V. Analysis of the ITRF97 results

The quality analysis of the ITRF97 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 T9). 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.
In terms of ITRF97 quality, the position and velocity spherical formal errors plotted in Figure 2 showing an improvement of the ITRF97 with respect to ITRF96.

Table 2. Global ITRF97 residuals per solution

Solution	Station Nb.	Position WRMS mm	Velocity WRMS mm/y	MSF[1]
VLBI				
SSC(GSFC) 98 R 01	131	3.30	.70	3.21
SSC(GIUB) 98 R 01	53	2.50	.60	3.87
SSC(USNO) 98 R 01	121	2.90	.60	2.63
SSC(NOAA) 95 R 01	111	5.80	1.10	3.83
SLR				
SSC(CSR) 98 L 01	116	11.70	2.50	3.34
SSC(DUT) 98 L 01	71	19.20	3.30	5.79
SSC(GZ) 98 L 01	50	5.20	2.80	10.92
SSC(GSFC) 98 L 01	38	3.80	.70	7.16
SSC(CGS) 98 L 01	75	11.90	2.20	4.80
GPS				
SSC(CODE) 98 P 01	130	3.70	1.60	5.22
SSC(EMR) 98 P 01	40	5.30	.50	2.97
SSC(EUR) 98 P 01	47	1.90	1.80	7.48
SSC(GFZ) 98 P 01	78	8.70	2.90	38.43
SSC(JPL) 98 P 02	64	3.60	2.20	14.42
SSC(NRCAN)98 P 01	117	2.10	2.80	6.48
DORIS				
SSC(GRGS) 98 D 01	61	27.90	5.50	22.23
SSC(IGN) 98 D 04	69	32.10	10.70	25.43
SSC(CSR) 96 D 01	54	26.90	10.40	4.18
Multi-technique				
SSC(GRIM) 98 C 01	140	10.80	4.40	1.23

[1]MSF:Matrix Scaling Factor f so that each matrix term is multiplied by f^2

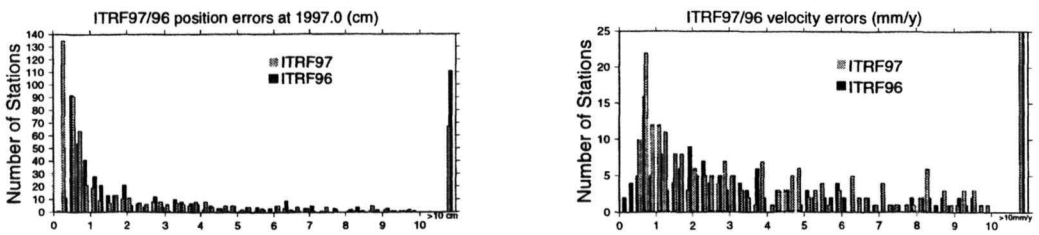

Figure 2. Position and velocity spherical formal errors