

Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

Influence of chronometry on hydrodynamic stability: design of Direct-Drive experiments STEPHANE LAFFITE, BENOIT CANAUD, LAURENT MASSE, OLIVIER LARROCHE, FREDERIC GIRARD, VERONIQUE TASSIN, FRANK PHILIPPE, OLIVIER LANDOAS, TONY CAILLAUD, CEA, CEA TEAM — We present here the 2D design of future Direct-Drive (DD) experiments which will be carried out in 2014 at the OMEGA facility. Hydrodynamic stability of capsule is a major concern for DD and Indirect-Drive (ID) implosions. Stability can be greatly affected by the chronometry of the drive. The objective of these experiments is to study the impact of chronometry on the stability of the target. Target will be filled with 15 bars of DT or DD-Argon. Diameter will be about 900 microns. Plastic shell thickness will be 25 microns. Target dimensions will be the same for all the shots. Pulse will be varied from a square pulse to 2-steps-pulse and 3-steps-pulses. Hydrodynamic stability decreases with the number of steps: convergence ration increases from $Rc=14$ to $Rc=20$ whereas adiabat decreases from 3.5 to 1.7. For some shots, low-mode asymmetries will be created by turning off some of the beams.

Stephane Laffite
CEA

Date submitted: 12 Jul 2013

Electronic form version 1.4