

Abstract Submitted
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First Successes and Modifications of the NIF Opacity Spectrometer¹ J.A. KING, E.J. HUFFMAN, R.A. KNIGHT, Y.P. OPACHICH, P.W. ROSS, NSTec, R.F. HEETER, M.F. AHMED, J.A. EMIG, D.A. LIEDAHL, M.E. MARTIN, M.B. SCHNEIDER, N.B. THOMPSON, LLNL, E.S. DODD, K.A. FLIPPO, J.L. KLINE, F.E. LOPEZ, T.N. ARCHULETA, T.S. PERRY, LANL — The NIF Opacity Spectrometer (OpSpec) began returning X-ray spectra on its first NIF shot in September 2016. In May 2017, OpSpec recorded the first X-ray transmission data for iron-magnesium plasmas on NIF, at “Anchor 1” sample conditions (150 eV and $7E21$ e-/cc). OpSpec diffracts X-rays in the 540-2100 eV range off a KAP or RbAP crystal onto either image plate or X-ray film. Modifications to further improve OpSpec’s performance are underway, with the largest improvements expected in resolving power (E/dE up to 1000) and reduction of background levels. Implementation is planned for NIF shots in August and December 2017. This presentation will discuss the OpSpec data and design improvements, and also future goals.

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