

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Kinematic and Metallicity Comparisons between Dwarf Galaxies and Brightest Cluster Galaxies - JIMMY, Texas A&M University — Integral Field Unit (IFU) spectroscopy allows us to analyze the entire 2-dimensional surface of a galaxy as apposed to long slit or single fiber methods which provide a more limited view. Using the VIMOS IFU spectrograph on the Very Large Telescope (VLT), we spatially map the kinematic properties of 10 nearby Brightest Cluster Galaxies (BCGs) and 4 nearby companion galaxies at $z \leq 0.1$. We measure λ_{Re} as a proxy for angular momentum, in order to determine whether these galaxies are fast or slow rotators. We find that 30% (3/10) of the BCGs and 100% of the BCG companion galaxies (4/4) are fast rotators. We also find that when comparing BCGs to similarly massive early-type galaxies, the ratio of fast rotating galaxies in the two populations is the same, suggesting that mass plays a more important role than environment when determining whether a galaxy is fast or slow rotating. We have also obtained metallicity measurements of these BCGs and find that most exhibit very shallow metallicity gradients. We extend this analysis to low stellar masses with a sample of nearby dwarf galaxies. Current results suggest that although the dwarf galaxies exhibit far lower metallicities, the metallicity gradients are similarly flat in the low mass and high mass regimes.

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Date submitted: 01 Oct 2014

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