4 Analysis of the ITRF2000 results

The quality analysis of the ITRF2000 results is based more specifically on global residuals per solution (Table 2) as well as per site. All residuals on a site-by-site basis resulting from the combination are available in the Appendix (Table 11). In this Table, the following residuals are provided, per individual solution, for each station within each site, both for positions and velocities:

- (RX, RY, RZ) the 3 residual components in the geocentric frame;
- (RE, RN, RU) the 3 residual components in the local frame;
- (NE, NN, NU) the 3 normalized residual components in the local frame, such as, for example: $NE = \frac{RE}{\sigma_E}$, where σ_E is the uncertainty of the Easting component.

It should be noted that, since the individual solutions were mapped at their Epochs of Minimal Position Variance, this leads obviously to one epoch per station. Consequently, the post fit position residuals are naturally computed at the epoch of each station. Figure 2 shows ITRF2000 position and velocity formal errors as compared to those of ITRF97.

Table 2 Global ITRF2000 residuals per solution.

Solution	Station Nb.	Position WRMS mm	Velocity WRMS mm/y	MSF[1]
SSC(GIUB) 00 R 01	55	2.90	.90	3.71785
SSC(GSFC) 00 R 01	135	2.10	.50	2.55776
SSC(SHA) 00 R 01	134	3.20	1.20	2.37177
SSC(FSG) 00 M 01	3	53.00	4.50	2.97914
SSC(AUS) 00 L 01	52	9.40	4.00	.05641
SSC(CGS) 00 L 01	91	13.60	2.50	5.57565
SSC(CRL) 00 L 02	60	10.00	3.90	2.74816
SSC(CSR) 00 L 04	127	9.40	2.40	3.09817
SSC(DEOS) 00 L 05	87	10.90	4.60	7.02571
SSC(DGFI) 00 L 01	38	8.50	2.70	15.39293
SSC(JCET) 00 L 05	40	2.40	1.20	8.10320
SSC(CODE) 00 P 03	155	5.00	2.00	78.08821
SSC(GFZ) 00 P 01	94	3.10	1.90	.32788
SSC(IGS) 00 P 46	156	1.40	1.30	1.09528
SSC(JPL) 00 P 01	105	1.90	1.10	8.84726
SSC(NCL) 00 P 01	87	1.50	1.30	3.39173
SSC(NOAA) 00 P 01	157	3.20	1.60	58.90799
SSC(GRGS) 00 D 01	63	24.90	4.30	3.49859
SSC(IGN) 00 D 09	79	29.90	5.00	10.38382
SSC(GRIM) 00 C 01	162	9.40	2.10	1.41812
SSC(CSR) 00 C 01	135	5.60	1.60	4.40935
SSC(CORS) 00 P 01	18	2.20	1.40	57.23262
SSC(DGFI) 00 P 01	22	5.50	3.70	116.53909
SSC(EUR) 00 P 03	64	1.30	1.10	9.60853
SSC(GIA) 00 P 01	15	1.40	1.10	6.41125
SSC(IGN) 00 P 01	25	.90	1.40	4.67679
SSC(IGN) 00 P 02	17	2.10	1.60	4.26560
SSC(JPL) 00 P 02	24	2.90	1.80	14.92792
SSC(REGAL) 00 P 03	24	1.40	1.30	10.13074
SSC(SCAR) 00 P 02	29	8.00	2.80	89.68960

[1]Square Root of Matrix Scaling Factor.

