

Abstract Submitted
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LSP Simulations of High Intensity Short Pulse Lasers Incident On Reduced Mass Targets¹ FRANK W. KING, VLADIMIR M. OVCHINNIKOV, DOUGLASS SCHUMACHER, KRAMER U. AKLI, RICHARD R. FREEMAN, The Ohio State University — Reduced mass targets allow study of the surface heating and volumetric heating regimes which are important for a variety of applications. We present the results of fully kinetic 2D simulations, using the PIC code LSP, that model full scale laser pulses incident on full scale targets as a function of intensity, spot size, pre-plasma, and target lateral extent and thickness. The simulations run for as long as 20 ps in some cases. We observe complex target deformation including the formation of shocks that vary with lateral position and compare to recent experiment [1,2].

[1] K.U. Akli, et al, Phys. Rev. Lett. **100**, 165002 (2008).

[2] K.U. Akli, et al, APS DPP 2011.

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Frank W. King
The Ohio State University

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