

Abstract Submitted
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Alternative Laser-Speckle-Smoothing Schemes for NIF Direct-Drive-Ignition Designs J.A. MAROZAS, J.D. ZUEGEL, T.J.B. COLLINS, Laboratory for Laser Energetics, U. of Rochester — The National Ignition Facility (NIF) in its current configuration has smoothing by spectral dispersion (SSD) in only one spatial dimension with a single FM modulator. Such smoothing has been shown to be insufficient in providing adequate uniformity for directly driven targets. It may be possible, however, to attain adequate smoothing using different options within the NIF's capabilities. The motivation is to shoot direct-drive or polar-direct-drive (PDD) targets before the full 2-D SSD system is operational. Two-dimensional *DRACO* simulations of PDD targets, utilizing 3-D ray-trace subroutines, will be used to investigate the feasibility of alternative laser-speckle-smoothing options such as multiple FM modulators in 1-D, chirped pickets and defocused beams. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement DE-FC52-92SF19460.

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