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Diagnostics for PLX-alpha[1] MARK GILMORE, University of New Mexico, SCOTT HSU, Los Alamos National Laboratory — The goal of the Plasma Liner eXperiment PLX-alpha at Los Alamos National Laboratory is to establish the viability of creating a spherically imploding plasma liner for MIF and HED applications, using a spherical array of supersonic plasma jets launched by innovative contoured-gap coaxial plasma guns. PLX-α experiments will focus in particular on establishing the ram pressure and uniformity scalings of partial and fully spherical plasma liners. In order to characterize these parameters experimentally, a suite of diagnostics is planned, including multi-camera fast imaging, a 16-channel visible interferometer (upgraded from 8 channels) with reconfigurable, fiber-coupled front end, and visible and VUV high-resolution and survey spectroscopy. Tomographic reconstruction and data fusion techniques will be used in conjunction with interferometry, imaging, and synthetic diagnostics from modeling to characterize liner uniformity in 3D. Diagnostic and data analysis design, implementation, and status will be presented.

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