

PREFACE

The Journées 2013 “Systèmes de référence spatio-temporels”, with the sub-title “Scientific developments from highly accurate space-time reference systems”, were organized from 16 to 18 September 2013 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-GRAM, the SYRTE Department, the Labex FIRST-TF and the Ministry of Education and Research (Programme ACCES). They were the twenty-second 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, 2007 and 2010) and other European cities, namely Warsaw in 1995 and 2005, Prague in 1997, Dresden in 1999 and 2008, Brussels in 2001, Bucharest in 2002, St. Petersburg in 2003 and Vienna in 2011. 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 Journées 2013 have been co-sponsored by the International Astronomical Union (IAU) and the International Association of Geodesy (IAG)

The scientific programme of the Journées 2013 was focused on the scientific developments in geodesy, astronomy and astrophysics, etc. based on highly accurate reference frames and time scales. In addition, there have been presentations and discussions related to the new IAU Division A Working Groups that have been established at the 28th IAU GA, with WG meetings organized in association with the Journées. For the first time, tutorial lectures have been held the day before the beginning of the Journées with the goal of making our discipline more broadly accessible.

There were 101 participants, coming from 18 different countries. The scientific programme included 10 invited papers, 41 oral communications and 32 posters; it was composed of the following sessions:

Session 1: Theoretical aspects of reference systems;

Session 2: The next ICRF - Progress and developments;

Session 3: Atomic and pulsar-based time scales - Progress and developments;

Session 4a: Earth rotation - Theory;

Session 4b: Earth rotation - Modelling and observations;

Session 5: Solar system dynamics - Theory, modelling and numerical standards .

In addition to these scientific activities, the participants met for a cocktail and a conference dinner on Monday and Tuesday evening September 16 and 17, respectively. On Wednesday afternoon, there was the possibility to visit a small exhibition at Paris Observatory on Nicolas Louis de Lacaille (author of the star catalogue, called *Coelum Australe Stelliferum*, which is relevant to the Journées 2013 topics) from the archives of Paris Observatory.

These Proceedings are divided into six 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, the scientific programme and list of posters on pages ix to xiii. The Postface on page 281 gives the announcement of the “Journées” 2014 that will be organized from 22 to 24 September 2014 at Pulkovo Observatory (Russia), with the sub-title “Recent developments and prospects in ground-based and space astrometry”.

We thank here all the participants in the Journées 2013. 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 the invaluable technical help for the preparation of the meeting and the publication of the Proceedings.

Nicole CAPITAINE
Chair of the SOC
September 2014