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## Dynamics study of laser stripping injection of H-beam in the SNS

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A Laser Assisted Charge Exchange (LACE) injection in the Spallation Neutron Source (SNS) is under development. By utilizing powerful lasers and magnetic fields, electrons are stripped out of the H- beam without foils. Such a process avoids any foil-based charge exchange injection problems, such as foil degradation and beam loss, especially for future multi-megawatt power beams. Proof-of-principle of LACE has been experimentally demonstrated in the SNS in a transport line. Integration of the LACE injection into the SNS accumulator ring is in progress. In this paper, we present preliminary results of optics design and beam dynamics study.

### Footnotes

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