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Effects of Resonant Absorption in Direct-Drive Experiments on OMEGA I.V. IGUMENSHCHEV, V.N. GONCHAROV, V.A. SMALYUK, W. SEKA, D.H. EDGELL, T.R. BOEHLY, J.A. DELETTREZ, Laboratory for Laser Energetics, U. of Rochester — The resonant absorption mechanism enhances laser absorption and can result in the generation of fast electrons in direct-drive experiments on OMEGA. These effects influence the shock timing and can modify the adiabat in imploded targets. The effects of resonant absorption in planar OMEGA experiments using the 1-D code *LILAC* are numerically studied. The code includes a direct solution of Maxwell's equations for the incident laser light. The simulation results indicate an important contribution of the resonance absorption during the first 100 to 200 ps regardless of the dissipation mechanisms of the absorbed laser energy near the critical surface. The results of the model will be presented and compared against the experimental data. 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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