The HST/ACS Survey of Galactic Globular Clusters: Overview and Contents of the Data Release


Overview

• The Galactic globular clusters can be used to investigate issues such as the age of the Universe, the formation timescale of the Galactic halo, the dynamical evolution of clusters, the gravitational potential of the Milky Way, the mass functions of main sequence stars, and the distance scale of the Universe.

• We have assembled a large homogeneous catalog of astrometry and photometry for 65 Galactic globular clusters using the Advanced Camera for Surveys onboard HST. The photometry extends from near the tip of the first ascent red giant branch to the lower main sequence (mass \(\approx 0.2M_\odot\), \(M_V < 10.7\)) with S/N \(\geq 10\).

• The data release will include precise photometry and astrometry for stars in a field 3.3 x 3.3 arcmin centered on the core of each cluster. We will also make available artificial star tests, which can be used to study sample completeness and photometric errors for each cluster in our target list.

M54 and the Sagittarius Dwarf Spheroidal Galaxy

Comparison with Stetson Standard Stars


Multiple Populations Within Individual Clusters

We have discovered multiple populations within a number of the clusters observed as part of our Treasury program. Here, we show the CMDs of NGC 1851, NGC 6715 (M54) and NGC 6388.

We have published 10 papers in the refereed literature based on data from this program. Support for this project (proposal number GO-10775) was provided by NASA through a grant from the Space Telescope Science Institute which is operated by the Association of Universities for Research in Astronomy, Incorporated, under NASA contract NASS-26555.