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IOTA proton injector installation & commissioning

Tuesday 3 June 2025 16:00 (2 hours)

The IOTA proton injector (IPI) has recently been installed and commissioned at the Fermilab Accelerator Science and Technology (FAST) facility. The IPI provides 2.5 MeV protons for injection into the to the Integrable Optics Test Accelerator (IOTA), a 40-meter-circumference storage ring also capable of accepting 150 MeV electrons from a superconducting radio-frequency (SRF) linac originally installed and used for initial studies into nonlinear optics and optical stocastic cooling (OSC) in IOTA. Addition of the IPI extends the capabilities of IOTA, adding a range of proton-based research and development to the exiting portfolio, including extension of the nonlinear optics program and addition of an electron lens. Here we provide an overview of the new proton injector, its capabilities, the commissioning process, and the various avenues of research and opportunities for collaboration anticipated.

Footnotes

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