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IVS Working Group 2 for Product Specification and Observing Programs

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Abstract

An important part of the IVS efforts is to provide the best products for the user community and to optimize the use of available global resources. During the 5th IVS Directing Board meeting on February 15th, 2001 the IVS products and related programs were discussed with respect to the general goals described above. It was decided to set up an IVS Working Group (WG2) for Product Specification and Observing Programs. Members of WG2 were chosen among experts in the field of geodetic/astrometric VLBI. The Terms of Reference (ToR) of WG2 were to

- review the usefulness and appropriateness of the current definition of IVS products and suggest modifications,
- recommend guidelines for accuracy, timeliness, and redundancy of products,
- review the quality and appropriateness of existing observing programs with respect to the desired products,
- suggest a realistic set of observing programs which should result in achieving the desired products, taking into account existing agency programs,
- set goals for improvements in IVS products and suggest how these may possibly be achieved in the future,
- present a written report to the IVS Directing Board (DB).

The WG2 report was approved by the IVS DB on November 7th, 2001. The introduction of the report contains the scientific rationale. Then the present status and future goals of all international activities within IVS are described. In particular the current products of IVS are described in terms of accuracy, reliability and frequency of observing sessions. The temporal resolution of the parameters estimated by VLBI data analysis, the time delay from observing to product, i.e. time which has passed after the end of the last session included in the VLBI solution till availability of the final products, and the frequency of solution (in the case of "global solutions", when all existing or a high number of VLBI sessions are used to determine so-called global parameters) are also important aspects. All IVS products and their potential users are covered in the report. This includes the Earth orientation parameters (EOP), the reference frames (TRF and CRF), geodynamical and geophysical parameters and physical parameters such as tropospheric zenith delays. Measures which should be taken within IVS to meet the goals defined in the first steps are presented. As most of the measures are related to the observing programs, these are the main focus for improving the current status of IVS products. The report shows that due to various requirements of the different users of IVS products the following aspects must be accomplished:

- significant improvement of the accuracy of VLBI products,
- shorter time delay from observation to availability of results,
- almost continuous temporal coverage by VLBI sessions.

A first scenario of the IVS observing program for 2002 and 2003 considers an increase of observing time by about 30%-40% and includes sessions carried out by S2 and K4 technology. The midterm observing program for the next 4-5 years seems to be rather ambitious. However, it appears feasible if all efforts are concentrated and the necessary resources are made available. The full WG2 report was published in the IVS Annual Report 2001 (Schuh, 2002 [1]) and can be downloaded from the IVS homepage (http://ivscc.gsfc.nasa.gov/WG/wg2/).

References

[1] Schuh, H. and 12 co-authors: IVS Working Group 2 for Product Specification and Observing Programs - Final Report (Feb. 13, 2002). In: IVS Annual Report 2001 ed. by N.R. Vandenberg and K.D. Baver, NASA, 2002.