

Abstract Submitted  
for the DPP10 Meeting of  
The American Physical Society

**First Analysis of Radiative Properties of Moderate-atomic-number Planar Wire Arrays on Zebra at UNR at Higher Current of 1.7 MA\*** A.S. SAFRONOVA, V.L. KANTSYREV, A.A. ESAULOV, A. ASTANOVITSKIY, B. LEGALLOUDEC, R. PRESURA, I. SHRESTHA, K.M. WILLIAMSON, V. SHLYAPTSEVA, M.E. WELLER, N.D. OUART, S.F. KEIM, G.C. OSBORNE, UNR, A.S. CHUVATIN, E. Polytechnique, C.A. COVERDALE, SNL — The analysis of implosions of Cu and Ag planar wire array (PWA) loads recently performed at the enhanced 1.7 MA Zebra generator at UNR is presented. Experiments were performed with a Load Current Multiplier with a 1cm anode-cathode gap (twice shorter than in a standard 1 MA mode). A full diagnostic set included more than ten different beam-lines with the major focus on time-gated and time-integrated x-ray imaging and spectra, total radiation yields, and fast, filtered x-ray detector data. In particular, the experimental results for a double PWA load consisting of twelve  $10\mu\text{m}$  Cu wires in each row (total mass  $M \sim 175 \mu\text{g}$ ) and a much heavier single PWA load consisting of ten  $30\mu\text{m}$  Ag wires ( $M \sim 750 \mu\text{g}$ ) were analyzed using a set of theoretical codes. The effects of both a decreased a-c gap and an increased current on radiative properties of these loads are discussed. \* This work was supported by NNSA/DOE Coop. Agr. DE-FC52-06NA27588, 27586, and 27616. Sandia is a multi-program laboratory operated by Sandia Co., a LMC, for the US DOE under Contract DE-AC04-94AL85000.

Alla Safronova

Date submitted: 24 Aug 2010

Electronic form version 1.4