

## Recent results from T2K and future plans

*Wednesday, 12 October 2016 16:00 (15)*

The T2K long-baseline neutrino oscillation experiment in Japan is designed to study neutrino oscillations using a muon (anti-)neutrino beam produced by J-PARC and propagating to Super-Kamiokande detector (located at 295 km across Japan). T2K has conclusively presented results on muon neutrino disappearance and electron neutrino appearance, allowing to perform precise measurement of lepton mixing parameters.

Since 2014, the experiment is running in anti-neutrino mode allowing to study anti-neutrino oscillations and has obtained first constraints on CP violation in leptonic sector. We will present the latest results in both appearance and disappearance channels (joint analysis neutrino and anti-neutrino modes), leading to the most up-to-date measurements of  $\theta_{23}$ ,  $\Delta m_{23}^2$  and  $\delta_{CP}$ . The future prospects of T2K will also be discussed.

**Primary author(s)** : Mr. LAMOUREUX, Mathieu (CEA Saclay, IRFU)

**Presenter(s)** : Mr. LAMOUREUX, Mathieu (CEA Saclay, IRFU)

**Session Classification** : Nuclear physics and particle physics - parallel IV

**Track Classification** : Nuclear physics and particle physics