LAWRENCE
LIVERMORE
NATIONAL
LABORATORY

LLNL-TR-811837

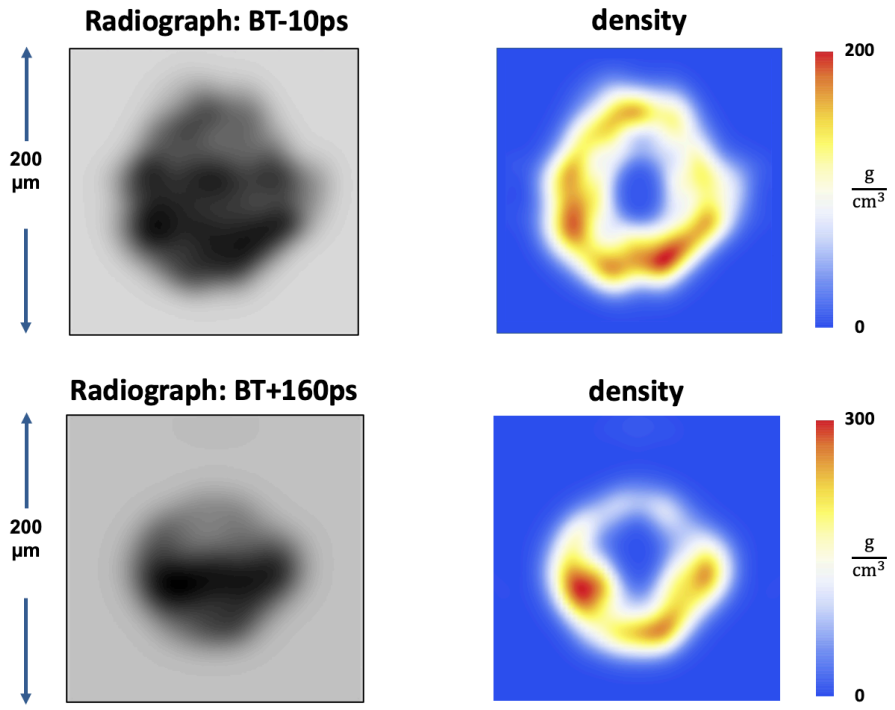
Time resolved radiographs and fuel density of the stagnation phase of Inertial Confinement Fusion implosions - NSA report

R. Tommasini

June 22, 2020

Disclaimer

This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.



Left: Compton radiographs of a 3-shock HDC THD layered implosion recorded 10ps before and 160ps after bang-time (BT) at the NIF, using >50keV point projection backlighters generated by irradiating a 25μm-diameter Au wire with 30ps-long ARC pulses. Right: Reconstructed density distributions of fuel and remaining ablator showing significant 3D structure and top-down asymmetry.

Tommasini, R., Landen, O. L., Hopkins, L. B., Hatchett, S. P., Kalantar, D. H., Hsing, W. W., et al. (2020). "Time resolved fuel density profiles of the stagnation phase of indirect-drive Inertial Confinement implosions." Manuscript submitted for publication.