Additions and Improvements to the FLASH Code for Simulating High Energy Density Physics Experiments[1] DONALD LAMB, CHRISTOPHER DALEY, ANSHU DUBEY, MILAD FATENEJAD, NORBERT FLOCKE, CARLO GRAZIANI, DONGWOOK LEE, PETROS TZEFERACOS, KLAUS WEIDE, Flash Center for Computational Science, University of Chicago — FLASH is an open source, finite-volume Eulerian, spatially adaptive, radiation hydrodynamics and magnetohydrodynamics code that incorporates capabilities for a broad range of physical processes, performs well on a wide range of computer architectures, and has a broad user base. Extensive capabilities have been added to FLASH to make it an open toolset for the academic high energy density physics community. We summarize these capabilities, with particular emphasis on recent additions and improvements, and present the results of several verification tests. We also describe several collaborations with the National Laboratories and the academic community in which FLASH has been used to simulate high energy density physics experiments.

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