

Abstract Submitted
for the APR08 Meeting of
The American Physical Society

Experimental results to study astrophysical plasma jets using Intense Lasers B. LOUPIAS, LULI, France, E. FALIZE, CEA, France, C.D. GREGORY, LULI, France, D. SEIICHI, Graduate School of Engineering, Japan, T. VINCI, LULI, France, J. WAUGH, University of York, U.K., M. KOENIG, LULI, France, N.C. WOOLSEY, University of York, U.K., N. OSAKI, Graduate School of Engineering, Japan, A. BENUZZI-MOUNAIX, LULI, France, S. BOUQUET, C. MICHAUT, LUTH, France, M. RABEC LE GOAHEC, LULI, France, W. NAZAROV, University of St.Andrews, UK, S. PIKUZ, A. FAENOV, MISDC, Moscow, Russia, Y. KURAMITSU, Graduate School of Engineering, Japan, S. ATZENI, A. SCHIAVI, La Sapienza, Italy, Y. SAKAWA, H. TAKABE, R. KODAMA, Graduate School of Engineering, Japan — We will present our experimental characterization of a jet generation in vacuum using foam filled cone target and intense laser. The obtained results on shape, time evolution, temperature and density, are in good agreements with 2D simulations. We also compared these measurements with theory and astronomical observations. Further study, with ambient gas, simulating the interstellar medium, to evaluate its effect on the above plasma jet evolution have been performed. We will demonstrate the importance to implement several diagnostics to measure the required parameters to infer the dimensionless astrophysical numbers.

Berenice Loupiau
LULI, Ecole Polytechnique

Date submitted: 08 Feb 2008

Electronic form version 1.4