Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Shock dynamics in counter-streaming plasma flows[1] F. SUZUKI-VIDAL, S.V. LEBEDEV, L.A. PICKWORTH[2], G.F. SWADLING[3], G. BURDIAK, G.N. HALL[4], T. CLAYSON, M. BENNETT, S.N. BLAND, J. HARE, J. MUSIC, D. RUSSELL, L. SUTTLE, Imperial College London, A. CIARDI, Ecole Normale Superieure, R. RODRIGUEZ, J.M. GIL, G. ESPINOSA, Universidad de las Palmas de Gran Canaria — The collision between two counter-streaming plasma flows is studied on the MAGPIE generator by introducing a 1.4MA, 250ns electrical current into two oppositely-facing radial foils. The interaction between the flows leads to the formation of different shock features, particularly a bow shock on the axis of the system. We present results of bow shock dynamics with different foil thicknesses and materials, together with an analysis of the effects of radiative cooling in the shock.

[1]Work supported in part by The Royal Society, by EPSRC Grant EP/G001324/1, by DOE cooperative agreements DE-F03-02NA00057 and DE-SC-0001063
[2]Present address LLNL
[3]Present address LLNL
[4]Present address LLNL

Francisco Suzuki-Vidal
Imperial College London

Date submitted: 20 Jul 2015 Electronic form version 1.4