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Opportunity to study physics beyond standard neutrino oscillations @DUNE ANIMESH CHATTERJEE, Univ of Texas, Arlington, DUNE COLLABORATION — A major goal of present and future long-baseline neutrino oscillation experiments is to make precision measurements of neutrino flavour oscillations, which are well-explained by mixing between three active flavors within current experimental constraints. However, other mechanisms could be responsible for neutrino flavour change on a sub-leading level. The proposed Deep Underground Neutrino Experiment (DUNE) plans to deploy a massive 40 kton Liquid Argon Time Projection Chamber (LArTPC) and expose it to a high-intensity 1.2 MW neutrino beam to measure neutrino flavor change over a 1300 km baseline between Fermilab and the Homestake mine, in South Dakota. This detector-beam configuration provides an excellent opportunity to study physics beyond standard neutrino oscillations. DUNE will be able to search for or constrain a wide variety of physics phenomena, such as, light sterile neutrinos, nonstandard neutrino interactions, large extra-dimensions, heavy neutrinos, lepton flavour violation, and low mass dark matter. In this talk, we will present preliminary DUNE sensitivities to physics beyond the standard model and show that DUNE will play a significant role in measuring or constraining these phenomena.

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