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Isentropic Compression driven by high-explosive: application to Ti-6Al-4V CHRISTOPHE VOLTZ, ARNAUD SOLLIER, JEAN-BERNARD MAILLET, VIVIANE BOUYER, CEA-DAM — We report on a n isentropic compression experiment of Ti-6Al-4V alloy based on the use of the release of detonation products from a high-explosive to generate a ramp wave compression in a multi-steps target. VISAR and DLI measurements of the rear free surface velocities of the different steps allow computing the sound velocity of the material during its compression, which is characteristic of the EOS of the material. The experiment device is described and the sound velocities measurements are analyzed. The results are compared with 2-dimensional elasto-plastic simulations.

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