

Abstract Submitted  
for the APR08 Meeting of  
The American Physical Society

**High Power Proton Beams Generated with the Z-Petawatt Laser**<sup>1</sup> MATTHIAS GEISSEL, B.W. ATHERTON, P.K. RAMBO, J. SCHWARZ, Sandia National Laboratories, E. BRAMBRINK<sup>2</sup>, M. SCHOLLMEIER, J. SCHÜTTRUMPF, M. ROTH, Darmstadt University of Technology, K. FLIPPO<sup>3</sup>, S. GAILLARD, M. HEGELICH, Los Alamos National Laboratory, J. GLASSMAN, Southern Illinois University — The Z-Petawatt laser system has been built up in stages over the last few years. It has been used to generate and characterize ion beam emission from solid density targets. These experiments addressed radiography and energy deposition on secondary targets, partly to be applied at the Z-Accelerator facility at Sandia National Laboratories as the capabilities of Z-Petawatt evolve. Cu, Al, Pd and Au targets were used for Target-Normal-Sheath- Acceleration of protons and heavier ions. Results from parametric studies on target edge emission will be presented along with experiments on ballistic and magnetic proton beam focusing.

<sup>1</sup>Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

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Date submitted: 14 Feb 2008

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