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Results from colliding magnetized plasma jet experiments executed at the Trident laser facility M.J.-E. MANUEL, A.M. RASMUS, C.C. KURNAZ, S.R. KLEIN, J.S. DAVIS, R.P. DRAKE, Univ of Michigan - Ann Arbor, D.S. MONTGOMERY, S.C. HSU, C.S. ADAMS, Los Alamos National Laboratory, B.B. POLLOCK, Lawrence Livermore National Laboratory — The interaction of high-velocity plasma flows in a background magnetic field has applications in pulsed-power and fusion schemes, as well as astrophysical environments, such as accretion systems and stellar mass ejections into the magnetosphere. Experiments recently executed at the Trident Laser Facility at the Los Alamos National Laboratory investigated the effects of an expanding aluminum plasma flow into a uniform 4.5-Tesla magnetic field created using a solenoid designed and manufactured at the University of Michigan. Opposing-target experiments demonstrate interesting collisional behavior between the two magnetized flows. Preliminary interferometry and Faraday rotation measurements will be presented and discussed. This work is funded by the U.S Department of Energy, through the NNSA-DS and SC-OFES Joint Program in High-Energy-Density Laboratory Plasmas, grant number DE-NA0001840. Support for this work was provided by NASA through Einstein Postdoctoral Fellowship grant number PF3-140111 awarded by the Chandra X-ray Center, which is operated by the Astrophysical Observatory for NASA under contract NAS8-03060.

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