

3 Reports of IERS components

3.1 Directing Board

The IERS Directing Board (DB) met twice in the course of the year 2002. Short summaries of these meetings are given below.

Meeting No. 35 *Saturday, April 20, 2002, Observatoire de Paris, Paris, France*

J. Vondrak welcomed the participants of the meeting, and the minutes of the DB Meeting No. 34 were approved. J. Vondrak announced that the GGFC Special Bureau for Loading was created in February 2002.

Concerning the proposed Working Group on the ITRS, M. Rothacher reported that he contacted several colleagues. There is already an ITRS WG, so that there is no need to have another group. The present group should act as advisor for the ITRS Centre.

J. Vondrak reported that he corresponded with R. Ferland concerning an ITRS Combination Centre at the Geodetic Survey Division of Natural Resources Canada/Geomatics Canada. An official letter from N. Beck was received by the Chairman, accepting the ITRS Combination Centre under certain conditions.

G. Beutler as invited guest gave an overview on the main elements of the new structure of IAG, which will be introduced at the 2003 IAG General Assembly. The DB voted for the IERS to become an IAG element.

G. Beutler reported also about the “Integrated Global Geodetic Observing System (IGGOS)”, which will be the first IAG Project. The DB decided that the IERS will take part in the planning of IGGOS.

N. Capitaine as invited guest reported about the IERS Workshop on the Implementation of the New IAU Resolutions, held at Observatoire de Paris, France, 18-19 April 2002. (See also her report in IERS Message No. 28, June 12, 2002.) Several action items were defined during the Workshop, the dates for which were specified by the DB at this meeting. It should be underlined in all documents that IERS will not stop the old products on 1 January 2003.

M. Rothacher reported on his activities as the IERS Analysis Coordinator: the present status and future perspective of IERS products as well as plans for improvements, the coordination of the IERS Combination Research Centres activities, the IERS EOP Alignment Campaign, the SINEX 2.0 Format, the IERS SINEX Campaign, and the proposed IERS Combination Research Workshop.

J. Ray gave a short overview on the NASA Proposal “Integration of Space Geodesy”, which is similar to IGGOS.

B. Richter reported that the *IERS Annual Report 2000* was available as PDF file at the IERS web site in mid-December. The DB decided that starting with the Annual Report for 2001, the report will mainly contain summaries of activities, results and publications of the IERS components. Extended results will be published in IERS Technical Notes or in other publications by the IERS centres.

The DB decided that IERS Associate Members will receive the IERS Messages, Annual Reports and Technical Notes as well as the minutes of the DB meetings. Minor changes in the Terms of Reference concerning the definition of IERS Associate Members and Correspondents were accepted. The Central Bureau (CB) was asked to compile a list of IERS Associate Members, which will be approved by the DB members. Also selected persons from IERS components who do not have official representation functions may become IERS Associate Members.

B. Richter reported on the planned EU Networks of Excellence and Integrated Projects. The DB decided that the CB should prepare in the name of all European partners of the IERS an Expression of Interest for a Network of Excellence related to the thematic area Space with its two components Galileo and GMES.

D. Gambis gave a status report on UTC, with additions by D. McCarthy.

Meeting No. 34 *Friday, November 22, 2002, Bavarian Academy of Sciences, Munich, Germany*

J. Vondrak welcomed the participants of the meeting, and the minutes of the DB Meeting No. 35 were approved. J. Vondrak announced the following: A letter by the IAU General Secretary, H. Rickman, was sent to the General Secretaries of IAG and IUGG, asking for support of the IAU resolutions. J. Ray resigned from the DB in May 2002 because he left USNO. The election of a candidate for IAG representative by e-mail among the DB members nominated M. Rothacher. P. Sillard, who left IGN, was replaced by Z. Altamimi as the Responsible Scientist of the CRC at IGN. T. van Hoolst replaced V. Dehant as Chair of the GGFC Special Bureau for the Core in July 2002. A proposal for a new CRC was received from the Italian Space Agency.

B. Chao and M. Rothacher gave reports on the IERS Workshop in Munich, which was very successful. As one of the major results of the workshop M. Rothacher proposed an IERS Retreat (see below). The Proceedings of the Workshop will be published as an IERS Technical Note.

B. Richter reported that the *Technical Note 29* with the Proceedings of the Paris Workshop has been printed and distributed right

before the Workshop in Munich. The *Annual Report 2001* is in print and will also be available as PDF file at the IERS web site. The CB compiled a list of IERS Associate Members.

