

Investigating Mix in Colliding-Shock Experiments

Kirk Flippo¹, Dustin Offermann¹, Eric Loomis¹, Leslie
Welser-Sherrill¹, Jim Fincke¹, and Nick Lanier¹

¹Los Alamos National Laboratory

March 22, 2012

Abstract

Experiments have been performed at the Omega laser facility to investigate turbulence-driven mix from two colliding shocks, such as expected in ICF ignition capsules. Two shocks were generated at either end of a cylindrical, CH foam. The evolution of an Al tracer layer at one end of the foam was measured using point-projection radiography. Comparison of this data with simulations from the code, RAGE has been done to improve its predictive capability for ICF experiments. RAGE implements the Besnard-Harlow-Rauenzahn (BHR) model, which is intended for turbulent transport in fluids with large density variations.

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under contract DE-AC52-06NA25396.