

[ST-09] Star Formation Histories of the Globular Clusters with Multiple Stellar Populations

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Recent observations for the Galactic globular clusters (GCs) have revealed that not a small number of GCs show remarkable signatures of multiple stellar populations, such as multiple main-sequences (MSs), splits in sub-giant branch (SGB), bimodal and/or extended horizontal branches (HBs). Based on the population synthesis models, we investigate star formation histories of those GCs with multiple populations, ω Cen, M54, NGC 1851, NGC 6388, NGC 6441, and NGC 2808, by comparing synthetic model color-magnitude diagrams (CMDs) with observations. We use most up-to-date Yonsei-Yale (Y2) stellar evolutionary tracks and isochrones from MS to post-HB, as well as improved color-temperature transformations from the recent stellar atmosphere libraries. Our models show that the observed features of multiple populations of those GCs can be best explained by assuming the presence of helium-enhanced subpopulations.