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The impact of capsule "tent" thickness on interpreting low mode shape S.R. NAGEL, J.R. RYGG, L.R. BENEDETTI, T. MA, M.A. BARRIOS, S.W. HAAN, B.A. HAMMEL, T. DOEPPNER, A.E. PAK, R. TOMMASINI, O.S. JONES, R.P.J. TOWN, D.K. BRADLEY, Lawrence Livermore National Laboratory
— The performance of ICF targets relies on the symmetric implosion of highly compressed fuel. X-ray area-backlit imaging is used to assess in-flight low mode 2D asymmetries of the shell. These time-resolved images of the shell exhibit features that can be related to the lift-off position of the membranes used to hold the capsule within the hohlraum. Here we describe a systematic study of this membrane or "tent" thickness and its impact on the measured low modes seen in in-flight and self-emission images. While the low mode amplitudes (particularly P2 and P4) are weakly affected by the tent in time-resolved, backlit data, we observe areal density variations consistent with the membrane. By contrast, time integrated self-emission images along the same axis exhibit a reversal in perceived P4 mode due to the growth of the tent seeded feature, which could explain prior inconsistencies between the in-flight P4 and core P4, leading to a reevaluation of optimum hohlraum length.
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