

Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Spectroscopic Analysis of First Experiments of Al Planar Foils and Single Planar Wire Arrays on Zebra at UNR*¹ H.A. ZUNINO, M.E. WELLER, A. STAFFORD, A.S. SAFRONOVA, V.I. KANTSYREV, University of Nevada, Reno, A.S. CHUVATIN, Ecole Polytechnique, France, I. SHRESTHA, G.C. OSBORNE, V.V. SHLYAPTSEVA, S.F. KEIM, University of Nevada, Reno — A spectroscopic analysis of experiments with Al planar foils and single planar wire arrays (SPWA) performed on the Zebra generator is presented. Both types of experiments were performed at standard (1.0MA) and enhanced (1.7MA) currents each with the required masses to attain implosion close to peak current. As a general trend, the loads performed at enhanced current are shown to have nearly double the energy output than loads performed at standard current. Data from a full diagnostic set was analyzed with major focus on x-ray spectroscopic data. A non-LTE kinetic model was used to derive plasma parameters of electron temperature and density and estimate opacity effects. Similarities and differences in K-shell spectroscopic features radiated from Al foils and SPWAs are identified and discussed.

¹Work was supported by DOE/NNSA under Cooperative Agreements DE-FC52-06NA27588, DE-FC52-06NA27586, and in part by DE-FC52-06NA27616.

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Date submitted: 14 Jul 2011

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