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Interaction of supersonic radiatively cooled plasma jet with solid targets L. PICKWORTH, S.V. LEBEDEV, F. SUZUKI-VIDAL, M. BOCCHI, G. SWADLING, S.N. BLAND, G. BURDIAK, J.P. CHITTENDEN, P. DE GROUCHY, G.N. HALL, J. SKIDMORE, L. SUTTLE, M. BENNETT, S. PATANKAR, Imperial College, A. CIARDI, Ecole Normale Superieure, A. FRANK, University of Rochester — Results of experiments aimed on formation of reverse shocks in radiatively cooled supersonic plasma jets decelerated in collision with solid targets will be presented. The jet is produced by plasma flows in radial foil or wire array z-pinch configurations driven by 1.4MA, 250ns current pulse on the MAGPIE Z-pinch. The produced jet has internal Mach numbers of 3-20, Reynolds numbers of $>10^5$ and density of $\sim 10^{18}$-10^{19}cm^{-3}. The interaction of the jet with a foil target produces several shock features which were investigated using laser imaging and interferometry at 532nm and 355nm, spectroscopy and Thompson scattering diagnostics, providing specially resolved measurements of the flow velocity and plasma temperature in the shock front.

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