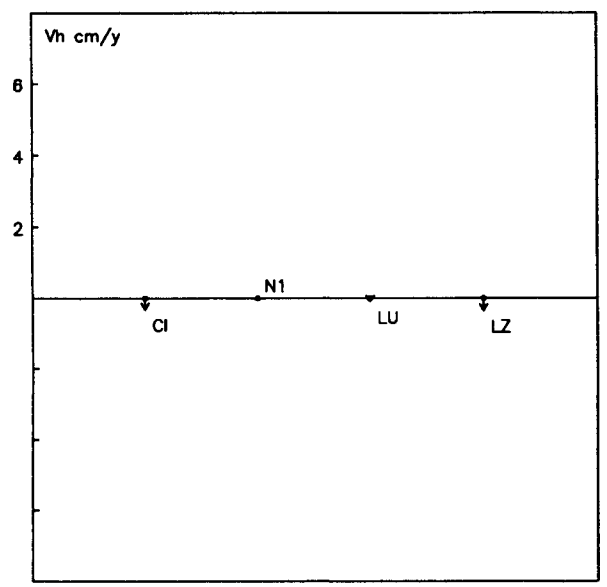
50103 CANBERRA Vertical Velocities



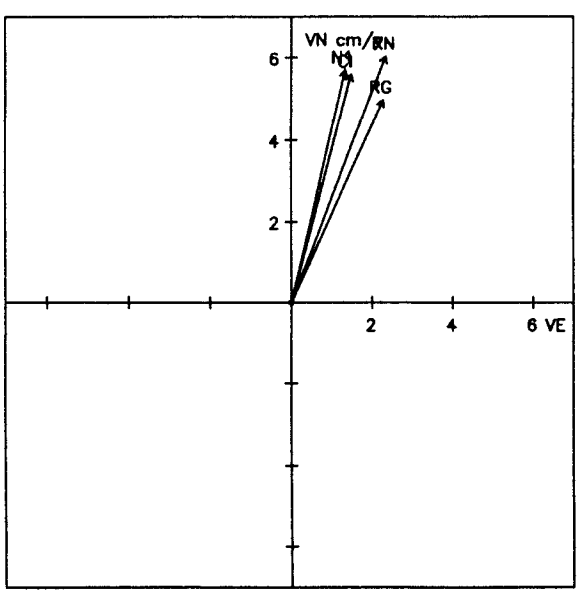
50107 YARRAGADEE 2-D Velocities AUST



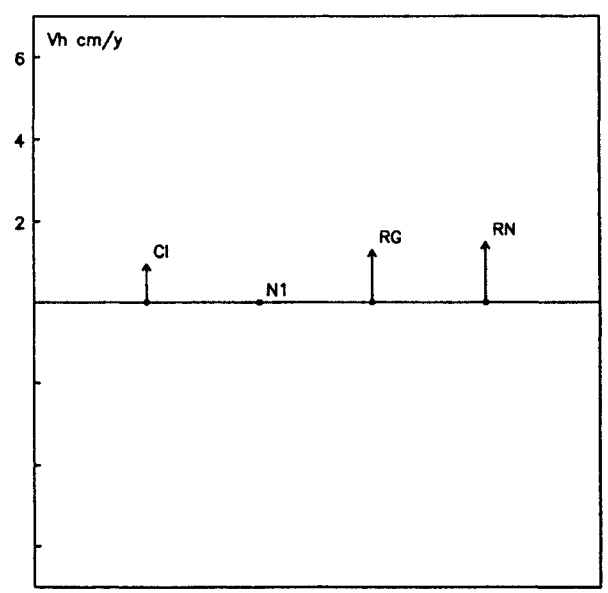
50107 YARRAGADEE Vertical Velocities



50116 HOBART 2-D Velocities AUST



50116 HOBART Vertical Velocities



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