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Proceedings of the International Astronomical Union

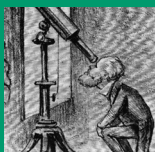
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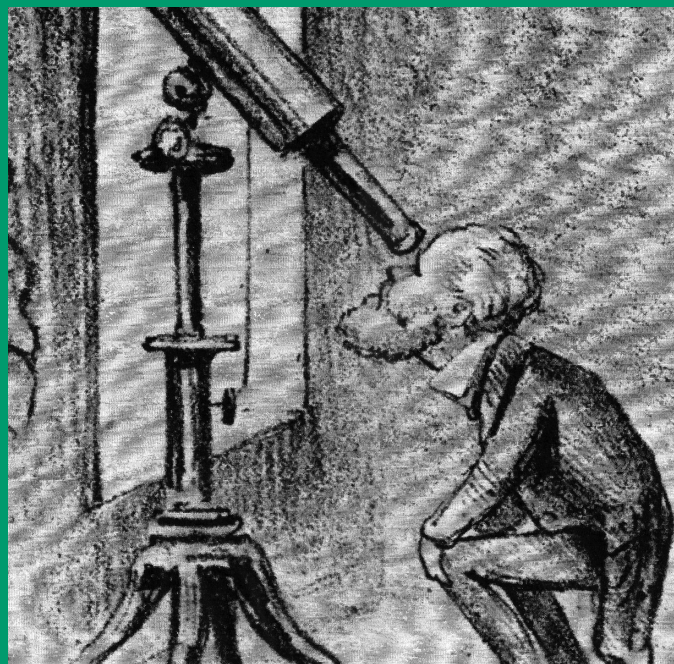


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TRANSACTIONS OF THE
INTERNATIONAL ASTRONOMICAL UNION
VOLUME XXVIIB

PROCEEDINGS OF THE
TWENTY SEVENTH GENERAL ASSEMBLY
RIO DE JANEIRO 2009

COVER ILLUSTRATION

THE ORIGINS OF ASTRONOMY IN BRAZIL: IN 1827, EMPEROR DON PEDRO I (1798-1834) DECREED THE START OF THE IMPERIAL OBSERVATORY WHICH WAS FINALLY INSTALLED BY DON PEDRO II (1831-1889) IN 1845, AT MORRO DO CASTELO, WHERE IT STOOD TILL 1922, WITH A 92 MM TELESCOPE. DON PEDRO II WAS AN ASTRONOMY ENTHUSIAST AND HE OBSERVED THE TOTAL SOLAR ECLIPSE OF APRIL 25TH, 1865 FROM HIS PALACE AT SÃO CRISTÓVÃO.

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INTERNATIONAL ASTRONOMICAL UNION
UNION ASTRONOMIQUE INTERNATIONALE

International Astronomical Union



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Edited by

IAN F. CORBETT
General Secretary



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PRESIDENTS OF THE INTERNATIONAL ASTRONOMICAL UNION

Présidents de l'Union Astronomique Internationale



Catherine J. Cesarsky

2006–2009



Robert Williams

2009–2012

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Preface

It is a great pleasure to introduce these Transactions which record the proceedings of the XXVII IAU General Assembly which took place in the Centro de Convenções SulAmérica, in the magnificent city of Rio de Janeiro, Brazil, hosted by the Brazilian Astronomical Society (Sociedade Astromomica Brasileira, SAB). There were 2434 registered attendees, of whom 796 were IAU members and 526 were students. They came from 76 nations, with 414 from Brazil, and 667 were female (27.4%).

The National Organizing Committee, co-chaired by Professors Daniela Lazarro and Beatriz Barbuy, had 14 members and was supported by 8 sub-committees. Together they organized a highly successful assembly with a full program throughout the 10 days, complemented by an interesting and diverse social program. The dynamic and dramatic Inaugural Ceremony was honoured by addresses from national dignitaries and saw the award of the Peter and Patricia Gruber Foundation Cosmology Prize 2009 and the Foundation Fellowship 2009. Sadly, a dynamic member of the NOC and of the Executive Sub-Committee, Francisco Xavier de Araújo, passed away a month before the General Assembly. For six years he had been at the heart of the organisation of the Assembly: he was sorely missed.

The General Assembly took place as usual in two sessions. The first session admitted four new National Members with Interim Status - Costa Rica, Honduras, Panama and Vietnam. We extend a warm welcome to them and note that they bring the total number of National Members to 68. At its second session General Assembly approved the membership of the nominees, bringing the total individual membership of the Union to 10,144. Finally, it was agreed that the 2015 General Assembly would be in Hawai'i under the auspices of the American Astronomical Society, and the new Executive Committee was elected.

The XXVII Assembly offered a rich scientific programme organized by the General Secretary Karel. A. van der Hucht. There were six Symposia (IAUS 262 - 267), 16 Joint Discussions, 10 Special Sessions, and 7 scientific sessions in the course of Divisional Business meetings. A major, and very successful, innovation was the inclusion of Plenary Reviews at the start of the day, the speakers being drawn from the 6 symposia. This is a feature likely to be repeated at future General Assemblies. Divisions, Commissions and Working groups held their usual Business meetings spread throughout the GA. National Members' Representatives held 2 meetings, and there were 2 meetings of the Finance Committee and of the Nominating Committee. During the scientific programme over 700 papers were presented and more than 1500 posters displayed.

Financial support for a limited number of the participants was provided by the IAU, and the invaluable support of all the sponsors, listed later in this volume, is gratefully acknowledged.

The proceedings of the six IAU GA Symposia IAUS 262 - 267 will be published in 2010 in the regular *IAU Symposium Proceedings Series* by Cambridge University Press. The Plenary Review corresponding to each symposium will be included in the proceedings of that symposium.

The proceedings of the Invited Discourses, Joint Discussions and Special Sessions will be published by CUP during 2010 in the *Highlights of Astronomy*, Volume 15.

In addition to its scientific programme, the IAU XXVII General Assembly hosted the regular Business Meetings of the EC, the Divisions, Commissions and Working Groups. The present volume, the *Transactions of the International Astronomical Union, Volume XXVII B*, records the organizational and administrative business of the IAU XXVI General Assembly and the status of the Membership of the IAU. The information in these Transactions was correct and complete at the time of production, but up-to-date information on all matters concerning the IAU can be found on the IAU website <<http://www.iau.org>>.

It is my pleasure to thank those IAU Division and Commission presidents and Working & Program Group chairpersons who have provided reports of their Business Meetings, and the staff of the IAU Secretariat, Mme Vivien Reuter and Mme Jana Zilova, for their invaluable assistance in assembling and checking these Transactions. Finally, and most importantly, we are all most grateful to Daniela Lazarro, Beatriz Barbuy and every member of the National Organizing Committee, and its sub-committees, for a most memorable XXVII General Assembly.

Ian F. Corbett
IAU General Secretary
Paris, November 2009