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Hydrodynamic Simulations of Integrated Fast-Ignition Experiments Planned for OMEGA/OMEGA EP Laser Systems J.A. DELETTREZ, J. MYATT, C. STOECKL, D.D. MEYERHOFER, Laboratory for Laser Energetics, U. of Rochester — Integrated fast-ignition experiments for the combined OMEGA/OMEGA EP laser systems have been simulated with the multidimensional hydrodynamic code *DRACO* using a straight-line electron-transport model. The model has been improved to include the effects of blooming and straggling. Electric fields caused by return currents, a Gaussian spatial-source profile, and beam divergence have been included. Simulations of an OMEGA cryogenic DT target designed to reach a 1-D fuel ρR of 500 mg/cm^2 have been carried out in 2-D (with and without perturbations) to assess the sensitivity to energy, timing, and irradiance of the fast-ignitor beam. A moderate increase in neutron yield caused by the heating beam is observed for nonperturbed targets. This increase is larger for perturbed targets. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

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