



PHYSICS AND ASTRONOMY SEMINAR

Mr. Daniel Thomas

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“Making Gravity Count: Cluster Numbers and Other Cosmological Observables in Model Independent Modified Gravity”

Abstract

Model-independent parameterisations of modified gravity have attracted a lot of attention over the past few years and numerous combinations of experiments and observables have been suggested to constrain the parameters used in these models. Galaxy clusters have been mentioned, but not looked at as extensively in the literature as some other probes. Here we look at adding galaxy clusters into the mix of observables and examine how they could improve the constraints on the modified gravity parameters. We find that cluster counts significantly improve the constraints obtained from combining Cosmic Microwave Background and weak lensing measurements.

A key part of the forecast is the use of cluster mass functions, prescriptions for predicting the expected number of clusters given the linear theory matter power spectrum. I will examine how robust these mass function predictions are in a modified gravity context using the results of a suite of N-body simulations.

Monday, November 28, 2011

11:30 a.m.

Elliott Building

Room 062