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Summary of Plasma Liner Experiment (PLX) Research Results¹ S.C. HSU, A.L. MOSER, J.S. DAVIS², J.P. DUNN, T.J. AWE³, LANL, E.C. MER-RITT, C.S. ADAMS, A.G. LYNN, M.A. GILMORE, University of New Mexico, S. BROCKINGTON, A. CASE, S.J. MESSER, D. VAN DOREN, F.D. WITHER-SPOON, HyperV Technologies, J.T. CASSIBRY, M. STANIC, UAHuntsville — Spherically imploding plasma liners could result in cm-, μ s-, and Mbar-scale plasmas upon stagnation, which is of interest for fundamental high energy density (HED) plasma physics studies. They are also envisioned as a potential standoff compression driver for magneto-inertial fusion (MIF). Experiments on PLX over the past year have focused on characterizing the propagation of a single argon plasma jet and the oblique merging of two jets, and assessing the suitability of the jets for the HED and MIF applications. Via a multi-chord interferometer, survey spectrometer, photodiode array, and fast framing imaging camera, we are determining that the jets are near the PLX design goal with respect to density (10¹⁷ cm⁻³) and velocity (50 km/s). The key physics issues being studied are the rate of jet expansion during propagation, and the potentially deleterious effects of jet merging such as shock formation and heating which could degrade imploding liner performance. This poster will provide a project summary, and a highlight of experimental results on both sin

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