Abstract Submitted
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Measurements of Radiative Shock Properties using Thomson scattering[1] A. VISCO, R.P. DRAKE, M.J. GROSSKOPT, University of Michigan, D.H. FROULA, S.H. GLENZER, LLNL, G. GREGORI, University of Oxford — Radiative shocks are shock waves whose structure has been altered by radiation transport. Recent experiments have used the Omega laser to study radiative shock systems that are optically thin upstream and optically thick downstream. In these systems, a radiative precursor and high density cooling layer are formed in response to radiation. To create these shocks, a thin slab of berylium is driven into cylinder of argon gas at speeds > 100 km/s, producing strong radiative effects. Thomson scattering is employed to measure the electron temperature and ionization in the system. The experiment used emission from a Mn x-ray source and the x-ray spectrum was detected using a crystal spectrometer and a gated, multi-strip, microchannel-plate detector. Measured results the will be shown, and the inferred properties will be compared with simulations and analytic estimates.

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