

## **Session 4**

# **Local Survey Monumentation and Eccentricity Measurement**

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# Summary of the IERS workshop on site co-location surveys

- The International Earth rotation and Reference Systems Service (IERS) had organized a workshop devoted to „site co-location survey objectives, methods and issues“ .
- It took place in Matera / Italy on October 23 / 24, 2003.
- Presently the quality of the station coordinates results from the various space techniques is in the order of a few millimetres in the horizontal and about 1 cm in the vertical component.

In view of this precision, one of the major limiting factors is the quality and the availability of accurate local tie information for all the co-located sites around the globe:

- to study the systematic errors going along with each space technique,
- to establish a unique, high-precision terrestrial reference frame
- to enable an analysis which rigorously combine all geodetic space observing techniques by their common parameters

In 5 sessions attention has been given to:

- Co-location sites and their importance for the ITRF
- Site surveys
- Analysis and SINEX
- Reporting and Archiving
- Planning for 2004

- More than 30 participants from Australia, South Africa, USA and Europe discussed various examples, analysis methods and survey strategies.
- Finally guidelines for co-location site surveys and report templates have been proposed.
- The potential availability of survey teams as well as the planning for surveys in 2004 have been investigated.

## **The important recommendations are the following:**

- Local ties between co-located instruments should be determined with an accuracy of 1 mm, with full variance/covariance information, available in SINEX format.
- Local survey measurements should have the same importance as and should be treated like any of the space geodetic techniques
- Site coordinates (VLBI, GPS, SLR, DORIS) should be better tied to the ground. The Local ties quality should be such that they can be assumed true for the combination.
- A database will be established at IERS (ITRS PC and CB) for all information in connection with site co-location (list of co-location sites, local ties in SINEX, co-location instruments, site maps and pictures, survey reports, survey status, site events and history, etc...)

The workshop information (programme, presentations and recommendations) will be available at the IERS web-pages ([www.iers.org](http://www.iers.org)) on November 4, 2003 and the proceedings will be published as IERS Technical Note No. 33.