

Abstract Submitted
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Numerical study of magnetic mirror effect on ultra-fast wire ablation¹ ALLA BATISHCHEVA, Delta Search Labs, Cambridge, MA, OLEG BATISHCHEV, NU/ Physics/ CIRCS, Boston, MA, JEAN-LUC CAMBIER, AFRL, Edwards AFB, CA — Ultra-fast laser ablation of a micron-diameter wire at relativistic intensities is simulated numerically. A solid-density plasma cluster is placed into strong magnetic field [1], which is directed along the wire axis. Laser pulse propagates normally to the wire, and along the strong gradient of applied static magnetic field. We simulate numerically plasma plume formation and directional expansion with emphasis on laser-matter energy coupling and momentum production. [1] A. Batishcheva, O. Batishchev, J.-L.Cambier, Laser Ablation with applied magnetic field for electric propulsion, Bulletin APS, **57** (12) 329, 54th APS DPP, Providence, Oct 29 - Nov 2, 2012.

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