

Abstract Submitted
for the SHOCK13 Meeting of
The American Physical Society

Experiments and Simulation of Split Hopkinson Bar tests on Sand¹ PHILIP CHURCH, ANDY WOOD, PETER GOULD, QinetiQ, ANDY TYAS, Sheffield University, QINETIQ TEAM², SHEFFIELD UNIVERSITY TEAM³ — Split Hopkinson Bar data has been generated for well controlled dry and wet sand under confined and unconfined conditions. Simulations have been performed with the Lagrangian hydrocode DYNA using a Porter-Gould Equation of State (EOS) and Johnson-Holmquist type constitutive model. Comparison with the raw strain gauge data is qualitatively reasonable, although some of the details of the trace are not reproduced. This has given some insights into how the constitutive model should be improved.

¹Support from UK MoD

²QinetiQ did the modelling

³Sheffield did the experiments

Philip Church
QinetiQ

Date submitted: 19 Feb 2013

Electronic form version 1.4