

Abstract Submitted  
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**X-ray Power and Energy output of Z-Machine Dynamic Hohlräume**  
G. IDZOREK, T. TIERNEY, R. WATT, Los Alamos National Laboratory — Los Alamos performs radiation flow experiments at the Z-machine in order to verify their modelling codes. Critical input to these codes is the actual radiation power profile which flows into the experiment. Our standard diagnostic suite consists of X-ray Diodes (XRD), silicon photodiodes, and nickel thin film bolometers. Custom written computer software examines the raw data to determine the data quality, folds in detector spectral response, calculates a multi-detector spectral unfold, and yields an equivalent Planckian temperature profile. Sets of diagnostics view the dynamic hohlraum from the side, top axial anode side, and bottom axial cathode side. Results to date yield some interesting conclusions: Correlation between the various diagnostic views seems tenuous at best. Identical nickel foil bolometers usually agree within 10%. At low bolometer-foil temperature increases the bolometers agree with integrated XRD power unfolds but diverge at higher temperature increases. For identically filtered X-ray diodes the integrated response of photocathodes may vary an factor of two. XRD's usually unfold to yield a Planckian-like spectrum. Top axial measurements consistently yield higher temperatures than bottom axial diagnostics. In our presentation we will compare the diagnostic techniques, analysis, and results to establish drive conditions for our experiments.

T. Tierney  
Los Alamos National Laboratory

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