Abstract Submitted
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Plasma Behavior in a Plasma Gun Jet[1] DANIEL PULLIAM, Auburn University, THOMAS INTRATOR, COLIN ADAMS, JASON SEARS, THOMAS WEBER, P-24: Plasma Physics, LOS ALAMOS NATIONAL LABORATORY TEAM — Plasma guns will provide initial pre-ionized plasma for a field reversed configuration experiment (FRX-L). The development and testing of these guns is being carried out on the Reconnection Scaling experiment (RSX). Successful gun operation requires the ionized plasma leaving the guns to be maximized and the neutral gas particles surrounding each gun jet to be minimized. A fast ionization gauge (FIG) produced by Applied Pulsed Power, Inc. with a response time of >20 mTorr/μs will be used to measure the density of hydrogen plasma in the RSX in order to determine the shape of the plasma pulse and the speed of the particles. Additionally, the FIG will provide data to calculate the quantity of gas particles preceding the plasma jet and a Mach number of the plasma leaving the gun. An equation of state fluid model will be used for the system and to compare calculations with experimental data.

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