

Abstract Submitted  
for the SHOCK13 Meeting of  
The American Physical Society

**Analyses on the Effect of Hot Spot Density on Material Consumption Rate** GEORGE LEVESQUE, PETER VITELLO, ALBERT NICHOLS, GARY FRIEDMAN, TREVOR WILLEY, CRAIG TARVER, Lawrence Livermore National Laboratory — There is an observed effect of an explosives constituent grain size and density on its performance. At the mesoscale, it is the outward burning of hot spots that controls observed performance. While statistical hot spot models can integrate the mesoscale behavior to macroscale simulations, it is unknown what the density of created hot spots is as a function of grain size and porosity. Simulating mesoscale hot spot distributions and varying hot spot density, we discuss the resultant performance as influenced by inter-pore distance and pore distribution. This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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Date submitted: 21 Feb 2013

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