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Design of Asymmetrically driven hohlraum experiments on OMEGA STUART MCALPIN, MARK STEVENSON, KELLY VAUGHAN, JOHN FOSTER, MARK TAYLOR, AWE, AWE TEAM — A campaign of experiments is planned on the OMEGA laser to asymmetrically drive an imploding capsule within a hohlraum. This will act as a stringent test of the modeling of both the conditions inside the hohlraum and the evolution of complex hydrodynamic systems. These experiments will be modelled using a two step approach. A pure Lagrangian code linked to an Eulerian code is used to capture the late-time hydrodynamics and a single-step ALE (Arbitrary Lagrangian Eulerian) code is used as a fully integrated test. A number of techniques have been identified which potentially offer significant control of both the spatial and temporal asymmetry of the drive on the capsule. These will be tested systematically in two stages. The drive as a function of position and time will be measured by following the ablation front in aerogel spheres. The effect of the drive on the late time hydrodynamics will be tested using the implosion and potential jet formation in GDP coated glass capsules. In both cases the evolution of the configuration will be determined using titanium area backlighting at 4.7 keV combined with a gated x-ray imaging system.

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