Nerve Damage Detection Using Magnetic Pulses

Deepa Jonnagadla
Introduction

- Electromyogram
- Nerve Conduction Velocity
- Magnetic Pulses
Circuits

One-shot circuit

Multiple Pulse Circuit

![Pulse Length Vs. Peak Current Graph](chart.png)
Circuits Continued

Main Pulse Circuit

Detector Circuit (filter and amplifier)
Results

- We still have not been able to detect the pulse.
- We were only producing 15A from 20V through the inductor.
- Realized the need for an increase in energy of the inductor.

Screen shot of 250 A produced from improved circuit
Future Plans

- Continue working on stimulating the nerve and detecting the pulse.
- Develop current above 1kA
- Implement the circuit in a box so that it will be safe and user friendly for clinical trials.