Abstract Submitted
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Experimental study of z-pinch driven radiative shocks in low density gases JONATHAN SKIDMORE, S.V. LEBEDEV, F. SUZUKI-VIDAL, G. SWADLING, S.N. BLAND, G. BURDIAK, J.P. CHITTENDEN, P. DE GROUCHY, G.N. HALL, L. PICKWORTH, L. SUTTLE, M. BENNETT, Imperial College, A. CIARDI, Ecole Normale Superieure — Results of experiments performed on MAGPIE pulsed power facility (1.4MA, 250ns) will be presented. Shocks with velocities of 50-70km/s are driven in Ar, Xe and He gases at density $\sim 10^{-5}$g/cc using radial foil z-pinch configuration [1]. Measurements of the structure of the shocks obtained with laser probing will be presented and observations of the development of instabilities will be discussed. It was found that the structure of the shocks and the development of instabilities strongly depend on the rate of radiative cooling, increasing for gases with higher atomic numbers.

[1] F. Suzuki-Vidal et al., PoP 19, 022708 (2012)

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