

Abstract Submitted  
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**Gas-filled Rugby hohlraum energetics and implosions experiments on OMEGA** ALEXIS CASNER, F. PHILIPPE, V. TASSIN, P. SEYTOR, M.C. MONTEIL, B. VILLETTE, C. REVERDIN, DAM, DIF, F-91297 Arpajon, France — Recent experiments [1,2] have validated the x-ray drive enhancement provided by *rugby-shaped hohlraums* over cylinders in the indirect drive (ID) approach to inertial confinement fusion (ICF). This class of hohlraum is the baseline design for the Laser Mégajoule program, is also applicable to the National Ignition Facility and could therefore benefit ID Inertial Fusion Energy studies. We have carried out a serie of energetics and implosions experiments with OMEGA “scale 1” rugby hohlraums [1,2]. For empty hohlraums these experiments provide complementary measurements of backscattered light along  $42^\circ$  cone, as well as detailed drive history. In the case of gas-filled rugby hohlraums we have also study implosion performance (symmetry, yield, bangtime, hotspot spectra...) using a high contrast shaped pulse leading to a different implosion regime and for a range of capsule convergence ratios. These results will be compared with FCI2 hydrocodes calculations and future experimental campaigns will be suggested.

[1] F. Philippe *et al.*, Phys. Rev. Lett. **104**, 035004 (2010).

[2] H. Robey *et al.*, Phys. Plasmas **17**, 056313 (2010).

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