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Exploring Space Charge Mitigation with Eigenpainting in the SNS

Tuesday 12 August 2025 16:00 (2 hours)

The Spallation Neutron Source uses charge exchange injection of 1.3 GeV, H- ions to accumulate roughly 2x10E protons per pulse in the accumulator ring. This is achieved using a flexible painting system capable of controlling all four transverse coordinates of injected beam over the 1ms injection cycle. Recently we demonstrated injection of an ˜800 MeV beam into a single non-planar mode in the SNS ring, which we call eigenpainting. This poster will outline future plans for exploring the space charge dynamics of beams prepared by eigenpainting in the SNS ring, including comparison of hollow, gaussian, and uniformly painted beams.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

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Yes

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