Coil Optimization Techniques for Power Transfer in Medical Implantable

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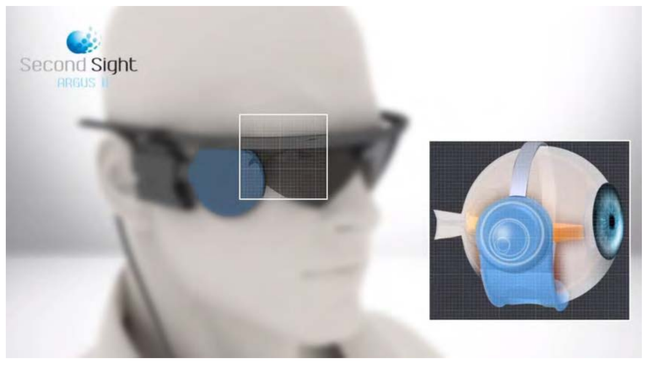
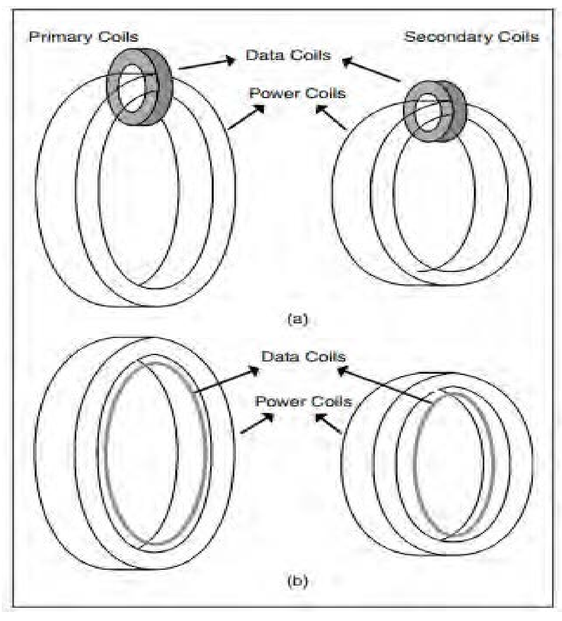
Objective/Background

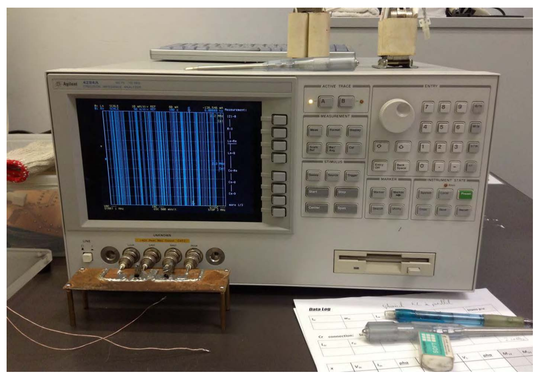
- **Argus II Retinal Prosthesis system**
- **Single coil structure**
  - **Mutual inductance**
  - **Efficiency**
  - **Voltage gain**
  - **Power out**
- **To optimize the coil structure to maximize the lateral misalignment tolerance**

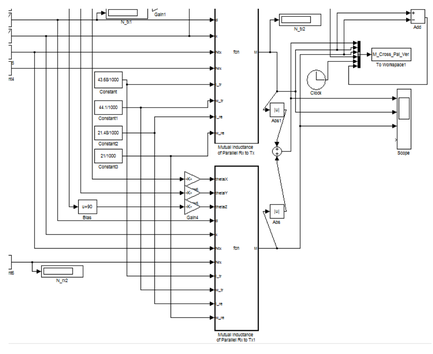




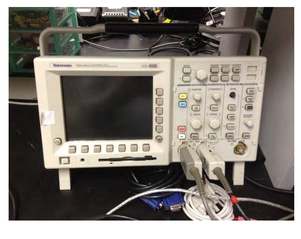
Methodology

- **Measuring the self inductance and the mutual inductance using the precision impedance analyzer**
- **Theoretical calculation using the Simulink**



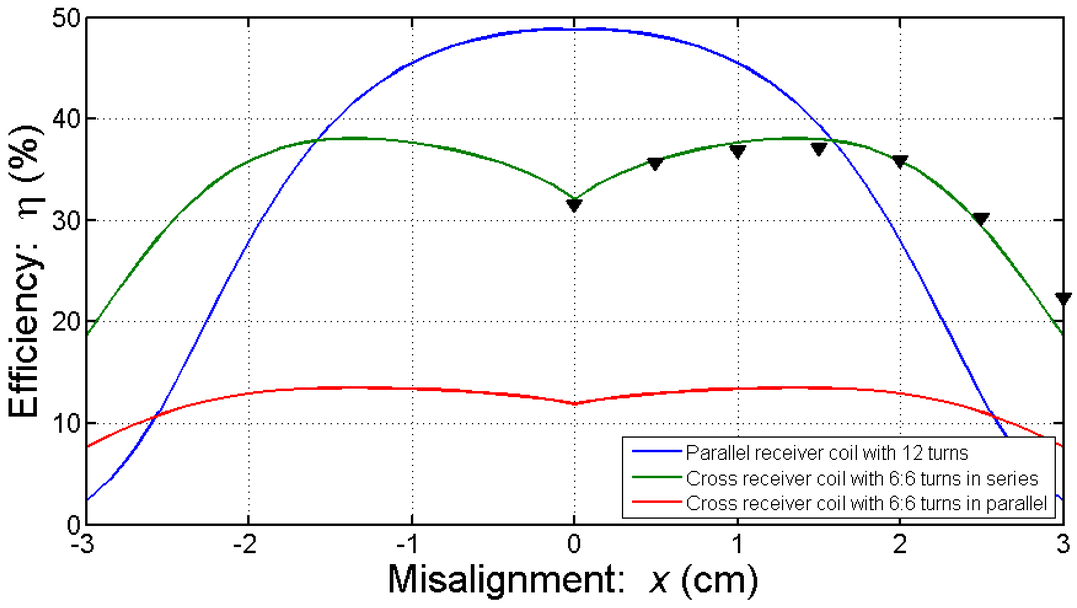


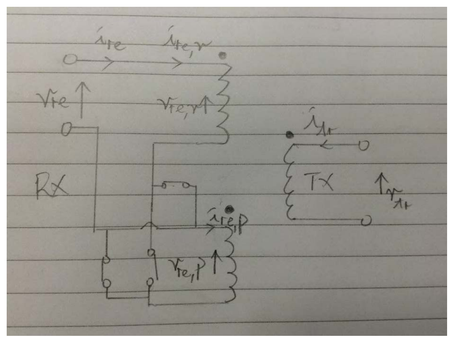
- **Measuring the terminal voltage and the current of the system using the signal generator, the RF amplifier and the Oscilloscope**

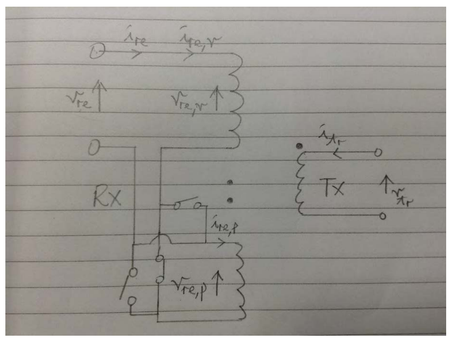


Results/Application (if any)

- **The orthogonal coil structure has a better performance than the single coil structure**







- **Future Development (New design of the coil structure and the circuit level problem)**