

**MASS ACCRETION AND NESTED ARRAY  
DYNAMICS FROM Ni-CLAD Ti - Al WIRE  
ARRAY Z PINCHES**

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Analysis of 50 mm diameter wire arrays at the Z Accelerator has shown experimentally the accretion of mass in a stagnating z pinch and provided insight into details of the radiating plasma species and plasma conditions. [1] This analysis focused on nested wire arrays with a 2:1 (outer:inner) mass, radius, and wire number ratio where Al wires were fielded on the outer array and Ni-clad Ti wires were fielded on the inner array.

In this presentation, we will present analysis of data from other mixed Al/Ni-clad Ti configurations to further evaluate nested wire array dynamics and mass accretion.[2] These additional configurations include the opposite configuration to that described above (Ni-clad Ti wires on the outer array, with Al wires on the inner array) as well as higher wire number Al configurations fielded to vary the interaction of the two arrays. These same variations were also assessed for a smaller diameter nested array configuration (40 mm). Variations in the emitted radiation and plasma conditions will be presented, along with a discussion of what the results indicate about the nested array dynamics. Additional evidence for mass accretion will also be presented.

[1]E. Kroupp *et al.*, Phys. Rev. Lett. **98**, 115001 (2007).

[2] M.E. Cuneo *et al.*, presented at 2009 Wire Array Workshop.

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