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X-Ray Radiography of Laser-Driven Shocks for Inertial Confinement Fusion A. KAR, P.B. RADHA, D.H. EDGELL, S.X. HU, T.R. BOEHLY, V.N. GONCHAROV, S.P. REGAN, A. SHVYDKY, Laboratory for Laser Energetics, U. of Rochester — Side-on x-ray radiography of shock waves transiting through the planar plastic ablator and cryogenic fuel layer will be used to study shock timing, shock coalescence, shock breakout, and hydrodynamic mixing at the ablator–fuel interface. The injection of ablator material into the fuel can potentially compromise implosion target performance. The difference in refractive indices of the ablator and the fuel can be exploited to image shocks transiting the interface. An experiment to probe the ablator–fuel interface and a postprocessor to the hydrodynamic code *DRACO* that uses refraction enhanced imaging to view shocks are presented. The advantages of this technique to view shocks are explored and additional applications such as viewing the spatial location of multiple shocks, or the evolution of nonuniformity on shock fronts are discussed. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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