

Abstract Submitted  
for the DFD15 Meeting of  
The American Physical Society

**Evaluation of a Two-Length Scale Turbulence Model with Experiments on Shock-Driven Turbulent Mixing** JOHN CARTER, Georgia Inst of Tech, ROB GORE, Los Alamos National Laboratory, DEVESH RANJAN, Georgia Inst of Tech — A new second moment turbulence model which uses separate transport and decay length scales is used to model the shock-driven instability. The ability of the model to capture the evolution of turbulence statistics and mixing is discussed. Evaluation is based on comparison to the Georgia Tech shock tube experiments. In the experiments a membraneless light-over-heavy interface is created. There is a long-wavelength perturbation which exists due to inclination of the entire shock tube. By limiting calculations to one dimension, there is not a geometric description of the incline, and the ability of the transport length scale alone to capture the effect of the long-wavelength perturbation is tested.

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Date submitted: 01 Aug 2015

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