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Analysis of Diagnostic X-Ray Spectra of Implosions at the NIF R. EPSTEIN, S.P. REGAN, F.J. MARSHALL, R.L. MCCRORY, D.D. MEYER-HOFER, T.C. SANGSTER, Laboratory for Laser Energetics, U. of Rochester, B.A. HAMMEL, L.J. SUTER, H. SCOTT, D.A. CALLAHAN, N. IZUMI, O.L. LANDEN, N.B. MEEZAN, LLNL, I.E. GOLOVKIN, J.J. MACFARLANE, Prism Computational Sciences, R.C. MANCINI, U. of Nevada, Reno, K.J. PETERSON, SNL — Ge dopant is added to CH ablators of NIF implosions to absorb x-ray preheat. Ge K-shell spectral line emission provides a core/shell-mix diagnostic. 1 K $_{\alpha}$ fluorescence from shell dopant is directly related to the K-edge absorption by the dopant, giving a measure of shell compression. A model of the He-like line and satellite emission is fit to measured spectra to assay the mix mass. Constraints from 1-D simulations are considered. Ge line spectra are fit well by the model at single temperaturedensity points, giving mix masses that are typically below the 100-ng allowance for hot-spot mix in ignition implosions on the NIF.² 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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¹S. P. Regan, this conference.

²S. W. Haan *et al.*, Phys. Plasmas **18**, 051001 (2011).