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Diagnosing in-flight ρR implosion asymmetry at low and intermediate mode numbers with charged particles at the NIF A. ZYLSTRA, F. SEGUIN, C.K. LI, J. FRENJE, N. SINENIAN, M. ROSENBERG, H. RINDERKNECHT, M. MANUEL, M. GATU JOHNSON, R. PETRASSO, MIT, P. AMENDT, R. BIONTA, D. BRADLEY, D. CALLAHAN, S. FRIEDRICH, S. GLENN, R. HEETER, D. HICKS, N. IZUMI, O. LANDEN, R. LONDON, A. MACKINNON, N. MEEZAN, S. WEBER, LLNL — J. DELETTREZ, V. GLEBOV, P. RADHA, T. SANGSTER, LLE, R. OLSON, SNL, J. KLINE, G. KYRALA, R. LEEPER, D. WILSON, LANL, J. KILKENNY, A. NIKROO, GA – The Wedge Range Filter (WRF) proton spectrometers were developed for OMEGA and transferred to the NIF as National Ignition Campaign (NIC) diagnostics. In tuning-campaign implosions containing D and ^{3}He gas, the WRFs are used to measure the spectrum of protons from D-^{3}He reactions. From the measured energy downshift of these protons, the total ρR is inferred through the plasma stopping power. Data from WRFs fielded simultaneously on the pole and equator indicate low-mode polar ρR asymmetries at shock burn. Significant swings in ρR P2/P0 are also observed in the ignition campaign data set, attributed to low-mode x-ray drive inhomogeneity. The data set also allows studies of intermediate mode symmetry. This work was supported in part by the U.S. DOE, LLNL and LLE.

F. Seguin
MIT

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