

Abstract Submitted
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Laser-Plasma Density and Temperature Measurements with Triple Langmuir Probes¹ A. ARIAS, N. QUIROS, V. KHANAL, University of Nevada Reno, W.C. WAN, University of Michigan, J. MEINEKE, Oxford University, N.L. KUGLAND, Lawrence Livermore National Laboratory, T. MORITA, Osaka University, G. GREGORI, Oxford University, H.-S. PARK, Lawrence Livermore National Laboratory, R. PRESURA, University of Nevada Reno — Experiments to investigate shocks produced by the explosive expansion of a laser-plasma plume against a gas background were performed on the Titan laser (LLNL). Knowledge of density and temperature is essential for understanding the underlying processes. Triple Langmuir probes (TLP) were used for measuring these quantities as function of time at a given location in the plasma. In the experiment, laser ablation plasma from a carbon rod expanded in hydrogen, helium, or argon ambient gas. Density and temperature jumps in the TLP measurements can be correlated with shocks detected by interferometry and proton deflectometry.

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