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Measurement of the isentropic release data of Au by laser driven shock wave[1] FU SIZU, HUANG XIUGUANG, SHU HUA, WU JIANG, YE JUNJIAN, HE JUHUA, MAN MINXUN, GU YUAN, Shanghai Institute of Laser Plasma
— Using the impedance invert-match target coupled with multi-materials, an intense shock pressure was produced in the high impedance material (Au) by high power laser, then its different isentropic release was realized simultaneously in the various lower impedance materials (Al, Cu, Zn, Sn, Ag, etc.). On the one hand, using the known EOS of the lower impedance materials, a group of the isentropic release data of Au can be obtained; On the other hand, if the EOS of Au is known, the first shock adiabatic data of all lower impedance materials also can be gotten from the experiment; This can verify systematically the EOS reliability of the various materials. Comparing the two methods of the experimental data processing, the isentropic release curve is more sensitive than the shock adiabat in the systemic verifying of the EOS data. The target manufacture is more difficult, perhaps the target had some distortions when it was employed, and the data from our primary experiment have not the enough precision yet.

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