NIF hohlraum plasma characteristics inferred from optical backscatter measurements[1] J.D. MOODY, J. RALPH, P. MICHEL, L. DIVOL, S.H. GLENZER, N. MEEZAN, D. CALLAHAN, O. JONES, N. IZUMI, H. ROBEY, R. LONDON, R.L. BERGER, B.J. MACGOWAN, E. BOND, E.A. WILLIAMS, D. HINKEL, D. STROZZI, J.L. KLINE, K. WIDMANN, R.K. KIRKWOOD, Lawrence Livermore National Laboratory — Measurements of optical backscattered SRS and SBS light from NIF hohlraum targets are used with hydrodynamic modeling to develop a consistent experimental understanding of the hohlraum plasma. Measurements are made of the temporally resolved spectra, power, and near field light distribution for a range of plasma conditions using a FABS (full aperture backscatter system) and an NBI (near backscatter imager). The measurements are combined with simulations to develop an overall model for backscatter origin locations, SRS and SBS interaction, hohlraum energetics, and the evolution of the hohlraum plasma in time. We will describe the backscatter measurements and the modeling used to infer plasma characteristics in the hohlraum targets.

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