

## PAC 2007 Abstract

Recent HEDP experiments with intense heavy ion beams at GSI-Darmstadt.

### Poster

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Recently, a series of high energy density (HED) physics experiments with heavy ion beams have been carried out at the GSI heavy ion accelerator. The ion beam spot of heating uranium beam size of about 1 mm, pulse length about 120 ns and intensity  $10^9$  particles/bunch. In these experiments, metallic solid and porous targets of macroscopic volumes were heated by intense heavy ion beams uniformly and quasi-isochorically, and temperature, pressure and expansion velocity were measured during the heating and cooling of the sample using a fast multi-channel radiation pyrometer, laser Doppler interferometer (VISAR), Michelson displacement interferometer and streak-camera-based-backlighting system. In the performed experiments target temperatures varying from 1000 K to 12000 K and pressure in kbar range were measured. Expansion velocities up to 2600 m/s have been registered for lead and up to 1700 m/s for tungsten targets.