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Multiple-Pulse High-Voltage Diode Isolation Testing for a Linear Induction Accelerator (LIA)

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Multiple pulse flash radiography has been implemented worldwide utilizing various methods for many years. In the past decade, the method for achieving multiple pulse flash radiography has focused on utilizing a Linear Induction Accelerator (LIA) as the source. Various techniques, including diode isolation¹, have been used to accomplish the multiple pulse function.

Los Alamos National Laboratory is evaluating the use of diode stacks for multiple pulse capabilities. Experimental results of diode performance isolating multiple high-voltage pulses into a resistive load will be presented in this paper. Diode stack SPICE simulations as well as various diode stack evaluations for single pulses will be presented in companion papers.

[1] Chen, et. al., Nuclear Instruments and Methods in Physics Research A 579 (2007) 941–950

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