

Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Proton Beam Source Suitable for Fast Ignition Targets¹ R.B. STEPHENS, M.P. MAULDIN, General Atomics, K. AKLI, P. GU, D. HEY, J. KING, N. PATEL, B. ZHANG, F. BEG, S. CHEN, J. PASLEY, M. WEI, UCSD, D. CLARK, R. FREEMAN, K. HIGHBARGER, J. HILL, K. KRAUTER, L. VAN WOEKOM, R. WEBER, Ohio State U., J. GREEN, K. LANCASTER, C. MURPHY, P. NORREYS, CCLRC Rutherford Appleton Lab, G. GREGORI, S. HATCHETT, LLNL — 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.

¹Supported by the US DOE under DE-AC52-06NA27279.

Rich Stephens
General Atomics

Date submitted: 21 Jul 2006

Electronic form version 1.4