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The effect of hohlraum drive asymmetry on the observed in-flight momentum and hot spot emission non-uniformity in ICF implosions ARTHUR PAK, J.E. FIELD, A. KRITCHER, R. NORA, L.F. BERZAK HOPKINS, L. DIVOL, S.F. KHAN, T. MA, R. TOMMASINI, D.K. BRADLEY, D. CALLAHAN, D. HINKEL, O.A. HURRICANE, O.S. JONES, A.J. MACKINNON, S.A. MACLAREN, N.B. MEEZAN, J. MOODY, P. PATEL, H.F. ROBEY, V.A. SMALYUK, B.K. SPEARS, R.P.J. TOWN, M.J. EDWARDS, Lawrence Livermore National Laboratory, LLNL TEAM — At the National Ignition Facility indirectly driven inertial confinement fusion experiments are being conducted. In order to maximize the efficiency at which kinetic energy of the capsule ablator and fuel is converted to internal hot spot energy, asymmetries in the shape of the ablator and fuel momentum must be minimized. In this work an overview across different implosion experiments detailing the observed relationship between the in-flight ablator momentum symmetry and factors that modify the hohlraum radiation flux symmetry such as the density of the hohlraum gas fill, laser wavelength separation, and case to capsule ratio will be given. A measurement of the ablator momentum asymmetry at peak velocity can be made using the two-dimensional radiographs of the capsule ablator taken in-flight, at radii of 300 to 200 _m. Additionally the relationship between the morphology of the observed in-flight ablator and the x-ray self emission at stagnation will be examined. This work was performed under the auspices of the U. S. Department of Energy by Lawrence Livermore National Laboratory under contract DE-AC52-07NA27344.

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