

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Plasma Spectroscopy of the Double Post-Hole Convolute on Sandia's Z-Machine* MATTHEW GOMEZ, RON GILGENBACH, University of Michigan, MIKE CUNEO, MIKE LOPEZ, GREG ROCHAU, RYAN MCBRIDE, JIM BAILEY, PAT LAKE, Sandia National Labs, YITZHAK MARON, Weizmann Institute — In large-scale pulsed power systems, post-hole convolutes combine current from several magnetically insulated transmission lines just before the load. Current losses in the convolute and the final feed gap on the Z-Machine have been measured in some cases to be as high as 10-20%. The goal of these experiments is to characterize plasma conditions in the convolute in an attempt to correlate the plasma formation with current losses. Preliminary data show sharp onset of strong continuum emission and a number of spectral-line absorption features. LiF was deposited onto convolute components as a localized dopant to confirm the origin of these emissions. Experimental results as well as simulated spectra from PrismSpect will be presented. *MRG sponsored by SSGF through NNSA. Sandia is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the US DOE's NNSA under contract DE-AC04-94AL85000.

Matthew Gomez
University of Michigan

Date submitted: 15 Jul 2010

Electronic form version 1.4