Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Interaction of a Plasma Jet with a Magnetized Planar Obstacle[1]

A.M. RASMUS, M.J.-E. MANUEL, C.C. KURANZ, S.R. KLEIN, J.S. DAVIS, R.P. DRAKE, University of Michigan, D.S. MONTGOMERY, S.C. HSU, C.S. ADAMS, Los Alamos National Lab, B.B. POLLOCK, Lawrence Livermore National Lab —

The propagation of high velocity plasma-jets into transverse magnetic fields has applications to pulsed power and fusion, as well as astrophysical processes, e.g. pulsed jets and the interaction of the solar wind with the magnetosphere. In experiments at the Trident Laser Facility at Los Alamos National Laboratory an Al plasma-jet propagated into a uniform, 4.5T, magnetic field produced by an electromagnet. The flow collided with a planar obstacle. Interferometry and Faraday rotation measured the path integrated electron density and magnetic field. Preliminary results from these diagnostics will be discussed.

[1]This work is funded by the U.S Department of Energy, through the NNSA-DS and SC-OFES Joint Program in High-Energy-Density Laboratory Plasmas, grant number DE-NA0001840.

A.M. Rasmus
University of Michigan

Date submitted: 24 Jul 2015 Electronic form version 1.4