

Acknowledgments

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M.G. Lattanzi and L.G. Taff
Space Telescope Science Institute
3700 San Martin Drive
Baltimore, MD 21218
U.S.A.

News about the Wide-field Plate Archive Database

Since the last information about the Wide-field Plate Archive Database in Newsletter No. 2 (Tsvetkov 1992), we have received a lot of letters and e-mails with useful new information and corrections. We would now like to inform you in a systematic way about these remarks, suggestions and contributions by arranging them according to the following topics:

- new information about the WFPA list;
- development of the WFPA Database;
- future plans — digitisation of the WF plates;
- some general comments and remarks.

1. New Information about the WFPA List

Additional information has been received about some observatories which were not included in the first WFPA list of observatories with WFPA. It is given in Table 1, which contains the name of the observatory (with the country indicated), the number of the wide-field plates available there and the name of the astronomer who reported the information:

Table 1. New data to be added to the WFPA list

Observatory	Country	No. of WF plates	Reported by
Bamberg	Germany	40,000	R. Hudec
Dushanbe	Tajikistan	...	N. Bochkarev
Hoher List	Germany	11,000	M. Geffert
Klet	Czech Rep.	8,300	I. Ticha
Konkoly	Hungary	12,000	L. Balazs
Odessa	Ukraine	90,000	R. Hudec, R. Gershberg
Ondrejov	Czech Rep.	100,000	R. Hudec
Siding Spring (AAT)	Australia	1,000:	D. Malin
Vienna	Austria	1,140	A. Schnell

Ph. Ianna (Leander McCormick Observatory, Charlottesville) has again called attention to the fact that data is missing for several observatories in the USA: U.S. Naval Observatory (Flagstaff, Arizona), Van Vleck Observatory (Middletown, Connecticut), Yale University Observatory (New Haven, Connecticut), Yerkes Observatory (Williams Bay, Wisconsin) and NASA Observatory (Washington DC). The problem is in the lack of any answer from these places to the WFPA circular letters. All help to establish contact with the archivists in these observatories will be most appreciated.

A. Klemola (Lick Observatory) wrote that the 13 cm camera listed at the Lick Observatory actually belongs to the Mt. Wilson Observatory. It was on loan to the Lick Observatory for several years around 1955-1960 and was returned to Mt. Wilson. The plate data of the 13 cm Mt. Wilson Observatory camera is published in the introduction to the Lick Sky Atlas. 5,000 plates of the Alger Observatory (Algeria) were incorrectly listed as belonging to the Bordeaux plate archive. The number of the plates received with the Bordeaux Astrograph (half of them from the Carte du Ciel programme) was specified by J. Colin (Bordeaux Observatory) as 4298. The correct number of the plates received with the Leander McCormick 0.67 m refractor is 145,000 according to Ph. Ianna (Leander McCormick Observatory).

Susan Tritton (Royal Observatory Edinburgh) has a proposal to list also information about the date of discontinuation of operation of an instrument. This has already been done in the case of the Sonneberg Observatory plate archive (Bräuer & Fuhrmann 1992). For example the Brorfelde Schmidt Telescope according to K. Augustesen (Copenhagen University Observatory) no longer produces wide-field plates and has been permanently equipped with a 1024 x 1024 NASA JPL CASSINI CCD chip. In such cases, it is very important to mention the final date of operation of the telescope as a wide-field instrument.

The second edition of the WFPA List will be available at the WG WFI meeting in Potsdam later this year.

2. Development of the Wide-field Plate Archive Database

While developing the WFPA DB in Sofia at the Bulgarian Academy of Sciences, we received the possibility to use ORACLE RDBMS (Version 6.0) to manage the WFPA information. The ORACLE RDBMS is available at the Centre of Informatics and Computer Technology thanks to a grant received via the TEMPUS Programme of the European Communities (EC). The WFPA database will be one of the main projects there. The ORACLE RDBMS system is installed on a TELMAT TR 5000 computer (processor RISC/MC88000) and under the operating system of UNIX V (Release 4.0).

13 computer-readable plate archives are now available in Sofia. They contain information about more than 101,000 plates (Table 2).

Table 2. WFP catalogues in computer-readable form in the WFPA Database — SOFIA.
Status in January 1993

