

3.5.5 ITRS Centre

This report summarizes the activities of the IERS ITRS Centre during the year 2010.

ITRF2008 publication

The ITRF2008 solution was released in May 2010. A dedicated website has been established (<http://itrf.ign.fr/ITRF_solutions/2008/>) providing full description of ITRF2008 solution, together with all associated products: station positions and velocities of the 920 stations (located at 580 sites) in SINEX as well as in simple table formats; Earth Orientation Parameters in different formats; plots of technique origin and scale time variations and station position residuals. The website also provides synthesized summary descriptions of the IERS Technique Centres (TC) solutions used in the ITRF2008 elaboration. All the submitted solutions were combined solutions by the Combination Centre of each TC and based on reprocessed individual solution generated by the Analysis Centres of each one of the four techniques (VLBI, SLR, GNSS/GPS and DORIS). The submitted solutions cover the full history of observations, except for the GNSS/GPS series which start in 1997. These solutions are archived by the ITRS Centre and the Central Bureau and were analysed by the two IERS Combination Centres (IGN and DGFI). Interaction and communication between the IERS Centre and the TCs were operated as necessary and as a function of the ITRF2008 analysis conducted by the IERS CCs. A summary of the ITRF2008 results are presented in the IGN CC section of this report, see 3.6.1.2. The following table summarizes the final time series of station positions and EOPs submitted by the TCs.

TC	Span	Solution type	EOPs
IVS	1980.0–2009.0	Normal Equation	Full set
ILRS	1983.0–2009.0	Variance-Covariance	Polar Motion, LOD
IGS	1997.0–2009.5	Variance-Covariance	Polar motion, rate, LOD
IDS	1993.0–2009.0	Variance-Covariance	Polar motion, rate, LOD

Maintenance of the IERS network

The ITRS Centre assigns DOMES numbers to geodetic tracking stations or markers as unambiguous identifications of points in space, independently from the technique of their tracking instruments.

The IERS network database, which contains the descriptions of the sites and points, is continuously updated as DOMES numbers are assigned. DOMES number request form can be found on the ITRF web site <<http://itrf.ign.fr>>, and should be sent to domes@

ign.fr. An updated list of all available DOMES numbers is available at http://itrf.ign.fr/doc_ITRF/iers_sta_list.txt. The IERS site information is available to the users through the ITRF website interface (see below).

ITRF web site

The ITRF web site, available at <http://itrf.ign.fr>, provides an interface to consult the IERS network database. Site and point information can be requested on line; it contains approximate coordinates of the sites, the list of their points as well as their descriptions, their DOMES numbers and the list of ITRF versions in which they have been computed. Subsets of points can be selected and their ITRF coordinates can be requested at any epoch in any ITRF version if their coordinates are provided in the requested ITRF version.

The maps of the ITRF networks can be displayed depending of the measurement techniques and of the ITRF realization. Velocity vectors can be displayed as well as tectonic plates. The dynamical map can help users to familiarize with ITRF products and can be used for educational purpose. It can also be an interesting tool to select IERS sub-network depending on the measurement techniques, co-located hosted instruments or ITRF versions. ITRF94, ITRF96, ITRF97, ITRF2000, ITRF2005 and ITRF2008 solutions are available for download.

Local ties of ITRF co-location sites

The ITRS Centre collects all new surveys operated by either IGN or the hosting agencies of ITRF co-location sites. The reports of these surveys are posted at the ITRF web site and available to users at http://itrf.ign.fr/local_surveys.php. The local ties SINEX files used in the ITRF combinations are also available on that web site.

In preparation for the ITRF2008 combination, the IGN survey department has conducted a re-adjustment of all surveys in DORIS sites co-located with the other 3 techniques. Other few non-DORIS co-located sites for which IGN detains the raw survey data were also adjusted. The local ties generated from this re-adjustment are provided in SINEX format with full variance-covariance information.

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