

Abstract Submitted
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Electron Heat Transport Models and Flux Limiters in the CRASH Code P.D. STEWART, R.P. DRAKE, IGOR SOKOLOV, University of Michigan, THE CENTER FOR RADIATIVE SHOCK HYDRODYNAMICS (CRASH) COLLABORATION — The Center For Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is an effort to create a radiation-hydrodynamics (RH) simulation code and quantify its predictive ability using experimental results. In the RH regime, much of the kinetic energy of the ions is expended by heating the electrons. The coefficient of electron heat conductivity can be calculated by one of several methods. When a discontinuity is encountered, many methods are prone to numerical errors. To correct for this an electron flux limiter can be used. However, flux limiters often blur real details. Simulation output in CRASH using different electron heat transport models with various flux limiters can be compared to experimental results to find the most accurate combination and its overall effect on the simulation. This research was supported by the DOE NNSA under the Predictive Science Academic Alliance Program by grant DEFC52-08NA28616.

Paul Stewart
University of Michigan

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