

Abstract Submitted  
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**Time-resolved Cu K-shell spectra from four wire Manganin X pinches**<sup>1</sup> KATHERINE CHANDLER, T.A. SHELKOVENKO<sup>2</sup>, S.A. PIKUZ<sup>3</sup>, M.D. MITCHELL, D.A. HAMMER, Laboratory of Plasma Studies, Cornell University, Ithaca, NY 14853 — Four wire 25 micron diameter Manganin (86 Cu, 14 Mn) X pinches were driven with a 450 kA current pulse in Cornell's XP Pulser and Cu K-shell spectra from the emitted plasma was analyzed. Time-resolved spectra were obtained using an x-ray streak camera together with a spherically bent mica crystal spectrometer. Time-integrated data was also obtained using an FSSR-1D with a spherically bent mica crystal and compared with the time-dependent data. A simple Gabriel model has been developed to model the experimental spectra and to extract the electron temperature as a function of time. An electron temperature of 1.7 - 2 keV has been inferred from Cu K-shell spectra from both the time-integrated and time-dependent experiments. The results of the experiments as well as the application of the model are discussed.

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