Abstract. The current status and future development of the Wide-Field Plate Database, which is in preparation at the Institute of Astronomy in Sofia, are described. The database will be centralized and will provide on-line access to the information on about 2 million photographic observations.

Key words: databases – plate archives

1. INTRODUCTION

The Wide-Field Plate Database (WFPDB), which has been in preparation during the last few years at the Institute of Astronomy of the Bulgarian Academy of Sciences, is a register of the wide-field (> 1°) photographic observations stored in numerous archives all over the world. It will be centralized and will provide on-line access to the information on about 2 million observations obtained since the end of the last century. Previous descriptions of the WFPDB can be found in Tsvetkov et al. (1994, 1995).

2. CURRENT VOLUME OF THE WFPDB

The WFPDB is generated by merging the data from a number of original plate catalogs provided to us by the institutions possessing archives of wide-field observations. Table 1 shows the number of...
observations incorporated in the database up to June 1996 compared with the total number of wide-field observations. At present, 281 archives all over the world contain a total of nearly 1,900,000 wide-field plates and films. The WFPDB already includes the data from more than 400,000 of them. Thus, the completeness of the WFPDB has reached 20%. Note that almost half of all wide-field observations (about 900,000) are still not catalogued in computer-readable form at the institutions where they are archived and this imposes certain restrictions on the rate at which the WFPDB can be completed. Fig. 1 shows a sky map of the WFPDB observations in equatorial coordinates (equal-area projection).

Table 1. The number of plates in the Wide-Field Plate Archives (WFPA) and in the WFPDB (June 1996).

<table>
<thead>
<tr>
<th>Archives</th>
<th>Instruments</th>
<th>Observatories</th>
<th>Plates</th>
</tr>
</thead>
<tbody>
<tr>
<td>WFPA</td>
<td>281</td>
<td>219</td>
<td>93</td>
</tr>
<tr>
<td>WFPDB</td>
<td>87</td>
<td>73</td>
<td>28</td>
</tr>
</tbody>
</table>

Fig. 1. All-sky distribution of the WFPDB observations.

3. WFPDB CONTENT AND DATA REDUCTION

For each observation the WFPDB provides information including a reference to the corresponding archive, parameters of the observational instrument, observation parameters (position on the sky,
observation time, object name, etc.), as well as plate quality, comments, observer and plate availability.

Prior to incorporating into the WFPDB, the data from the original plate catalogs undergo a complex reduction procedure aimed at standardization of the observation parameters, including coordinate and time transformations to J2000 and UT; standardization of object, emulsion and filter designations; decoding of coded data; translation of notes if they are not in English; correction/marking of errors; supplementing/marking of missing data and structuring of non-structured data.

As a result of this reduction, the data originating from a large number of very different plate catalogs appear in the WFPDB in a homogenized form. The WFPDB thus allows easy extraction of complete and correct sets of observations obtained with selected instruments within selected sky areas and time intervals.

4. ACCESS AND DATA RETRIEVAL

The WFPDB is installed on a PC 486 DX4/100 under the management of MS ACCESS 7.0.

At present we provide only a limited access to the WFPDB. The data on the archives and the corresponding observational instruments – the so-called List of Wide-Field Plate Archives (LWFPA) – are available from the WFPDB WWW home page located under URL at http://www.wfpa.acad.bg. The data on individual observations are currently accessible only in batch mode by user requests sent to wfpdb@wfpa.acad.bg. Search results are sent to the users as ASCII files.

5. FUTURE DEVELOPMENT

First of all, we expect a considerable enlargement of the WFPDB. One of the sources of new data is the Harvard College Observatory Plate Collection, which is the largest plate archive in the world, containing 500,000 plates. About 50,000 of these are already catalogued in machine-readable form. We also anticipate a flow of data from archives that do not possess machine-readable catalogs of observations. In this case the data will be converted into electronic form by the WFPDB team.

Another important development of the WFPDB will be its installation on a Hewlett Packard 9000/712/80 workstation under the
management of the ORACLE DBMS version 7.2.2.3.0 with search and sampling based on SQL commands.
   After this reorganization of the database, access to it will be provided online through the Internet.

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