Abstract Submitted
for the SHOCK17 Meeting of
The American Physical Society

**Ejecta from periodical grooves in tin foils under laser-driven shock loading** GABRIEL PRUDHOMME, JEAN-ELOI FRANZKOWIAK, CEA, DAM, DIF, THIBAUT DE RESSÉGUIER, Institut Pprime, CNRS, ENSMA, Univ. Poitiers, ERIK BRAMBRINK, LULI, UMR 7605 CNRS-CEA-Ecole Polytechnique-Univ. Paris , CAROLINE ROLAND, Institut Pprime, CNRS, ENSMA, Univ. Poitiers, DIDIER LOISON, IPR, CNRS, Univ. Rennes , EMILIEN LESCOUTE, ARNAUD SOLLIER, CEA, DAM, DIF — Laser-driven shocks are versatile, low destructive method to study material dynamic behaviors with an efficient repetitive rate. In these experiments, compared with the more conventional high-explosive or impact-based techniques, all the scales are reduced (few ns shock duration, a few mm planar loaded area) while the shock pressure may reach several tens of GPa. This configuration enables the use of many diagnostics with limited exposition to generated fragments. We present recent experiments of material ejection under laser-driven shock loading. The target is a thin plate of Tin with periodical grooves of about tens of $\mu$m in its rear surface in order to induce solid or liquid micro-jetting. These jets transform into a cloud of $\mu$m-sized particles. Depending on surface roughness, the velocity and the density of the cloud vary. The velocities are estimated using Photonic Doppler Velocimetry (PDV). The density of the cloud is estimated thanks to a new high-resolution X-ray imaging with a laser-driven source of the particle cloud; while optical shadowgraphy observes the displacement of the fastest particles. $\mu$m-structures in the particles cloud and in the target can be revealed.

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Date submitted: 23 Feb 2017 Electronic form version 1.4