Abstract Submitted for the NWS14 Meeting of The American Physical Society

Design and Fabrication of Compact, Portable X-Pinch Driver Based on 2 LTD Bricks at the Idaho Accelerator Center¹ ROMAN SHAPO-VALOV, RICK SPIELMAN, WENDLAND BEEZHOLD, Idaho Accelerator Center—The compact and portable x-pinch driver able to supply of about 200-kA peak current with about 150-ns rise time was proposed recently² and currently under fabrication at the Idaho Accelerator Center. This driver will be able to produce a very unique x-ray radiation source, which could be used in many applications in physics,^{3,4,5} biology,⁶ and radiography.⁷ In this work we present the short-circuit test results of our compact and portable x-pinch driver.

Roman Shapovalov Idaho Accelerator Center

Date submitted: 18 Mar 2014 Electronic form version 1.4

¹This work was partially supported by DTRA grant HDTRA1-11-1-0036.

²R.V. Shapovalov, R.B. Spielman, W. Beezhold, "Design and Projected Performance of a Compact, Portable Plasma-Radiation-Source Generator at the Idaho Accelerator Center," abstract submitted to ICOPS/BEAMS, Washington DC (2014).

³S. A. Pikuz et al., Rev. Sci. Instrum. **68**, 740 (1997).

⁴T. A. Shelkovenko et al., Rev. Sci. Instrum. **70**, 667 (1999).

⁵S. A. Pikuz et al., Phys. Plasmas **6**, 4272 (1999).

⁶B. M. Song et al., Nuclear Science Symposium Medical Imaging Conference, Norfolk, VA 2002, p. 868.

⁷F. N. Beg et al., Appl. Phys. Let. **89**, 101502 (2006).