Abstract Submitted
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Hydrodynamic assembly for Fast Ignition[1] MAX TABAK, DANIEL CLARK, RICHARD TOWN, STEPHEN HATCHETT, Lawrence Livermore National Laboratory — We present directly and indirectly driven implosion designs for Fast Ignition. Directly driven designs using various laser illumination wavelengths are described. We compare these designs with simple hydrodynamic efficiency models. Capsules illuminated with less than 1 MJ of light with perfect zooming at low intensity and low contrast ratio in power can assemble 4 mg of fuel to column density in excess of 3 g/cm^2. We contrast these designs with more optimized designs that lead to Guderley-style self similar implosions. Indirectly driven capsules absorbing 75 kJ of xrays can assemble 0.7 mg to column density 2.7 g/cm^2 in 1D simulations. We describe 2-D simulations including both capsules and attached cones driven by radiation. We describe issues in assembling fuel near the cone tip and cone disruption.

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Max Tabak
Lawrence Livermore National Laboratory

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