Poster paper

PROCESSING AND MEASURING OF OPEN CLUSTERS PHOTO IMAGES WITH PULKOVO AUTOMATIC MACHINE "FANTASY"

YU. K. ANAN`EVSKAYA[1], V. N. FROLOV[1], E. V. POLIAKOW[1], MILCHO K.TSVETKOV[2]

[1]*Pulkovo Observatory, Russian Academy of Sciences, Russia*
[2]*Institute of Astronomy, Bulgarian Academy of Sciences, Bulgaria*
E-mails: poliakow@rol.ru, milcho@skyarchive.org

The observations of open clusters are conducted in Pulkovo from the end of the XIX century. At the present time the collection of plates contains several hundred photographs. Each plate archive is represented by series from 6 to 20-30 plates. These photographs are digitized on flatbed scanners Umax-1200 and Umax-2400 with permission 600-1200 dpi and in the measuring machine "FANTASY" (resolution 7250-8820 dpi, the position accuracy of 0.1 microns). This observational material, is used for obtaining the list of the preliminary coordinates of stars, on which then connect the systems of coordinates of plate and machine. "FANTASY" scans by the windows of 6.0x4.5 mm^2 with the overlap of sides to 10%. The complete image of the section of the celestial hemisphere with the accumulation is assembled from the separate windows, the operations of contrasting are performed. Then will recognize the images of stars on the plates of a series, plate they identify between themselves, their images are summarized. The images of stars will recognize on the summary image of accumulation, their coordinate they identify with the catalog. Then positions and photometry of stars on each plate are measured and are calculated star drifts, are separated the members of accumulation from the stars of background. All operations of working, recognition, and identification are performed automatically.