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Plasma Diagnostics for a Laser Driven Expansion into a Large Ambient Magnetized Plasma[1] A. ZYLSTRA, UCLA, Pomona College, C. CONSTANTIN, E. EVERSON, D. SCHAEFFER, N. KUGLAND, P. PRIBYL, W. GEKELMAN, S. VINCENA, S. TRIPATHI, C. NIEMANN, UCLA — The expansion of a laser plasma into a large (17m x 0.6m) magnetized plasma across or at 45° to the 275 G background field is studied with Langmuir and Mach probes. A special probe geometry allows data collection inside a diamagnetic bubble formed during the laser plasma expansion. We also observe Alfvén and MHD fast waves far away from the target. In the case of an expansion 45° from the background field we detect fast ion motion in the chamber and present Monte Carlo simulations of the ion trajectories.

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