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**Collisionless Interaction of a Magnetized Ambient Plasma and a Field-Parallel Laser Produced Plasma** P. V. HEUER, A. S. BONDARENKO, D. B. SCHAEFFER, C. G. CONSTANTIN, S. VINCENA, S. TRIPATHI, W. GEKELMAN, M. WEIDL, University of California, Los Angeles, D. WINSKE, Los Alamos National Laboratory, C. NIEMANN, University of California, Los Angeles — We present measurements of the collisionless coupling between an exploding laser-produced plasma (LPP) and a large, magnetized ambient plasma. The LPP was created by focusing the Raptor laser (400 J, 40 ns) on a planar plastic target embedded in the ambient Large Plasma Device (LAPD) plasma at the University of California, Los Angeles. The resulting ablated material moved parallel to the background magnetic field, interacting with the ambient plasma along the full 17m length of the LAPD. The amplitude and polarization of waves driven by the interaction were measured by an array of 3-axis magnetic flux probes. Emissive doppler spectroscopy and a high temporal resolution monochromator were used to observe the velocity and charge state distributions of both ambient and debris ions. Measurements are compared to hybrid simulations of quasi-parallel shocks.

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