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Type: Talk

## Status report and performance of the T2K experiment

*vendredi 30 juillet 2010 14:00 (20 minutes)*

The talks aims to present the results of the first physics run of T2K and give an update on the status and performance of the experiment. T2K is the first long baseline off-axis neutrino oscillation experiment and aims to refine the measurements of the oscillation parameters  $Dm_{23}$  and  $\theta_{23}$ , discovered by Super-Kamiokande with atmospheric neutrinos, respectively at a level of 10% and <1% uncertainties in disappearance neutrino oscillation mode. Moreover these parameters are fundamental ingredients for the key research item of T2K that is the discovery of  $\theta_{13}$  by measuring the appearance of electron neutrinos, which is furthermore needed to understand CP violation in the leptonic sector. This will be done by comparing the flux of a high intensity neutrino beam at a near detector station, ND280 (composed of on-axis and 2.5 degree off-axis detectors at roughly 280 m from the neutrino source) with the flux 2.5 degree off-axis at the far detector, Super-Kamiokande (295 km from the source).

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**Classification de Session:** Parallel session : DM at colliders and neutrinos