

Wide Field CCD Photometry of the Globular Cluster M3

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The wide field two-color (B and V) $12K \times 8K$ CCD images have been obtained for the nearby globular cluster M3 (NGC 5272) using Canada-France-Hawaii Telescope (CFHT) with 3.5 m telescope ($f/4$) by one (J.C.C.) of us. The scale was $0''.206/\text{pixel}$, giving $28'$ on one side while the tidal radius is $\sim 40'$. We identify approximately 60,000 stars down to $V=22.5$. We examine the density profile and luminosity and mass function of the Main Sequence stars as a function of radius of the cluster center to investigate the dynamical status of the cluster. We use HST archives for the deep central region of the cluster, where crowding makes it impossible to do reliable photometry from ground based data.