Abstract Submitted
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Measurements of radiative shock properties using optical and scattering diagnostics A. VISCO, R.P. DRAKE, M.J. GROSSKOPF, Univ. of Michigan, D.H. FROULA, S.H. GLENZER, A.B. REIGHARD, Lawrence Livermore National Laboratory, T. BOEHLY, Univ. of Rochester, J.P. KNAUER, Univ. of Rocherser — Radiative shocks are shock waves whose structure has been altered by radiation transport. Such shocks are present in numerous astrophysical systems, including supernova remnants, supernovae, and accretion disks. Recent experiments have used the Omega laser to study the shocked material in radiative shocks that are optically thin upstream and optically thick downstream. A thin slab of low-Z material is driven into a 1.1 atm. cylinder of high-Z gas at speeds over 100 km/s. producing strong radiative effects. Diagnostic techniques have included point projection radiography, Thomson scattering, and optical pyrometery, to make measurements of densities, temperatures, velocities, and the shocked layer structure. Sponsored by the Stewardship Sciences Academic Alliances program, through DOE Research Grants DE-FG52-07NA28058, DE-FG52-04NA00064, and by other grants and contracts.

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