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## Injection simulations of space charge dominated proton beams in IOTA

*Sunday 1 June 2025 14:00 (2 hours)*

A 2.5 MeV proton injector is being 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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