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Overview of the DUNE Phase-II Program

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The Deep Underground Neutrino Experiment (DUNE) is the next-generation long-baseline experiment aimed at measuring Charge-Parity Violation (CPV) in the neutrino sector along with unambiguously resolving the neutrino mass hierarchy. In addition, DUNE can also search for physics Beyond the Standard Model (BSM), nucleon decay, supernova and solar neutrinos. DUNE will consist of a near detector at Fermilab and a second, much larger, far detector (FD), a mile underground at the Sanford Underground Research Facility (SURF) in South Dakota 800 miles away. DUNE has developed a two-phase strategy toward the implementation of this mega science project. With Phase-I construction well underway, DUNE is now planning for Phase-II, as envisaged by the recommendations of Particle Physics Project Prioritization Panel (P5) and the European Strategy for Particle Physics. The Phase-II far and near detector components, and the increased beam power, will enable a new era of precision and discovery in neutrino physics. This talk will give an overview of the DUNE Phase-II program and technology options currently being explored for near and far detectors. The expanded science opportunities offered by DUNE Phase-II along with a status of current R&D activities underway across the globe will also be described.

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