Abstract Submitted for the Forty-Eighth Annual Meeting
Division of Plasma Physics
October 30th-November 3, 2006, Philadelphia, Pennsylvania

Category Number and Subject: 4.6.0 Fast Ignition

[ ] Theory [X] Experiment

Proton Beam Source Suitable for Fast Ignition Targets,* R.B. Stephens, M.P. Mauldin, *General Atomics*, K. Akli, P. Gu, D. Hey, J. King, N. Patel, B. Zhang, *UC-Davis*, F. Beg, S. Chen, J. Pasley, M. Wei, *UCSD*, D. Clark, R. Freeman, K. Highbarger, J. Hill, K. Krauter, L. Van Woerkom, R. Weber, *Ohio State U.*, J. Green, K. Lancaster, C. Murphy, P. Norreys, *CCLRC Rutherford Appleton Lab*, G. Gregori, S. Hatchett, M. Key, J. Koch, A. MacKinnon, P. Patel, *LLNL,* J. Green, C. Murphy, *Blackett Lab., Imperial College, UK* – A focused proton beam, which has potential to ignite fast ignition targets, is generated from a sharply defined metal-vacuum interface facing the compressed fuel kernel. Since it must be quite close (100s of μm) to that kernel to limit time spread of the proton beam, this surface must be protected from the shell implosion by a reentrant cone. The walls of that cone modify the proton beam by limiting the accelerating area and, potentially, refocusing the protons, particularly the low energy component. We have examined the effect of such walls using a test setup and will report on the results.

*Supported by the US DOE under DE-AC52-06NA27279.