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Rayleigh–Taylor Measurements in Planar CH and SiO_2 Foils on OMEGA J.D. HAGER, V.A. SMALYUK, S.X. HU, D.D. MEYERHOFER, T.C. SANGSTER, Laboratory for Laser Energetics, U. of Rochester — Understanding how areal-density modulations grow at unstable ablative Rayleigh–Taylor (RT) interfaces is crucial to achieving inertial confinement fusion ignition. Recent planar RT experiments demonstrated increased stabilization in CH targets driven at high intensities (1×10^{15} W/cm^2) compared to simulations. Planar experiments were preformed on the OMEGA laser using CH, SiO_2, and CH-SiO_2 targets with 2-D modulations (imprinted by drive beams or pre-imposed) using shaped drive pulses at high (1×10^{15} W/cm^2) and low (5×10^{14} W/cm^2) intensities. The temporal growth of these modulations was measured with face-on x-ray radiography using Pd and Dy x-ray backlighters. Experimental results will be compared with simulations. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement DE-FC52-08NA28302.

J.D. Hager
Laboratory for Laser Energetics, U. of Rochester

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