

Abstract Submitted
for the SHOCK05 Meeting of
The American Physical Society

Modeling rate dependent phase transitions in isentropically compressed Bi and Fe¹ JAVE KANE, RAYMOND SMITH, JON EGGERT, GILBERT COLLINS, Lawrence Livermore National Laboratory — Experiments are underway at the Janus laser to study phase transitions in isentropically compressed samples of Bi and Fe attached to windows of LiF or sapphire. The target is loaded with a ramped laser ICE drive. The velocity history of the sample-window interface is recorded using line VISAR. The response of the targets is modeled by evolving the 1D Euler equations using a drive deduced by back integration from shots performed with Al samples. Multiphase EOS models are used for the sample, and rate dependence is implemented with the Andrews-Hayes equations.

¹This work was performed under the auspices of the U.S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.

Jave Kane
Lawrence Livermore National Laboratory

Date submitted: 31 Mar 2005

Electronic form version 1.4