

Abstract Submitted
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Schlieren

Imaging Diagnostic for a Collisionless Shock Experiment¹ C.S. ADAMS, A.G. LYNN, M.A. GILMORE, E.C. MERRITT, University of New Mexico, A.L. MOSER, S.C. HSU, LANL — A schlieren imaging diagnostic has been designed and constructed to diagnose the properties of astrophysically-relevant collisionless shocks in colliding plasma jets. This system has been designed to capture electron density changes as small as 10% over millimeter length scales in ~ 1 – 10 eV hydrogen plasmas at 10^{14} cm^{-3} density. The diagnostic consists of a 1.064 μm Nd:YAG illumination system and a megapixel imaging camera. The layout is a Z-configuration for compactness, with 20 cm diameter mirrors to enable a relatively wide imaging area. We present preliminary results from oblique and head-on jet merging experiments at densities in the 10^{14} to 10^{17} cm^{-3} range.

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