

# MULTIMODAL COLOR DISTRIBUTIONS IN THE GLOBULAR CLUSTER SYSTEMS OF GIANT ELLIPTICAL GALAXIES

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We report on new observations of the globular cluster systems (GCSs) of two galaxies: M86 (NGC 4406) in Virgo and NGC 4696, the central giant elliptical (gE) in the Centaurus cluster. Previous observations in M86 showed no evidence for bimodality, but using only  $(V - I)$  for small cluster samples. The NGC 4696 GCS is unstudied. We used the integrated Washington  $(C - T_1)$  color. This metallicity index is more than twice as sensitive to  $[\text{Fe}/\text{H}]$  as  $(V - I)$ . In M86 we have about 1100 good GC candidates, and about 650 in NGC 4696, with mean internal metallicity errors  $\sim 0.15$  dex. Both of these GCSs are found to have *bimodal metallicity distributions* (MDs). Our data strengthen previous results that MDs for the GCSs of gEs are widespread. The evidence for 2 separate populations in these galaxies is corroborated by examining the surface density distributions: the metal-rich clusters are more centrally concentrated than their metal-poor counterparts. The overall radial metallicity gradient present in the M86 GCS is due to the varying radial mix of the 2 populations. The existence of 2 GC populations signifies that there were 2 distinct epochs or events of cluster formation in a gE. The simple collapse model of gE formation is ruled out.