

Abstract Submitted
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Uncertainties in X-ray Opacities: Investigating Problems in Precision Modeling of Laboratory and Astrophysical Plasmas CHRIS ORBAN, MARK SCHILLACI, The Ohio State University, FRANCK DELAHAYE, Observatoire de Paris, Muedon, France, SULTANA NAHAR, MARC PINSONNEAULT, The Ohio State University, PAUL KEITER, University of Michigan, KATIE MUS-SACK, Los Alamos National Laboratory, ANIL PRADHAN, The Ohio State University — Despite significant experimental and theoretical advances in our understanding of x-ray opacities that were gained in the mid-1990s, there remain important discrepancies between experimental and theoretical opacity models that impair efforts to model laboratory and astrophysical systems such as stars and inertial confinement fusion experiments. I will briefly describe a few different projects that I contribute to in efforts to both test and improve opacity models. Specifically, I have compared theoretical opacities developed by the Opacity Project collaboration to experiments at the Sandia Z pinch. I also collaborate on an opacity-related laser experiment led by the University of Michigan that will be conducted at the OMEGA laser in April 2015. Finally, I will discuss, from an astrophysical point of view, the question of how precise opacity models and tabulated opacity data need to be in order to adequately model main sequence stars.

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