



## PHYSICS AND ASTRONOMY SEMINAR

# Dr. Kenneth Rines

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# “Measuring the Ultimate Halo Masses of Clusters from Redshift Surveys”

### Abstract

Cluster galaxies provide kinematic tracers of the dark matter haloes of clusters extending from cluster cores to their outskirts. Wide-field spectroscopic surveys enable measurements of mass profiles extending into the infall regions where galaxies are gravitationally bound but not yet virialized. In the central regions, dynamical mass estimates can be compared to other mass probes such as X-ray, SZ, and lensing. In the outskirts, the kinematics of the cluster galaxies probes the mass profile to low overdensities. In particular, the mass profiles often extend to radii where galaxies will eventually be accelerated away from the cluster in a LCDM universe. Galaxy kinematics thus offers a probe of the ultimate halo mass of clusters. I will discuss our observational results and compare them to predictions from LCDM simulations.

Wednesday, April 17, 2013

11:00 a.m.

Elliott Building

Room 162