Poster

Splinter Populations

Multiple stellar populations in globular clusters

Noah Molinski[1], Stefan Dreizler[1], Tim-Oliver Husser[1], Sebastian Kamann[1,2], Benjamin Giesers[1]

[1] *Institute for Astrophysics, Georg-August-University, Friedrich-Hund-Platz 1, 37077 Gttingen, Germany*
[2] *Astrophysics Research Institute, Liverpool John Moores University, 146 Brownlow Hill, Liverpool L3 5RF, United Kingdom*

Recent studies of globular clusters (GC) show that all clusters consist of multiple stellar populations. These populations are subgroups inside the clusters which differ in their stellar and possibly dynamical properties. By using high-precision photometry of red-giant branch (RGB) stars in 14 GCs, it is possible to identify their multiple stellar populations. Following an idea of Piotto et al. (2013), for each cluster color-magnitude diagrams (CMD) in suitable combinations of mostly optical filters have to be produced which maximize the split of the RGB. A clustering algorithm is implemented to achieve the full separation of the multiple populations in a pseudo two-color diagram (also called chromosome map). These populations are further characterized by spectroscopic MUSE data. A significant difference in metallicity is found between the populations. Our results confirm a correlation between RGB width and cluster metallicity.