CHEMICAL ENRICHMENT HISTORY IN NEARBY GALAXIES

Physics Colloquium - Randa Asad

Star clusters represent snapshots of the chemical enrichment of their host galaxy at different ages. In the era of large ground-based telescopes, their integrated light can be observed for very distant galaxies. However, it is crucial to validate new techniques against nearby systems, for which the results can be independently constrained via resolved stellar population studies.

This presentation discusses our ongoing work on applying both resolved and unresolved spectroscopy methods to a large high-quality sample of clusters in the Large Magellan Clouds galaxies to infer detailed information about the chemical history of the galaxy. Our results match the theoretical models of the chemical enrichment history well. Motivated by these results, we develop and present a new automated tool publicly available to use for future integrated spectra observations of star clusters in galaxies as distant as 10 Mpc. This will offer new opportunities to study those galaxies at the level of detail that is currently available only in a handful of nearby Milky Way satellites.

Thursday, October 15th
11:30am - 12:30pm
Taylor Hall 111

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Physics