[GC4] Optical Properties of Merging Galaxy Clusters

Sohee Lim, Myung Gyoon Lee
Astronomy Program, Department of Physics and Astronomy, Seoul National University

We present a study of optical properties of seven merging galaxy clusters (A85, A168, A1650, A1750, A2034, A2255) and one relaxed galaxy cluster (A2199) based on the SDSS photometric and spectroscopic data. We have selected member galaxies in each cluster using their spatial and velocity distribution, and have classified their morphological types using visual inspection of their images and spectra. It is found that the merging clusters are composed of more than one substructure in velocity distribution and in spatial distribution. The early-type galaxies in merging clusters seem to be more concentrated around the cluster center than the late-type galaxies and their colors show a good correlation with their magnitudes. We have estimated the merging stage of each cluster using its optical properties. From this analysis, we conclude that the merging process of galaxy clusters may have significant influence on the optical morphology and star formation of the member galaxies.

[GC15] Detection of a Tidal Dwarf Galaxy in Merging Galaxy NGC4922

Sheen, Yun-Kyeong, Yi, Sukyoung
Department of Astronomy, Yonsei University,
Center for Space Astrophysics, Yonsei University

We report a detection of a tidal dwarf galaxy (TDG) in the tidal tail of NGC4922. NGC4922 is a representative merging galaxy sitting at outskirts of Coma cluster. It is known as a mixed morphology merger and a type II Seyfert galaxy. Its UV bright tidal tail and a dwarf galaxy-sized object in the tail are found from GALEX UV data. In this study we have identified recent star formation regions in NGC4922 and its tidal tail with UV-optical color maps. We have also derived local stellar ages using model SEDs of starburst galaxies. Our result shows the formation of a TDG at the tip of tidal tail and it is comparable to previous studies of TDGs in nearby merging galaxies.