

Abstract Submitted
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Measurements of Ion and Neutral Fluctuation Changes with Pressure in a Large-Scale Helicon Plasma¹ R.H. DWYER², D.M. FISHER, R.F. KELLY, M.W. HATCH, M. GILMORE, University of New Mexico — Neutral particle dynamics may play an important role both in laboratory plasmas and in the edge of magnetic fusion devices. However, studies of neutral dynamics in these plasmas have been limited to date. Here we report on a basic study of ion and neutral fluctuations as a function of background neutral gas pressure. These experiments have been conducted in helicon discharges in the HelCat (Helicon-Cathode) dual-source plasma device at the University of New Mexico. The goal is to measure changes in ion and neutral density fluctuations with pressure and to gain an improved understanding of plasma-neutral interactions. Langmuir probe, Ar-I LIF, and high-speed imaging measurements of the fluctuations will be presented.

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