

Abstract Submitted  
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**COAX: A Temperature Profile Diagnostic for Radiation Waves on OMEGA-60**<sup>1</sup> H. M. JOHNS, P. KOZLOWSKI, S. R. WOOD, C. FRYER, A. LIAO, T. S. PERRY, H. ROBEY, C. J. FONTES, S. COFFING, D. W. SCHMIDT, T. CARDENAS, T. J. URBATSCH, Los Alamos Natl Lab, C. R. D. BROWN, J. W. MORTON, AWE — We have developed COAX [1] to provide spatial temperature profiles of a radiation wave through low density foams as a more detailed constraint for simulations than breakout measurements provide [2]. The COAX platform uses a halfraum to drive radiation down a titanium-laden silicon oxide foam at OMEGA-60 [1,3]. Point-projection X-ray absorption spectroscopy, for temperature, is paired with radiography to capture the developing shock as radiation flow becomes sub-sonic. Spectroscopic analysis of COAX data determines temperature by comparison to synthetic spectra post-processed from radiation-hydrodynamics simulations [2], with +22.4 $\mu$ m spatial resolution and temperature uncertainty of + 4-8 eV.

1. H. M. Johns, C. L. Fryer, S. R. Wood, et al, submitted to HEDP
2. C. Fryer, A. Hungerford, J. Kline, et al, HEDP, **35**, 2020, 100738
3. D. Capelli, C. A. Charsley-Groffman, R. B. Randolph, High Power Laser Sci. **5**, (2017)

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