

Star Clusters Near and Far: Tracing Star Formation Across Cosmic Time

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Star clusters are fundamental units of stellar feedback and unique tracers of their host galactic properties. In this review, we will first focus on their constituents, i.e. detailed insight into their stellar populations and their surrounding ionised, warm, neutral, and molecular gas. We, then, move beyond the Local Group to review star cluster populations at various evolutionary stages, and in diverse galactic environmental conditions accessible in the local Universe. At high redshift, where conditions for cluster formation and evolution are more extreme, we are only able to observe the integrated light of a handful of objects that we believe will become globular clusters. We therefore discuss how numerical and analytical methods, informed by the observed properties of cluster populations in the local Universe, are used to develop sophisticated simulations potentially capable of disentangling the genetic map of galaxy formation and assembly that is carried by globular cluster populations. © 2020, The Author(s).

Cluster mass function

Galaxy evolution

Galaxy formation

Resolved and unresolved stellar populations

Stellar mass function

Young star clusters

Cosmology

Numerical methods

Population statistics

Analytical method

Cluster formations

Environmental conditions

Evolutionary stage

Fundamental units

Galaxy formations

Globular clusters

Stellar populations

Stars