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Systematic measurements of opacity dependence on temperature, density, and atomic number at stellar interior conditions. JAMES BAILEY, Sandia National Laboratories, T. NAGAYAMA, G.P. LOISEL, G.A. ROCHAU, SNL, C. BLANCARD, CEA, J. COLGAN, LANL, PH. COSSE, G. FAUSSURIER, CEA, C.J. FONTES, LANL, I. GOLOVKIN, Prism, S.B. HANSEN, SNL, C.A. IGLESIAS, LLNL, D.P. KILCREASE, LANL, J.J. MACFARLANE, Prism, R.C. MANCINI, UNR, S.N. NAHAR, C. ORBAN, A.K. PRADHAN, OSU, M. SHERRILL, LANL, B.G. WILSON, LLNL, J.C. PAIN, F. GILLERON, CEA — Model predictions for iron opacity are notably different from measurements performed at conditions similar to the boundary between the solar radiation and convection zone [J.E. Bailey et al., *Nature* **517**, 56 (2015)]. New measurements at the Sandia Z facility with chromium, iron, and nickel are providing a systematic study of how opacity changes with temperature, density, and atomic number. These measurements help further evaluate possibilities for experiment errors and help constrain hypotheses for opacity model refinements. ++Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under contract DE-AC04-94AL85000.

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