

Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

Measuring center-of-mass velocity on a NIF shot¹ R. HATARIK, J. MCNANEY, J.A. CAGGIANO, Lawrence Livermore National Laboratory, J.P. KNAUER, University of Rochester Laboratory for Laser Energetics — An important diagnostic value of a shot at the National Ignition Facility (NIF) is the resultant center-of-mass motion of the imploding capsule as it contributes to the efficiency of converting LASER energy into plasma temperature. This velocity can be determined with neutron time-of-flight detectors (nToF) by establishing an absolute time reference and using an inferred neutron spectrum with an ion temperature and resulting mean energy. Three nToF detectors based on fast organic scintillators are being used to determine the neutron spectrum and the resultant velocity from three different directions. Results from velocity measurements and their implications will be presented.

¹This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory, Contract DE-AC52-07NA27344.

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Date submitted: 12 Jul 2013

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