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Simulations of the Shock-Timing Diagnostic Commissioning Experiments at the National Ignition Facility T.J.B. COLLINS, P.W. MCKENTY, K.S. ANDERSON, T.R. BOEHLY, M.A. BARRIOS, Laboratory for Laser Energetics, U. of Rochester, P.M. CELLIERS, D.G. BRAUN, M.M. MARINAK, LLNL — As inertial confinement fusion targets are imploded, they generate several shock waves. The shock waves must be precisely timed to maintain a low target adiabat while achieving the necessary fuel compression. Shock timing of ignition experiments for the National Ignition Facility (NIF) will be confirmed using surrogate targets that allow one to determine shock speeds. The shock speeds are measured using an optical interferometer (VISAR) and a streaked optical pyrometer (SOP). This NIF platform will be tested with direct drive using impedance-matching experiments of a quartz sample and a stepped aluminum layer as a standard, based on previous experiments on OMEGA. These experiments have been simulated in three dimensions using the radiation hydrodynamics code *HYDRA*. The results of these simulations will be presented and compared to initial experimental data. This work was supported by U. S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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