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(I) The Deep Underground Neutrino Experiment DUNE: review and recent progress

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The Deep Underground Neutrino Experiment (DUNE) is a next-generation long-baseline neutrino oscillation experiment. DUNE's main goal is to provide unprecedented sensitivity in the search for neutrino CP violation, to determine the neutrino mass hierarchy, and to make precision measurements of neutrino mixing parameters. DUNE will be sensitive to low-energy neutrinos coming from supernova bursts, bringing insight for both particle physicists and cosmologists. DUNE's ambitious physics program also includes searches for proton decay and non-standard neutrino interactions. The experiment will utilize a new broadband high-intensity neutrino beam and a suite of Near Detectors at Fermilab, along with Far Detectors situated 1300 km from Fermilab at the Sanford Underground Research Facility. This presentation reviews DUNE's extensive physics program and experimental design, as well as recent progress. The ongoing and future activities of the recent Canadian effort will be presented, with an emphasis on how researchers and students can contribute.

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