

Abstract Submitted
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Flexible Simulation Tools for Modeling Ion-Driven HEDP Experiments¹ SETH VEITZER, SCOTT SIDES, PETER STOLTZ, Tech-X Corporation, JOHN BARNARD, Lawrence Livermore National Laboratory — We are developing new software libraries to assist in the simulation of planned ion-driven high energy density physics (HEDP) experiments. These libraries are designed to be cross-platform and multi-language so that they may easily be incorporated into multiple simulation packages running on various architectures and written in different languages. Relevant to the production of HEDP states, recently we have implemented models of electronic and nuclear stopping of ions in cold targets. We show how these new stopping algorithms allow us to predict that a beam of 2.82 MeV lithium ions could heat an aluminum foil to 2-3 eV. Such a beam is under consideration for the NDCX II experiment at Lawrence Berkeley National Laboratory. We also discuss modification to these stopping powers for warm targets.

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