

Abstract Submitted  
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**Laser-Plasma Interaction Campaign in Hohlräume** PASCAL LOISEAU, CHRISTOPHE ROUSSEAU, GAEL HUSER, DENIS TEYCHENNE, PAUL-EDOUARD MASSON-LABORDE, MICHEL CASANOVA, CEA DAM DIF — The major goal of the Laser MegaJoule (LMJ) [1], currently under construction in France, is to achieve fusion ignition and thermonuclear gain from a target driven with a laser. In order to check the efficiency of the laser beam conditioning a new laser-plasma interaction campaign has been conducted at the LIL facility in february 2011, using various gas-filled hohlraums. The LIL facility is a prototype of one quadruplet of the LMJ. Three different gas-filled hohlraums have been designed in order to mimic plasma conditions that are expected along two particular beam paths in ignition hohlraums. The targets consist of 3- or 4-millimeters long, 1 atm neo-pentane gas-filled hohlraums. We will present and discuss hydrodynamic calculations together with preliminary results of the LPI campaign. Calculated plasma conditions allow to evaluate SBS and SRS linear gains. Finally, we use the 3D paraxial code HERA [3,4] to investigate the propagation of the LIL quad, by means of massively parallel simulations.

[1] J. Ebrardt and J. M. Chaput, J. Phys.: Conf. Ser. 112, 032005 (2008). [2] S. Laffite and P. Loiseau, Phys. Plasmas 17, 102704 (2010). [3] Loiseau et al., Phys. Rev. Lett. 97, 205001 (2006). [4] Ballereau et al., J. Scient. Comput. 33, 1 (2007).

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