Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

Launching and Colliding Magnetized Plasma Jets on the OMEGA Laser R.P. YOUNG, C.C. KURANZ, R.P. DRAKE, University of Michigan, D. FROULA, Laboratory for Laser Energetics, J. ROSS, Lawrence Livermore National Laboratory, C.K. LI, Massachusetts Institute of Technology, G. FIKSEL, Laboratory for Laser Energetics — In April 2012, we had a successful shot day on the OMEGA-60 laser, proving that rear irradiation of thin, conical, acrylic foils can produce a fast, hot, dense plasma jet. We will present a selection of data from that day, focusing on the Thomson scattering data and its implications for fundamental fluid parameters such as Reynolds and magnetic Reynolds numbers. We may also present preliminary data from our shot day in August 2013, which is in final planning as this abstract goes to press. The August shot day will build upon our success in April 2012 by adding an imposed magnetic field and proton radiography capabilities to the experiment. This work is funded by the NNSA-DS and SC-OFES Joint Program in High-Energy-Density Laboratory Plasmas, grant number DE-FG52-09NA29548, and by the National Laser User Facility Program, grant number DE-NA0000850.

Steven Young
University of Michigan

Date submitted: 11 Jul 2013 Electronic form version 1.4