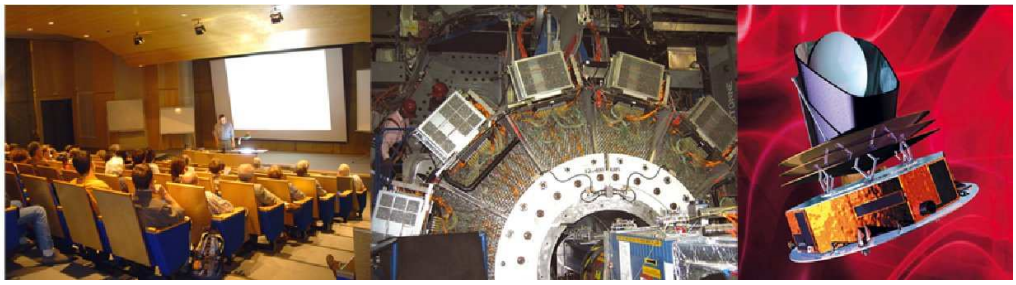
LABORATOIRE DE L'ACCÉLÉRATEUR LINÉAIRE



Séminaire du Laboratoire de l'Accélérateur Linéaire

Marco Zito

CEA

Mardi 5 Avril 2016 à 11 :00

Neutrino oscillation : recent discoveries and future challenges

Neutrino physics has developed rapidly in the past decades with the discovery of neutrino oscillations, a clear indication of a non zero mass for the neutrinos. While the theoretical understanding of these masses is not yet achieved, they suggest the existence of new particles and phenomena beyond the Standard Model. More recently, a new generations of experiments with accelerator and reactor neutrinos has allowed to explore and fully study the third mixing angle Θ13 and to establish a new paradigm, based on the Pontecorvo-Maki-Nakagawa-Sakata mixing matrix. All the angles of this matrix have now been measured and the recent results from the T2K experiment open a new field, the study of CP violation phenomena in the leptonic sector. In the near future, the precision of these measurements will be greatly improved, thanks to the T2K and NOVA experiments. In the next decades, new facilities, like Hyper-Kamiokande in Japan and LBNF/DUNE in US, will be devoted to precision studies of CP violation, the determination of the neutrino mass ordering and other important measurements with atmospheric and Supernova neutrinos. This talk will present an overview of these recent developments and discuss the challenges and opportunities for the new facilities.

Salle 101 du LAL - Bât. 200, Orsay

Thé et café seront servis 5 mn avant le séminaire

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