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Measurements of down-scattered and TT neutrons at OMEGA using the Magnetic Recoil Spectrometer D.T. CASEY, J.A. FRENJE, F.H. SEGUIN, C.K. LI, M. MANUEL, H.G. RINDERKNECHT, MIT, N. SINENIAN, R.D. PETRASSO, MIT, V. YU. GLEBOV, D.D. MEYERHOFER, T.C. SANGSTER, P.B. RADHA, S. ROBERTS, M. BURKE, J. ULREICH, LLE, K. FLETCHER, SUNY Geneseo — A Magnetic Recoil Spectrometer (MRS) was built and is currently being used on the OMEGA laser for absolute measurements of down-scattered and primary neutrons. The areal densities of CH and cryogenic DT implosions have been inferred from the down-scattered neutron spectrum. TT neutrons have also been observed in the down-scattered continuum. To correctly interpret these measurements, the MRS response function was characterized using the Monte Carlo code GEANT4 and diagnostic activation experiments. Measurements of the absolute neutron spectrum at OMEGA, inferred using the MRS response function, will be presented. This work was supported in part by the U.S. DoE, LLE, and LLNL.

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