CERN Joint EP/PP Seminars

SPEAKER: Matteo Palutan (LNF-INFN)

TITLE: **Test of lepton flavor violation with Ke2 decay at KLOE**

DATE: Mon 25/05/2009 16:30

PLACE: Main Auditorium**

ABSTRACT

A strong interest in a new measurement of the ratio R_K = Gamma Ke2)/Gamma(Kmu2) has recently arisen. The SM prediction of R_K benefits from cancellation of hadronic uncertainties to a large extent, and therefore can be calculated with high precision. Because of the helicity suppression within the SM, the Ke2 amplitude is sensitive to contributions from physics beyond the SM. Recently, it has been pointed out that in a supersymmetric framework, lepton flavor changing processes mediated by the charged Higgs could occur, in particular in the kaon decay to an electron and tau neutrino. In this scenario, deviations of up to few percent on R_K from SM expectation are quite possible.

We present a new measurement of the ratio R_K with 1.3% accuracy performed with the KLOE experiment. The result is based on 2.2 fb-1 of data collected at the Frascati e+e- collider DAFNE. The measurement will be described, and its theoretical implications will be discussed.

Organised by: Maria Spiropulu / PH-EP ----------

**Tea and Coffee will be served at 16:00