No	Catalogue Name	Telescope (cm)	Observatory	No. of plates	Astronomer responsible	Note
1	ASIAGO50.CAT	40/50/100	Asiago Obs.	18378	R. Barbon	
2	ASIAGO90.CAT	67/92/215	Asiago Obs.	15245	R. Barbon	
3	BEIJING.CAT	60/90/180	Beijing Obs.	1509	S. Lan	1
4	BRUCE.CAT	40/ /203(2x)	Heidelberg Obs.	8800	G. Klare	2
5	ESO.CAT	100/160/306	ESO, Garching	9434	R. West	
6	KISO.CAT	105/150/325	Kiso Obs.	6798	Y. Nakada	
7	BGNAO50.CAT	50/70/172	Rozhen Obs.	6427	A. Mutafov	
8	BGRCNAO.CAT	/200/160	Rozhen Obs.	1950	K. Stavrev	
9	PALOMAR.CAT	122/183/307	Palomar Obs.	1037	R. Brucato	3
10	SONN-A.CAT	17/ /120	Sonneberg Obs.	7976	H.-J. Bräuer	
11	SONN-GA.CAT	40/ /160	Sonneberg Obs.	1658	H.-J. Bräuer	
12	TAUTENBG.CAT	134/200/400	Tautenburg Obs.	8187	R. Zinner	4
13	UKSTU.CAT	124/183/307	UKSTU	13940	S. Tritton	3

- Notes:*
1. The archive contains the plates obtained up to 1987. The diskette was sent by J. Wang.
 2. The data for the first 970 plates is absent in the file on the diskette.
 3. Computer readable version of the catalogue obtained from R. West.
 4. The catalogue was obtained from S. Marx.

During the coming months we plan to put all these catalogues into the SQL form in order to manage them with the ORACLE RDBMS.

Some observatories have also collected the WFPA catalogues from their observational activities or from other observatories and use them for different projects.

Sonneberg Observatory WFPA Database: According to the paper of Bräuer & Fuhrmann (1992) and private information received during our visit to the Sonneberg Observatory last October, a total of 201,703 plates from the Sonneberg archive is already in a computer-readable form. This is more than 85% of the entire Sonneberg Plate Archive. The very useful programme, written for PC XT/AT on Turbo Pascal 6.0 manages the information of this great plate archive.

Lowell Observatory WFPA Database: According to B. Skiff, the computer plate files of the Lowell Observatory include the POSS I and POSS II sky surveys, the 0.6 m Asiago Schmidt telescope, the Lowell and Indiana archives and part of 10,000+ films taken by G. and C. Shoemaker with the 0.46 m Palomar Schmidt telescope. There is a computer programme at the observatory which will search plate catalogues to find instances where a certain asteroid should be present on the plate.

3. Future Plans — Plate Digitisation

On the way to collecting preliminary information for the already digitised plates, we have started to prepare a list of them. Up to now this list contains data from the already digitised wide-field plates collections of ST ScI (Guide Star Catalogue — 1518 plates [Lasker et al 1990]) and of the Muenster Astronomical Institute (Flare Star Project, 200+ GPO plates [Tsvetkov et al. 1992]). For this purpose, we hope to collect more data about already digitised plates from the Royal Observatory Edinburgh (COSMOS), ST ScI, Paris Observatory (MAMA), Muenster Astronomical Institute (two PDS 2020 GM+), Kiso Observatory, etc. All help will be very useful.

We propose in the future to copy from the files of the digitised plates only the information in the headers (in FITS format or another) and to produce a separate list of them.

We would also like to mention M. Irwin's work (Royal Greenwich Observatory) who reported about 600 (6.2° x 6.2°) digitised glass copies of POSS I O and E survey plates presented as APM Northern Sky Catalogue (Irwin 1992).

Bräuer & Kroll (1992) and Kroll & Neugebauer (1993) have reported about a project to digitise the plates in the Sonneberg Plate Archive using the method of the brightness determination on photographic plates with a CCD line scanner. The development of such modern methods will be very useful for the future digitisation of as many as possible wide-field plates, or at least parts of them.

4. Some General Comments and Remarks

4.1 The importance of networking

During the work on collecting WFPA data, we have become convinced once more of the importance of the availability of network contacts and exchange of the new information. The collaboration and exchange of information via network with SIMBAD, STARCAT, NSSDC, Goddard Space Flight Center Database, etc., will be very necessary for this project. Until now we have established access only to SIMBAD (thanks to M. Crézé) and ESO/STARCAT (thanks to ESO).

As an example for future useful contacts via electronic network we would like to mention the e-mail information received from M. Iliev (Center for Informatics and Computer Technology, Bulgarian Academy of Sciences) during his recent visit to the Bordeaux University about the paper by C. Kraybill (Planetary Image Facility, University of New Mexico) about Pioneer Database Project (managed on DECstation 5000/120). More than 18 catalogues including some astronomical and additional information are available via pioneer.umn.edu@linux.unm.edu (Colby Kraybill). A. Klemola pointed out that some catalogues of the Lick Observatory are available in the Data Center of the Goddard Space Flight Center (especially for Lick/Mount John Observatory Southern Sky Survey under the catalogue designation ADC-6031; 212 records), but still we have no access to any of the USA databases.

We have also started to prepare a separate list of e-mail addresses (respectively FAX numbers) of the persons responsible for the plate archives in different observatories for easier communication and exchange of information.

