

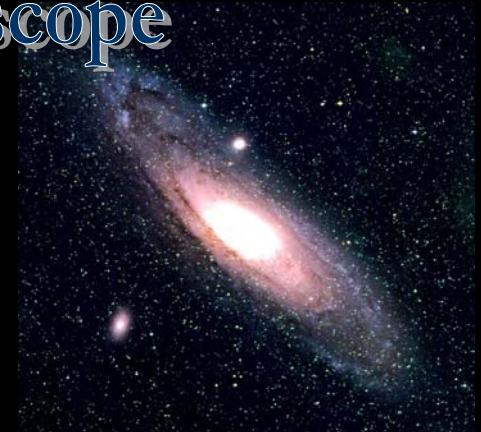
# CU Physics Department Particle Seminar

Wednesday, March 24, 2010 831 Pupin Hall 2:30 PM



## CMB at Arcminute Scales: First Results from the Atacama Cosmology Telescope

The Atacama Cosmology Telescope (ACT) project represents a new class of millimeter-wave surveys that probe cosmology from inflation to late-time structure formation. ACT's arcminute-scale temperature measurements, corresponding to spatial frequencies up to  $l \sim 10000$ , will improve constraints on the form of the inflationary potential ( $n_s$ ), the sum of neutrino masses, primordial helium abundance, and the rms of the cosmological matter distribution ( $\sigma_8$ ). Many constraints result from complementary probes within the ACT dataset: CMB power spectra, CMB lensing, galaxy clusters, etc. In this talk I will present the first results from ACT on the CMB power spectrum, galaxy clusters discovered through the Sunyaev-Zel'dovich effect, and extragalactic sources. I will also describe future polarization measurements



**Tobias Marriage, Princeton University**