LABORATOIRE DE L'ACCÉLÉRATEUR LINÉAIRE

Séminaire du Laboratoire de l'Accélérateur Linéaire

Elisabetta Baracchini

INPS/KEK

Jour inhabituel

Jeudi 17 Novembre 2011 à 11 :00

New limit on LFV searches from the MEG experiment

We are going to present the latest result from the MEG experiment at the Paul Scherrer Institut for the search of the Lepton Flavour Violating (LFV) decay $\mu^+ \to e^+\gamma$. The likelihood analysis of the combined sample of 2009 and 2010 data taking (which corresponds to a total of 1.8×10^{14} muon decays on target) gives a 90% confidence level upper limit of 2.4×10^{-12} on the branching ratio of the $\mu^+ \to e^+\gamma$ decay. We will discuss why and how flavour violation is expected in the charged lepton sector after having been observed in the neutral sector and how several beyond the Standard Model scenarios predicting the branching ration of $\mu^+ \to e^+\gamma$ in the range $10^{-13} - 10^{-14}$. We will examine the experimental challenges for the search of such decay process and illustrate how the MEG experiment managed to cope with them through an unprecedented detector resolution at these energies and accurate monitoring and calibration of the detectors. We will review the 2009 and 2010 data samples likelihood analysis and results and will conclude illustrating the future short term and long term prospects and goals of the MEG experiment.

Salle 101 du LAL - Bât. 200, Orsay

Thé et café seront servis 1/4 h avant le séminaire

Responsables : N.Leroy (leroy@lal.in2p3.fr) - N. Delerue (delerue@lal.in2p3.fr)
http ://www.lal.in2p3.fr