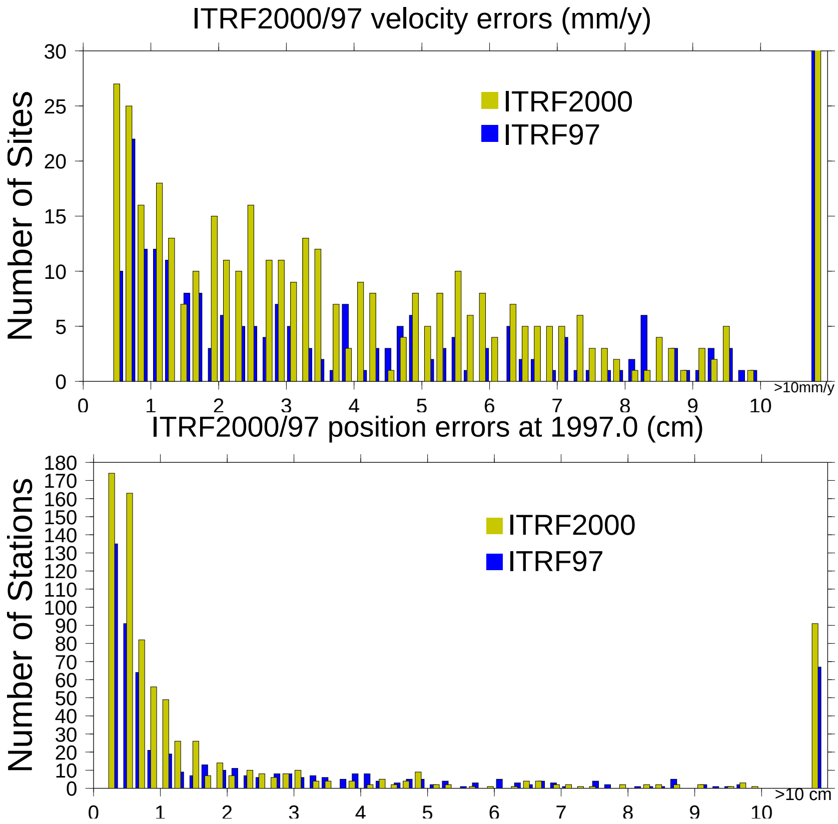
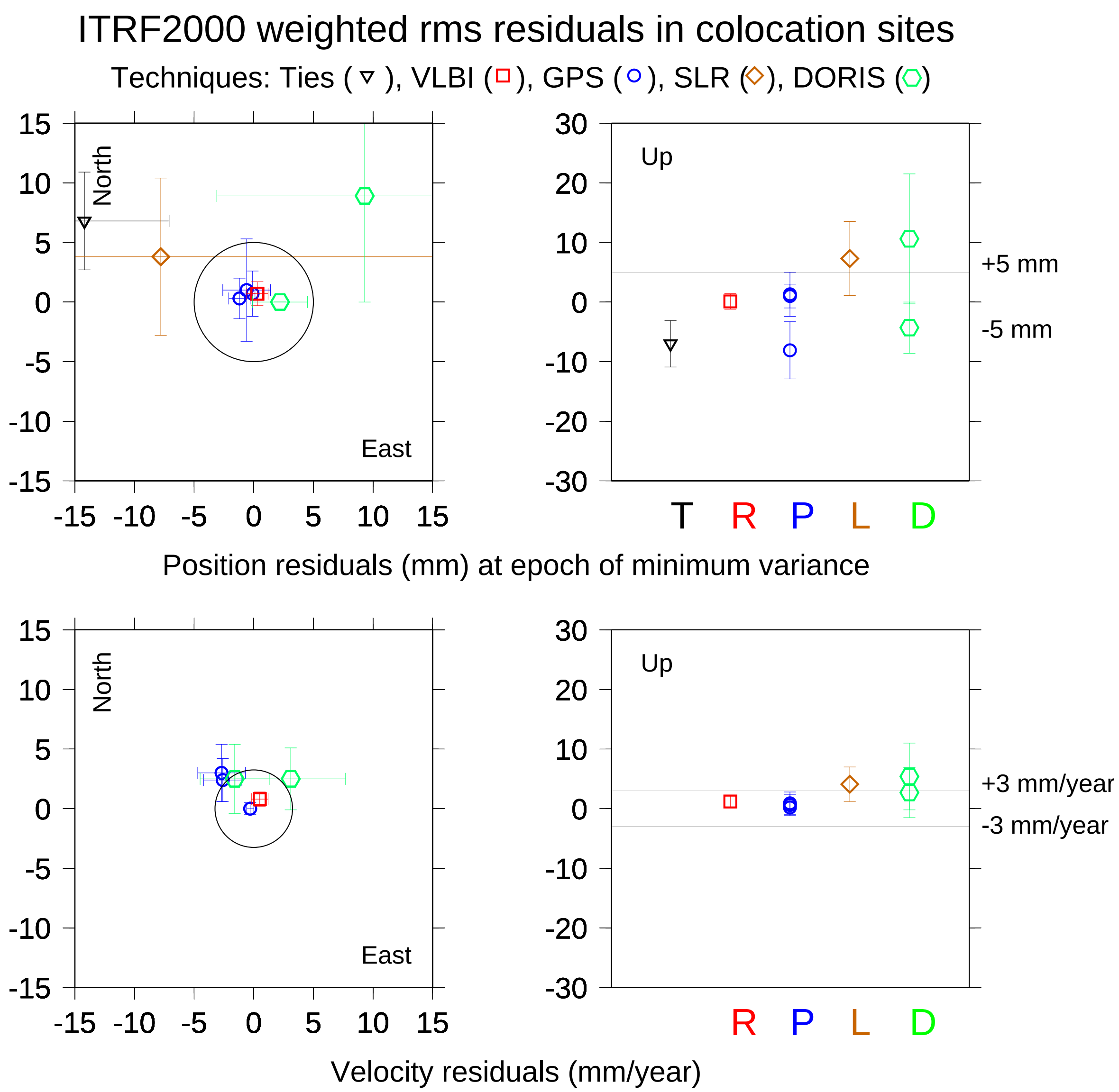


Fig. 2 Position and velocity formal errors.

Plots of post fit ITRF2000 Residuals in collocation sites are available at <[4]>.

As an example, figure 3 on page 21 illustrates position and velocity residuals in Hartebeesthoek (South Africa) collocated site. Figure 4 on page 22 portrays the Histogram of normalized residuals in ITRF2000 collocation sites.

