3.7.3 Working Group on SINEX Format

The SINEX (Solution INdependent EXchange) format is a well-established format used by the technique services of the IERS since several years. Since 2001 the IERS Analysis Coordinator has been taken care of the SINEX format updates (see, e.g., IERS Annual Reports 2001, 2002, and 2006). One of the outcomes of the Unified Analysis Workshop 2009 (UAW 2009) held in San Francisco was the action item to establish an IERS Working Group for the maintenance and update of the SINEX format and format description. The IERS Working Group (WG) on SINEX Format was finally established in early 2011. The official announcement was sent as IERS Message No. 188 on April 15, 2011.

The Kick-Off meeting of the WG took place on April 6, 2011 during the EGU General Assembly in Vienna.

A website for the WG has been established at the IERS Central Bureau:

<http://www.iers.org/WGSINEX>

The latest version of the SINEX format description is accessible via this website. Additionally, the charter of the WG, the actual list of members, as well as the minutes of the WG meetings are available.

Goals and objectives

The aim of the working group is to maintain the SINEX format according to the needs of the IERS, the technique services (IDS, IGS, ILRS, IVS) and GGOS. The working group should be the point of contact if any modifications or extensions are required.

The major goals and objectives of the WG are:

1. Maintenance and update of the SINEX format.
2. Handle request for SINEX format changes.
3. Mechanism on how the SINEX format is changed and agreed upon.
4. Introduce new parameterizations and model variables as required.
5. Description of the format with up-to-date information technology.

Members

In order to have the best possible interaction with the groups working with the SINEX format (either as output or as input), the analysis and combination groups of all the technique services as well as the relevant components of the IERS and GGOS are represented within the working group. The members are in detail:

- Chair: Daniela Thaller
- IERS Analysis Coordinator (ex officio): Tom Herring
- IERS Central Bureau (ex officio): Bernd Richter

- IDS Analysis Coordination: Laurent Soudarin
- IDS Combination: Guilhem Moreaux
- IGS Analysis Center Coordination: Jim Ray
- IGS Reference Frame Working Group: Paul Rebischung
- ILRS Analysis Coordination: Erricos Pavlis
- ILRS Combination: Cecilia Sciaretta
- IVS Analysis Coordination: Axel Nothnagel
- IVS Combination: Sabine Bachmann
- ITRS Center and ITRS Combination Center at IGN: Zuheir Altamimi
- ITRS Combination Center at DGFI: Manuela Seitz
- IERS Co-location Working Group: Pierguido Sarti
- IERS Conventions Center: Gérard Petit
- GGOS Bureau for Standards and Conventions: Peter Steigenberger

Format updates

During the kick-off meeting the requests and needs for updates and changes of the SINEX format from all groups of the IERS and related services were collected.

The major topics are:

- Inclusion of the list of station discontinuities into the official format description. The block SOLUTION/DISCONTINUITIES – which is already in use for the ITRF combination – should be revised and adapted to the actual needs.
- Clarification of GNSS-specific antenna phase center issues (at the moment, only the antenna offsets for GPS and Galileo are defined).
- Definition how the offsets of the laser reflector arrays or the center-of-mass values for spherical SLR satellites should be reported in SINEX.
- Revision of the block SATELLITE/ID in order to make it applicable for all satellite techniques.
- Extension of Appendix II in order to cover the whole mathematical background relevant for the SINEX format.
- Inclusion of a standardized and machine-readable modelling block.
- Inclusion of information about satellite-specific weighting used to generate the solution provided in the SINEX file.

The update of the SINEX format description considering these requests is currently under development.

Daniela Thaller