D. Gambis reported on the Earth Orientation Centre's survey on the redefinition of the UTC scale, which showed that most users do not wish any change. D. McCarthy added that however most probably the Working Group draft recommendation will be to remove the leap second. The final decision will be made by ITU.

N. Capitaine as invited guest reported on the status of the material available to users for the implementation of the IAU 2000 Resolutions. The revised version of Chapter 5 of the IERS Conventions, together with the associated electronic Tables, which are posted on the website of the IERS Convention Centre, provide the full IAU 2000 expressions necessary to implement Resolution B1.6 (IAU 2000 precession-nutation model), B1.7 (definition of the CIP) and B 1.8 (new transformation between the TRS and the CRS, including a new definition of UT1). This is provided both for the new transformation (CEO-based) and the classical transformation (equinox-based). The available expressions and Tables for the IAU 2000 models for the motion of the CIP in the GCRS, for the position of the CEO in the GCRS and for GST ensure the equivalence between the two transformations at any date at a microarcsecond level after a century and ensure continuity in the EOP on 1 Jan 2003. The different methods which are described in the document are implemented in the software package provided by P. Wallace.

P. Wallace as invited guest described a set of additions to the SOFA software library that implement IAU 2000 models. These Fortran routines, about 40 in number, include support for both the classical (equinox-based) and new (CEO-based) methods, and for both IAU 2000A and B nutation models. They include GST implementations adjusted to satisfy the requirement of no UT1 jump on 2003 January 1.0. The URL for SOFA is <www.iau-sofa.rl.ac.uk>. The present collection of Fortran routines deals with pre-2000 models and techniques. The new "draft" routines will be added if and when the SOFA has accepted them for inclusion in the SOFA collection. Because SOFA has a "no beta-release" policy, it would not be possible to distribute copies of the draft routines before approved by the SOFA Board. However, equivalents of the key routines, specially designed for IERS use, had been prepared and would be posted on the draft IERS Conventions Chapter 5 website at USNO. These IERS versions gave essentially identical results to the SOFA routines.

An IERS Message will be prepared for the information of users. Also Chapter 5 of the IERS Conventions which is nearly ready will contain information. The next Bulletins A will contain announcements of the forthcoming changes.

To implement the Resolution of the 24th IAU General Assembly the IERS Publications will:

1. Publish in Bulletin A & B
 - a. location of software to implement the resolutions
 - b. availability of products in Bulletins A & B
2. Produce in Bulletins A & B
 - a. $x, y, \text{UT1-UTC}$

$$\Psi_{\text{obs}} - \Psi_{\text{IAU 1976/1980}}$$

$$\epsilon_{\text{obs}} - \epsilon_{\text{IAU 1976 / 1980}}$$
 - b. $x_{\text{obs}} - x_{\text{IAU 2000 A}}$

$$y_{\text{obs}} - y_{\text{IAU 2000 A}}$$
 - c. $\Psi_{\text{obs}} - \Psi_{\text{IAU 2000 A}}$

$$\epsilon_{\text{obs}} - \epsilon_{\text{IAU 2000 A}}$$

3. Notice that references to $\Psi_{\text{IAU 1976/1980}}$ and $\epsilon_{\text{IAU 1976 / 1980}}$ will be removed after December 31, 2005.

B. Richter and M. Rothacher presented a proposal for an addition on Working Groups in the IERS Terms of Reference. After discussion, a revised text was approved by the DB. The existing WG on ITRF Datum should be re-established. A WG on Collocation was proposed.

G. Beutler as invited guest reported about INDIGO, a proposal by JPL prepared by R. Neilan. The intention of this project is to integrate the independent space geodesy data services of ILRS, IVS and IGS. J. Vondrák will sign the letter prepared by G. Beutler in reply to this proposal.

On suggestion of the CB, the DB decided on the following change in the Terms of Reference: In the section on IERS Associate Members, add "IAU General Secretary, IUGG General Secretary, President of FAGS" as ex officio members.

The CB decided that an IERS Retreat will be held on Monday and Tuesday, 31 March – 1 April 2003 in Paris. Together with the representatives of all components of the IERS some external experts will be invited to discuss the present status of the IERS and future requirements with the aim to find answers to:

- What is the IERS,
- What does the IERS want in the future,
- What does it NOT want,
- How we can realize this (action items and schedule).

Bernd Richter, Wolfgang R. Dick