

**Service d'Astrophysique**  
**SÉMINAIRE**

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**Jeudi 13 mars 11h00**

**CEA Saclay, Orme des Merisiers Bât 709, p 220**

**WMAP and Beyond**

**David Spergel (Princeton, USA)**

The Wilkinson Microwave Anisotropy Probe (WMAP) has made an accurate full-sky measurement of the microwave background temperature and polarization fluctuations. These measurements probe both the physics of the very early universe and the basic properties of the universe today. The WMAP measurements rigorously test our standard cosmological model and provide an accurate determination of basic cosmological parameters (the curvature of the universe, its matter density and composition). When combined with other astronomical measurements, the measurements constrain the properties of the dark energy and the mass of the neutrino. The observations also directly probe the physics of inflation: the current data imply that the primordial fluctuations were primarily adiabatic and nearly scale invariant. Many key cosmological questions remain unanswered: what happened during the first moments of the big bang? what is the dark energy? what were the properties of the first stars? I will discuss the role of on-going and future CMB observations in addressing these key cosmological questions and describe how the combination of large-scale structure, supernova and CMB data can be used to address these questions and to test the validity of our basic model.

Un café sera servi 15 minutes avant le séminaire

Ce séminaire aura lieu au CEA Saclay Orme des Merisiers bâtiment 709, Salle 220.

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Le café sera servi 10 minutes avant

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