

Abstract Submitted  
for the DPP17 Meeting of  
The American Physical Society

**High Voltage, Solid-State Switch for Fusion Science Applications<sup>1</sup>**

TIMOTHY ZIEMBA, JAMES PRAGER, KENNETH E. MILLER, ILIA SLOBODOV, Eagle Harbor Technologies, Inc. — Eagle Harbor Technologies, Inc. is developing a series stack of solid-state switches to produce a single high voltage switch that can be operated at over 35 kV. During the Phase I program, EHT developed two high voltage switch modules: one with isolated power gate drive and a second with inductively coupled gate drive. These switches were tested at 15 kV and up to 300 A at switching frequencies up to 500 kHz for 10 ms bursts. Robust switching was demonstrated for both IGBTs and SiC MOSFETs. During the Phase II program, EHT will develop a higher voltage switch (>35 kV) that will be suitable for high pulsed and average power applications. EHT will work with LTX to utilize these switches to design, build, and test a pulsed magnetron driver that will be delivered to LTX before the completion of the program. EHT will present data from the Phase I program as well as preliminary results from the start of the Phase II program.

<sup>1</sup>With support of DOE SBIR

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Date submitted: 14 Jul 2017

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