

Status of the T2K experiment

T2K (Tokai-to-Kamioka) is a second generation long baseline neutrino experiment utilizing a newly built neutrino source with a MW class high energy proton accelerator complex (J-PARC neutrino facility), a near neutrino detector (ND280) to characterize the neutrino beam 280 meters from the source, and Super-Kamiokande as the far detector at 295 km.

The primary motivation for T2K is the discovery of the ν_μ to ν_e conversion phenomena and, as a consequence, the finite value of the θ_{13} mixing angle. It will also conduct a precise measurement of θ_{23} and the mass difference of neutrino mass eigenstate. The ultimate goal for T2K is to establish the lepton flavor mixing structure.

Construction of the J-PARC neutrino facility was completed in March 2009 and engineering operation of the T2K started as scheduled the following month. This talk will provide a general introduction to T2K, and present the current beam commissioning status and the status of preparations towards the start of the experiment in fall 2009.

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