

Abstract Submitted
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Multi-Planar Wire Array Precursor Formation on the 1MA Zebra Generator¹ KENNETH WILLIAMSON, VICTOR KANTSYREV, ANDRE ESAULOV, ALLA SAFRONOVA, ISHOR SHRESTHA, GLENN OSBORNE, MICHAEL WELLER, VERONICA SHLYAPTSEVA, University of Nevada, Reno, PLASMA PHYSICS AND DIAGNOSTICS LABORATORY TEAM — The double-planar wire array (DPWA) is the most promising z-pinch load studied on the 1MA Zebra generator for application to radiation physics and ICF studies. Initial investigation of this load revealed unique implosion dynamics: each plane implodes independently into two off-axis columns before coalescing into the final pinch.² New results are presented exploring the formation of these off-axis plasma columns with laser shadowgraphy and time-gated x-ray imaging, each fielded parallel to wire planes 6mm apart. Simulated radial current distribution and ablation effects³ along with simple 3-D calculations were used to establish the processes that created the observed structures. These dynamics are then compared with triple-planar wire array (TPWA) loads.

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²V. L. Kantsyrev, et. al., PoP, **15**, 030704 (2008)

³A. A. Esaulov, et. al., HEDP, **5** (2009), in press

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