



Contribution ID: 185

Type: **Poster session**

Constraining CPT violation with Hyper-Kamiokande and ESSnuSB

CPT symmetry, which is the combination of Charge conjugation, Parity and Time reversal, constitutes one of the fundamental symmetries of nature. Although no definitive signal of CPT violation has been observed so far, there are many reasons to undertake a careful investigation of various low-energy phenomena which can provide better probes to test CPT symmetry. In this context, neutrino experiments are expected to provide more stringent bounds on CPT invariance violation, compared to the existing bounds from the Kaon system. Hence, any slight deviation to the neutrino properties during their propagation due to CPT violation can be studied in long-baseline experiments. In this work, we investigate the sensitivity of the upcoming long-baseline experiments - Hyper Kamiokande (T2HK, T2HKK) and ESSnuSB to constrain the CPT violating parameters $\Delta(\delta_{CP})$, $\Delta(m_{31}^2)$ and $\Delta(\sin^2 \theta_{23})$, which characterize the difference between neutrino and antineutrino oscillation parameters.

Primary authors: Mr SINGHA, DINESH KUMAR (University Of Hyderabad); MAJHI, RUDRA (UNIVERSITY OF HYDERABAD); MOHANTA, Rukmani (University of Hyderabad); Dr K. N., Deepthi (Mahindra University)

Presenter: Mr SINGHA, DINESH KUMAR (University Of Hyderabad)

Session Classification: Neutrino Physics Session 2

Track Classification: Neutrino Physics