

Abstract Submitted
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Stability studies of sub-megajoule high performance KrF direct-drive target designs.¹ ANDREW J. SCHMITT, D.G. COLOMBANT, S.P. OBENSCHAIN, S.T. ZALESK, J.W. BATES, A.L. VELIKOVICH, Plasma Physics Division, J.H. GARDNER, D.E. FYFE, LCP&FD, Naval Research Laboratory — Sub-megajoule direct-drive targets that ignite and produce gain have been designed². These designs utilize higher drive intensity and implosion velocities than are typical of high-gain targets. The higher intensity is possible because of the low-wavelength, large-bandwidth advantages of KrF lasers, and the relative ease with which one can “zoom” the focal spot with the KrF laser architecture allows maximum utilization of the laser energy. However, the crucial question is whether these targets can be made to be stable enough to survive the implosion and still produce appreciable gain. We present here the stability studies we have done with our FAST hydrocode (utilizing recently developed low-noise algorithms³) and compare the results to expectations from simple models.

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²D.Colombant *et al.*, this conference

³S.T. Zalesak *et al.*, Phys. Plasmas **12**, 056311 (2005).

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