

PROJECT X

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Abstract

Project X is the generic name for a new multi-MW Proton Source under development at Fermilab. This machine would enable a world-class 2 MW long baseline neutrino program via a new neutrino beam line pointed to DUSEL in Lead, SD. It would also enable a broad suite of rare decay experiments. Two versions of this machine are under consideration. ICD-1 consists of a pulsed 8 GeV 20 ma H^- linac made up of a 325 MHz spoke resonators to 420 MeV followed by a 1.3 GHz ILC-like linac with squeezed elliptical cavities to 1.3 GeV and velocity of light cavities to 8 GeV. H^- are injected into the Fermilab 8 GeV Recycler Ring where they are stripped then injected into the Main Injector for acceleration to 120 GeV each 1.4 sec. The linac pulses at 2.5 Hz such that additional linac pulses are available to supply 360 KW to an 8 GeV high intensity program. ICD-2 employs a 1 ma 2 GeV CW linac to provide 2 MW to the high intensity program with very flexible beam manipulation. Acceleration from 2-6 GeV acceleration could be either a pulsed linac similar to ICD-1 or a rapid cycling synchrotron. This talk will describe these configurations, infrastructure development, R&D, and design studies in progress.

**CONTRIBUTION NOT
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