Bioengineering 278: Magnetic Resonance Imaging Laboratory
Winter 2012
Lab 8

The goal of this week is to build and test a simple transmit/receive RF coil.

1. Build and tune a two turn transmit/receive RF coil, with two coaxial turns, separated by one diameter, with current flowing in opposite directions in the two turns. (5 points).
2. For the following three conditions, calculate the expected field profile (magnitude of B1), and compare with the measured profile. Assume $|B_1+|=|B_1-|$. (5 points each):
    a. Coil axis oriented L/R in the scanner, axial imaging plane.
    b. Coil axis oriented S/I in the scanner, axial image through middle of coil.
    c. Coil axis oriented S/I in the scanner, coronal image through middle of coil.