Mercoledì 6 novembre 2013
ore 15.00
Sala Azzurra
Palazzo della Carovana
Piazza dei Cavalieri

Colloqui della Classe di **Scienze**

Anno Accademico 2013/2014

SCUOLA NORMALE SUPERIORE

EIICHIRO KOMATSU

Max-Planck-Institut für Astrophysik, Garching

Critical Tests of Theory of the Early Universe using the Cosmic Microwave Background

ABSTRACT
The Cosmic Microwave Background (CMB), the fossil light of the Big Bang, is the oldest light that one can ever hope to observe in our Universe. The CMB provides us with a direct image of the Universe when it was still an "infant" - 380,000 years old.
The Wilkinson Microwave Anisotropy Probe (WMAP) has mapped the microwave sky in five frequency bands for nine years since 2001, creating a full-sky CMB map with the unprecedented precision. The WMAP data have enabled us to obtain a wealth of cosmological information, such as the composition, age, geometry, and history of the Universe. Yet, can we go further and learn about the primordial universe, when it was much younger than 380,000 years old, perhaps as young as a tiny fraction of a second? If so, this gives us a hope to test competing theories about the origin of the Universe at ultra high energies. In this talk, we will review the physics of CMB and the WMAP mission, present the basic results from nine years of observations, and discuss their cosmological implications. We will also comment on the recent results reported by the Planck mission.

Info: Area Didattica - adi.sd@sns.it