

Abstract Submitted
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Hugoniot Temperatures of LiF at High Pressures and Temperatures¹ RYAN CRUM, Lawrence Livermore Natl Lab, ERIC DUTRA, MSTS, KATHY OPACHICH, DAWN GRANINGER, DAVID BRANTLEY, RICKY CHAU, MINTA AKIN, Lawrence Livermore Natl Lab — LiF is commonly utilized in dynamic experiments, especially as windows, but there are significant constraints upon our understanding of its Hugoniot temperature at elevated pressures. Currently, models provide significantly contrasting temperatures for a given pressure along the Hugoniot and this is due to a lack of experimental results to constrain them. Here, LiF was dynamically compressed in excess of 100 GPa while a set of pyrometers measured radiative intensity of the LiF at several wavelengths to determine its temperature via the blackbody function. Results from this study are applied to evaluate current EOS assumptions for LiF, error for such experiments, and where improvements can be made in both experiments and modeling.

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