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DUNE in 10 Minutes

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The Deep Underground Neutrino Experiment (DUNE) is a next-generation long-baseline neutrino experiment, with one detector located near the origin of a neutrino beam at Fermilab and another located 1300 km away in South Dakota. Using the beam, DUNE will advance knowledge of neutrino oscillation physics, including a measurement of the CP violating phase and a study of the mass hierarchy. A rich program of non-beam physics research will also take place, including searches for supernovae and proton decay, as well as studies of atmospheric neutrinos. The far detector will be a 40 kton fiducial mass liquid argon time projection chamber, divided into four 10 kton fiducial mass modules. Since charged particles passing through liquid argon also induce scintillation, a photon detection system is in development to enhance the far detector's capabilities. Aspects of the physics program, detector designs, and the extensive research and development program en route to realization will be presented.

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