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Electron Temperature and Plasma Flow Measurements of NIF Hohlraum Plasmas M. A. BARRIOS, D. A. LIEDAHL, M. B. SCHNEIDER, O. JONES, G. V. BROW, LLNL, S. P. REGAN, LLE, K. B. FOURNIER, A. S. MOORE, J. S. ROSS, D. EDER, O. LANDEN, R. L. KAUFFMAN, A. NIKROO, J. KROLL, LLNL, J. JAQUEZ, H. HUANG, GA, S. B. HANSEN, SNL, D. A. CALLAHAN, D. E. HINKEL, D. BRADLEY, J. D. MOODY, LLNL, LLNL COLLABORATION, LLE COLLABORATION, GA COLLABORATION, SNL COLLABORATION — Characterizing the plasma conditions inside NIF hohlraums, in particular mapping the plasma T_e, is critical to gaining insight into mechanisms that affect energy coupling and transport in the hohlraum. The dot spectroscopy platform provides a temporal history of the localized T_e and plasma flow inside a NIF hohlraum, by introducing a Mn-Co tracer dot, at strategic locations inside the hohlraum, that comes to equilibrium with the local plasma. K-shell X-ray spectroscopy of the tracer dot is recorded onto an absolutely calibrated X-ray streak spectrometer. Isoelectronic and interstage line ratios are used to infer localized T_e through comparison with atomic physics calculations using SCRAM [S.B. Hansen, *et al.* High Energy Density Phys. **3**, 109 (2007)]. Time resolved X-ray images are simultaneously taken of the expanding dot, providing plasma (ion) flow information. We present recent results provided by this platform and compare with simulations using HYDRA [Marinak, *et al.,* Phys. Plasmas **3**, 2070 (1996)]. This work was performed under the auspices of the U.S. Department of Energy by LLNL under Contract DE-AC52-07NA27344.

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