

Abstract Submitted
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Optical Spectroscopic Measurements of the Z Machine Power Flow Region MATTHEW GOMEZ, Sandia National Laboratories, RON GILGENBACH, University of Michigan, MIKE CUNEO, RYAN MCBRIDE, GREG ROCHAU, BRENT JONES, DAVE AMPLEFORD, DAN SINARS, JIM BAILEY, BILL STYGAR, MARK SAVAGE, MICHAEL JONES, AARON EDENS, MIKE LOPEZ, Sandia National Laboratories, E. STAMBULCHIK, Y. MARON, Weizmann Institute, DAVE ROSE, DALE WELCH, Voss Scientific — Pulsed power machines typically utilize vacuum transmission lines to deliver energy to the load. Large-scale drivers often employ several parallel transmission lines to reduce inductance. Post-hole convolutes can be used to combine the current from the transmission lines at the load. Losses in the post-hole convolute and vacuum transmission lines on the Z-machine are as high as 20% of the peak current. Spectroscopic measurements of the plasma that forms on the power flow surfaces are underway. A second visible spectroscopy system has been added to the Z diagnostic suite, which allows symmetry measurements of the plasma formation. Investigations of the convolute plasma origin and propagation are ongoing. *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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