Social Medium Influencers: Star Cluster Formation in Dwarf Galaxy Pair DM1449+36

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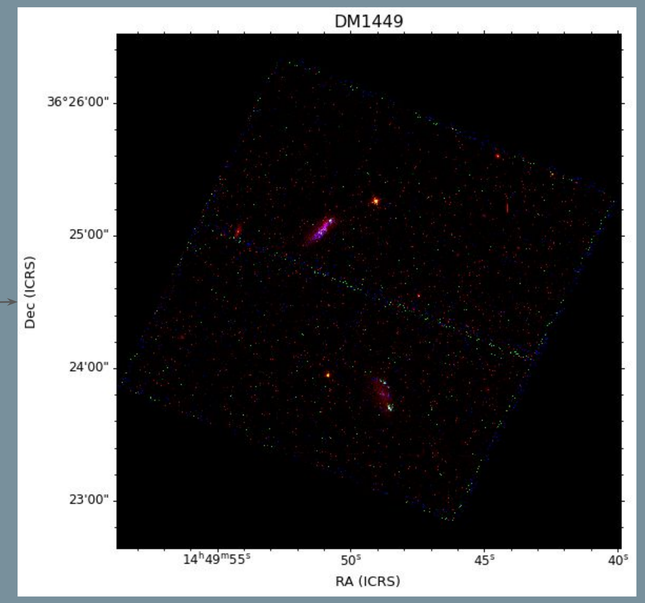
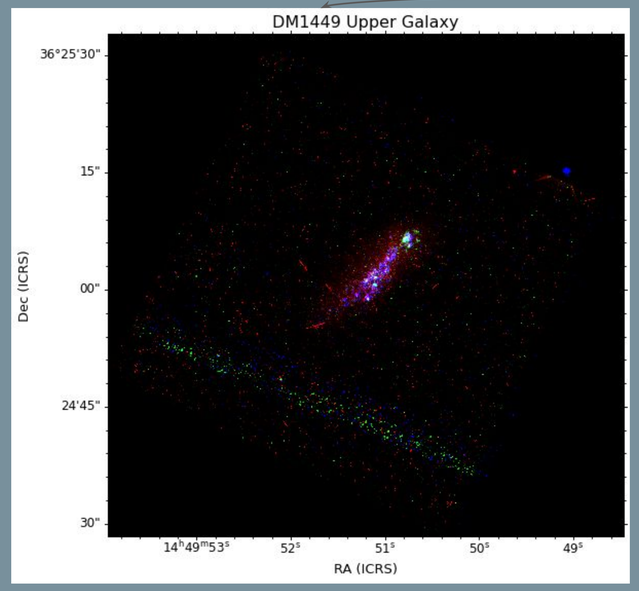
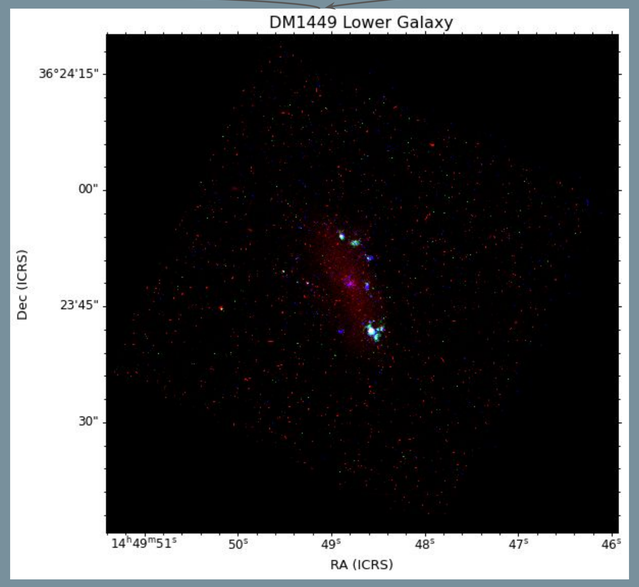
Introduction

Dwarf galaxies are low mass galaxies whose elemental composition is analogous to the early universe. Examining star cluster formation in merging dwarf galaxies can further our understanding of how galaxies throughout the universe grow and evolve. DM1449+36 is a pair of relatively isolated interacting dwarf galaxies. Research on this pair seeks to establish the quantity, location, and characteristics of their star cluster population. Analysis of star clusters in DM1449+36 is part of a broader research study on the effects of merger stage on star cluster formation in interacting dwarf galaxies.



Three color images constructed using pictures taken by the Hubble Space Telescope in three filters - F814W (red), F657N (green) and F336W (blue)



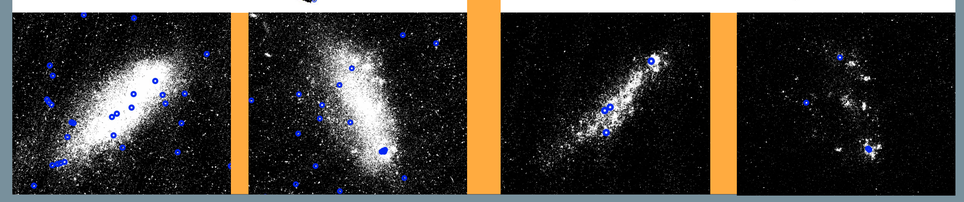


Catalog of Cluster Candidates

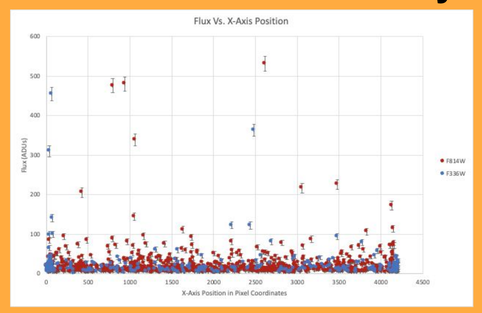
A catalog of the star clusters in DM1449+36 is created by running clump finding algorithms over images of DM1449 in two filters.

F814W: 826 Clusters

F336W: 338 Clusters



Photometry



Aperture photometry is performed on the cataloged clusters to determine the flux, or brightness of each cluster.

Future Work

Using the photometry data, the age and mass of each cluster can be ascertained. These characteristics are found by comparing the data to existing surveys of star clusters closer by. From there, spectroscopy will be use to find their elemental composition. Knowing these quantities will allow us to understand the effects of dwarf galaxy merger evolution on its star cluster population, giving us insight as to how galaxies like ours are created.

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