

DIVISION II: THE SUN AND HELIOSPHERE *(LE SOLEIL ET HELIOSPHERE)*

PRESIDENT: Peter Foukal

BOARD: Guoxiang Ai, Arnold Benz, Oddbjorn Engvold, Sami Solanki,
Marek Vandas & Frank Verheest

Commission 10: Solar Activity

Commission 12: Solar Radiation and Structure

Commission 49: Interplanetary Plasma and Heliosphere

1. INTRODUCTION

Division II consists of Commissions 10 (Solar Activity), 12 (Solar Radiation and Structure), and 49 (Interplanetary Plasma and Heliosphere). More detailed information on IAU activities in each of these three areas can be found in the individual reports of the respective Commissions.

The Division II OC briefly considered changes to the structure of our Division in response to opportunities offered by the Executive Committee during this triennium. However, we believe that the present structure works well and change is not warranted at this time.

2. SCIENTIFIC HIGHLIGHTS

Highlights of progress in solar research are contained in the three Commission reports. Each Commission has elected a somewhat different approach to this overview, the Commission 10 report provides a broadly based summary of research activities, the Commission 12 summary focusses on a smaller number of key advances, while the Commission 49 approach has been to choose a scientific sub-topic within its overall scope to focus on in more depth.

In no case do the reports pretend to be exhaustive; the choices of topics have been determined unavoidably by the tastes of the contributors (drawn mainly from the respective OC's), and by space limitations. We apologize in advance for any omissions of other work of comparable importance.

3. SPECIAL PROJECTS/OTHER ACTIVITIES

Several special activities supported in part by our Division include the Quarterly Bulletins of Solar Activity (QBSA), the Sunspot Index Data Center (SIDC), and the Debrecen Photoheliography Data (DPD).

We thank Dr. Shibasaki for his work on the QBSA. Also, we are grateful to Dr. P. Cugnon of the SIDC for the fine work of that Center, accessible at <http://www.oma.be/KSB-ORB/SIDC/index.html>. Finally, we are indebted to Dr. Dezso, Dr. Gyori and their collaborators at Debrecen, for producing a daily record of sunspot images available on ftp at fenyi.sci.klte.hu/pub/DPR.

In addition, our Division continues to consider the Solar Nomenclature Committee to be a worthwhile activity, which was initiated, but not fully implemented in the previous triennium. The task continues to grow in importance, and unfortunately also in complexity, as the angular resolution of solar imagery at all wavelengths continues to increase, and the

terminology struggles to keep up. This is an issue that will be re-examined prior to the General Assembly in August 2000.

4. WORKING GROUPS

A report of the Working Group on solar eclipses is included in the report on Commission 12.

5. MAJOR SCIENTIFIC CONFERENCES

Two important meetings held entirely or partially under Division II auspices were the IAU Colloquium 167 on "New Perspectives on Solar Prominences," held in Aussois, France, in April 1997, and the IAU Symposium 195 on "Highly Energetic Physical Processes and Mechanisms for Emission from Astrophysical Plasmas," held in Bozeman, Montana, USA in July 1999.

Division II-sponsored meetings planned in the near future include IAU Colloquium 179 on "Cyclical Evolution of Solar Magnetic Fields" to be held in December, 1999 in Kodaikanal, India, IAU Symposium 203 "Physics of the Sun and Heliosphere" to be held at the General Assembly in Manchester in August, 2000, and the Joint Discussion on "The Sun and Space Weather" also to be held at the GA in Manchester, UK.

6. MAJOR PUBLICATIONS

Lists of important publications in the recent triennium are included as references to the three Commission Reports on Science Highlights.

7. SOURCES OF FURTHER INFORMATION

Updated information on the upcoming Division II events associated with the General Assembly will be posted on the Divisional and Commission web pages on the IAU site at www.iau.org.

Peter V. Foukal
President of the Division