Abstract Submitted
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Analysis of 2D substructure in radio-loud clusters of galaxies[1]
DONALD PLESHINGER, JASON PINKNEY, Ohio Northern University — We have produced and refined catalogs of galaxy positions, magnitudes, colors and redshifts in ten, radio-loud clusters of galaxies. The CCD images were taken with the MOSA imager on the Kitt Peak 0.9-m telescope. We use the color-magnitude relation (CMR) in B-V and B-R to select samples of galaxies which are members of the targeted clusters. We also restrict the samples to galaxies within one Abell radius (for Ho=75 km/s/Mpc) of the center, using two approaches for defining the center. We estimate the contamination of the CMR samples by foreground and background galaxies to be about 10%. We apply four statistical tests for the significance of 2D (plain of the sky) substructure to all of the samples, and obtain significance levels using Monte Carlo simulations. We are able to rule out the null hypothesis of a unimodal distribution with confidence for the majority of clusters. Isopleth contour maps are used to verify the substructure qualitatively. This allows us to address our motivating question: do cluster-subcluster mergers have an influence on radio galaxy morphology?

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