

Abstract Submitted  
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**Penetration of a Laser-Produced Plasma Across an Externally Applied Magnetic Field** CHRISTOPHER PLECHATY, RADU PRESURA, SANDRA WRIGHT, DAVID MARTINEZ, STEPHAN NEFF, VLADIMIR IVANOV, YURIY STEPANENKO, University of Nevada, Reno: Nevada Terawatt Facility — Plasma flow across a magnetic field is an important topic in laboratory plasmas. In recent experiments performed at the Nevada Terawatt Facility, a plasma flow created by ablating a polyethylene target with a high-intensity laser (10 joules in 1 ps), was allowed to interact with a magnetic field produced by passing a 0.6 MA current through a straight cylindrical electrode. In experiment, the laser-produced plasma was diagnosed with interferometry and Schlieren diagnostics in the plane perpendicular to the magnetic field. The laser-produced plasma was observed to be collimated by, and penetrate, the externally applied magnetic field. In previous experiments performed with a ns laser (Mostovych (1988), Peyser (1992) and Burneteau (1970)), a similar effect was observed, and was attributed to **E X B** drift produced by the polarization of the plasma flow. All current progress will be presented. Work supported by DOE/NNSA grant DE-FC52-06NA27616.

Christopher Plechaty  
University of Nevada, Reno: Nevada Terawatt Facility

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