

High Voltage Magnetic Pulse Generation Using Capacitor Discharge Technique

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Abstract : A high voltage magnetic pulse is designed by applying an electrical pulse to the coil. Capacitor banks are developed to generate a pulse current. Switching circuit consisting of DPDT switches, thyristor, and triggering circuit is built and tested. The coil current is measured using a Hall-effect current sensor. The magnetic pulse created is measured and tabulated in the graph. Simulation using FEMM is done to compare the results obtained between experiment and simulation. This technology can be applied to area such as medical equipment, measuring instrument, and military equipment.

Keywords : high voltage, magnetic pulse, capacitor discharge, coil

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