

PREFACE

The Journées 2010 “Systèmes de référence spatio-temporels”, with the sub-title “New challenges for reference systems and numerical standards in astronomy”, were organized from 20 to 22 September 2010 at Paris Observatory and Ecole Normale Supérieure in Paris, France. These Journées and their proceedings have been sponsored by Paris Observatory scientific council, the CNRS Institut des Sciences de l’Univers, SYRTE Department and the Ministry of Education and Research (Programme ACCES). They were the twenties conference in this series whose main purpose is to provide a forum for researchers in the fields of Earth rotation, reference frames, astrometry and time. The Journées were organized in Paris each year from 1988 to 1992, and then, since 1994, alternately in Paris (in 1994, 1996, 1998, 2000, 2004 and 2007) and other European cities, namely Warsaw in 1995 and 2005, Prague in 1997, Dresden in 1999 and 2008, Brussels in 2001, Bucharest in 2002 and St. Petersburg in 2003. Such an organization has been the result of an active and continuing cooperation between the “Systèmes de Référence Temps Espace” (SYRTE) Department of Paris Observatory and other institutions in Europe.

The scientific programme of the Journées 2010 was focused on the issues related to the recent developments and new challenges in astronomical space and time reference systems and their relativistic aspects, astrometric catalogs, Earth orientation, astronomical constants and numerical standards, planetary ephemerides and modern astrometry. There have been presentations and discussions related to the IAU Division 1 commissions and IAU Working Group “Numerical Standards for Fundamental astronomy” (NSFA), with a WG meeting organized in association with the Journées. There has been a special session for presenting the latest developments in the solar system ephemerides and comparing details in those ephemerides. This session was organized in coordination with IAU Commission 4 with and the participation - as invited speakers - of the providers of the solar system ephemerides that are expected to be of comparable accuracy (i.e. JPL, EPM and INPOP).

There were 111 participants, coming from 19 different countries. The scientific programme included 12 invited papers, 40 oral communications and 36 posters; it was composed of the five following sessions: Session 1: The astronomical constants, SI units and future developments in numerical standards; Session 2: Solar system ephemerides and their comparison; Session 3: Progress in astrometric catalogs in optical and radio wavelengths; Session 4: Recent developments in theory and observation of Earth rotation and related reference systems; Session 5: Pulsars timing, relativity and time transfer.

In addition to these scientific activities, the participants met for a cocktail and a conference dinner in the Salle Cassini of Paris Observatory on Monday and Tuesday evening September 20 and 21, respectively. “Best poster prizes” were awarded by the SOC to two poster authors for the quality of the scientific content and presentation. A special exhibition from archives of Paris Observatory library took place on 21 September before the dinner with documents related to the topics of these Journées (e.g. the 1896 Paris international conference on fundamental stars, Le Verrier’s manuscript on Neptune, Lalande’s catalogue, Danjon’s astrolabe, etc.).

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 viii and ix, the scientific programme and list of posters on pages x to xiv. The Postface on page 284 gives the first announcement for the “Journées” 2011 that will be held in Vienna (Austria) from 19 to 21 September 2011.

We thank here all the participants in the Journées 2010. We are very grateful to the Scientific Organizing Committee for its active role in the elaboration of the scientific programme and to all the authors of the papers for their valuable contributions. On behalf of the SOC, we thank the Local Organizing Committee, and especially its Chair, Noël Dimarcq, for the very efficient preparation of the meeting and the very good local conditions and organization. We are also very grateful to O. Becker for his efficient technical help for the publication.

This Volume is dedicated to Anne-Marie Gontier (see page vii).

Nicole CAPITAINE
Chair of the SOC
20 June 2011