

COMMISSION 5

DOCUMENTATION & ASTRONOMICAL DATA (*DOCUMENTATION ET DONNEES ASTRONOMIQUES*)

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PROCEEDINGS BUSINESS SESSION, 23 August 2006

1. Introduction

Commission 5 has been very active during IAU XXVth General Assembly in Prague: the Commission, its Working Groups and its Task Force held business meetings. In addition, Commission 5 sponsored two Special Sessions: Special Session 3 “The Virtual Observatory in Action: New Science, New Technology, and Next Generation Facilities” which was held for three days from August 17th afternoon to Tuesday 22nd morning, and Special Session 6, “Astronomical Data Management”, which was held on Tuesday 22nd afternoon. Commission 5 also participated in the organisation of Joint Discussion 16, “Nomenclature, Precession and New Models in Fundamental Astronomy”, which was held on Tuesday August 22nd and Wednesday August 23rd morning. The General Assembly and Commission 5 Web sites provides links to detailed information about all these meetings.

This paper summarizes Commission 5 Business Meeting discussions and provides reports from the Working Groups and Task Force.

2. Structure of Commission 5

During the last triennium, Commission 5, which was previously directly attached to the IAU Executive, has been part of Division XII (“Union-Wide activities”). This has been very positive, by providing a forum for discussion with other Commissions and an official communication path to the Executive for proposing meetings, new individual members, etc

The following structure is proposed for Commission 5 Working Groups and Task Force:

- Working Group Astronomical Data, Chair R.P. Norris
- Working Group Designations, Chair M. Schmitz
- Working Group Libraries, Co-chairs U. Grothkopf and F. Murtagh
- Working Group FITS, Chair W.D. Pence, Vice-chair F. Ochsenbein
- Working Group Virtual Observatory, Chair R.J. Hanisch
- Task Force on Preservation and Digitization of Photographic Plates, Chair E. Griffin

The SOC proposed to Division XII includes all WG chairs. It is composed of President R.P. Norris, Vice President M. Ohishi, Past-President F. Genova, and U. Grothkopf, R.J. Hanisch, O. Malkov, W.D. Pence, M. Schmitz, and X. Zu. Commission 5 expresses its gratitude to retiring officers, M.S. Bessel, O. Duzhnevskaja, H. Jenkner, F. Murtagh, K. Nakajima, F. Ochsenbein, R. Wielen, and Y.H. Zhao, and to R. Garstang who has asked that his name be dropped from the list of Commission 5 members, for their action for Commission 5.

Four consultants who play an important role for Commission 5 and IAU have been proposed for IAU membership through Division XII: Suzanne Borde (France), Monica Gomez (Spain), Uta Grothkopf (Germany), Doug Tody (USA).

Commission 5 welcome incoming members: Jerome Berthier (France), Ian Bond (New Zealand), Hsiang-Kuang Chang (Taiwan), Jacqueline Chapman (Australia), Lucio Chiappetti (Italy), John Cuniffe (Ireland), Sylvia Dalla (UK), Adam Dobrzycki (Germany), Daniel Durand (Canada), Davide Elia (Italy), Ducan Fyfe (UK), Vladimir Garaimov (Russia), Andrew Hopkins (Australia), Ludmila Hudkova (Ukraine), Robert G. Mann (UK), Douglas Mink (USA), Rhys Morris (UK), Tara Murphy (Australia), Yuri Pakhomov (Russia), Kevin Reardon (Italy), Vladimir Samodurov (Russia), David Schade (Canada), Anja Schroder (UK), Jonathan Tedds (UK), and Hon-Jin Yang (Korea), who have expressed their willingness to join through the procedure managed by the IAU Executive, and D. Green who has directly contacted the Commission. This constitute a significant increase in the number of members (124 on the present list at the IAU Secretariat), and is twice the number of new members (12) who joined Commission 5 at the Sydney GA. Taking advantage of the increased flexibility of IAU procedures, the new SOC will check the list of Commission members and contact IAU members who play an important role in the field, to propose them to join Commission 5.

A huge and reasonably successful effort has allowed to check and update the email addresses of Commission 5 members after Sydney GA. However about ten addresses in the present IAU database are not valid, and the effort to contact these members will be pursued. In particular, checks can be made with the membership directories of the national astronomy associations.

3. Working Groups and Task Force reports

3.1. *Working Group Astronomical Data*

The Working Group for Astronomical Data (WGAD) held three sessions, the first of which was to enact business and the last two were for discussions on data science & management. The agenda and presentations (where available) for these latter two sessions are on

<http://www.atnf.csiro.au/people/rnorris/WGAD/>

The first agenda item of the first session was to review the role and operation of the WGAD. The WGAD has two distinct but interwoven roles. One is to act as a conduit between the IAU and CODATA, the ICSU Committee on Data in Science and Technology. The WGAD chair is also the IAU delegate to CODATA, and uses the WGAD to discuss issues arising from CODATA activities, or issues in which some input should be made to CODATA. The other role is to act as a forum for discussing issues in data science. In this respect the WGAD has been very active in the last year, conducting a series of electronic discussions on

<http://www.ivoa.net/twiki/bin/view/Astrodata/>
and <http://tech.groups.yahoo.com/group/astro-data/>

leading up to Special Session 6 at the IAU GA on Data Management. There was a consensus that the WGAD was acting effectively in both these roles, that those participating had found it a useful and fruitful exercise, and that the WGAD should continue in those roles.

