

Abstract Submitted
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Modeling of the neutron spectrum from NIF surrogate CH-shell DT implosions D. CASEY, J. FRENJE, M. GATU-JOHNSON, C.K. LI, F. SÉGUIN, R. PETRASSO, MIT, V. GLEBOV, J. KNAUER, T.C. SANGSTER, LLE, R. BIONTA, S. HATCHETT, A. MACKINNON, D. MUNRO, S. SEPKE, LLNL — Surrogate implosions play an essential role in the National Ignition Campaign for isolating aspects of complex physics associated with fully integrated ignition experiments at the National Ignition Facility (NIF). One such surrogate, currently planned on the NIF, will use indirectly driven, DT-gas filled, CH-shell implosions. To measure the neutron spectrum from these implosions the Magnetic Recoil Spectrometer and the neutron-Time-of-Flight detectors will be used. As there are currently no techniques to separate the down-scattered neutron (DSn) components from DT and CH, this talk examines the simulated neutron spectrum and evaluates the possibility of breaking this DT/CH degeneracy using the details of DSn spectral shape. This work was supported in part by LLE, the NLUF, the FSC, the US DOE, LLNL, and GA.

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