Observatoire de Paris

École Internationale d'Astrophysique Daniel Chalonge

9th Paris Cosmology Colloquium 2005

PHYSICS OF THE EARLY UNIVERSE CONFRONTS OBSERVATIONS

Thursday 30 June, Friday 1st July and Saturday 2 July 2005
Observatoire de Paris, Paris campus

PURPOSE AND TOPICS

The Conference is within the astro-fundamental physics spirit of the Chalonge School, this time focalized on CMB WMAP and the theory (models) of the early universe which have power of prediction.

Besides the WMAP talks, the main topics include: Inflation, quantum effects (inflaton decay, non gaussianity), primordial spectrum of density and tensor perturbations, CMB polarization, primordial magnetic fields effects on the CMB.

In summary, the aim of the meeting is to put together real CMB data and hard theory predictive approach connected to them.

The Meeting is open to all scientists interested in this domain

Information: **http://www.obspm.fr /chalonge**

PROGRAMME and LECTURERS INCLUDE

- **Nicola BARTOLO (ICTP, Trieste, Italy)**
  Primordial Non-Gaussianity in the CMB.Anisotropies
- **Daniel BOYANOVSKY (Univ. of Pittsburgh, USA)**
  Quantum Corrections to Slow Roll Inflation and New Scaling of Superhorizon Fluctuations
- **Francisco CAO (Univ.Compl. Madrid and LERMA Obs.de Paris)**
  The Quantum Inflaton and CMB Fluctuations
- **Hector J. DE VEGA (LPTHE, Univ de Paris VI, France)**
  Slow Roll Inflation and Fundamental Physics from the WMAP data
- **Olivier DORE (Univ. of Princeton, USA)**
  Cosmology as enlightened by WMAP: two years after
- **Daniel EISENSTEIN (Univ.of Arizona, Tucson, USA)**
  Dark Energy and Cosmic Sound
- **Massimo GIOVANNINI (CERN-TH, Switzerland)**
  Magnetized Initial Conditions for CMB anisotropies
- **Richard HOLMAN (Carnegie Mellon Univ., Pittsburgh, USA)**
  The Initial-Time Problem of Inflation: Can Trans-Planckian Physics be Seen in the CMB ?
- **Marc KAMIONKOWSKI (CALTECH Astrophysics, USA)**
  Cosmic Microwave Background Fluctuations from Gravitational Waves.
  Particle Decay and their influence on the Primordial Power.
- **Anthony N. LASENBY (Cavendish Laboratory,Cambridge, UK)**
  CMB Observations. Anisotropies and Polarization.
- **Sabino MATARRESE (Univ. di Padova, Italy)**
  Cosmic Acceleration without Dark Energy
- **Alessandro MELCHIORRI (Univ of Rome "La Sapienza", Italy)**
  Constraining Neutrino Physics from Cosmology
- **Stephan MEYER (Univ.of Chicago and Fermilab, USA)**
  WMAP Results and Implications.
- **Hiranya PEIRIS (KICP, Univ of Chicago, USA)**
  Detectability of B-mode Polarization and its Implications for Fundamental Physics.
- **Norma G. SANCHEZ (LERMA, Observatoire de Paris, France)**
  Inflation as an Effective Field and String Theory from the WMAP data
- **Paul S. SHELLARD (DAMTP, Univ., Cambridge, UK)**
  Primordial Non Gaussianity from Inflation and Strings
- **George SMOOT (LBL, Univ of California, Berkeley, USA**
  CMB Observations. Anisotropies and Polarization

and other Lecturers

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