sdmay22-39: Fast, Compact, High Strength Magnetic Pulse Generator

Weekly Report **4**

Oct 18 - Oct 25

Team Members

Ben Newell

James Camp

Mohd Harith Arsyad

Abdulraheem Alquinas

Tom Zaborowski

Tyler Bolton

Weekly Summary

After our weekly meetings on Monday, we decided it was time to design our first individual pulser circuits. We are to look up various MOSFET datasheets and read the datasheets of these MOSFET datasheets. Once we found a MOSFET that meets the parameters for a fast pulser circuit, we were to design our own circuit through Multisim. Once we make our circuits, we will come together and decide which aspects of our individual circuits are working well so that we can make the best possible circuit for this pulser.

Pending Issues

Weekly Accomplishments

Ben Newell - I did some research on essential questions given to us by our client and did more simulations in multisim.

James Camp - Had important assignments in other classes I had to prioritize, so I couldn't contribute this week.

Mohd Harith Arsyad - I researched more about non ideal components and looked at MOSFET datasheets mostly from NXP and TI

Abdulraheem Alquinas - searched MOSFETs datasheets and added it to the circuit.

Tom Zaborowski - I looked up MOSFET datasheets and designed a circuit from scratch.

Tyler Bolton - Looked up and simulated some MOSFETs from Digikey and observed how the different MOSFETs affected the circuit. Edited the design of the circuit.

Plans for Next Week

Ben Newell - Work on getting a circuit set up to simulate in ADS.

James Camp - Simulate the design circuit in ADS and Multisim.

Mohd Harith Arsyad - Try and design something to filter out noise in the current pulse.

Abdulraheem Alquinas - Redesign the circuit to obtain better results in terms of stability.

Tom Zaborowski - I hope to improve on my current design and fix any stability and rise time issues I have with it.

Tyler Bolton - Continue improving the design of the circuit and improving stability and rise time.

Individual Contributions

Name	Individual Contribution	Hours
Ben Newell	Research, Simulations, Documentation	7.5
James Camp	N/a	0
Mohd Harith Arsyad	Research and simulations	4
Abdulraheem Alquinas	Simulations	8
Tom Zaborowski	Circuit designing and simulating	7.5
Tyler Bolton	Circuit Design and Simulation	7