

Abstract Submitted  
for the DPP19 Meeting of  
The American Physical Society

**Measurement of fuel-shell  $\rho R$  using the neutron spectrometer measurements of down scatter ratio (DSR) in NIF cryogenic layered implosions.** EDWARD HARTOUNI, MARK ECKART, GARY GRIM, ROBERT HATARIK, SEAN KERR, ALASTAIR MOORE, DAVID SCHLOSSBERG, Lawrence Livermore Natl Lab — Large fuel-shell  $\rho R$  is one of the primary factors in capsule performance for inertial confinement fusion (ICF) implosions at the National Ignition Facility (NIF). Six diagnostic line-of-sight measurements of the down scatter ratio (DSR), a ratio of the neutron yield in the neutron kinetic energy range from 10 - 12 MeV to the 13 - 15 MeV yield. The DSR is linearly proportional to the fuel shell  $\rho R$  in the current implosions. We report on the trends in the current implosions including an analysis of the low mode. We discuss the expected improvement of the DSR characterization with the planned addition of another spectrometer line-of-sight. Prepared by LLNL under Contract DE-AC52-07NA27344.

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Date submitted: 03 Jul 2019

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