

Abstract Submitted  
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**Current Switching and 0D-like Implosions Produced Using Inverse Wire Array Z-Pinches**<sup>1</sup> ADAM HARVEY-THOMPSON, SERGEY LEBEDEV, GARETH HALL, SIMON BLAND, GUY BURDIAK, FRANCISCO SUZUKI-VIDAL, GEORGE SWADLING, ESSA KHOORI, JEREMY CHITTENDEN, LOUISA PICKWORTH, Imperial College — Experiments using an inverse (exploding) wire array setup (where the wires hang down from a central current conductor, acting as a return current cage) to rapidly switch current into a cylindrical wire array have been fielded on the MAGPIE generator (1.5MA, 240ns). The setup has been found to rapidly switch current into the cylindrical array, delivering  $\sim 1.5$ MA in 95ns. The implosion of the cylindrical array deviates substantially from the standard snowplough dynamics, suppressing the ablation phase and producing a 0D-like implosion. Data suggests that the change in dynamics is due to a  $\sim 5$ kA pre-pulse driven over 10ns into the cylindrical array over 100ns before the current switch operates which preconditions the wires in the array. This paper will focus on the effectiveness of the current switch.

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