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Evaluation of Nested Wire Array Dynamics with Mixed Wire Array Z Pinches[1] C.A. COVERDALE, C. JENNINGS, B. JONES, M.E. CUNEO, C. DEENEY[2], Sandia National Labs, P.D. LEPELL, Ktech Corporation, Y. MARON, Weizmann Institute — A series of experiments at the Z Accelerator was performed with 40mm and 50mm diameter nested wire arrays to investigate the interaction of the arrays and assess radiative characteristics. These arrays were fielded with one array as Al:Mg (either the inner or the outer array) and the other array as Ni-clad Ti (the outer or inner array, with respect to location of the Al:Mg). In all the arrays, the mass and radius ratio of the outer:inner was 2:1. The wire number ratio was also 2:1 in some cases, but the Al:Mg wire number was increased in some loads. This presentation will focus on analysis of the emitted radiation (in multiple photon energy bins) and measured plasma conditions (as inferred from x-ray spectra). A discussion on what these results indicate about nested array dynamics will also be presented.

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