

Abstract Submitted  
for the DPP11 Meeting of  
The American Physical Society

**Experimental Measurements of the Convolute Plasma on the Z-Machine\*** M.R. GOMEZ, Sandia National Labs, R.M. GILGENBACH, University of Michigan, M.E. CUNEO, R.D. MCBRIDE, G.A. ROCHAU, B. JONES, D.J. AMPLEFORD, D.B. SINARS, J.E. BAILEY, W.A. STYGAR, M.E. SAVAGE, M. JONES, A.D. EDENS, M.R. LOPEZ, Sandia National Labs, E. STAMBULCHIK, Y. MARON, Weizmann Institute, D.V. ROSE, D.R. WELCH, Voss Scientific — Post-hole convolutes are used in large pulsed power devices to combine the current from several self-magnetically insulated transmission lines at the load. The efficiency of Z's post-hole convolute has decreased with increasing electrical power. Losses as high as 20% of the peak current have been recorded on the most lossy shots. Spectroscopic measurements of the plasma that forms in the convolute are underway. Initial results show that there is a strong correlation between convolute plasma density and the load. This presentation will cover convolute plasma behavior and loss current for several load configurations on the Z-Machine. \*Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

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Date submitted: 19 Jul 2011

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