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PO21 - Fermilab Accelerator Complex Evolution & the Main Injector Synchrotron

Tuesday, 12 September 2023 15:10 (20 minutes)

“Fermilab is working to make the highest power proton beam for neutrino production. To that end we have committed to building a superconducting RF linac (aka PIP-II) to replace the existing Linac. On the experimental end we are building new detector enclosures and beam line (DUNE/LBNF) from the FNAL Main Injector (MI). The goal of the projects is to produce and utilize a 1.2 MW proton beam for neutrino physics.

The existing FNAL Main Injector (MI) synchrotron has a minimum ramp period of 1.13 seconds. We are considering upgrading the existing MI infrastructure to enable ramp period of about 0.6 seconds. This change, coupled with other improvements would become part of the FNAL Accelerator Complex Evolution (ACE) project and would almost double average beam power on target.

As an Engineering Physicist in the MI department my presentation will focus on proposed changes to the Main Injector and how these changes will be implemented across accelerator operations.”

Presenter: MURPHY, Martin (FNAL)

Session Classification: Poster / Demo Sessions