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Simulations of Ti-laden Aerogel to Address Radiation Flow Across Material Interfaces[1] SUZANNAH R. WOOD, CHRIS L. FRYER, HEATHER M. JOHNS, SHANE X. COFFING, PAWEL M. KOZLOWSKI, ANDY LIAO, CHRISTOPHER J. FONTES, TODD URBATSCH, HARRY F. ROBEY, TED S. PERRY, Los Alamos National Laboratory, JOHN W. MORTON, COLIN R.D. BROWN, Atomic Weapons Establishment, NICHOLAS E. LANIER, Los Alamos National Laboratory — Radiation transport and its interaction with matter is important for a wide range of problems. As simulations increase in fidelity and interfaces are more finely resolved, certain approximations become less valid and transport effects may arise, requiring improved methods for coupling radiation to mater. Transport effects can be provoked across interfaces, especially where the density or composition dramatically change. Here we present simulation results for two experimental campaigns that probe radiation flow across boundaries, COAX and Radishock. COAX develops an in-situ temperature probe using a Ti-laden aerogel. Radishock uses this probe examine a material interface that is constructed using a counter-propagating shock and dynamically evolves over time.

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