

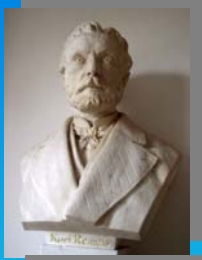
Bamberg Southern Photographic Patrol Survey: Incorporation in the WFPDB



JD8



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Dr. Karl Remeis - founder of the Bamberg Observatory

Abstract

The description, cataloging and incorporation into the Wide-Field Plate Database (WFPDB, <http://www.skyarchive.org>) of the Dr. Remeis-Observatory Bamberg Southern Photographic Patrol Survey (22 000 plates) is presented. The survey was taken with 22 cameras (each with $d=10$ cm), Zeiss camera ($d=7$ cm), and the Harvard telescopes - Metcalf ($10''$) and Ross B ($3''$). The plates stored at present in the observatory stacks were obtained in the period 1963-1976 in Boyden Observatory (South Africa), Mount John University Observatory - Lake Tekapo (New Zealand) and San Miguel Observatory (Argentina). The observational programme supported by the Deutsche Forschungsgemeinschaft (DFG) was under the supervision of Prof. Dr. W. Strohmeier (1965) Director of the Bamberg Observatory that time. Digital CCD preview images of the plates by observational zones are, for first time, included into the WFPDB providing access to them for the worldwide astronomical community. A special attention is paid to the sub-survey in the LMC region. An opportunity for on site plate digitization with Epson Expression 1640XL flatbed scanner is offered in the observatory since May 2003.



View of the historical part of the beautiful town of Bamberg from the windows of the Plate Stacks in Bamberg Observatory



The Bamberg Astrogroph at Boyden Station with which mainly R. Knigge made the



One of the Kodak AERO-EKTAR objectives of the Bamberg Astrogroph used for the Southern Survey.

Introduction

In the early 60's German astronomers from Potsdam, Hamburg, Heidelberg, Goettingen, etc. activated their plans to create a southern astronomical observatory (Wolfschmidt, 2002). As a result in the framework of the European cooperation the ESO (at present the world largest astronomical organization) was founded in 1963. Just in that time the Bamberg astronomers lunched the project of monitoring the southern sky with 10 cm Kodak multiple astrogroph placed at the Boyden Station (South Africa). The project chaired by Prof. W. Strohmeier (1965) was supported by the Deutsche Forschungsgemeinschaft (DFG) and successfully executed in the period 1963-1976. As a result more than 22 000 monitoring plates covering the whole southern sky were received, now well stored in the Bamberg Observatory.

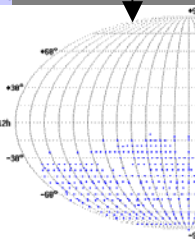
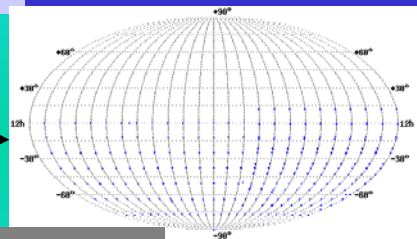
The value of the Bamberg Southern Survey (BSS) rises as a unique one in this period as the Harvard sky patrols in South Africa were stopped that time and other observatories were not still active.



Prof. Dr. W. Strohmeier - Director of the Bamberg Observatory that time

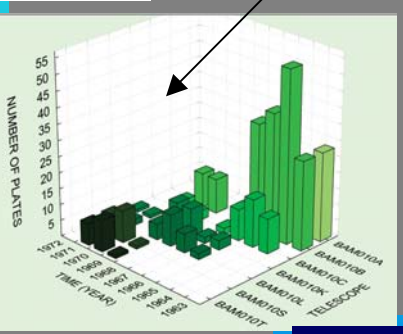
All sky distribution of the Bamberg Southern Sky Survey, given in "Molweide" projection:

- For Bamberg multiple camera Astrogroph (BAM010) working in Bloemfontain Boyden station (SAR), Mt. John (NZ) and San Miguel (ARG)
- and for used Harvard telescopes $10''$ Metcalf and $3''$ Ross B



Bamberg LMC Survey

In the frame of the Bamberg Southern Survey a special attention on the monitoring of Large Magellanic Cloud was paid. The Bamberg LMC sub survey contains about 300 plates received with the astrogroph (BAM010) and Harvard $10''$ and $8''$ telescopes. The plate numbers distribution vs. time is shown on the figure below.



