

Abstract Submitted
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First Feasibility Shots For Radiography Experiments at LIL Facility OLIVIER HENRY, EMMANUEL BAR, PHILIPPE CANAL, LAURENT CHAUVEL, THIERRY CHIES, VINCENT DOMIN, PATRICK GENDEAU, HERVÉ GRILLOT, CEA DAM/CESTA, LAURENT JACQUET, CEA DAM/DIF, XAVIER JULIEN, PIERRE LEGOURRIEREC, CATHERINE LIS-SAYOU, PHILIPPE ROMARY, CEA DAM/CESTA, MICHEL NAUDY, CEDRIC COURTOIS, CEA DAM/DIF — The Laser Integration Line (LIL), based at CESTA (The Aquitaine Research Center of the French Atomic and Alternative Energies), has been designed as a prototype to validate the concepts and the laser architecture of the Laser Mega Joule (LMJ). The LIL facility is a 4-beams laser representing a quad structure of the LMJ. The LIL facility launched in November 2009 its first campaign of side radiography feasibility (2 shots). The experiment was aimed at focusing 3 beams onto an aluminum target whose back-side induced plasma was X-rayed by an X source positioned at 10 mm and radiated by the 4th beam of the chain. The facility proved to be capable of shifting one beam regardless of the 3 others. During the 2nd shot, the shifted beam was desynchronized by 500 ps. Plasma observation was performed using an analyzer coupled to a streak camera with 200 μm aperture slot (40 μm on target) and a 10 ns time aperture. The LIL facility hence proved to be able to perform side X-ray shots and image plasma expansion using a streak camera on CCD or film.

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