

Friday, March 25, 2011 • 4:00 P.M. • 2241 Chamberlin Hall

Coffee & Cookies Served at 3:30 p.m



Gary Bernstein

University of Pennsylvania

Host: Timbie

Cosmology without Cosmic Variance

Department of Physics Colloquium

The acceleration of the Hubble expansion may be due to the failure of General Relativity to explain gravity on cosmological scales. This can be tested by measuring the gravitational growth of the largest structures, 100 Mpc or larger. The standard methods for such experiments involve measuring power spectra at different epochs, and are therefore limited by fluctuations from the finite number of large-scale modes in the observable Universe, a.k.a. “cosmic variance.” I will describe how galaxy redshift and weak gravitational lensing surveys can be combined in a new way to measure gravitational growth to theoretically unlimited precision with a finite survey of the sky.



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