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Post Shock Temperature Measurements in Metals and Rocks

ACHIM SEIFTER, Los Alamos National Laboratory, SARAH STEWART, Harvard University, FURLANETTO MICHAEL, Los Alamos National Laboratory, GREGORY KENNEDY, Harvard University, JEREMY PAYTON, ANDREW OBST, Los Alamos National Laboratory, PHYSICS DIVISION, LOS ALAMOS NATIONAL LABORATORY COLLABORATION, DEPARTMENT OF EARTH AND PLANETARY SCIENCES, HARVARD UNIVERSITY COLLABORATION — Abstract: Post-shock temperature is an important quantity in shock physics experiments for constraining the dynamic equations-of-state of materials. A high-speed infrared multiwavelength pyrometer has been developed at the Los Alamos National Laboratory for operating in the temperature range from 400 to 1200 K. With customized front end optics, permitting concurrent VISAR experiments in the same optical path, it is being used at the new gas gun in the Department of Earth and Planetary Sciences at Harvard University. This paper describes the experimental setup and results obtained to date on molybdenum, aluminum and basalt.

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