

Abstract Submitted
for the SHOCK09 Meeting of
The American Physical Society

Time-dependent temperature measurements of expansion products from shock compressed Composition B LALIT CHHABILDAS, Air Force Reserach Laboratory, WILLIAM REINHART, TOM THORNHILL, Sandia National Laboratories, TEMPERATURE RESERARCH TEAM — Results from spectral radiance measurements using optical multi- channel analyzer over the visible and near infrared regime provide estimates of temperature from expansion products resulting from shocked Composition-B. The basic assumption made to deduce these temperature estimates is that the debris cloud is radiating as a black body with an emissivity of 1 and is independent of the wavelength. We are also assuming that the entire debris cloud is at a single temperature and there is no spatial temperature gradient. Results for Comp-B provide the time-dependent temperature expansion history over the stress regime of 28 to 130 GPa. These are the first measurements of temperature obtained from expansion products from materials shocked to very high pressures and these results will be discussed in detail. Sandia is a multi-program laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under Contract DE_AC04-94AL85000.

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Date submitted: 17 Feb 2009

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