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Development of Fast Ionization Gauge for Time-Resolved Neutral Gas Density Measurements[1] ERIC LAVINE, SETTHIVOINE YOU, University of Washington — A plasma experiment seeking to simulate a magnetically-driven jet launched by an accretion disk is under construction to improve understanding of plasma shear flow interactions with magnetic fields. The experimental setup replaces an accretion disk that would rotate in the vacuum chamber at impractical speeds with three independent concentric annular electrodes. To minimize the effect of asymmetries on jet launching and late-stage fuelling special attention must be paid to establishing azimuthal symmetry of the mass source at the boundaries. In order to accomplish this, a diagnostic with temporal resolution fast enough to track the evolution of the gas puff is needed. This poster describes the development of a custom fast ionization gauge (FIG) with $<2\mu s$ response time that will allow precise timing of gas valves to measure and control the symmetry in gas distribution for pressures of 10^{-6} to 10^{-3} torr.

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