



211th Meeting of the
American Astronomical Society
 w/ the Historical Astronomy Division
 & the High Energy Astrophysics Division
 7-11 January 2008, Austin, Texas

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Control/Tracking Number : 211-RC-716-AAS

Activity : Research Contributed

Current Date/Time : 10/16/2007 3:28:13 PM

Title:

Stromvil CCD Photometry in Globular Cluster M 3

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Abstract:

We observed the globular cluster M 3 in the 7-band Stromvil system plus Vilnius X-band at the 1.8-m Vatican Advanced Technology Telescope with a 2K CCD giving a 6-arcmin field. We observed the open cluster M 67 in the same run. Here from the residuals of many stars fit to quality CCD Vilnius photometry (Laugalys et al., 2004, *Baltic Astronomy*, 13, 1) we reshape and thus correct the initial flatfields. M 67 with a wide color base gives the color transformations of the run by calibrating from about 12 photoelectric standards in the Stromvil and similar Vilnius systems. In M 3 six photoelectric standards of moderate quality, all red stars of 13th magnitude in the Vilnius system calibrate the zero-point magnitude scale. Point-spread-function fitting to the stars in the crowded M 3 field resolves blends. With relatively short exposures of minutes a limiting magnitude V=15 is obtained with a signal/noise ratio about 100. So from this new photometry we subsequently can classify all types of stars and treat questions of reddening, distances, membership and metallicity at least at the horizontal branch of the cluster.

Category:

20. Star Associations, Star Clusters - Galactic & Extra-galactic

Facility Keywords:

None selected

Presentation Preference:

Special/Topical Sessions (Complete):

Additional Info (Complete):

Status: Complete

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