



MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

Contribution ID: 472

Type: **Presentation**

Fermilab PIP-II Status and Strategy

Thursday, 3 August 2017 13:30 (25 minutes)

Proton Improvement Plan-II (PIP-II) is the centerpiece of Fermilab's plan for upgrading the accelerator complex to establish the leading facility in the world for particle physics research based on intense proton beams. PIP-II has been developed to provide 1.2 MW of proton beam power at the start of operations of the Long Baseline Neutrino Experiment (LBNE), while simultaneously providing a platform for eventual extension of LBNE beam power to >2 MW and enabling future initiatives in rare processes research based on high duty factor/higher beam power operations. PIP-II is based on the construction of a new, 800 MeV, superconducting linac, augmented by improvements to the existing Booster, Recycler, and Main Injector complex. PIP-II is currently in the development stage with an R&D program underway targeting the front end and superconducting rf acceleration technologies. This paper will describe the status of the PIP-II conceptual development, the associated technology R&D programs, and the strategy for project implementation.

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Session Classification: Accelerators

Track Classification: Accelerators