

Abstract Submitted
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Hybrid X pinches¹ T.A. SHELKOVENKO, S.A. PIKUZ, P.F. KNAPP, A.D. CAHILL, C.L. HOYT, D.A. HAMMER, Cornell University, S.N. MISHIN, A.R. MINGALEEV, V.M. ROMANOVA, I.N. TILIKIN, A.E. TER-OGANESYAN, P.N. Lebedev Physical Institute — A hybrid X-pinch configuration consisting of solid conical electrodes connected by a wire has been tested on four different generators with currents varying from 270 kA to 1 MA and risetimes ranging from 50 ns to 170 ns. Wires of different materials were loaded through holes in the cones; wire lengths were varied from 0.6 to 2 mm. It was possible to optimize the wire material, length and diameter so that most of these hybrid X pinches generated an intense single burst of soft x-rays with energy yield comparable with the one in standard X pinches. In such cases, the single hot spot that was of micron-scale size. Hybrid X pinches generate less hard x-ray intensity than standard X pinches. Early stage of the wire explosion in the hybrid X pinches was studied.

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