4.2 Plate storage and quality

Estimation of the plate archive quality, how the plates are stored, their availability, etc., are only some of the very important questions which we must attempt to clarify. At the Organizing Committee meeting in Baltimore (ST ScI), one of us (M.T.) was asked (MacGillivray 1992) to collect this information and we shall appreciate any support in this direction from the astronomers responsible for the plate archives. At present we would like to suggest to put additional information (in an extra column of the WFPA list) which comments on how the plates are stored and about their quality.

4.3 Converting WFPA into the Computer-Readable Form

The biggest problem at this moment is that many observatories/institutes have no plans and funds to convert existing archives into computer-readable formats. As a result of the remarks of

several astronomers, the total number of the catalogues in computer-readable form which was listed before has actually decreased! We received the corrections from the Harvard, Lick, Haute Provence and other observatories. Martha Hazen (Harvard College Observatory) pointed out that they have only card catalogues (except for the original record books). At the moment almost none of the data are in computer-readable form. They have started putting the information on a disk file but with so many plates (more than 450,000) it will take many many years. A. Klemola (Lick Observatory) explained that only about 3,000 plates from their plate archive are now in computer-readable form. The Lick Observatory does not make resources available to convert the records of the remaining plates to the machine-readable form. In the Tuorla Observatory, according to L. Takalo, there are no plans to convert the listing of the plate archive into computer-readable form. For the plates obtained after 1949 up to 1987, there is not even a list. In the Haute Provence Observatory P. Véron wrote they have only a card catalogue of the observatory plates.

This is a general problem which must be discussed during the next meeting of the WFPA WG in Potsdam this August.

We would like to mention the support of B. Hauck (Lausanne University, president of the IAU Commission 5 [Documentation and Astronomical Data]) who first initiated international plate archiving work and who has expressed his full support of the WFPA project. He proposes to publish some information about this project in the next issues of the IAU Commission 5 Newsletter.

J. Garcia (University of Buenos Aires, Argentina) and N. Vogt (Catholic University of Santiago, Chile) have expressed their great interest in participating in the WFPA project and their help in collecting more information for the Southern wide-field plate archives will be very useful. N. Vogt is preparing an international project for research on long term variability of stars for which the WFPA DB will be very useful.

We would like to express our full agreement with the basic philosophy formulated by E. Griffin (1992) in her review 'Spectroscopic Data Archives: A Study in Harmony' presented as a summary of the Vatican Workshop on Archiving and Distribution of Spectroscopic Data:

THE ORGANIZATION OF ARCHIVING OF ASTROPHYSICAL OBSERVATIONS HAS AN IMPORTANCE WHICH DESERVES AND REQUIRES URGENT INTERNATIONAL RECOGNITION AND ATTENTION.

We shall appreciate if more astronomers working on the WFPA establish and maintain contact with the Bulgarian archiving group and help us in updating and complementing the wide-field plate archiving data.

Finally we would like to express our deep thanks to all astronomers who are supporting the WFPA project and sending us information for their WF plate archives, especially on diskettes or in table form.

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Milcho K. Tsvetkov and Katya P. Tsvetkova
Department of Astronomy
Bulgarian Academy of Science
Tsarigradsko Shose 72
BG-1784 Sofia
Bulgaria
e-mail: tsvetkov@bgearn.bitnet

Wide-field Plate Archive Database: a Management System for Personal IBM XT/AT Computers

As useful experience on the way to developing the Wide-field Plate Archive Database project (Tsvetkov 1992a, b) a set of programmes aimed at data management and reduction of the computer readable version of the 50/70 cm Schmidt telescope log book at the Rozhen National Astronomical Observatory, Bulgarian Academy of Sciences (Mutafov et al. 1993) was created.

The programmes were written for the most commonly used personal computers in Bulgaria — that of IBM XT/AT or compatible. The software package was written in Turbo Pascal 6.0.

The programmes have a user friendly menu-driven interface with any-time-available context orientated help information. They allow us to edit, append and print the necessary data information from any Wide-field Plate Archive (WFOA) catalogues. There are also some statistical tools like frequency analysis. Search and parametric search programmes help us to find in the Plate Archive any useful information.

The logical structure of the management system gives the ability to work with different data types — an easy way to manage other catalogues of the WFOA. The physical structure and the data format chosen by us lessens approximately three times the space normally occupied by ASCII representation of a given catalogue. In spite of the flexible logical structure the programmes need some tuning procedures to work with more than one archive at a time.

Using this software package the detailed analysis of the 50/70 cm Schmidt telescope plate archive will be made after the final reduction of the data.

The programme package will be available at the IAU Symposium 161 'Astronomy from Wide-field Imaging' in Potsdam where it will be demonstrated and distributed among the interested participants.

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Michail-Ernesto Mihailov and Zvezdelin Borisov
Sofia University, Faculty of Physics and Chair of Astronomy
James Boucher Blvd. 5, BG-1126 Sofia, Bulgaria
e-mail: astro@bgearn.bitnet