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Status of halo studies at SNS Beam Test Facility

Wednesday 4 June 2025 16:00 (2 hours)

Ongoing work at the SNS beam test facility aim to predict halo growth and evolution in a real accelerator system with particle-in-cell tracking. This work uses resources at the SNS Beam Test Facility (BTF), which is a front-end test stand with extensive phase space diagnostics and extended 2.5 MeV beamline for beam dynamics studies. This paper reports on recent benchmark results, using the PyORBIT code to predict horizontal and vertical phase space projections at the output of a 9.5-cell FODO line. Good agreement is obtained for the 99% beam core. This paper will also discuss efforts to improve accuracy of the model prediction, and extend the benchmark to the halo particles.

Footnotes

Paper preparation format

LaTeX

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America

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