

Abstract Submitted
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Preparing for OMEGA EP Validation of 1-D Multi-FM SSD for the NIF A. SHVYDKY, P.W. MCKENTY, M. HOHENBERGER, G. FIKSEL, T.J.B. COLLINS, J.A. MAROZAS, J.D. ZUEGEL, T.C. SANGSTER, Laboratory for Laser Energetics, U. of Rochester — Single-beam smoothing has been shown to be crucial for successful direct-drive target implosions. One-dimensional, Multi-FM smoothing by spectral dispersion (SSD) has been proposed to provide the required level of smoothing for the current NIF ignition point design. Validation experiments are being designed for OMEGA EP to verify Multi-FM SSD performance. Imprint studies in laser-driven planar foils will be performed. Corrugated foils with a sinusoidal surface modulation will provide a reference for calculating the equivalent surface roughness of the imprint. *DRACO* simulations are being used to design the foil experiments, and set the foil thickness, laser spot size, and intensity. Results of *DRACO* simulations, which include modeling of Multi-FM SSD, will be presented, comparing the expected experimental x-ray radiographs for a variety of SSD parameters (1-D, 1-D Multi-FM, and 2-D). 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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