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**Absolute Ion-Temperature Measurements in D<sub>2</sub> and DT Implosions on OMEGA** V.YU. GLEBOV, C. STOECKL, T.C. SANGSTER, C. FORREST, Laboratory for Laser Energetics, U. of Rochester, R.A. LERCHE, LLNL — Measurements of the ion temperature in inertial confinement fusion (ICF) experiments provide valuable information on the state of the compressed fuel to further constrain numerical hydro code simulation models. The neutron-averaged ion temperature in ICF experiments is usually measured by neutron time-of-flight (nTOF) detectors. Accurate measurement of the absolute ion temperature requires an accurate instrument response function (IRF) of the entire nTOF system including the detector, cable, and recording device. The nTOF IRF is typically constructed from measurements and neutron-response simulations. Different methods for measuring nTOF detectors IRF's on OMEGA will be presented. The precision and accuracy of ion-temperature measurements with different nTOF detectors on OMEGA implosions with D<sub>2</sub> and DT fuels will be discussed. This work is supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

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