

[7GC-03] Morphology-Dependent Evolution of Galaxies in Mid-infrared Green Valley

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We investigate the evolution of galaxies in mid-infrared (MIR) $[3.4\mu\text{m}]-[12\mu\text{m}]$ color versus $12\mu\text{m}$ luminosity diagram using Wide-field Infrared Survey Explorer data for member galaxies of the A2199 supercluster at $z \approx 0.03$. In the MIR color-luminosity diagram, we classify galaxies into three MIR classes: MIR blue cloud (massive, quiescent and mostly early-type), MIR star-forming sequence (mostly late-type), and MIR green valley galaxies. Both MIR green valley galaxies and MIR blue cloud galaxies are optically red sequence populations, and there is no significant difference in star formation rates and stellar masses between them. We compare cumulative distribution functions of surface galaxy number density and of cluster/group-centric distance between three MIR classes. However, when considering only early-type galaxies, the difference between MIR blue cloud galaxies and MIR green valley galaxies disappears. In contrast, the intermediate trend of MIR green valley galaxies is still found for late-type galaxies. We discuss our results concerning the difference of evolution between early- and late-type galaxies and the connection to environment.

[7GC-04] HST Study of ESO 149-G003, a nearby dwarf irregular galaxy

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We study the resolved stellar populations of ESO149-G003, a nearby dwarf irregular galaxy in the vicinity of the Sculptor group. We present F606W-F814W vs. F814W colour-magnitude diagrams (CMDs) obtained from HST/ACS archival data. We analyze the stellar content of ESO149-G003, as well as the spatial distribution of stars selected from stellar isochrone fitting analysis. Distance measurement using the tip of the red giant branch method, age measurement of various populations seen in the CMD, and isochrone fitting result will be shown and discussed.