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Spherical, Converging-Shock Breakout Measurements on OMEGA J.M. SOURES, T.R. BOEHLY, V.N. GONCHAROV, D.D. MEYERHOFER, J.E. MILLER, T.C. SANGSTER, W. SEKA, V.A. SMALYUK, Laboratory for Laser Energetics, U. of Rochester — Converging-shock breakout measurements were performed on the OMEGA Laser System using 860-μm-diam spherical targets with 400-μm-diam diagnostic entrance holes. The diagnostic holes were used to allow ASBO and SOP diagnostics to collect shock-breakout signals from the back surface of the spherical shell. The diagnostic entrance holes were shielded with gold cones to protect the target interior from laser light. The experiments were performed with 20-, 27-, and 33-μm-thick shells and with 1-ns square and shaped laser pulses at intensities of $\sim 10^{15}$ W/cm^2 (similar to OMEGA spherical implosion experiments). Experimental results will be presented and compared to predictions of various theoretical models including models with constant and time-varied flux limiters and with nonlocal electron transport. This work was supported by U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-92SF19460.

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