

Abstract Submitted  
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**Theoretical Investigation of Radiation Characteristics of Silver Z-pinch Arrays with Applications**<sup>1</sup> M.E. WELLER, A.S. SAFRONOVA, V.L. KANTSYREV, A.A. ESAULOV, I. SHRESTHA, G.C. OSBORNE, V.V. SHLYAPTSEVA, S.F. KEIM, A. STAFFORD, E.E. PETKOV, University of Nevada, Reno, A.S. CHUVATIN, Ecole Polytechnique, 91128 Palaiseau, France, J.P. APRUZESE<sup>2</sup>, Naval Research Laboratory, Washington, DC 20375, I.E. GOLOVKIN, J.J. MACFARLANE, Prism Computational Sciences, Madison, WI 53711 — Experiments of Ag planar wire array z-pinches have been carried out on the 1.7 MA Zebra generator at UNR and produced L-shell plasmas with electron temperatures exceeding 1.8 keV and total radiated energy upwards of 30 kJ, which is of interest for radiation physics studies. Recently, an important question about such Ag plasmas is whether lasing occurs in the Na-like and Ne-like soft x-ray range, and if so, at what gains was considered. To this end, level populations were used from modified SCRAM to calculate theoretical lasing gains for Ne-like Ag. In addition, HELIOS-CR from PRISM was utilized for 1D MHD calculations for simple cylindrical Ag configurations. The importance of the study of Ag planar wire arrays is discussed.

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<sup>2</sup>Consultant to NRL through L3 Communications, Chantilly, VA 20151.

Michael Weller  
University of Nevada, Reno

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