

Recent results from the T2K experiment

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The long-baseline world-leading experiment T2K (Tokai-to-Kamioka) studies neutrino oscillations and other neutrino properties. The experiment uses an intense beam of muon (anti)neutrinos produced at J-PARC in Japan and measured by the near (INGRID, ND280) and far (Super-Kamiokande) detectors. Currently the experiment has collected statistics corresponding to 14.93×10^{20} POT (protons on target) in neutrino-mode running and 7.62×10^{20} POT in antineutrino-mode. Simultaneous analysis of appearance and disappearance channels of (anti)neutrino oscillations allows one to measure the following parameters that govern the oscillations: $\sin^2(\theta_{23})$, $\sin^2(\theta_{13})$, $|\Delta m_{32}^2|$, δ_{CP} and the mass hierarchy. Combined with the measurements from reactor experiments the T2K data provide an exclusion of the CP conservation hypothesis at the 2σ level. In this talk the recent status and results from the T2K experiment will be discussed as well as the future plans of the project.

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