

Abstract Submitted
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Simulations of deceleration phase Rayleigh-Taylor instabilities using the FLASH code¹ CAMILLE SAMULSKI, BHUVANA SRINIVASAN, Virginia Tech — Experimental results and simulations of imploding fusion concepts have identified the MRT (magneto-Rayleigh-Taylor) instability as the largest inhibitor to achieving fusion. Understanding the origin and development of the MRT instability will allow for measures to be taken in order to dampen the instability growth, thus improving the chance that fusion concepts such as MagLIF (Magnetized Liner Inertial Fusion) are successful. A study of imploding geometry in 1D and 2D is presented using FLASH, an adaptive mesh refinement code. Two cases of implosion geometry, laser driven and magnetic flux driven, are used to study late stage deceleration-phase MRT development on the interior of the imploding liner. FLASH's MHD modeling capabilities are used and updated to employ SESAME tabulated resistivity for the liner material.

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