[4]http://lareg.ensg.ign.fr/ITRF/ITRF2000-coloc/valsit.html



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				Position (mm)			Velocity (mm/year)			
Point	Techn.		Nsol	East	North	Up	East	North	Up	
	Ties	T	5	-14.2	6.8	-7.0				
S001	VLBI	R	3	.3	.7	.1	.5	.8	1.2	1
M002	GPS	P	3	-.6	1.0	1.3	-2.7	3.0	.6	2
M004	GPS	P	4	-1.2	.3	1.0	-.3	.0	.9	3
M007	GPS	P	4	-.1	.7	-8.1	-2.6	2.4	.2	4
M003	SLR	L	3	-7.8	3.8	7.3	18.0*	20.8*	4.1	5
S005	DORIS	D	2	9.3	8.9	10.6	-1.6	2.5	2.7	6
S202	DORIS	D	2	2.2	.0	-4.3	3.1	2.5	5.4	7

[*: values falling outside above frames]

Fig. 3 Position and velocity residuals in Hartebeesthoek (South Africa) collocated site.

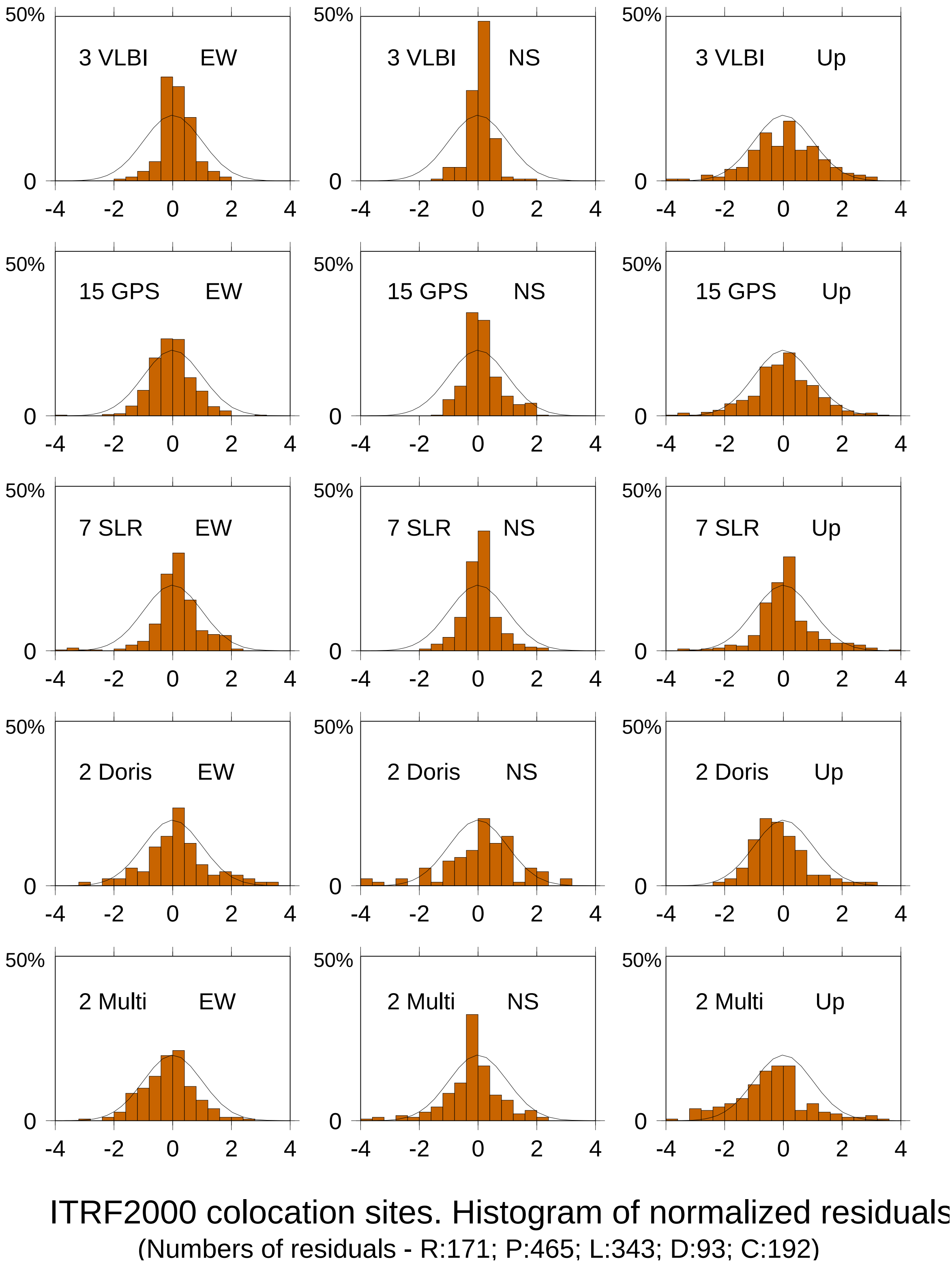

Fig. 4 Histogram of normalized residuals in ITRF2000 collocation sites.