Abstract Submitted
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Two-Dimensional Numerical Evaluation of 1-D Multi-FM SSD Experiments 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 — Adequate single-beam smoothing is 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.[1] Initial validation experiments have been performed on OMEGA EP and have demonstrated the effectiveness of Multi-FM SSD in reducing laser-imprint nonuniformities. *DRACO* simulations of these planar-foil experiments will be performed and results will be compared with experimental data. The simulations will include realistic time-dependent far-field spot intensity calculations that emulate the effect of SSD. The computational mesh of these simulations will be capable of resolving single speckles. Theoretical radiographs will be used to design a proper x-ray filtration for future experiments. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

[1]J. A. Marozas, J. D. Zuegel, and T. J. B. Collins, Bull. Am. Phys. Soc. **55**, 294 (2010).

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