



EP Seminar

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TITLE: **New results from T2K**

DATE: Tue 22/10/2013 11:00

PLACE: Council Chamber

ABSTRACT

The Tokai to Kamioka (T2K) experiment is a long baseline neutrino oscillation experiment situated in Japan. A high intensity neutrino beam is produced at the Japan Proton Accelerator Research Complex, in Tokai, Japan.

In 2011, the collaboration announced the first indication of muon neutrino to electron neutrino transformation, which was then a new type of neutrino oscillation; now, with 3.5 times more data, this transformation is firmly established.

This T2K observation is the first of its kind in that an explicit appearance of a unique flavor of neutrino at a detection point is unequivocally observed from a different flavor of neutrino at its production point.

The T2K collaboration also reports a precision measurement of muon neutrino disappearance with an off-axis neutrino beam with a peak energy of 0.6 GeV. Near detector is used in both oscillation measurements to constrain the neutrino flux and cross section parameters.