3.7 IERS Working Groups
3.7.1 Working Group on Site Survey and Co-location

The activity of the working group underwent a very significant moment during the Spring of 2013, when a two days workshop was organized in May in Paris (France), with a full endorsement of the IERS. The 2013 Paris workshop followed the first IERS Workshop on local tie surveying, tie vectors and co-location sites organized in October 2003 in Matera (Italy). This latter represented a very significant moment for the geodetic community and propitiated the identification of the state of the art in the procedures adopted so far and the issues to be addressed in the near future, thus tracing the path of those further initiative that have followed ever since and that are resumed by the documents, reports and presentations that have been uploaded on the IERS Working Group site (<http://www.iers.org/WGSiteSurvey>).

In Paris, during the workshop, P. Sarti announced his intention to resign from the chairmanship of the working group and asked the IERS Directing Board to gather new expression of interests for the role and to identify a new appropriate chairman.

Working Group meetings in 2013

The Paris workshop represented the main meeting for 2013 and no further meetings were actually organized during the same year. A Section dedicated to the Workshop can be found in the remainder of this Annual Report.

Working group activities

During 2013, a few working group members published peer reviewed papers regarding their investigations on topics related to the working group activities.

Kallio and Pouttanen (2013) compared and discussed the estimates of a GPS-VLBI tie vector that were obtained with three different methods (static and kinematic GPS and total station observations) at the Metsähovi observatory. The search for an accurate, flexible and time saving approach in tie vector surveying is an important issue, especially for those sites having heavy observing schedules and that require frequent re-observation of the tie vector itself. The authors also discuss the necessity to identify an effective procedure to transform the tie vector observed with total stations into the global terrestrial reference frame. They mention a few suitable methods capable of realizing an alignment of the vector from the topocentric frame to the global frame. This latter aspect represents a key issue in the provision of tie vectors for the combination of space geodetic solutions and, given the impact that wrong alignments may have on the final ITRF solution, it requires further, specific investigation.

Lösler et al. (2013) focused their attention on the survey of the reference point of the VLBI antenna in Onsala. They illustrated the potential of an indirect automated method and compared several experimental set ups. They limited their investigation to a single space geodetic reference point and focused on the repeatability of the results obtained in a topocentric frame.

Sarti et al. (2013) discussed the local stability at Medicina site and the repeatability of the GPS-VLBI tie vector, exploiting all the different local surveys carried out at the site since 2001. The different surveys were homogeneously reprocessed paying careful attention to the realization of the topocentric frame at the different epochs. Medicina sites confirms as being critical due to the unfavourable geological settings and the magnitude of the local movements that can be detected on the local ground control network pillars as well as on the tie vector itself. At site where such ample instabilities are detected, it is strictly necessary to regularly repeat the local survey and produce up to date estimates of the tie vector.

Change of WG chairmanship

P. Sarti, in view of a chairmanship that started in January 2009 and that would have soon approached a five-year duration, announced his intention to resign as chairman. He favoured a valuable and effective rotation of the WG chairmanship to bring in new ideas and energies under a beneficial turnover perspective and pure cooperative spirit.

The announcement was made during the Splinter meeting that immediately followed the Paris workshop (<http://iersworkshop2013.ign.fr/?page=program>), to ensure prompt information to a wide audience of experts and possibly solicit expression of interests for the position to be later collected and evaluated by the IERS Directing Board.

The resignation was officially presented at the IERS Directing Board held in Paris on May 25th, 2013. The IERS Directing Board decided to issue a call for interest for the chairmanship and collect the expressions of interest with the CV of the applicants at the Central Bureau for later evaluation.

The final decision on the new chairmanship was taken in September 2013. Dr. Sten Bergstrand, from the SP Technical Research Institute of Sweden, E-mail: Sten.Bergstrand@sp.se, took over the chairmanship role effectively by January 1st, 2014.

The working group web page and the documents therein reflect such alternation (<http://www.iers.org/WGSiteSurvey>).

Bibliography

Kallio, U. and Poutanen, M. (2013) Local Ties at Fundamental Stations. In: International Association of Geodesy Symposia, Reference Frames for Applications in Geosciences, Edited by:

Altamimi, Z. and Collilieux, X., 138, 147–152, doi: 10.1007/978-3-642-32998-2_23, isbn: 978-3-642-32997-5.

Lösler, M., Haas, R. and Eschelbach, C. (2013) Automated and continual determination of radio telescope reference points with sub-mm accuracy: results from a campaign at the Onsala Space Observatory. J Geodesy, 87(8), 791–804, doi: 10.1007/s00190-013-0647-y.

Sarti, P., Abbondanza, C., Legrand, J., Bruyninx, C., Vittuari, L. and Ray, J. (2013) Intrasite motions and monument instabilities at Medicina ITRF co-location site. Geophys J Int, 192(3), 1042–1051, doi: 10.1093/gji/ggs092.

Acknowledgments

P. Sarti would like to thank the WG members who actively contributed to the discussions at the different meetings and by e-mails, Dr. Z. Altamimi, Dr. J. Ray and Dr. C. Abbondanza for the active feedback that had incessantly provided during his chairmanship, Dr. W. Dick of the IERS Central Bureau for his professional and prompt feedback and the IERS Directing Board members.

Pierguido Sarti