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Experimental study and application of shaped pulse laser-driven compression waves XIUGUANG HUANG, SIZU FU, HUA SHU, JUNJIAN YE, ZHIHENG FANG, GUO JIA, ZHIYONG XIE, HUAZHEN ZHOU, 76# Wensu Road, Jiading District, Shanghai, PR China, 201800, SHANGHAI INSTITUTE OF LASER PLASMA TEAM — In this paper, a new target configuration and compression technique is described, which is used to ramp (or quasi-isentropic) compression aluminum to pressures of tens GPa. At the same time, measurements of velocities from shock front in quartz irradiating by two 120-ps pulses separated by 1-2ns are presented. These pulses drive two shocks that coalesce in the target, and the shock front propagation velocity histories, coalescence times, and transit times are unambiguously observed using VISAR. Moreover, some phenomena, which appeared in the experiments, are discussed and analyzed.

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