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Overview of the DUNE experiment

The Deep Underground Neutrino Experiment (DUNE) will consist of a 40-ktonne liquid argon TPC detector situated 1.5 km below the surface at the Sanford Underground Research Facility. A new broadband high-intensity neutrino source and Near Detector complex will be located at Fermilab, at a distance of 1,300 kilometres. This arrangement will provide excellent sensitivity in the search for neutrino CP violation, determination of the neutrino mass ordering, and for precision measurements of neutrino mixing parameters. The underground Far Detector also allows for low background, low threshold observations of supernova neutrinos, with a unique sensitivity to the electron neutrino flux. Furthermore, DUNE will conduct a wide range of searches for physics beyond the Standard Model, including baryon number violation, rare scattering processes, and non-standard flavour transitions. In this talk, I will review give an overview of the DUNE experiment and its extensive physics program.

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