The new scanning facility in the Bamberg Observatory Plate Stack provided recently by DFG: flatbed scanner Epson Expression 1640XL and the powerful PC with DVD writer. It allows to digitize the plates with resolution of 16 mic, A3 plate size, FITS format.

Plate Archive

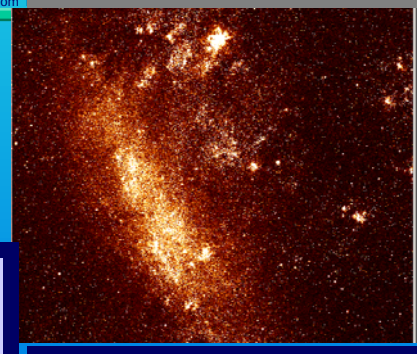
The plates from the Dr. Remeis Observatory Bamberg Southern Patrol Photographic Sky Survey were taken with the 20 Kodak cameras ($d=10$ cm, WFPDB identifier BAM010A, .B, .C, ...T), the Bamberg 7 cm Zeiss camera (BAM007), and the Harvard telescopes - $10''$ Metcalf (HAR025), and $3''$ Ross B (HAR008C). Emulsions used for the survey were Perutz (1963-1964) and AGFA - Astro (in the rest of the period of the monitoring). In 1973-1976 some Kodak emulsions were successfully used mainly for the observations in New Zealand. Plate size is usually 16×16 cm², covering respectively of 13 sq. deg each.

The plates were received in the period 1963-1976 in Boyden Observatory (Republic of South Africa) - Cameras A-J, Mount John University Observatory - Lake Tekapo (New Zealand) - Cameras K, L, M and N, and San Miguel Observatory (Argentina) - Cameras O, P, Q, R, S and T. The observational programme supported by the DFG and supervised by Prof. Dr. W. Strohmeier (1965, Kleine Veroeff. der Remeis Sternwarte, Bd. IV, No. 40, p. 302) was executed mainly by R. Knigge and his collaborators - E. Shoeffel, F.-M. Sosna, U. Koehler, H. Ott (Bamberg), S. Shaw, J. Sievers (Florida University) and the astronomers technicians Fischer and Meier (Boyden), J. Paterson and M. Clark (Mt. John), and F.-M. Sosna and A. Alarcon (San Miguel).

All plates at present are stored in the observatory plate stacks and are in very good conditions.

Plates Availability and Digitization

The original plates are at disposal in the Bamberg Observatory for different astronomical tasks UPON REQUEST. The opportunity for plate digitization with the flatbed scanner (Epson Expression 1640XL) has been offered in the observatory since May 2003. The optimal resolution is 16 mic/mm enough good for different tasks up to the plate limit which varies from



Preview image of the LMC Bamberg survey plate (NZ194) scanned with the Epson Expression 1640XL flatbed scanner

Incorporation in the WFPDB

The computer readable version of the Bamberg plate collection and database access were prepared in the period 1996-2002 by the team of the Wide-Field Plate Database (WFPDB, <http://www.skyarchive.org>), Bulgarian Academy of Sciences, supported by the Alexander von Humboldt Foundation (2001-2003) (<http://www.avh.de>), DFG (2003), (<http://www.dfg.de>), the Bulgarian National Science Fund grant NFS 1-1103/2001, the IAU Commission 9 "Instruments" Working Group on Sky Surveys. Last year part of this work is coordinated in the frame of COST Action 283 "Computational and Information Infrastructure in the Astronomical DataGrid".



A sample from the WFPDB search page providing information for the plates needed and preview of the plate images taken with the 2 Megapixel SiFiX CCD camera.

REFERENCES

- Strohmeier, W. 1965, Kleine Veroeff. der Remeis Sternwarte, Bd. IV, No. 40, p. 302.
- Tsvetkov, M. 1992, The IAU WGWFI Newsletter, No. 2, p. 72
- Wolfschmidt, G. 2002, AN, 323, h.6, p. 548-554.

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