

The Deep Underground Neutrino Experiment (DUNE) Program

Thursday 18 July 2024 14:30 (15 minutes)

The Deep Underground Neutrino Experiment (DUNE) is a next-generation long-baseline neutrino oscillation experiment aimed at determining the neutrino mass hierarchy and the CP-violating phase. The DUNE physics program also includes the detection of astrophysical neutrinos and the search for signatures beyond the Standard Model, such as nucleon decays. DUNE consists of a near detector complex located at Fermilab and four 17-kton Liquid Argon Time Projection Chamber (LArTPC) far detector modules to be built 1.5 km underground at SURF, approximately 1300 km away. The detectors are exposed to a wideband neutrino beam generated by a 1.2 MW proton beam with a planned upgrade to 2.4 MW. Two 700 ton LArTPCs (ProtoDUNEs) have been operated at CERN for over 2 years as a testbed for DUNE far detectors and have been optimized to take new cosmic and test-beam data in 2024-2025. This talk will present the DUNE and ProtoDUNE experiments and physics goals, as well as recent progress and results.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

I read the instructions above

Yes

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