

## COMMISSION 42

## CLOSE BINARIES

### *ÉTOILES DOUBLES SERRÉES*

#### **PRESIDENT**

Alvaro Giménez

#### **VICE-PRESIDENT**

Slavek M. Rucinski

#### **PAST PRESIDENT**

Paula Szkody

#### **ORGANIZING COMMITTEE**

Douglas R. Gies, Young-Woon Kang,  
Jeffrey L. Linsky, Mario Livio,  
Nidia Morrell, Ronald W. Hilditch,  
Birgitta Nordström, Ignasi Ribas,  
Edward Ribas, Sonja Vrielmann,  
Colin D. Scarfe

## DIVISION V / COMMISSION 42 WORKING GROUP

Division V / Commission 42 / WG Accretion Physics in Interacting Binaries

## PROCEEDINGS BUSINESS MEETING on 16 August 2006

### 1. Introduction

The president of the Commission welcomed the participants in the business meeting and provided an overview of the activities carried out during the past triennium 2002-2005. A good number of meetings have been held during this period on close binaries, about two per year, including both classical and interacting systems. One specific Symposium at the General Assembly in Prague, devoted to binary stars as astrophysical tools, showed the vitality of the field and the trend of cooperation between scientists studying close binaries and those specialized in visual double stars. The study of very low-mass binaries, including those containing planet-sized components also received much attention as well as the analysis of massive objects in nearby galaxies.

Concerning instrumental developments, they can be divided in space and ground based facilities. From space, the launch of *Integral* and *Spitzer* have provided important new insight in evolved and as well newly formed close binaries. The continuing operations of *Chandra* and *XMM-Newton* allowed the study of physical processes in interacting binaries and the launch of *COROT*, later in the year, is expected to open a new field of very-high precision photometry for the analysis of light curves. From the ground, it is interesting to note the increasing number of pulsating stars discovered in binary systems. Their analysis opens new methods to look into the stellar interiors. Newly discovered close binaries in different environments, thanks to large data bases created through continuing surveys, are requiring additional efforts and special techniques for their exploitation.

A summary of these activities is published as part of the *IAU Transactions XXVIA, Reports on Astronomy* (Ed. O. Engvold, 2007, CUP) for the triennium.

### 2. Commission activities

Very useful bibliographic notes on Close Binaries (BCB) are being produced under the coordination of C. Scarfe and posted in the commission web pages. In fact, the web pages of

Commission 42 have been modified to fit the look and accessibility of the Division V and Commission 27 pages (all hosted at Konkoly Observatory). A. Hall has been key to the success of this transfer and is maintaining them in a very efficient way.

In this process, a full list of e-mail addresses for members of the Commission has been produced and an interactive method for updates was set up. Concerning membership, 35 new members of the IAU have requested their acceptance in Commission 42, keeping it among one of the large ones within our Union.

On the sad side, we have to note some departures. Among them, the unfortunate early pass away of one of our past Commission president Marcello Rodono in 2005. Within weeks another active IAU member, as Commission and Division president, with close connection to our Commission, also left us, Willem Wamsteker.

### 3. New organizing committee

A new list of members of the organizing committee of the commission was presented: Slavek Rucinski (president, Canada), Ignasi Ribas (vice-president, Spain). Members: Ronald W. Hilditch (UK), Birgitta Nordstrom (Denmark), Edward M. Sion (USA), Sonja Vriemann (Germany), Petr Harmanec (Czech Republic), Janusz Kaluzny (Poland), Panayiotus Niarchos (Greece), Katalin Olah (Hungary), Guillermo Torres (USA), and Mercedes T. Richards (USA). The six last members are new in the organizing committee while the rest serve for one more term. Ex-officio members included the continuation of Colin D. Scarfe (Canada) as editor of the BCB and A. Giménez (the Netherlands) as ex-president of the Commission.

The new commission Organizing Committee was elected by the previous members of the committee following the tradition of the commission procedures. The proposed list for the OC serving in the next triennium was endorsed by the participants in the business session and the outgoing members were thanked for their work during the last term. Nevertheless, it was discussed during the meeting that, given the availability of reliable membership lists and checked e-mail addresses, for the next time the OC should propose a system involving the vote of all members. A clear recommendation in this sense was made and accepted by the new OC.

Since the approval of the New Organizing Committee for Commission 42, the new president Slavek Rucinski took over as chairman of the session.

### 4. Presentations to the Business Meeting

Ignasi Ribas made a short presentation about the future of the WG on *Variable Stars in Galaxies*. Despite the initial interest and support, the activities of the working group could not be consolidated and it was proposed to discontinue it until a large enough number of commission members reconsider the situation.

The situation about catalogues of close binaries was discussed with presentations by N. Samus and O. Malkov. It is clear that a practical proposal has to be made with a small number of cases to be included in catalogues of variable stars. The current classification by types of light curves is far from satisfactory and new ideas are welcomed. It was recommended to discuss, within Division V, due to the similar problems encountered for variable stars by Commission 27, this matter with the idea to propose a solution by next IAU General Assembly.

The current status of the Information Bulletin on Variable Stars (IBVS) was presented by K. Olah and A. Hall were again common experience and problems were identified with Commission 27. The publication of the Bulletin was acknowledged and supported by our Commission.

### 5. Closing remarks

Justification for the continuation of the Commission and its current structure was made and conveyed to Division V though there was some discussion about the separation of interests between close binaries with degenerate or non-degenerate components. It was finally emphasized the need to increase the cooperation with Commission 27, under the umbrella of Division V, in the coming years through common activities and scientific meetings.

Alvaro Giménez  
*president of the Commission*