

## T2K experiment status and plans

*lunedì 17 giugno 2024 11:10 (25 minuti)*

T2K is a long-baseline neutrino oscillation experiment exploiting a beam of muon neutrinos or antineutrinos produced at the Japan Particle Accelerator Research Centre (J-PARC). Neutrinos are observed before oscillations at a Near Detector complex, located inside J-PARC at 280 m from the target, and at the far detector, Super-Kamiokande, 295 km away, where samples of electron and muon (anti-)neutrinos are selected.

In this talk we will show the latest T2K oscillation analyses results, including the results from the joint fit of the T2K beam samples with the atmospheric neutrinos from Super-Kamiokande.

In addition we will also describe the upgrades recently completed on the beamline, that allowed to reach the initial design beam power of 750 kW, and the upgrades of the off-axis Near Detector complex, consisting in the installation of a new high granularity target (Super-FGD), surrounded by two new High-Angle TPCs and six Time-Of-Flight planes.

T2K prospects for the next years of data taking will also be discussed in the talk.

### Poster prize

### Given name

### Surname

### First affiliation

### Second affiliation

### Institutional email

### Gender

### Collaboration (if any)

**Relatore:** GIGANTI, Claudio (LPNHE)

**Classifica Sessioni:** S1: 3 flavour neutrino oscillations 1