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Correlations of Multiple Ion-Temperature Measurements with Shot Parameters in DT Cryogenic Implosions on OMEGA V.YU. GLEBOV, C.J. FORREST, T.C. SANGSTER, C. STOECKL, Laboratory for Laser Energetics, U. of Rochester — Several neutron time-of-flight (nTOF) detectors installed at different lines of sight (LOS) are used to measure neutron-averaged ion temperature in direct-drive DT implosions on the OMEGA laser. The measurement precision of the ion temperature in different LOS for ambient targets is less than 4% rms. In DT cryogenic implosions, however, the ratio of the ion temperature measured in different LOS can vary by a factor of 2. Correlations of the ion-temperature difference with parameters such as target offset, beam power balance, and phase plates in DT cryogenic implosions on OMEGA will be presented. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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