Abstract Submitted
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Analyzing neutron time-of-flight spectra from the National Ignition Facility using moments[1] R. HATARIK, J. FIELD, M. ECKART, G. GRIM, E. P. HARTOUNI, A. MOORE, D. MUNRO, D. SAYRE, LLNL — The neutron spectrum produced by an indirectly driven implosion at the National Ignition Facility (NIF) provides valuable insight into the performance of the capsule. There are four neutron time-of-flight (nTOF) spectrometers being used at the NIF which can simultaneously measure DD and DT fusion neutrons on NIF shots. The width of theses peaks have been traditionally associated with the temperature of the plasma, recent work shows that it has to be considered a combination of flow and temperature distributions. This leads to a deviation from a pure gaussian shape of a single temperature static plasma and the presence of higher order moments in the neutron spectrum. The current status of the analysis of neutron spectra from the nTOF diagnostics at the NIF will be presented.

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Robert Hatarik
LLNL

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