

PREFACE

The Journées 2004 “Systèmes de référence spatio-temporels”, with the sub-title “Fundamental Astronomy: New concepts and models for high accuracy observations”, have been held at Observatoire de Paris from 20 to 22 September 2004. These Journées were the sixteenth conference in this series organized in Paris each year from 1988 to 1992 and alternately, since 1994, in Paris (1996, 1998, 2000) and the following European cities: Warsaw (1995), Prague (1997), Dresden (1999), Brussels (2001), Bucharest (2002) and St. Petersburg (2003). In 2004, we have received financial supports from the Scientific Council of Paris Observatory, the French Ministry of Education and Research, the European “Descartes-nutation” project and the International Astronomical Union; we are grateful to these institutions for their support and also to the Institut d’Astrophysique de Paris for making the Henri-Mineur Amphitheatre available for the scientific sessions of this meeting.

The main goal of the Journées 2004 was to discuss the issues of the International Celestial Reference System (ICRS), including new concepts in fundamental astronomy, the associated nomenclature and the astronomical models for Earth rotation (precession, nutation, atmospheric and oceanic effects, etc.) at the highest level of accuracy consistent with the current and future precision and temporal resolution of the observations of Earth rotation.

There were 94 participants from 21 countries. The scientific programme of the meeting included 6 invited papers, 38 oral communications and 39 posters. It was composed of the five following sessions: I) Recent and future developments in the realization of the ICRS, II) Models for Earth’s rotation: from Poincaré to IAU 2000, III) Nomenclature in fundamental astronomy, IV) Astronomical reference systems and V) Future of UTC: Consequences in astronomy. The sessions contained special discussions relevant to the IAU Division I Working Groups and the future organization of this division in the framework of the upcoming IAU by-laws on commissions and working groups. Moreover, 2004 being the 150 anniversary of Poincaré’s birth, there was a special emphasis on Poincaré’s work on Earth rotation. A kickoff meeting for the “Descartes-Nutation’ Project (Chair: V. Dehant) was also included in Session II with presentations of posters summarizing the proposals selected by the Advisory Board of this project.

We had the great sadness to learn that Baron Paul Melchior passed away on 15 September 2004, just a few days before the beginning of the Journées 2004. Given the outstanding international role that P. Melchior had on geodynamics and astrometry, this represents a very significant loss for the scientific fields of this meeting. We recall that P. Melchior had still contributed to the Proceedings of the Journées 2000 with a beautiful review paper on nutation. We pay here a special homage to his immense works on rotation of the Earth, nutation and tides studies.

These Proceedings are divided into five sections corresponding to the sessions of the meeting. The Table of Contents is given on pages iii to v, the list of participants on pages vii and viii and the scientific programme on pages ix to xii. The Postface on page 277 gives the announcement for the “Journées” 2005 in Warsaw. I am very grateful to the Scientific Organizing Committee for its valuable contribution to the elaboration of the scientific programme and the chair of the Sessions and to all the authors of the papers who have sent their contribution in the required form and within the required deadline. I thank the Local Organizing Committee and its Chair, Jean Souchay, for the very efficient work before and during the meeting. I am also grateful to O. Becker for his efficient technical help for the publication.

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Chair of the SOC

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