

Abstract Submitted  
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**Streaked optical pyrometer for measuring surface temperature of ion heated plasma**<sup>1</sup> R. ROYCROFT, G.M. DYER, C. WAGNER, A. BERNSTEIN, T. DITMIRE, B.M. HEGELICH, University of Texas, Austin, B.J. ALBRIGHT, J.C. FERNANDEZ, W. BANG, P.A. BRADLEY, D.C. GAUTIER, C.E. HAMILTON, S. PALANIYAPPAN, M.A. SANTIAGO CORDOBA, E.L. VOLD, L. YIN, Los Alamos National Laboratory — The evolution of the interface between a light and heavy material isochorically heated to warm dense matter conditions is important to the understanding of electrostatic effects on the usual hydrodynamic understanding of fluid mixing. In recent experiments at the Trident laser facility in Los Alamos National Laboratory, the target, containing a high  $Z$  and a low  $Z$  material, is heated to several eV by laser accelerated aluminum ions. We fielded a streaked optical pyrometer to measure surface temperature. The pyrometer images the back surface of a heated target on a sub-nanosecond timescale with 400nm light from the plasma. This poster presents the details of the experimental setup and pyrometer design, as well as initial results of ion heating of aluminum targets. The interface between heated diamond and gold is also observed.

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