

Abstract Submitted
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Shock formation in counter-streaming jets on the MAGPIE pulsed-power generator¹ F. SUZUKI-VIDAL, S. LEBEDEV, L.A. PICKWORTH, G.F. SWADLING, G. BURDIK, J. SKIDMORE, G.N. HALL, M. BENNETT, S.N. BLAND, J.P. CHITTENDEN, P. DE GROUCHY, J. HARE, J. MUSIC, L. SUTTLE, Imperial College London, A. CIARDI, Observatoire de Paris, R. RODRIGUEZ, J.M. GIL, G. ESPINOSA, Universidad de las Palmas de Gran Canaria, E. HANSEN, A. FRANK, University of Rochester — Experiments looking at formation of shocks from the collision between two counter-streaming jets are under investigation. The experiments are in the context of high-energy density laboratory astrophysics looking at the formation of internal shocks in jets from young stars. The jets in the experiments are driven by the ablation of plasma from two opposite radial foil Z-pinches, subjected to a 1.4MA, 250ns current pulse from the MAGPIE pulsed-power generator. The dynamics of shock formation from the collision are determined by a combination of advected toroidal magnetic field carried with the jets, and other effects such as radiative cooling in the plasma. The dynamics of the collision are compared with numerical simulations using the code GORGON, whereas radiative cooling effects are investigated with the codes ABAKO/RAPCAL and the astrophysical code AstroBEAR.

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