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Diagnostics for heavy ion beam driven Warm-dense-matter experiments.[1] PAVEL NI, BIENIOSEK FRANK, MATTHAEUS LEITNER, WILLIAM WALDRON, Lawrence Berkeley National Laboratory — Intense heavy ion beams are an excellent tool to create large-volume samples of warm-dense-matter (WDM) with fairly uniform physical conditions. An extensive WDM experimental program is scheduled at LBNL where NDCX accelerator is used as a driver for heating metallic targets. This poster will focus on designing and im- plementation of diagnostics for a target. The diagnostics include a fast multi-channel optical pyrometer, absolutely calibrated streak camera- based spectrometer, Doppler-shift laser interferometer (VISAR) and fast gated CCD cameras. This equipment is capable of precise measurement of temperature starting from 2000 K, pressure in kbar region, and ex- pansion velocities up to several km/sec. Temporal resolution of the diagnostic is on a sub-nanosecond time scale.

[1]This work performed under the auspices of the U.S Department of En-

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