

Abstract Submitted
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Evaluation and modeling of burn reaction histories using a directly driven capsule with two laser pulses J.H. COOLEY, L. WELSER-SHERRILL, D.C. WILSON, H.W. HERRMANN, J.M. MACK, S.C. EVANS, T.J. SEDILLO, C.S. YOUNG, LANL, NM, C.J. HORSFIELD, D.W. DREW, AWE, UK, E.K. MILLER, NSTec STL, CA, V. YU. GLEBOV, C. STOECKL, LLE, UR, NY, R.A. LERCHE, LLNL, CA — Experiments were designed and fielded on the Omega laser to measure reaction history from capsules exposed to two distinct 600ps laser pulses. The purpose of the experiments was to produce a burn history with two peaks by using a time delay between the two laser pulses and thus obtain a compression and re-compression yield. However, although the results obtained produced two distinct yield peaks, further modeling indicated that the dynamics of the shell and in particular the mix of the ablator into the fuel were very different than our earlier understanding. These results and analysis will be presented and discussed. Work supported by US DOE/NNSA, performed by LANL, operated by LANS LLC under Contract DE-AC52-06NA25396.

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