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DANTE as a Primary Temperature Diagnostic for the NIF Iron Opacity Campaign. Y.P. OPACHICH, R.F. HEETER, C.D. HARRIS, LLNL, H. M. JOHNS, E. S. DODD, J. L. KLINE, N. S. KRASHENINNIKOVA, LANL, M. J. MAY, A. S. MOORE, LLNL, M. S. RUBERY, AWE, M. B. SCHNEIDER, LLNL, T. J. URBATSCH, LANL, K. WIDMANN, LLNL, T. S. PERRY, LANL — The Opacity Platform on the National Ignition Facility (NIF) has been developed to measure iron opacities at varying densities and temperatures relevant to the solar interior, and to verify recent experimental results obtained at the Sandia Z-machine, which diverge from theory. The first set of NIF experiments collected iron opacity data at ˜150-160 eV, and an electron density of ˜7x10^{21} cm^{-3}, with a goal to study temperatures up to ˜210 eV, with electron densities of up to ˜3x10^{22} cm^{-3}. Among several techniques used to infer the temperature of the heated Fe sample, the absolutely calibrated DANTE-2 filtered diode array provides measurements of the hohlraum temperature near the sample. However, the DANTE-2 temperatures are consistently low compared to pre-shot LASNEX simulations for a range of laser drive energies. It has previously been shown that an uncertainty of 5% or better, can be achieved with appropriate spectral coverage and channel participation. We present the results and future plans of an effort to reevaluate the estimated uncertainty in the reported DANTE-2 temperature measurements. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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