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Initial results from the DSPlanar experiments on OMEGA¹ E.S. DODD, E.C. MERRITT, D.S. MONTGOMERY, W. DAUGHTON, D.W. SCHMIDT, T. CARDENAS, D.C. WILSON, S.H. BATHA, LANL — Recently, LANL has begun a project aimed ultimately at fielding a neutron-producing doubleshell capsule at the National Ignition Facility (NIF). Initial experiments have begun at both the NIF and OMEGA laser facilities over the last year. At OMEGA, halfraum-driven planar targets will be used to study physics issues important to double shell implosions, but outside of a convergent geometry. In particular, sideon radiography through a tube has advantages over imaging through the hohlraum and double-shell capsule at NIF. We plan to study a number physics issues with this platform, including both 1-d and higher dimensional effects. In 1-d, momentum transfer from the ablator to the inner shell, and the effect of pre-heat on the inner shell can be studied. Higher dimensional effects, in the form of hydrodynamic instabilities, can also be studied. Pre-heat expansion of the inner shell can lead to an unstable interface, which can be mitigated by a tamper layer. Manufacturing tolerances can be used to mitigate against feature-driven instability growth, such as from a glue joint or fill tube. Initial results on the amount pre-heat from various ablator materials will be given, along with a discussion of future plans.

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