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Probing Beyond the Standard Model Physics with the Deep Underground Neutrino Experiment

The Deep Underground Neutrino Experiment (DUNE) is an international project for neutrino physics searches, currently in its planning stages. DUNE will consist of two detectors exposed to the world's most intense neutrino beam. The Near Detector will sample the beam near the production target, at Fermilab. The Far Detector, comprising four 10-kton LArTPC modules, will be installed 1300 km away, in the Sanford Underground Research Facility in South Dakota.
The high-intensity neutrino beam combined with DUNE's high-resolution Near Detector and massive LArTPC Far Detector enables a variety of BSM physics probes, from discovery of new particles (sterile neutrinos, dark matter, heavy neutral leptons), to precision tests of the neutrino mixing matrix including Non-standard Neutrino Interactions, or the detailed study of rare processes (e.g. neutrino trident production). This poster will review these physics topics and discuss the prospects for their measurement at DUNE.

Mini-abstract

The DUNE project sets out to probe exciting New Physics with novel detector and beam technologies

Experiment/Collaboration

DUNE

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