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Comparison of the Results of 2D Rayleigh-Taylor Models in FLASH and CRASH ADAM BUDDE, R.P. DRAKE, C.C. KURANZ, M.J. GROSSKOPF, University of Michigan, T. PLEWA, Florida State University — The FLASH hydrodynamics code has been used extensively for simulating astrophysical phenomena and laboratory astrophysics experiments, including experiments investigating the Rayleigh-Taylor (RT) instability exhibited by the He-H interface of core-collapse supernovae. The Center for Radiative Shock Hydrodynamics (CRASH) at the University of Michigan is developing a simulation code to accurately predict radiation-hydrodynamics (RH) problems. Since the FLASH RT model has been studied extensively, it is compelling to recreate this model using the CRASH code in order to study its results alongside those given by the mature FLASH code. The addition of radiation physics in the CRASH code also allows for further investigation into the RT experiments. The results of both models are presented here along with a comparison between morphological features and the rate of instability growth exhibited. Funded by the NNSA-DS and SC-OFES Joint Prog. in High-Energy-Density Lab. Plasmas, by the Nat. Laser User Facility Prog. in NNSA-DS and by the Predictive Sci. Acad. Alliances Prog. in NNSA-ASC, under grant numbers DE-FG52-09NA29548, DE-FG52-09NA29034, and DE-FC52-08NA28616.

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