

3.5.5 ITRS Centre

This report summarizes the activities of the IERS ITRS Centre during the year 2018.

ITRF2020 Call for Participation

After detailed consultations with the IERS Technique Centres, the ITRS Centre finalized and published the ITRF2020 Call for Participation at the end of year 2018. The call specifies in particular the type of the long time series of station positions and Earth Orientation Parameters to be submitted by the individual techniques to the ITRF2020. In addition, the call recommends a number of model updates and effects to be considered by the four techniques in their reprocessing efforts. These models updates and effects are annexed to the ITRF2020 Call for Participation which is posted at the ITRF web site: http://itrf.ign.fr/doc_ITRF/CFP-ITRF2020.pdf

Contribution to the ISO Standard on ITRS

The ITRS Centre has actively contributed to the writing of the ISO standard on the ITRS. The document is intended to provide the basic information and definitions related to the International Terrestrial Reference System (ITRS), its realizations and how to access these realizations. At the end of the year 2018, the ISO standard on ITRS was at its DIS (Draft International Standard) stage and has been approved by the ISO member countries. The final standard document is expected to be published by the end of year 2019.

Participation to the activities of the UN-GGIM subcommittee on Geodesy

The ITRS Centre contributes actively to the activities of the UN-GGIM subcommittee on Geodesy and is chairing a Working group related to the geodetic infrastructure. The ITRS Centre has in particular contributed to the writing of the implementation plan of the Roadmap on the Global Geodetic Reference Frame for Sustainable Development, and attended the subcommittee related meetings.

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 number 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 web site interface (see below).

Several new stations, mainly GNSS permanent stations were added to the ITRF network and database.

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, ITRF2008 and ITRF2014 solutions are available for download.

Preparation for a new ITRF web site

The ITRS Centre has started an initial study analysis and preparation for a new design of the ITRF web site. It will be designed to provide more ITRF-related information to the users using more user-friendly interfaces. The new web site which was expected to be operational beginning 2016 experienced some delay, unfortunately, and will hopefully be available by the end of 2019.

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 are 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.

At the occasion of the ITRF2014 analysis, several new local tie SINEX files and corresponding reports were submitted to the ITRS Centre. All past and new local surveys used in the ITRF2014 computation are now available via the ITRF web site: http://itrf.ign.fr/local_surveys.php.

Other activities

- Participation in most meetings of the analysis working groups of the Technique Centres (in 2018: IDS, IGS, ILRS and IVS);
- Convening and organizing EGU and AGU sessions on reference frames and ITRF.

*Zuheir Altamimi, Bruno Garayt, Xavier Collilieux,
Paul Rebischung, Laurent Métivier*