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Diagnostics for the Plasma Liner Experiment (PLX) ELIZABETH MERRITT, MARK GILMORE, ALAN LYNN, University of New Mexico, BRUNO BAUER, University of Nevada Reno, F. DOUGLAS WITHERSPOON, HyperV Technologies Corp, JASON CASSIBRY, University of Alabama Huntsville, SCOTT HSU, Los Alamos National Laboratory, PLX TEAM — The Plasma Liner Experiment (PLX) is exploring and demonstrating the feasibility of forming HED and MIF relevant imploding spherical "plasma liners" that can reach peak pressures $\sim$ 0.1 Mbar at stagnation. Liners will be formed via merging of 30 - 60 dense, high Mach number plasma jets (M $\sim$ 10-35, v $\sim$ 50-70 km/s, jet radius $\sim$ 5 cm) in spherically convergent geometry. Issues include determining parameters (n, T, radius) at stagnation, dynamics of liner formation and convergence, and liner symmetry. Simulations predict wide parameter ranges over the liner evolution, from densities of 10^{22}- 10^{26} m^{-3} and $T_e \sim T_i$ from 1-500 eV, which necessitate a variety of diagnostics. Diagnostics include multichord visible interferometry and polarimetry, Schlieren imaging, visible and VUV spectroscopy, fast 1D imaging diode arrays, fast cameras, bolometry, and magnetic, electrostatic and pressure probes. This poster overviews and discusses the current status of diagnostic design and implementation.

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