

Abstract Submitted
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A Test Suite for Magnetoinertial Fusion¹ JASON CASSIBRY, SETH THOMPSON, NILESH DHOTE, Propulsion Research Center, University of AL in Huntsville, RON KIRKPATRICK, CHARLES KNAPP, Los Alamos National Laboratory, S.T. WU, Center for Space Plasma and Aeronomy Research, University of AL in Huntsville, PROPULSION RESEARCH CENTER, UNIVERSITY OF ALABAMA IN HUNTSVILLE TEAM, LOS ALAMOS NATIONAL LABORATORY TEAM — We present a set of hydrodynamic and magnetohydrodynamic problems that will provide a set of test cases for those interested in modeling magnetoinertial fusion (MIF) plasmas. We describe several problems in cylindrical and spherical geometries, including the Noh problem, self-similar converging shocks, and magnetohydrodynamic imploding shocks. We use these models to provide physical insights into implosion dynamics of targets in the MIF parameter space. We verify MACH2 and SPH against selected cases.

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