

Title - A History of Violence: Galaxies in Cluster Environments

Abstract -

Galaxies in group and cluster environments have been known for some time to be different from galaxies in the field. In particular, they are more likely to be of early type, with little ongoing star formation. These differences are widely interpreted to be due to interaction with the surrounding environment. However, they cannot be due solely to the observed environment, because galaxies start to exhibit differences with the field well outside cluster virial radii. The observed condition of cluster galaxies must depend on their history as well as their present circumstances. Using hydrodynamical simulations I will discuss the environmental interactions that strip and modify cluster galaxies and show how the violent merger history of clusters enhances the rates of these processes.