SEMINARIO DEL DEPARTAMENTO DE FÍSICA TEÓRICA

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T2K (Tokai to Kamioka) Long Baseline Neutrino Oscillation Experiment

Chang Kee Jung
State University of New York at Stony Brook

Abstract: T2K is a second generation long baseline neutrino experiment to probe the masses and mixing of the muon neutrino with other species. It is the first long baseline neutrino oscillation experiment proposed and approved in the world to look explicitly for electron neutrino appearance from muon neutrinos, thereby measuring theta_13, the last unknown mixing angle in the lepton sector. T2K will use Super-Kamiokande as the far detector to measure neutrino rates at a distance of 295 km from the J-PARC accelerator. The experiment requires construction of a neutrino beam line, a near detector complex at 280 m (ND280) from the proton target to measure the unoscillated flux, and, if possible, an intermediate detector at 2 km from the proton beam target.

In this talk, I will present an overview, physics goals, and the current status of the experiment. I will also introduce some very interesting novel technologies employed in the experiment.

Más información: http://www.ft.uam.es/seminarios.html