

Abstract Submitted  
for the DPP11 Meeting of  
The American Physical Society

**Analysis of Radiation from Implosions of Stainless Steel Wire Arrays on Zebra and Comparison with Laser Plasma Experiments on Leopard at UNR\***. A.S. SAFRONOVA, V.L. KANTSYREV, I. SHRESTHA, V.V. SHLYAPTSEVA, M.E. WELLER, G.C. OSBORNE, K.M. WILLIAMSON, A. STAFFORD, S.F. KEIM, A.YA. FAENOV, A.A. ESAULOV, P. WIEWIOR, N. LEGALLOUDEC, Y. PAUDEL, UNR, C.A. COVERDALE, SNL, A.S. CHUVATIN, E. Polytechnique — The implosions of Stainless Steel (SS) Wire Arrays are extensively studied at SNL and also have applications in astrophysics. The analysis of radiation from low-number-wire SS Single and Nested Cylindrical, and Planar Wire Array experiments on the 1 MA Zebra is presented. The major focus is on x-ray imaging and spectra, total radiation yields, and fast, filtered x-ray detector data. The results of Leopard laser experiments with a flat 25  $\mu\text{m}$  Fe target in the nanosecond (ns) and 350 femtosecond (fs) pulse regimes are discussed and compared with Z-pinch data. This comparison focuses mainly on L-shell Fe radiation and provides an excellent benchmark to the Z-pinch results. Good agreement with laser data is demonstrated in the ns regime, but a substantial difference is observed for the fs pulse. \* This work was supported by NNSA under DOE Coop. Agreements DE-FC52-06NA27588, 27586, and 27616. SNL is a multi-program laboratory managed and operated by Sandia Corp., a wholly owned subsidiary of Lockheed Martin Co., for the U.S. DOE under Contract DE-AC04-94AL85000.

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Date submitted: 13 Jul 2011

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