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Direct- and Indirect-Drive Shock-Timing Experiments on the OMEGA Laser T.R. BOEHLY, V.N. GONCHAROV, D.D. MEYERHOFER, J.E. MILLER, T.C. SANGSTER, V.A. SMALYUK, Laboratory for Laser Energetics, U. of Rochester, P.M. CELLIERS, G.W. COLLINS, D. MUNRO, LLNL, R.E. OLSON, SNL — The National Ignition Campaign (NIC) requires diagnostics to measure the timing of multiple shocks in targets that closely resemble ignition capsules. One such target is a sphere with an embedded cone that contains liquid deuterium. It is applicable to both direct and indirect drive. We report on OMEGA experiments that study the effect of x-ray emission on the windows used in these cryogenic targets using open geometry and on direct-drive spherical shock-timing experiments that replicate ignition targets. These experiments indicate that the techniques planned for future NIC experiments can be performed under the conditions anticipated for ignition targets. 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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