

Preface

These Proceedings contain the oral and poster presentations at the IERS Workshop on the “Implementation of the New IAU Resolutions” which was held at Observatoire de Paris on 18 and 19 April 2002. This Workshop was organized in order to discuss and explain all possible aspects of the implementation of the new Resolutions adopted by the IAU at its XXIV General Assembly in August 2000, which will become effective on 1 January 2003. The scope of the IAU actions is very broad, affecting nearly the entire spectrum of IERS services. The new IAU Resolutions provide: extended general relativistic specifications for well-defined solar system barycentric and the geocentric celestial reference systems and for time transformations of sufficient accuracy to satisfy emerging observational requirements; a new definition of terrestrial time TT; a new nutation-precession model; and a new formulation for the transformation between the celestial and terrestrial reference systems using a new Celestial Intermediate Pole and Celestial and Terrestrial Ephemeris Origins rather than the conventional ecliptic/equinox system.

Only invited position papers were presented, which were made available in advance and displayed on the website of the Workshop (www.iers.org/workshop_2002). Additionally, a questionnaire was widely distributed to the participants and other IERS users beforehand to identify key problems and questions to be considered in the presentations. About 80 participants from 20 countries attended the meeting.

The Workshop was divided into two parts. The first part included detailed presentations and explanations of the Resolutions, their background reasons (Session 2), contents and practical consequences (Session 3), comparison between “old” and “new” concepts (Session 4), procedures and software (Session 5), as well as answers to specific questions. These were followed by a summary of the responses to the questionnaire and then by the poster session. The first part also included a presentation of the future IERS products (Session 6) to comply with the IAU Resolutions and finally a presentation of the compatibility with past observations (Session 7). The second part was devoted to an extended discussion based on the responses to the questionnaire and other questions that were raised during the Workshop.

These Proceedings include all the position papers, revised to account for the Workshop discussions and reviewed by the SOC, and also include extended abstracts of all the posters that have been presented and discussed during the poster session.

During the Workshop, there were fruitful exchanges between participants and presenters on the reasons for the adoption of the Resolutions, their consequences, as well as on the details concerning their implementation in astronomy, Earth rotation, ephemerides, etc. Some specific actions were identified which will require further efforts by the IERS, the presenters, or others to facilitate the practical use of the Conventions, to provide detailed explanations, and to develop certified software routines to convert between the old and new systems. (See the website at maia.usno.navy.mil/conv2000 for further information.)

The future IERS Products are outlined in the paper of Session 6, with emphasis on possible modifications and additions that will be necessary to implement the IAU Resolutions. According to the IAU Resolutions, the IERS is obliged to start publishing EOP values in the new transformational system at the start of 2003, a goal that the IERS Directing Board has endorsed. It is important for users to note that the IERS is also committed to continuing to provide EOP time series consistent with the conventional transformations.

We hope that these Proceedings fulfil user requirements and provide to the scientific community theoretical and practical bases for the best implementation of the IAU Resolutions.

SOC of the IERS Workshop

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