

Abstract Submitted  
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**Spectroscopic Modeling of Mo Planar Wire Arrays produced on the 1 MA Zebra generator at UNR**<sup>1</sup> M.F. YILMAZ, A.S. SAFRONOVA, V.L. KANTSYREV, K. WILLIAMSON, G. OSBORNE, T.E. COWAN, University of Nevada, Reno, P.D. LEPELL, KTech Corp., C.A. COVERDALE, C. DEENEY, Sandia National Laboratories — Planar wire arrays produce the record-high peak powers and yields in sub-keV and keV among all other configurations of the X- and Z-pinch loads tested on 1 MA UNR Zebra [1]. In particular, Mo planar wire arrays implosions showed the maximum radiation yield of all wire materials tested on this device so far ( $\sim 18$  kJ) and the highest L-shell plasma electron temperature  $T_{e\geq 800}$  eV. To estimate and analyze evolution of plasma parameters in space and time, spatially-resolved, time integrated and time-gated, spatially integrated L-shell Mo spectra were collected and analyzed. An earlier developed and successfully used non-LTE kinetic Mo model [2] was applied in the present work. Results are compared with the previous results on UNR Zebra Mo X-pinches and SNL-Z Mo nested wire arrays [3]. References: [1]. V.L. Kantsyrev, A. S. Safronova, D. A. Fedin *et al*, IEEE TPS, v. 34, 194 (2006). [2]. A.S. Shlyaptseva, S.B. Hansen, V.L. Kantsyrev *et al*, PRE, v. 67, 026409 (2003). [3]. P. D. LePell, S.B. Hansen, A.S. Shlyaptseva *et al*, PoP, v. 12, 12032701 (2005).

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