

Abstract Submitted
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Optical Study of Lanthanide Metals at High Pressure R.G. KRAUS, E.D. EMMONS, J.S. THOMPSON, A.M. COVINGTON, University of Nevada, Reno — We are currently investigating the pressure dependence of the photoluminescence spectra of lanthanides, including Gadolinium metal. This investigation is conducted at hydrostatic pressures up to 10 gigapascals. Static pressure is obtained using a four post diamond anvil cell. The photoluminescence is excited with a low power (5 mW) continuous wave Argon ion gas laser, and the spectrum is collected using a confocal Raman microscope. Through this investigation, we hope to obtain spectral signatures of phase transitions, thus creating a diagnostic for detection of phase transitions in shock wave experiments. Preliminary photoluminescence data will be presented.

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