Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Hohlraum design for the LMJ ignition target G. MALINIE, C. CHERFILS, P. GAUTHIER, F. LAMBERT, M.C. MONTEIL, CEA/DAM/DIF, F-91297 Arpajon, France — First experiments with the Laser MegaJoule (LMJ) are scheduled to be performed in 2014. The current nominal point design for ignition with 160 beams on the LMJ has been described in [1]. It consists of an indirectly driven A943 capsule, with a plastic ablator doped with Germanium. This capsule is mounted in the center of a Rugby-shaped hohlraum, which is filled with a low density H/He gas, and has a gold-uranium cocktail wall lined with pure gold. We investigate the influence of two key parameters of the hohlraum design: the radius of the laser entrance holes (LEHs), and the thickness of the cocktail layer. Since the Rugby shape of the nominal point design is that of a half-ellipse going from the hohlraum waist to the LEH, any change in the LEH radius has a global effect on the hohlraum shape. Taking into account the current laser spot profiles of the LMJ and using 2D integrated calculations with our FCI2 radiation hydrodynamics code, we assess the flexiblility we have to reduce the LEH radius and/or the cocktail layer thickness.

[1] Laffite and Loiseau, Phys. Plasmas **17**, 102704 (2010)

G. Malinie
CEA/DAM/DIF, F-91297 Arpajon, France

Date submitted: 12 Jul 2011 Electronic form version 1.4