

Contributed Talk

Splinter Populations

MUSE SPECTROSCOPY OF HORIZONTAL BRANCH STARS IN ω CEN
AND NGC 6752

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The blue horizontal branch (BHB) population in globular clusters is different from that observed in the galactic field and also differs from one cluster to another. Since globular clusters are ideal objects to study stellar populations and evolution, it is important to characterize their horizontal branch morphology in order to understand their evolutionary history. The BHB stars included in previous spectroscopic studies have been limited in number and were mostly restricted to the outer regions of clusters. The MUSE integral field spectrograph at the VLT provides a unique view on the stellar population of globular clusters, with its capability to provide thousands of individual stellar spectra from the crowded inner regions of clusters.

We will present our spectral analysis of blue- and extreme-horizontal branch stars observed with MUSE in the globular clusters ω Cen (~ 100 stars) and NGC 6752 (~ 40 stars). The spectra were fitted with grids of model atmospheres in order to derive effective temperatures, surface gravities as well as helium abundances. We will also compare our results with those of previous analyses of the HB population of these two clusters. Finally we aim at providing a glimpse into the possibilities that MUSE offers for the study of horizontal branch stars in globular clusters, despite its rather “red” wavelength range (4650–9000 Å) that is not optimal for the analysis of hot stars.