

Abstract Submitted
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Examination of the spallation behavior of cerium metal¹ FRANK CHERNE, PAULO RIGG, WILLIAM ANDERSON, JASON COOLEY, Los Alamos National Laboratory — We have conducted a series of free surface shock experiments on cerium metal at peak shock pressures from 0.9-7.6 GPa. These experiments were done to examine the elastic-plastic behavior, the solid-solid phase transition occurring at 0.7-0.8 GPa, and the spall strength of the material as a function of peak stress. The elastic and low-pressure plastic waves exhibit long rise times, while the post-transition plastic wave is sharp. Spallation wave profiles obtained from using optical techniques will be presented and discussed.

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