THE GLOBULAR CLUSTER SYSTEM OF NGC 1399

Optical HST imaging and ESO (ground-based) near-IR imaging

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We report on an ongoing study of the optical–near-IR colors of globular clusters (GCs) in E galaxies. The motivation is that *(i) HST* images give the necessary resolution to discriminate against foreground stars and background galaxies, while the photometry goes very deep; *(ii)* Near-IR observations reach only the brightest clusters, but provide a *much* larger color baseline which is very useful to *e.g.,* identify intermediate-age clusters such as those found in the LMC and in NGC 5128 (cf. Minniti et al. 1996, *ApJ*, **467**, 221), and to measure more accurate metallicities, particularly at the metal-rich extreme of the metallicity distribution.

J, H, K′ imaging was obtained at the ESO 2.2 m telescope, covering $2\farcm3 \times 2\farcm5$, overlapping with the WF4 chip of the *HST* images. The images reach $J=21.5$, $H=20.5$, and $K'=19.5$. At the distance of NGC 1399, the GCs are not resolved. A DAOPHOT sharpness vs. roundness diagram is used to discriminate GCs from foreground stars and background galaxies in the *HST* images. The optically selected list of GCs is then correlated with the near-IR photometry. Only the brightest GCs in the fields are detected in the near-IR mosaics: 20 GCs in J and H, and 10 in K′. In a later stage we plan to include JHK′ colors for the GCs for which optical photometry was obtained by Kissler-Patig et al. (1997, *A&A*, **319**, 470).

The detected (bright) NGC 1399 GCs are found to span a wide color range, $1.7<B-H<4.2$, implying a wide range in metallicity. Using the integrated color vs. [Fe/H] relation of Galactic GCs to estimate metallicities, the range implied is $-2.5<[\mathrm{Fe/H}]<0.5$. Indeed, some of these bright GCs in NGC 1399 are redder than the reddest Milky Way GCs.

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