

Abstract Submitted
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Analysis of implosion and spectroscopic characteristics of combined planar wire arrays composed from low- and mid-z wire materials on the 1MA pulsed power generator at UNR A.S. SAFRONOVA, V.L. KANTSYREV, N.D. OUART, M.F. YILMAZ, K. WILLIAMSON, V. SHLYAPTSEVA, I. SHRESTHA, G. OSBORNE, University of Nevada, Reno, C.A. COVERDALE, Sandia National Laboratories, C. DEENEY, NNSA, DOE — Analysis of single combined planar wire array experiments is presented. In these experiments, which were conducted at the 1 MA pulsed power generator at UNR, the Z-pinch load consisted of two Al and several Cu alloyed wires mounted in a single linear row with a 1 mm gap. Two wires of the primary Cu material were replaced by Al wires with the similar mass at three different locations. Implosion and radiative characteristics of such arrays were studied in connection with the particular location of two Al wires using filtered PCD and XRD detectors, a bare bolometer, time-gated and time-integrated pinhole cameras, and time-integrated, spatially resolved and time-gated spatially-integrated spectrometers. Non-LTE kinetic models were used to provide plasma parameters and to estimate opacity effects. This work was supported by NNSA under DOE Coop. Agr. DE-FC52-06NA27588, DE-FC52-06NA27586, and in part by DE-FC52-06NA27616. Sandia is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States department of Energy under Contract DE-AC04-94AL85000.

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