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Recent advance in Isentropic compression experiments on PTS facility. GUILIN WANG, USTC, ZHAOHUI ZHANG, SHUAI GUO, QIZHI SUN, MENG WANG, CAEP, MAGNETICALLY LOADING TECHNIQUES TEAM — The Primary Test Stand (PTS) facility is a pulsed power machine capable of delivering currents to loads of 5~8 MA over times of 200-620 ns. As current flows in the opposite direction electrode plates, smoothly rising, time dependent magnetic pressures were generated on each electrode plates. With pulse shaping techniques, the ramped compression waves can propagate in electrodes and specimens without forming a shock. Photonic Doppler velocimetry (PDV) have application in shockless, free-surface or sample/window interface velocity measurements of different thickness samples, which were used for equation-of-state (EOS) studies of condensed matter. Analysis the velocity data with a backward integration techniques, the quasi-isentrope to ~1 Mbar of OFHC were inferred. Based on the application performance, confirms that PTS is a good experiment equipment for EOS and dynamic properties of different materials.

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