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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 (WFPA) 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 WFPA. 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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Observations Catalog for the 2 m RCC Telescope at NAO-Rozhen

The first part of a computerized catalog of the observations obtained with the 2 m Ritchey-Chrétien-Coudé telescope of the National Astronomical Observatory at Rozhen has been completed. It contains the data for the direct-photography observations. The second part, now in preparation, will contain the spectroscopic observations. Our aim is to encourage by the help of this catalog the repeated use of observations stored in the observatory plate archive.

Since 1980 when the 2 m Rozhen telescope started operating nearly 2000 plates have been obtained, ⅔ of them with angular dimensions 1° x 1° (30 x 30 cm, resolution 12.9 arcsec/mm). The catalog of plates contains information for: equatorial coordinates of the plate center, object designation, photographic emulsion, band filter, plate dimensions, observation date and time, exposure time, observer and notes (sky quality, plate quality, etc.).

The analysis of the plate catalog data allows the tracking of the 2 m telescope usage for 13 years of operation. Figure 1 shows the yearly number of plates for the period 1980–1992. The gap for 1987 is due to the repair and test operations connected with the change of the telescope mirror by Carl Zeiss Jena. The decrease of the obtained number of plates for the period 1988–1992 compared with 1980–1986 is obvious. It is caused mainly by the increased application of electronic detectors in the recent years, and maybe partly by the worsened weather. We expect that this tendency will continue. If so, the wide field of the 2 m Rozhen telescope, which is one of its major advantages, will not be effectively used.

Figure 2 shows the number of obtained plates versus the type of observed objects. More than 85% of the 2 m telescope direct plates for which the object type has been identified are photographs of star clusters, (near) galaxies and clusters of galaxies, i.e. the wide field of the 2 m telescope has been actively used by the observers.

The information for the plate quality and the plate availability is of major importance for the potential user of the plate archive. Unfortunately, many plates from the plate catalog are of unknown quality. As for the availability, most of the observers have not kept the proprietary period of 3 years.

