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Globluar clusters - Milky Way and beyond

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Stars are formed when a humongous molecular clouds collapses under its own gravity giving rise to multiple local collapses within the cloud itself. Stars are never formed in isolation and are always formed in groups. When one cloud collapses it gives rise to formation of multiple stars in the same system. When formed this way the stars share similar chemical properties and are of same ages since they share same parent cloud and the entire system hence evolves as a star cluster. Globular clusters (GCs) are the star clusters which are extremely old as compared to another category of star clusters which are relatively young and are known as Open Clusters. are the star clusters which are extremely old as compared to another category of star clusters which are relatively young and are known as Open Clusters. The object of this presentation is Globular clusters.

Since the stars in a GC share the same age and same metallicity, the stars in the same GC are expected to only differ with respect to their masses. The mass of a star govern the rate of its evolution. The stars in GC are thus a perfect tool to study and validate our theories of stellar evolution.

Evidently, the GCs are not only present in our galaxy but are ubiquitously found in almost all the galaxies, irrespective of the type of the galaxy. GC population of a galaxy is a signature of its formation and tumultuous past and hence a very important tool if one wants to study the galaxies and their properties.

In my presentation, I will give a brief introduction of the GC as an individual entity and its importance in studying life cycle of a star and then as part of a bigger system and their roles as one of the indicators of evolution of their parent system.

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