

Multiple stellar populations in globular clusters

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Numerous spectroscopic and photometric observations have shown that many globular clusters host multiple stellar populations and challenged the standard view of globular clusters, in which these systems are 'simple stellar populations' composed of stars of uniform age and chemical composition.

After a review of the main observational studies, I will present the results of theoretical investigations exploring the possible formation history and dynamical evolution of multiple stellar populations in globular clusters. The results presented will include a discussion of the dependence of the amount of second-generation stars formed on a cluster's initial properties and will show how the structure and the relative number of first- and second-generation stars evolve during a cluster early and long-term dynamical evolution. Finally, I will discuss the implications of the models presented for the contribution of globular cluster stars to the Galactic halo.