The second agenda item was to review the process of these electronic discussions. It was agreed that these discussions had been productive and stimulating, and should continue as a forum in the future. Several suggestions were made as to how the participation in the discussions could be enhanced, and the WGAD chair agreed to draft a protocol to guide participation in these discussions. A concern was voiced that the outcomes of these discussions need to be promulgated to the wider community and it was agreed that we must search for better ways for the “data enthusiasts” to engage with the wider astronomical community. This will introduced as a topic for a future e-discussion.

Membership of the WGAD has steadily increased over the last three years, with a process for admitting new members which involves polling existing members, with the result that new members can quickly engage with the activities of the WGAD. Several participants at the meeting expressed a wish to join the WGAD, and their names will be proposed to the membership through this process.

A report was given on behalf of the Task Force for Preservation and Digitization of Photographic Plates (TFPDPP), and members invited to attend the subsequent meeting of the TFPDPP.

3.2. Working Group Designations

The WG Designations currently has 20 members, including journal editors. At the 2003 Sydney GA, Marion Schmitz took over the chairpersonship succeeding Hélène Dickel. The WG Designation clarifies existing astronomical nomenclature and help astronomers avoid potential problems when designating their sources.

The most important function of WG Designation during the period 2003-2006 was overseeing the IAU *Registry for Acronym*, which is sponsored by IAU and operated by the Centre de Données de Strasbourg (CDS). An on-line form for pre-registering newly discovered astronomical sources of radiation is available at <http://vizier.u-strasbg.fr/viz-bin/DicForm>. The Clearing House, a subgroup of the WG, screens the submissions for accuracy and conformity to the IAU Recommendations for Nomenclature (<http://vizier.u-strasbg.fr/Dic/iau-spec.htx>). From its beginning in 1997 through August 2006, there have been 132 submissions and 111 acceptances. Attempts to register asterism, common star names, and suspected variable stars were rejected. The three past years saw 61 acronyms submitted with 50 of them being accepted.

Assistance was provided for inquiries about nomenclature for planet-candidates discovered through micro-lensing events; a short history of naming stars (posted on the Commission 5 Web site); and designations of Cosmic Microwave Background structures.

E-mail discussions included the changing of position-based names when new measurements or reprocessing indicate a different position. Strong support from WG members was to retain the policy of NOT changing the designation once one has been established. Another e-mail discussion concerned nomenclature for follow-up observations of an area of the sky by different telescopes.

Hélène Dickel and Ray Norris submitted several short newspaper articles for the IAU newspaper *Nuncio Sidereo III* during Prague General Assembly.

3.3. Working Group FITS

The FITS Working Group was substantially reorganized in 2003 with the appointment of a new chairman and vice-chairman, and the addition of 12 new members (for a total of 22 members). The major actions of the WG over the past 3 years include:

- Established written rules and procedures for conducting business;
- Appointed a 4th Regional FITS committee to provide advice to the WG, representing Australia and New Zealand. The other 3 regional committees represent North America, Europe, and Japan;
- Approved a proposal to create 2 new MIME-types for use when transmitting FITS files over the Internet;
- Officially approved 2 widely used conventions related to FITS binary tables that had previously only been described in an unofficial appendix;
- Approved the third paper on world coordinate systems, dealing with spectral coordinates;
- Approved the addition of 64-bit integers to the list of numerical data types that can be used in FITS files;
- Released a new version of the FITS Standard document that incorporates the recently approved changes;
- Established a new “Registry of FITS Convention” for documenting the many existing FITS keyword conventions that have been developed by various projects around the world. It is hoped that this registry will become the central and authoritative place to document existing usage in FITS data files.

During the next triennium, planned activities include:

- Continue documenting existing FITS usage in the Registry of FITS Conventions;
- Convene a technical panel to update and clarify the FITS Standard document;
- Produce a new version of the FITS Users Guide to document the many changes since the last version was released in 1997;
- Promote the development of new FITS conventions as needed by the FITS community (e.g., for representing colour images, or for describing TIME coordinates in FITS data files).

3.4. Working Group Libraries

IAU Commission 5 Working Group on Libraries held a Business Meeting jointly with the Working Group on Publishing on Friday August 18th.

