

Abstract Submitted  
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**Compact DD-neutron spectrometers for studying  $\rho R$ ,  $\rho R$  symmetry and yield at the NIF and OMEGA** F. SEGUIN, M. GATU-JOHNSON, N. SIENIAN, H. SIO, A. ZYLSTRA, M. MANUEL, D. CASEY, H. RINDERKNECHT, M. ROSENBERG, J. FRENJE, C. LI, R. PETRASSO, MIT, V. GLEBOV, J. KNAUER, D. MEYERHOFER, T. SANGSTER, C. STOECKL, LLE, R. BIONTA, D. BLEUEL, S. HATCHETT, A. MACKINNON, D. MUNRO, O. LANDEN, C. YEAMANS, LLNL, J. KILKENNY, GA — R. LEEPER, SNL — A new and very compact broadband spectrometer for DD neutrons is being tested for diagnosis of  $\rho R$  and  $\rho R$  symmetry of implosions at the NIF and OMEGA by measuring direct and down-scattered components at different positions around implosions involving  $D^3He$  or  $D_2$  fuel. Based on CR-39 nuclear track detectors,  $C_2H_4$  neutron-to-proton converters and filters, its 5-cm size enables simultaneous use of multiple modules at different angles. Directionality rejects a large fraction of neutrons scattered from the target chamber. Tests on the MIT linear accelerator provided initial calibration and demonstrated a dynamic range from  $\sim 10^5$ – $10^8$  neutrons/cm<sup>2</sup>, while NIF data provided a starting point for testing practical measurements. Results from initial experiments and simulations will be presented. This work was supported in part by the US DOE, LLE, and LLNL.

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