

Abstract Submitted
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Measurement of Radiographic Spot Size Produced with the Tri-MeV Accelerator DAVID HOUSLEY, Idaho State University, RICK SPIELMAN, Idaho Accelerator Center — Tri-MeV is an electrostatic electron beam accelerator driven by a Marx generator. This system can achieve pulses of 30 kA and 3 MeV with a rise time of 3 ns and a duration of 18 ns. Within this system the path of the electrons from cathode to anode is bridged by diode hardware. The design of this hardware can tune the characteristics of the radiographic spot. Our motivation in diode design is to increase the figure of merit (FOM) [1] $FOM = \frac{D}{s^2}$ by reducing the radiographic spot size diameter (s) while maintaining the strength of the dose (D). Recent diode designs and their effect on dose and spot size will be presented.

[1] P. R. Menge et al. "Experimental Comparison of 2-3MV X-ray Sources for Flash Radiography", Sandia National Laboratory Report SAND2002-0082, 2002.

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