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We present a progress report for the ongoing study of the globular cluster (GC) system around the edge-on lenticular galaxy NGC 3115. This object is one of the best targets for this kind of investigation, due to its proximity (~ 10 Mpc) and favourable inclination (for a deep photometric study and a review of the properties of NGC 3115, see Capaccioli *et al.*, 1986). Previously published data include a preliminary luminosity function of GC candidates, based on indirect calibration of KPNO photographs (Strom *et al.*, 1977), and visual star counts on CFH and AAT deep plates (Hanes and Harris, 1986). Here we report on B-band photometry down to $m_B \sim 24$, based on CCD calibration.

We have obtained several CCD exposures for the central region (and for a few outer fields) of NGC 3115, taken with the ESO 2.2-m telescope in B, V and R. Three co-added 30 min exposures in B were reduced so far (covering an area of $2' \times 3'$ about the galaxy center), together with one frame of a comparison field $10'$ from the galaxy center. We also scanned a $6' \times 12'$ centered region, normal to the galaxy major axis, and a comparison field $22'$ from the center. This 50 min very high quality B plate of the CFH telescope was kindly lent us by Dr. J.-L. Nieto.

Both CCD frames and PDS scans were processed with the program INVENTORY (West and Kruszewski, INVENTORY ESO Manual), which provides a catalogue of parameters for all images in each field. The zero point of the CCD photometry was based upon standard stars (Landolt, 1983), while the photographic magnitudes were reduced to the CCD scale by direct comparison of unsaturated overlapping regions of the frames. No test for completeness has yet been made, but visual inspection of the frames suggests that the fraction of faint images lost by the search algorithm is negligible.

The radial distribution of all detected images is shown in Fig. 1. On the CCD frame the objects were counted in $10''$ wide annuli from $r = 30''$ to $80''$ and, on the plate, in $30''$ annuli between $r = 60''$ and $330''$ (the outermost being incomplete). The error bars are computed as \sqrt{n} . At this stage of the work, no attempt was made to separate stellar from non-stellar images.

Our results are compared in Fig. 1 with the deeper counts made by Hanes and Harris (1986) on their CFH plate only. Our data have been normalized by a shift in $\log \sigma$.

The apparent B-luminosity function (LF) for all the counted images from CCD frames is presented in Fig. 2. It increases steadily, and no maximum is seen to the detection threshold of $m_B \sim 24$. Our preliminary estimate is $m_B(max) > 23.8$ mag, from which $(m - M) > 30.3$ mag (or $D > 11.5$ Mpc) adopting an average

$B - V$ color of 0.8 mag together with $M_V(max) = -7.3$ mag (Harris and Racine, 1979). A better estimate will be derived taking into account the contamination by foreground stars and background galaxies.

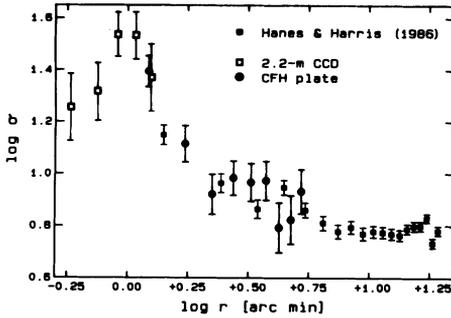


Fig. 1. Mean surface density, σ , of all objects found with the search algorithm, plotted *vs.* the radial distance from the center of NGC 3115. The *open squares* refer to the 90 min (total exposure) CCD frame, the *dots* to the central region of the galaxy in the CFH plate; *squares* are the counts from Hanes and Harris (1986).

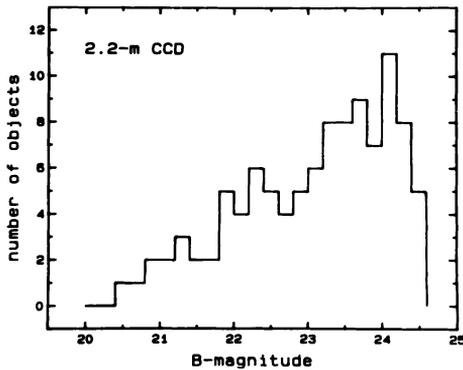


Fig. 2. Apparent luminosity function (in bins of 0.2 mag) for starlike objects around NGC 3115, from the 2.2-m CCD frames (central region of $2' \times 3'$).

REFERENCES

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