

Abstract Submitted
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Simulations of 2-shock Convergence Scan Shots PAUL BRADLEY, R.E. OLSON, J.L. KLINE, Los Alamos National Laboratory, S.A. MACLAREN, T. MA, J.D. SALMONSON, Lawrence Livermore National Laboratory, G.A. KYRALA, Los Alamos National Laboratory, J. PINO, E. DEWALD, S. KHAN, D. SAYRE, J. RALPH, D. TURNBULL, Lawrence Livermore National Laboratory — The 2-shock campaign is a joint Los Alamos/Livermore project to investigate the role of shock timing, asymmetry, and shock convergence on the performance of ignition relevant capsules. This campaign uses a simple two step pulse that makes it easier to correlate the effect of changing the laser pulse on the performance of the capsule. The ~680 micron outer radius capsule has a CH+1 at% Si ablator approximately 175 microns thick surrounding a DD or HT gas region with fill densities between 0.0085 and 0.00094 g/cc. The capsules are indirectly driven inside a gold hohlraum that is 9.2 mm long by 5.75 mm in diameter. Some capsules had about 3 microns of CD on the inner surface. The CD inner surface capsules utilized HT fuel so that the DT yield arises from mixing of CD shell material into the tritium of the gas region. Our simulated results compare well to the experimental yield, ion temperature, burn width, x-ray size, convergence ratio, and radius versus time data. Work performed by Los Alamos National Laboratory under contract DE-AC52-06NA25396 for the National Nuclear Security Administration of the U.S. Department of Energy.

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