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Mikaelian et al.

2D CALE Simulations of Directly Driven Shaped Implosions

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We present direct numerical simulations of directly-driven capsule experiments at the LLE OMEGA laser. DHe³ and He³ gas capsules were imploded in symmetric and asymmetric configurations with laser energies ranging from 16 to 24 kJ. In addition to the detected neutrons and protons we imaged each implosion in x-rays. We use the two-dimensional hydrocode CALE to simulate these experiments. The purpose is to correlate the shape of the implosion (via x-rays) with the amount of mix (via neutrons and protons), and to test the dynamic, two-dimensional turbulent mix model K-L in the code.

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