

Abstract Submitted  
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**Magnetised bow shocks and oblique shock interactions: HEDLA experiments on the Magpie pulsed-power facility**<sup>1</sup> G.C. BURDIAC, S.V. LEBEDEV, J.P. CHITTENDEN, T. CLAYSON, C. GARCIA, J.D. HARE, N. NIASSE, L.G. SUTTLE, F. SUZUKI-VIDAL, Imperial College London, A. FRANK, University of Rochester, A. CIARDI, Sorbonne University, France — We present results from magnetised shock experiments performed on the Magpie ( $\sim 1$  MA, 250 ns) pulsed-power facility. Shocks are formed around cylindrical and oblique planar obstacles positioned in a supersonic, super-Alfvenic plasma flow ( $M_S = 5$ ,  $M_A = 2.5$ ,  $v_f = 70$  km/s). The plasma flow is produced by an inverse, exploding wire array z-pinch and carries an embedded magnetic field that is well frozen in ( $Re_M = 20$ ). We show how the structure of bow and oblique shocks is dramatically affected by the orientation of the advected magnetic field with respect to the obstacles. More complex obstacle geometries allow us to study the interaction of multiple magnetised oblique shocks. These systems can cause the annihilation of magnetic flux and the generation of shear flow along a slip layer.

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