## Abstract Submitted for the DPP07 Meeting of The American Physical Society

Interaction of laser-produced plasmas with large magnetoplasmas CHRISTOPH NIEMANN, CARMEN CONSTANTIN, ANDREW COLLETTE, SHREEKRISHNA TRIPATHI, PATRICK PRIBYL, ERIK EVERSON, ALEXANDRE GIGLIOTTI, STEPHEN VINCENA, UCLA, RADU PRESURA, STEPHAN NEFF, CHRISTOPHER PLECHATY, UNR, WALTER GEKELMAN, UCLA — We will present experiments on the interaction of dense laser-produced plasmas with a large mangetoplasma. A high-energy laser (>20 J) coupled to the Large Plasma Device (LAPD) at UCLA allows unique experiments on laser driven shocks that can approach the collisionless regime. Focused laser intensities around  $10^{13}$  W/cm² produce an ablating plasma-plume with expansion velocities of several 100 km/s. Prior to the laser pulse an ambient plasma with a size of 18 m lengths and 50 cm diameter at  $4x10^{12}\ cm^{-3}$  and  $T_e{=}5$  eV is created in an axial magnetic field of 600-1800 G. We will present measurements of Alfven waves radiated from the laser-produced plasma, as well as a characterization of the evolution and particle distribution of the laser-produced plasma 'piston'.

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