

Abstract Submitted  
for the APR08 Meeting of  
The American Physical Society

**Laboratory Experiments to Study Plasma Jet and Shock Using High-Power Lasers** YOUICHI SAKAWA, S DONO, Y. KURAMITSU, T. KATO, T. KIMURA, K. MIYANISHI, T. ENDO, N. OZAKI, H. NAGATOMO, K. SHIGEMORI, R. KODAMA, T. NORIMATSU, H. TAKABE, Osaka Univ., Japan, J. WAUGH, N. WOOLSEY, York Univ., UK, B. LOUPIAS, M. KOENIG, LULI, France — We describe laboratory laser-plasma experiments to form plasma jets and study jet driven shocks. Particular questions that are of interest are the formation and collimation of these jets, the relevance of experiment to astrophysical jets, and the formation of collisionless shock waves. The experiments were performed with Gekko XII HIPER laser system (3w, 500 ps,  $\sim 10^{15}$  W/cm<sup>2</sup>) at the Institute of Laser Engineering, Osaka Univ. Several types of targets were explored. The plasma jet and shock were measured with a side-on Mach-Zender interferometry diagnostic, and rear-surface self-emission diagnostics. These diagnostics enable the jet shape, electron density and temperature to be inferred.

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Date submitted: 11 Jan 2008

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