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**Relative Timing of Coronal Plasma Formation for Individual Wires in a Wire Array Z-Pinch** PATRICK KNAPP, D.A. CHALENSKI, J.D. DOUGLASS, J.B. GREENLY, R.D. MCBRIDE, S. PIKUZ, T. SHELKOVENKO, D.A. HAMMER, B.R. KUSSE, LPS Cornell University — We are investigating the initial stages of plasma formation around individual wires in low-wire-number wire-array z-pinches using the 1 MA COBRA pulsed power generator. The experiments are designed to examine the time-dependence of the current distribution among individual wires and pairs of wires in wire-array z-pinches using 5-10 aluminum or tungsten wires. To accomplish this we inductively isolate the wires, or pairs of wires, from each other using segmented load hardware. Each segment is able to hold one or two wires and is connected to machine ground through its own return current post. Experimental goals include determining the timing of the initiation of coronal plasma around each wire and determination of parameters that affect this timing. In addition, we will compare the early time rate of rise of the total currents from the segmented anode experiments to that from conventional arrays in order to make estimates of the temporal spread in coronal plasma formation when the anode is not segmented. \*This research was supported by the Stewardship Sciences Academic Alliances program of the National Nuclear Security Administration under DOE Cooperative agreement DE-FC03-02NA00057 and by Sandia National Laboratories contract AO258.

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