*Transactions IAU, Volume XXVIIA*
*Reports on Astronomy 2006–2009*
*Karel A. van der Hucht, ed.*


doi:10.1017/S1743921308025866

# COMMISSION 5 DOCUMENTATION AND ASTRONOMICAL DATA

*DOCUMENTATION ET*
*DONNÉES ASTRONOMIQUES*

| | |
|---|---|
| **PRESIDENT** | **Raymond P. Norris** |
| **VICE-PRESIDENT** | **Masatoshi Ohishi** |
| **PAST PRESIDENT** | **Françoise Genova** |
| **ORGANIZING COMMITTEE** | **Uta Grothkopf, Oleg Yu. Malkov, William D. Pence, Marion Schmitz, Robert J. Hanisch, Xu Zhou** |

**COMMISSION 5 WORKING GROUPS**

| | |
|---|---|
| **Div. XII / Commission 5 WG** | **Astronomical Data** |
| **Div. XII / Commission 5 WG** | **Designations** |
| **Div. XII / Commission 5 WG** | **Libraries** |
| **Div. XII / Commission 5 WG** | **FITS** |
| **Div. XII / Commission 5 WG** | **Virtual Observatories, Data Centers and Networks** |
| **Div. XII / Commission 5 TF** | **Preservation and Digitization of Photographic Plates** |

**TRIENNIAL REPORT 2006 - 2009**

## 1. Introduction

IAU Commission 5 deals with data management issues, and its working groups and task groups deal specifically with information handling, with data centres and networks, with technical aspects of collection, archiving, storage and dissemination of data, with designations and classification of astronomical objects, with library services, editorial policies, computer communications, ad hoc methodologies, and with various standards, reference frames, etc., *FITS*, astronomys *Flexible Image Transport System*, the major data exchange format, is controlled, maintained and updated by the Working Group *FITS*.

## 2. Highlights

Highlights of the 2006 - 2009 triennium have so far included:

• WG-AD: Three astronomers, including the WG-AD chair, participated in ICSUs *Strategic Committee for Information and Data* (SCID), resulting in a proposal to restructure the *World Data Centre System* and the *Federation for Astronomical and Geophysical data analysis Systems* (FAGS).

• WG-FITS: A New FITS Standard Document has been approved in July 2008 following a lengthy period of consultation and debate. The new standard is available on the FITS Support Office web site at `<fits.gsfc.nasa.gov>`.

## 3. Future Commission 5 activities

Planned activities include:

• A one-day session on *Astronomical data and the Virtual Observatory*, at the CODATA GA in Kiev, October 2008.

• A meeting of FAGS and WDC representatives at the 2008 CODATA GA in Kiev to discuss the establishment of the new WDS.

• An electronic discussion led by the WG-AD on *Data Challenges of Next-generation Astronomical Instrumentation*, in the months leading up to the IAU XXVII General Assembly in Rio de Janeiro, Brazil, August 2009.

• A three-day Special Session on Accelerating the Rate of Progress in Astronomy at the IAU XXVII General Assembly in Rio de Janeiro, Brazil, August 2009.

## 4. Task Force PDPP

As well as its Working Groups, whose reports are published separately in this volume, Commission 5 includes a Task Force on *Preservation and Digitization of Photographic Plates*, whose short report is included here. A full report is at `<www.atnf.csiro.au/people/rnorris/IAUC5/TF_PDPP2008.htm>`. Many Task Force members are involved in studies of long-term variability, which require monitoring over a time exceeding that available from digital observations alone. Historic data reproduced accurately from archived plates are thus central to such research. Several projects involve *Carte du Ciel* (CdC) plates; in 2006 the WG-CdC was merged with the TF-PDPP.

### 4.1. *Plate preservation*

A North American Astronomical Plate repository has been established at Pisgah Astronomical Research Institute, North Carolina, USA. The Cambridge (UK) plate store was dismantled and the contents repatriated or disseminated.

### 4.2. *Direct plates*

Measurements of several collections of astrograph plates with the USNO StarScan plate measuring machine have been completed with a repeatability of 0.2 $\mu$m. Positions and magnitudes from century-old Sydney Observatory Galactic Survey plates have now been cataloged, and early analyses are already contributing new science. A comparison between *Gaia* and CdC measurements along an equatorial belt is being proposed to search for changes, and evidence for the interstellar medium has also been detected from CdC plates. A catalogue of Vatican Observatory Schmidt plates (now digitized), plus 'thumbnail' scans, will be posted on the web. However, the preservation and digitization of the substantial historic collections of direct and objective-prism plates from the National, Qing Dao and Purple Mountain Observatories is hampered by lack of resources.

### 4.3. *Spectroscopy*

The digitizing of selected spectrograms borrowed from various US observatories for telluric ozone research has re-started at the DAO, including a collaboration with the Carnegie Institution to digitize a subset of Mount Wilson spectra. The 10-10 microdensitometer from KPNO has been brought in as a first step in setting up an international scanning laboratory. The major objective-prism survey of the Byurakan Observatory has now been digitized, and is in the public domain; early scientific results are already impressive.

Raymond P. Norris
*president of the Commission*

https://doi.org/10.1017/S1743921308025866 Published online by Cambridge University Press