

Abstract Submitted  
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**Measurement of the Neutron Energy Spectrum in T-T Inertial Confinement Fusion** V.YU. GLEBOV, T.C. SANGSTER, P.B. RADHA, W.T. SHMAYDA, M.J. BONINO, D.R. HARDING, Laboratory for Laser Energetics, U. of Rochester, D.C. WILSON, P.S. EBEL, A. NOBILE, JR., LANL, R.A. LERCHE, T.W. PHILLIPS, LLNL — Neutron energy spectra from the T-T fusion reaction were measured by imploding plastic capsules filled with high-purity tritium gas (99.76%). The experiments were performed on the 60-beam, 30-kJ OMEGA Laser Facility at the University of Rochester's Laboratory for Laser Energetics. The neutron spectra were measured using an absolutely calibrated neutron time-of-flight detector located 12.4 m from the target. The signals from the detector were recorded using a 1-GHz, 5-GS/s Tektronix TDS-684 oscilloscope. The observed fusion neutrons show a continuous energy distribution with a maximum energy of 9 MeV. The measured neutron spectrum is compared with hydrocode predictions and other experimental data. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under the Cooperative Agreement No. DE-FC52-92SF19460.

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