

Abstract Submitted
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Cross-Beam Energy Transport in Direct-Drive-Implosion Experiments D.H. EDGELL, W. SEKA, J.A. DELETTREZ, R.S. CRAXTON, V.N. GONCHAROV, I.V. IGUMENSHCHEV, J.F. MYATT, A.V. MAXIMOV, R.W. SHORT, T.C. SANGSTER, R.E. BAHR, Laboratory for Laser Energetics, U. of Rochester — Time-resolved scattered-light spectroscopy from spherical-target implosions on OMEGA provides information about the time-dependent absorbed power and the spectral shift of the scattered light. Modeled spectra reproduce the major features in the observed spectral shifts but not the absolute magnitudes of the predicted spectral shifts and the total scattered light, suggesting that modeling overpredicts absorption (typically a difference of 10% to 15% of the total time-integrated laser-pulse power). Cross-beam energy transfer appears to explain the discrepancy and its effect on the absorbed power, scattered-light spectra, and bang-time and is examined for a series of implosions with varying intensity. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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