

Abstract Submitted
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Optical Measurements of Dense Hypervelocity Plasmoids from a Coaxial Plasma Accelerator¹ ANDREW CASE, SARAH MESSER, RICHARD BOMGARDNER, SAM BROCKINGTON, DOUGLAS WITHERSPOON, R. ELTON, HyperV Technologies Corporation — High velocity dense plasma jets are under continued experimental development for fusion applications including refueling, disruption mitigation, rotation drive, and magnetized target fusion. We present spectroscopic measurements of plasma velocity, temperature and density, along with spatially resolved line-integrated density measurements taken using a two channel quadrature heterodyne HeNe interferometer. Results from these measurements are in agreement with each other and with time of flight measurements taken using photodiodes. Plasma density is greater than $5 \times 10^{15} \text{cm}^{-3}$, and velocities range up to 100 km/s, with a small component in some cases exceeding 120 km/s.

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