LEPP JOURNAL CLUB

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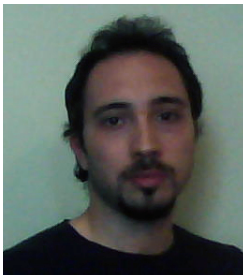
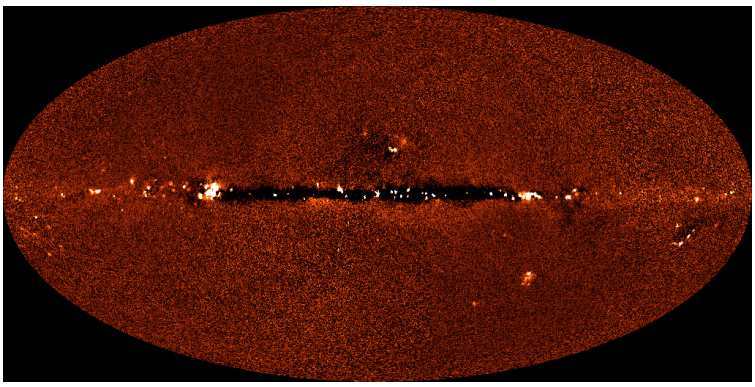


An improved model for the Cosmic Far-Infrared Background anisotropy power spectrum: results and implications for Cosmology

The Cosmic Far-Infrared Background (CFIRB) originates from the UV and optical emission of young stars, absorbed by the dust in galaxies and then re-emitted in the Infrared (IR) wavelengths. The anisotropy power spectrum of the CFIRB captures the spatial distribution of these galaxies in dark matter halos and the spatial distribution of dark matter halos in the large-scale structure. I will present a conditional luminosity function(CLF) approach to describe the far-IR bright galaxies and the results from model-fitting the CFIRB power spectrum at 250, 350 and 500 um measured by the Herschel Space Observatory. By integrating over the galaxy population, the model provides a constraint on the cosmic density of dust residing in the star-forming galaxies responsible for the background anisotropies. I will discuss the implications of using this CLF model for future cross-correlation studies of the Cosmic Microwave and Infrared Backgrounds from ACT, SPT, Planck and Herschel surveys.



Monday

February 11, 1:00pm

301 Physical Sciences Building

(Refreshments, 12:45pm)

LEPP, the Cornell University Laboratory for Elementary-Particle Physics, has joined with CHESS to become the Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE). LEPP's primary source of support is the National Science Foundation.