IERS Working Group 2 Meeting: Colocation and Site Surveys

Minutes

Date: **Friday 20th October 2006**

Venue: **ILRS Conference, Canberra Convention Centre**

Chair: **Gary Johnston, Geoscience Australia**

Introduction by Gary Johnston:

General description of colocation and site survey aims

- Determine to less than 1mm connections between reference points of measurement systems at colocated sites
- Support monitoring of relationship between observing systems

Goals of working group:

- Develop standards for local tie surveys
- Promote/encourage the generation of comprehensive SINEX files with full VCV matrices
- Research intra-technique biases

For more information on working group activities go to website

Speaker 1: Zuheir Altamimi

Three key points:

- SINEX files for local ties – importance of expressing local terrestrial surveys in SINEX file format with full VCV matrix. Currently only about half of the local ties are available with full SINEX files. Explained that IGN can move from GeoLab format to SINEX format and offered the IGNs services to re-adjust local tie surveys of those missing; all that is needed is the supply of data.
- IGN and NASA have conducted re-surveys at several priority sites.
- IGN have upcoming re-surveys planned at other priority sites where comprehensive local tie connections and detailed SINEX files are lacking. IGN offering a service to conduct surveys at colocated sites

Speaker 2: John Dawson

- Promoted use of Geoscience Australia's axis software for determination of SLR or VLBI inaccessible invariant reference point.
- Briefly described the benefits of axis software and in particular the output of a detailed SINEX file with full VCV matrix and that it does not assume axis intersection.
- Noted that the current documentation is lacking, but that a detailed user manual was in preparation and that support was readily available.

Group Discussion

A question was raised regarding the formats that the axis software supports.

John Dawson: Replied that it supports GeoLab format and that use by Pierguido Sarti's group, and that the software can be downloaded, encouraging other organisations to investigate its use on their own data sets.

Gary Johnston: Added that the axis software works with terrestrial data sets already adjusted through a program such as GeoLab

Comment added that some other organisations have developed system reference point determination software, which performs a similar operation to axis.

John Dawson: Stated that it would be interesting to compare the software developed with the Axis software and that used by the Italians.

Gary Johnston: Mentioned that, in regard to local ties, the possibility of implementing a system at observatories to calibrate the SLR on its own should be considered – similar to Mt Stromlo and the calibration pillars. Refer to John Luck presentation from EGU2006.

A question was raised of what errors are attributed to in the local tie survey SINEX file VCV matrix

Gary Johnston: Replied that the errors come from a range of sources, such as: network geometry, quality of instrumentation, atmospheric variations during the survey, processing techniques, etc. It was added that currently some local ties only state a vector between two observing systems with no VCV, however, the VCV matrix is needed to support weighting in the ITRF solution.

Gary Johnston: Closed the session and hoped that the meeting would encourage others to undertake local ties.