Françoise Genova (CDS) described the “Use and Validation of the IAU Astronomy Thesaurus

in Ontologies”, a collaboration of French IT laboratories in the frame of the *Massive Data in Astronomy* project. Uta Grothkopf (ESO) and Brenda Corbin (USNO) presented a summary of the LISA V (*Library and Information Services in Astronomy V*) conference, which had been held in Cambridge, MA, in June 2006. Brenda Corbin also gave an “Overview of Observatory Archives” with a special focus on the setup and maintenance of the archives of Lowell Observatory, the National Radio Astronomy Observatory and Yerkes Observatory. Guenther Eichhorn (ADS) presented an update on the ADS Abstract Service and reported on the close “Cooperation between the ADS and Libraries”, both in the early days of the ADS as well as nowadays. “The New Structure of the IAU Proceedings Series” was explained by Karel van der Hucht (SRON); after the reorganization of IAU symposia and colloquia (with the colloquia having been merged into the symposia series), the WG Publishing is now pleased to report much shorter production times for proceedings volumes. Finally, Uta Grothkopf reported on the “Use of Bibliometrics by Observatories”, based on a questionnaire distributed among major observatories.

PDF versions of all presentations can be found on the pages of the WG Libraries at <http://www.eso.org/libraries/iau06/>

3.5. Working Group Virtual Observatory

The VO community has been very active during the last triennium, and is now at a stage where the objectives and organization of the VO Working Group have been fully clarified: its primary role is to provide an interface between *International Virtual Observatory Alliance* (IVOA) activities, in particular IVOA standards and recommendations, and other IAU standards, policies, and recommendations. It raises VO-related topics (e.g. symposia, GA sessions, ...) that should be handled by the IAU (Commission 5, Division XII and Executive level). It is responsible for approving the standards proposed by IVOA, after checking that there has been a process of consultancy according to the IVOA procedures, and that the proposed standards are consistent with other IAU approved standards (e.g., FITS, coordinate standards, etc.). The IAU WG VO brings to the attention of the IVOA Executive any topics it considers to be important for the IVO. It can be consulted by the IVOA Executive on any topic relevant to the international development of the VO.

The WG VO Business Meeting was held on Wednesday, August 24th. It was attended by about 25 participants, some from VO projects, and others who were looking for information about the Astronomical Virtual Observatory. The meeting was organized as a walk through the Web pages of IVOA and of several national VO projects and answers to the participant questions, with input from the project representatives and IVOA participants which were attending the meeting. A list of relevant Web links was sent to the participants after the meeting.

Special Session 3 organized during the General Assembly has been an important milestone for the international Virtual Observatory, with presentation and discussion of the present status of the VO in its different aspects - implementation by data centres, scientific usage by the community, technical challenges. The meeting proceedings will be published in Highlights of Astronomy.

3.6. Task Force on Preservation and Digitization of Photographic Plates

The Task Force on Preservation and Digitization of Photographic Plates met on Thursday August 17th.

In its 3-hour meeting the PDPP Task Force first received reports on (a) digitizing plates from the USNO plate archive of Natural Satellite observations, (b) calibration tests of the USNO StarScan instrument and commercial scanners, (c) digitizing the Bordeaux Carte du Ciel plates and generating astrometric catalogues and (d) the new Harvard rapid digitizer, including a video of the instrument in operation. The meeting was informed about the latest version of the TF’s Newsletter, SCAN-IT #4, now available at the PDPP Website. It then accepted a proposed amalgamation with the “Astrographic Catalogue & Carte du Ciel” WG of Commission 8, such that the PDPP absorbs new members who are not already members of both groups.

The rest of the meeting was given over to a proposal from the Chair for a cooperative effort to digitize plates in Europe on a major scale. The TF has been encouraging efforts to digitize plates wherever feasible, and while there have been a few noble individual programmes, continuity of funding has remained a serious obstacle. The TF is therefore proposing a comprehensive collaboration involving as many European observatories as possible, offering storage and scanning facilities at a central site and seeking funding from the EU. Such a scheme was planned in 2000 in Brussels, but a prototype rapid scanner had first to be constructed to demonstrate proof-of-

concept. The meeting agreed that the timing for a major collaboration is now appropriate, and encouraging signals for the proposal were indicated by potential participating observatories.

The PDPP Web site is available at <http://www.lizardhollow.net/PDPP.htm>.

4. Commission 5 charter

The charter of commission 5 was discussed. Commission 5 main role is to host Working Groups essential to define, promote and apply an IAU policy in different domains pertaining to astronomical data and documentation: Astronomical Data (general policy issues); Designations; FITS, the international authority for the FITS data format; Libraries; Virtual Observatories. It represents these topics in IAU.

Commission 5 will continue to fulfill its duties during the next triennium. It is expected that with the evolution of the Virtual Observatory towards implementation the WG VO role will increase since it is responsible for approval of the Virtual Observatory standards.

One important role of Commission 5 is to foster communication channels towards the astronomical community, which includes proposing and organizing specific meetings at General Assemblies, such as SPS3 and SPS6 at this GA. But this is not enough since there is always the risk to “preach only the convinced”. Commission 5 has thus to increase lobbying to encourage exposure of all aspects covered by Commission 5 in “normal” scientific symposia.

Another remark on general policies is that Commission 5 is ready to shelter the Electronic Publishing WG, which is presently a WG of the IAU Executive, as already proposed in Sydney, if the IAU Executive wishes so. One can note, as explained above, that in Prague this WG has hold its session in common with WG Libraries.

Françoise Genova
Past-President of the Commission