New Neutrino Oscillation Results from T2K

JAMES IMBER, SUNY at Stony Brook, T2K COLLABORATION — I report on the latest neutrino oscillation results from T2K. T2K is an off-axis long baseline beam neutrino experiment currently in operation in Japan. The muon neutrino beam generated at the J-PARC facility in Tokai traverses 295km to the Super-Kamiokande detector near Kamioka. T2K is designed to probe neutrino mixing and in particular to make high precision measurements of $\Delta m_{23}^2$ and $\sin^2(2\theta_{23})$ and discover or set a greatly improved limit on $\sin^2(2\theta_{13})$ determined from the disappearance of muon neutrinos from the beam and the appearance of electron neutrinos. The first data set, the result of $3.23 \times 10^{19}$ protons on target, was collected between January and June 2010. A summary of the observed event candidates in Super-Kamiokande is presented, illustrated with some distributions of selection variables.

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