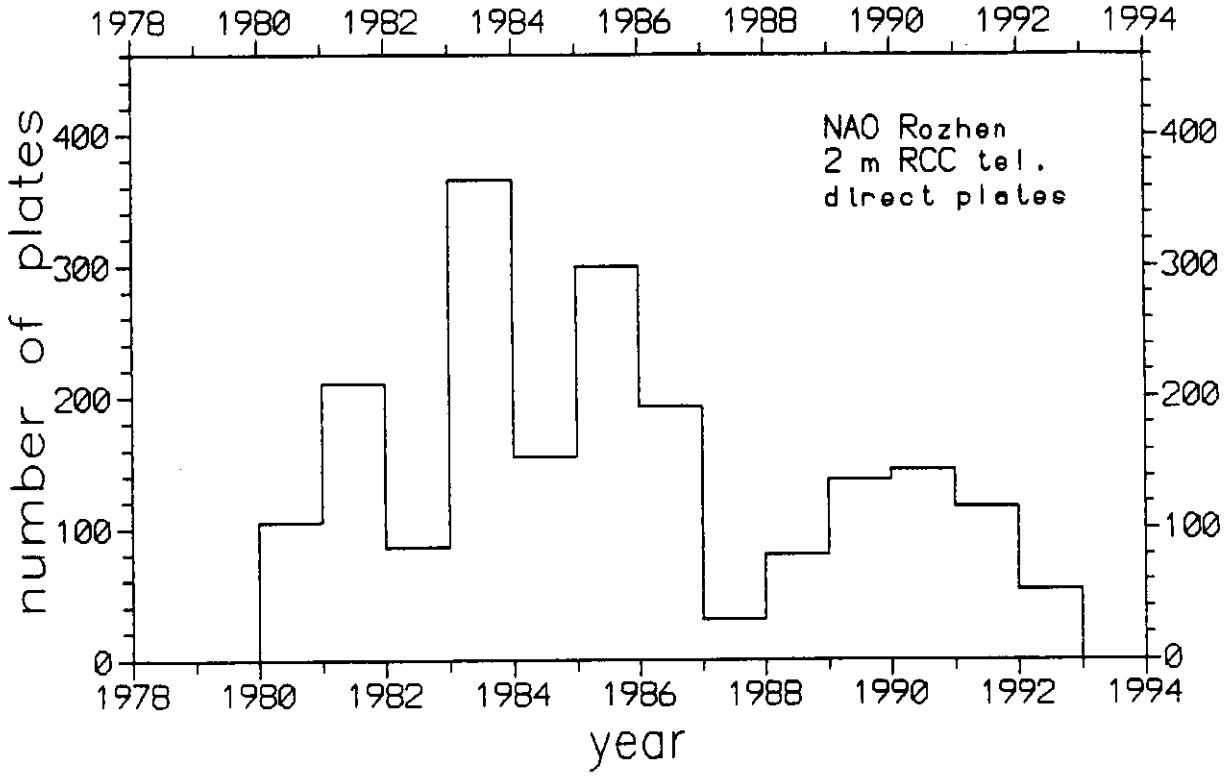

Figure 1.

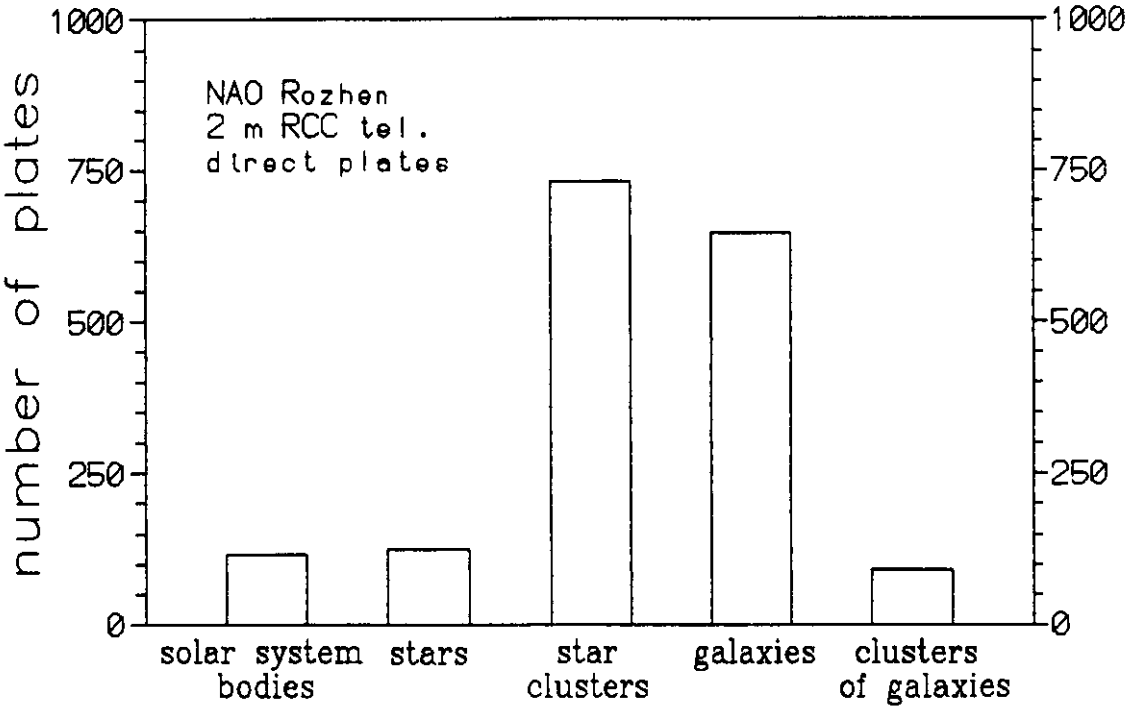

Figure 2.

We have a request to all observers possessing plates from the 2 m Rozhen telescope to return them for storage at NAO-Rozhen if they do not need the plates any more.

The catalog of plates for the 2 m RCC telescope at NAO-Rozhen will be included in the Wide-field Plate Archive Data Base (Tsvetkov 1992) which is now in preparation. In this way the data for the Rozhen direct plates will become accessible on line through the international data networks.

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