

Abstract Submitted
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1.0-MJ CH-Foam Ignition Targets on the NIF Using 1-D Multi-FM SSD with 0.5 THz of Bandwidth J.A. MAROZAS, J.D. ZUEGEL, T.J.B. COLLINS, Laboratory for Laser Energetics, U. of Rochester — The 1-D multiple-frequency-modulator (Multi-FM) smoothing by spectral dispersion (SSD) system smoothes low ℓ -mode ($\ell < 100$) illumination nonuniformities by taking advantage of multiple color cycles dispersed across the laser beam cross section. Multi-FM systems do not produce unsmoothed resonant features in the higher ℓ modes as found in single-modulator systems. The 1-D Multi-FM SSD system is being investigated to provide adequate smoothing with a bandwidth of only 0.5 THz so that dual-frequency-conversion crystals are not required. Cryogenic, 1.0-MJ CH-foam ignition designs are being studied using 1-D Multi-FM SSD and the performance will be compared to the full 2-D SSD, 1.0-THz system using the 2-D radiation-hydrodynamics code *DRACO*. Such *DRACO* simulations incorporate the coherence-time model supported by far-field simulations. 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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