

3.5.5 ITRS Centre

This report summarizes the activities of the IERS ITRS Centre during the year 2003.

The main activities of the ITRS Centre during the year 2003 are:

- Surveys of co-location sites
- Relation with IGS
- Contribution to the IERS Workshop on site co-locations, Matera, Italy, October, 2003
- Maintenance of the IERS network

Surveys of co-location sites

The Institut Géographique National participated in complete surveys of the following co-location sites:

- Hartebeesthoek, South Africa, comprising the 4 techniques: VLBI, SLR, GPS and DORIS
- Shanghai, China, comprising 3 techniques: VLBI, SLR and GPS
- Wuhan, China, comprising 3 techniques: VLBI, SLR and GPS

For each one of the above 3 sites, 3 IGN surveyors participated in the survey. The total cost of these 3 surveys is around 100 K-Euros.

Relation with the IGS

The ITRS Centre contributes to specifications for ITRF densification, initiated by the IGS for its part (regional solutions of weekly permanent GPS station positions). Work is still in progress for evaluation/ comparison of the different proposed densification approaches.

Maintenance of the IERS network

This activity includes update of the IERS network database in terms of new sites and stations, assignment of DOMES numbers, local ties, availability of IERS network information and ITRF products on the web and ftp server, as well as assisting the ITRF users for a proper use of ITRF products. Moreover, a new ITRS Web site is developed and it is under its validation phase. This new Web site will provide site information, station positions (at any epoch) and velocities in any ITRF version in SINEX or/and table list.

Contribution to the IERS Workshop on site co-locations

The ITRS Centre contributed to the IERS Workshop held in Matera, Italy, in October 2003. A Position Paper (Altamimi et al., 2003) was prepared by the ITRS Centre with contribution from the technique services. The Position Paper was extensively discussed during its devoted session and focused on Co-location sites and their importance for the ITRF, and in particular:

- Definition of a co-location site in terms of accuracy and distance between co-located stations

- Requirements of the IERS combination centres concerning local ties: SINEX files, accuracy
- Current status of local ties in co-location sites:
 - distribution of currently operating stations of the 4 techniques
 - quality of the currently available local ties
 - list of missing local ties
 - priority list of problematic sites

Figure 1 shows the currently operating stations for the 4 techniques, and Figure 2 summarizes the currently co-located sites.

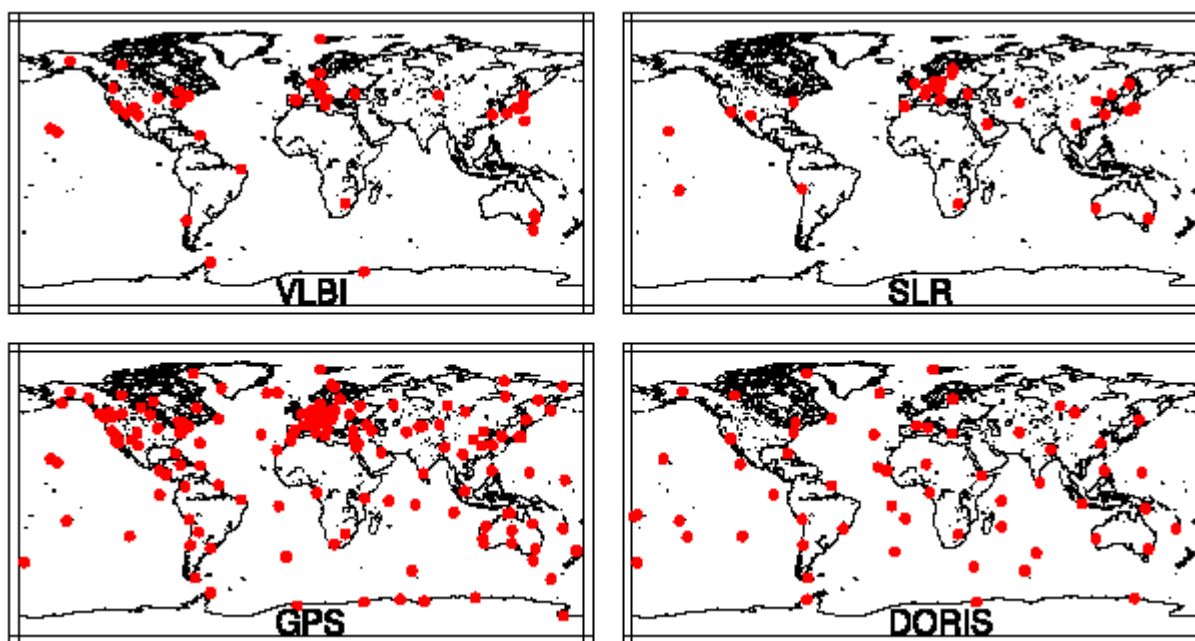


Fig. 1: Current operating sites per technique

Reference Altamimi, Z., A. Moore, A. Nothnagel, V. Husson and H. Fagard, ITRF and Collocation Sites, in: IERS Workshop on site co-locations, Matera, Italy, 2003. (IERS Technical Note) Frankfurt am Main: BKG, 2004, in preparation.

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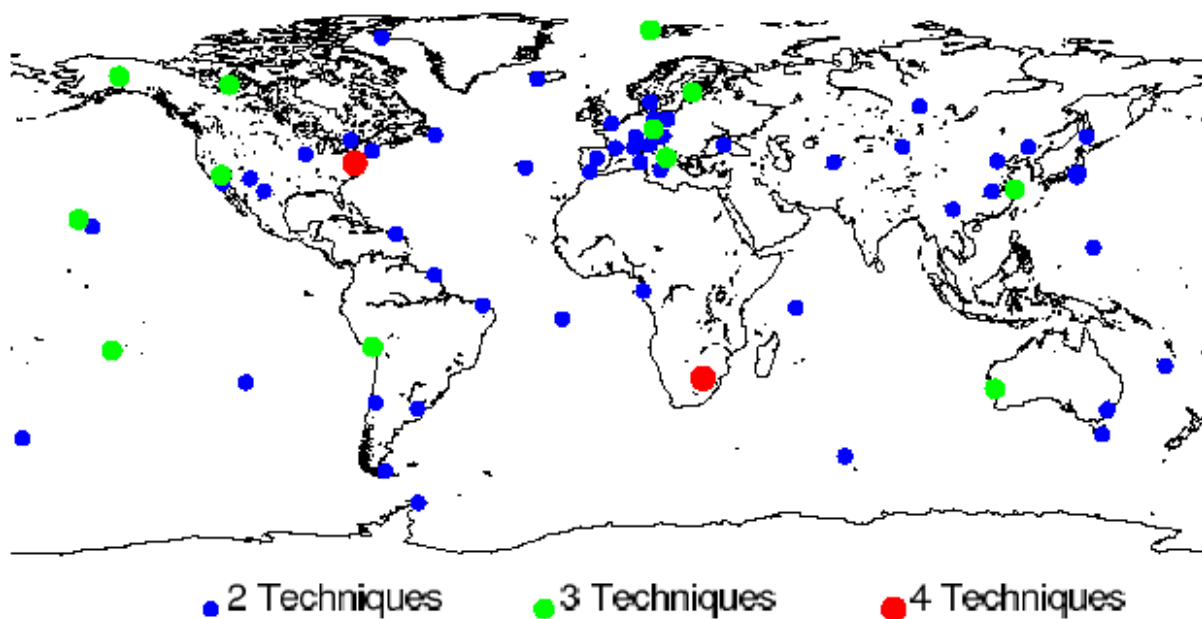


Fig. 2: Current co-locations of space geodesy techniques (1999)