

RE-VISITING LOW FOOT X-RAY DRIVEN ICF IMPLOSIONS

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During the National Ignition Facility National Ignition Campaign the baseline low foot CH capsule design [1] was extensively experimentally investigated. Convergent ablator experiments revealed various ‘one-dimensional’ (1d) features of the imploding capsule that were not reproducible with detailed radiation-hydrodynamic modeling. In particular, in comparison to post-shot modeling, these 1d features included the in-flight capsule thickness being greater than modeled [2], the final areal density lower, and the 4th shock being absent or slower than expected [3]. Higher dimensional features included more ingress of the ablator into the hotspot than modeled.

In this work we re-visit two convergent ablator shot series which tracked both the early and late time implosion trajectories with the aim of reproducing all of the 1d features of the drive. This work discusses the salient features of the inferred x-ray drive and its impact on both the 1d features of the implosion and their potential impact on higher dimensional features (mix).

[1] D.S. Clark et al, *Physics of Plasmas* 17, 052703, (2010).

[2] Hicks et al, *Physics of Plasmas* 19, 122702, (2012).

[3] Robey et al, *Physics of Plasmas* 20, 052707 (2013).