

Abstract Submitted
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**Incident Wire Array Z-pinch Plasma Radiation Fluence Effects
on the Filter Material Property & Implications on the Observed Radi-
ation Parameters**¹ Y.K. CHONG, J. THORNHILL, A. VELIKOVICH, J. GIU-

LIANI, J. DAVIS, NRL, R. CLARK, BRA, D. AMPLEFORD, C. COVERDALE,
B. JONES, Sandia National Laboratory — The wire array Z-pinches on the refurb.
Z are marked by an intense bright emission of high energy non-LTE photons. In
order to diagnose the radiation in such a hostile environment, a number of materi-
als w/ varying composition are used to provide select optimized radiation filtering.
Traditionally, the various radiation parameters are determined from the deconvolu-
tion of the actual observed values using an appropriate time invariant filter response
function (FRF). Under exposure to the radiation, however, the materials may un-
dergo significant changes. We examine the response of various filters to an intense
radiation from the plasmas. A MHD+multifreq. rad. x-port code is employed to
establish the time varying non-LTE radiation & to investigate the evolution of the
materials subject to the field. A characterization of the material EOS/FRF is made
& their effect on the radiation characteristics are quantified w/ a goal of optimized
filter design/deployment.

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