Public Abstract
First Name:Dustin
Middle Name:Lee
Last Name:Sullivan
Adviser's First Name:Scott
Adviser's Last Name:Kovaleski
Co-Adviser's First Name:
Co-Adviser's Last Name:
Graduation Term:FS 2008
Department:Electrical Engineering
Degree:MS
Title:Laser Target Triggering of Gas Switches

Laser target triggering has been investigated at the University of Missouri as a method to reduce the laser energy required to trigger a laser triggered gas switch. Laser targets were solid materials embedded into the cathode of a LTGS that acted as a source of plasma when struck by a triggering laser. The expanding plasma altered the electric field in the switch, resulting in switch closure. The project successfully demonstrated reliable triggering with less than 1 mJ of laser energy with both 1064 and 266 nm wavelength laser pulses. Findings will be used in the design of switches for LTD-based pulsed power accelerators.