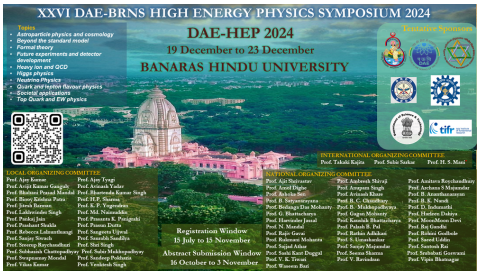

Contribution ID: **273** Type: **Postar**

Dark Non-Standard Interaction and CP-phase measurement at DUNE

The coupling of neutrinos with complex scalar dark matter particles can have interesting phenomenological signatures in neutrino oscillation experiments. For time-averaged data, it appears as an energy-dependent correction to the mass-squared term in the neutrino Hamiltonian. We study the effect of neutrino scattering with scalar dark matter termed dark Non-Standard Interaction (dark NSI) in the context of the long baseline experiment DUNE. The phases associated with the off-diagonal elements of the dark NSI matrix can act as additional sources of CP violation apart from the genuine Dirac CP phase, hampering the measurement of δ_{CP}. We will present the phenomenological consequences of dark NSI in neutrino oscillation and its effect on the CP violation sensitivity of DUNE.

Field of contribution

Phenomenology

Authors: Mr MEDHI, Abinash (Indian Institute of Technology Guwahati); BEZBORUAH, Dharitree (Tezpur University); Dr DEVI, Moon Moon (Tezpur University, India)

Presenter: BEZBORUAH, Dharitree (Tezpur University)

Track Classification: Neutrino Physics