

Abstract Submitted
for the SHOCK13 Meeting of
The American Physical Society

Plate impact experiments and simulation on porous graphite

DAVID HEBERT, GABRIEL SEISSON, ISABELLE BERTRON, JEAN-MARC CHEVALIER, CHRISTIAN THESSIEUX, JEAN-HUGUES QUESSADA, STEPHANIE TASTET, CEA — We present some plate impact experiments on a commercial grade of graphite. The dynamic loadings range between 0.4 and 15 GPa under shock, and reach 25 GPa under reshock in the samples, which were approximately 20% porous and macroscopically isotropic. Material velocity at the sample rear surface is measured and recorded optically with Visar or Perrot-Fabry interferometers. These experimental results are then compared to hydrodynamic simulations. The model for graphite takes porosity into account, and the parameter fitting will be presented. Our model is also compared to previously published experimental data. The overall agreement is good.

David Hebert
CEA

Date submitted: 21 Feb 2013

Electronic form version 1.4