

Abstract Submitted
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Response of Aluminum under ramp Compression to Mbar MU LI, JIANHENG ZHAO, Institute of Fluid Physics, CAEP, CHENGWEI SUN, Shanghai Institute of Laser Plasma, HONGPING ZHANG, Institute of Fluid Physics, CAEP, FENG WANG, Laser Fusion Research Center, CAEP, GUANGHUA CHEN, Institute of Fluid Physics, CAEP, HUA SHU, Shanghai Institute of Laser Plasma — Laser-Produced X-ray drive is an important tool for ramp compression to very high pressure. Its application was often limited by the length of rise pulse, the peak pressure was not higher than 400GPa for metal steps. A new method was developed using heavy reservoir film, that can absorb high energy Au M-band x rays generated within the halfraum which otherwise could preheat the step sample. Meanwhile, heavy reservoir can also produce higher pressure peak and longer rise time. Results from this reservoir shot (4.5Mbar) at the SG-III prototype are presented. Al/LiF interface velocities versus time for multiple sample thicknesses were measured and converted to p-v relations using backward integration.

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