Contribution ID: **799** Contribution code: **TUPB020** Type: **Poster Presentation**

Injection simulations of space charge dominated proton beams in IOTA

Tuesday 3 June 2025 16:00 (2 hours)

A 2.5 MeV proton injector has been constructed for the IOTA ring at Fermilab to study the interaction of nonlinear integrable optics (NIO) with high space charge beams. Space charge in the transport line from the RFQ to the injection location has a significant current dependent effect on the phase space. Simulation studies to support efficient injection of intense bunches into IOTA are presented, included schemes to inject directly into NIO lattices.

Footnotes

Paper preparation format

LaTeX

Region represented

America

Funding Agency

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Session Classification: Tuesday Poster Session

Track Classification: MC4: Hadron Accelerators: MC4.T12 Beam Injection/Extraction and Transport