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Preliminary experiment at LULI toward shock ignition feasibility SOPHIE BATON, MICHEL KOENIG, ERIK BRAMBRINK, HANS-PETER SCHLENVOIGHT, LULI, France, CHRISTOPHE ROUSSEAUX, FRANCK PHILIPPE, GREGOIRE DEBRAS, CEA, France, XAVIER RIBEYRE, GUY SCHURTZ, CELIA, France, STEPHANE LAFITTE, PASCAL LOISEAU, CEA, France — Shock ignition is a novel scheme to assemble and ignite thermonuclear fuel. In this scheme, the assembled fuel is separately ignited by a strong, spherical shock driven by the high intensity spike at the end of the laser pulse. In this context, we have performed an experiment on LULI2000 laser facility using a simpler geometry to investigate the possibility of generating high shock pressure in large plasma. This experiment required two beams: the first one (I$\sim$ 5x10^{13} W/cm^2 at 2w) to launch a shock on a planar target and consequently a long plasma on the front side, the second one (I$\sim$10^{15} W/cm^2 at 2w) for the spike. In this presentation, we report the first results concerning: (i) the measurement of the laser backscattered energy via stimulated Brillouin and Raman ; (ii) the characterization of the shocks (velocity and temperature).

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