Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

An IGBT-based High Voltage, Variable Pulse Width Nanosecond Pulser for Plasma Creation Applications TIMOTHY ZIEMBA, KENNETH MILLER, JAMES PRAGER, JOHN CARSCADDEN, Eagle Harbor Technologies, Inc. — Eagle Harbor Technologies (EHT) has developed a modular solid state power supply based on IGBT technology, which can support a wide array of applications. The EHT Integrated Power Module (IPM) incorporates fast gate drive technology, high voltage isolation ($\sim$30 kV), fiber optic control, and optional crowbar diodes into a single unit. The EHT IPM can be configured to produce variable pulsed width (20 to 1000 ns), high voltage ($>$ 20 kV) high repetition frequency (2 MHz) nanosecond pulser. Nanosecond pulser applications include plasma creation for drag reduction, medical applications, water decontamination, fuel mixing and control of flue gas emissions.

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Date submitted: 15 Jul 2013 Electronic form version 1.4