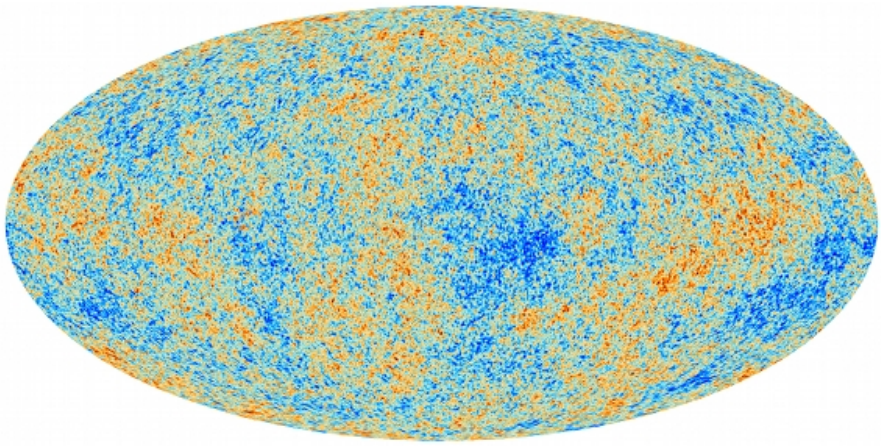
Jean-Loup Puget

2013 Spitzer Lecturer

Tue, May 7, 4:30-5:30
Colloquium
Cosmic Microwave Background anisotropies following the first release of Planck results

The Planck collaboration has recently released its all-sky survey maps and cosmological papers. The Planck data provides our deepest and highest resolution image of the cosmic microwave background and provides the first sensitive all sky maps at sub-millimeter wavelengths. The Planck results reinforce the basic Lambda CDM model, place more stringent constraints on new physics, and determine the basic cosmological parameters with higher precision. The Planck results also place strong constraints on primordial non-Gaussianity, map the large-scale distribution of matter in the universe, trace the star formation history of the universe with the cosmic infrared background, and produce an important new all sky cluster catalog. Intriguingly, several of the anomalies seen at large angular scales in the WMAP data are also seen in Planck, perhaps suggesting new physics. The talks will discuss all of these new results and conclude with a discussion of the upcoming next Planck release and the role of future experiments in addressing the open questions in cosmology.



Wed May 8, 4:30-5:30

Very low temperature space cryogenic technology: lessons learned from the Planck mission

Fri May 10, 11:00-12:00

CMB observations: transition from a noise dominated era to a systematic and foregrounds removal dominated one

Mon May 13, 4:30-5:30

Cosmic infrared background, status and recent Planck results

Wed May 15, 4:30-5:30

Early results from Planck polarization: properties of the dust foreground and use of polarized CMB data used as a check of the temperature data

All talks at Peyton Hall Auditorium