

Latest neutrino oscillation measurements from T2K

Tuesday 26 August 2025 16:00 (20 minutes)

T2K is a long-baseline neutrino oscillation experiment, measuring the oscillation of neutrinos and antineutrinos produced at J-PARC facility which then travel 295 km across Japan to its far detector, SuperKamiokande. T2K has been taking data since 2009 and sets world-leading constraints on many neutrino oscillation parameters within the standard PMNS three-flavour mixing paradigm, including offering hints that the CP-violating phase (δ_{CP}) favours non CP-conserving values. In this talk, T2K's latest analysis of neutrino oscillations will be presented. This analysis includes the presence of new and improved event samples at the near and far detectors as well as a significant update to the treatment of systematic uncertainties on neutrino interactions and the near detector response. Prospects for future analyses with significantly improved statistics, thanks to an increasing beam power, and the use of T2K's newly installed near detector upgrade will also be shown.

Collaboration you are representing

T2K

Author: ISHITSUKA, Masaki (Tokyo University of Science)

Presenter: ISHITSUKA, Masaki (Tokyo University of Science)

Session Classification: Neutrino Physics and Astrophysics

Track Classification: Neutrino Physics and Astrophysics