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Measurements of DD Neutron Yield and Ion Temperature in DT Implosions on OMEGA V.YU. GLEBOV, C. STOECKL, T.C. SANGSTER, J.P. KNAUER, V.N. GONCHAROV, P.B. RADHA, Laboratory for Laser Energetics, U. of Rochester — Measurements of the DD neutron yield and ion temperature in inertial confinement fusion experiments with DT-filled targets will provide additional information on the state of the compressed fuel to further constrain numerical hydrocode simulation models. Requirements and designs of neutron detectors capable of measuring the DD yield and ion temperature in DT implosions and their performance on the OMEGA Laser System will be discussed. Comparisons of experimental data with numerical simulations for cryogenic-DT implosions, and room temperature CH or glass targets filled with DT gas will be presented. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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