Physics 606 Homework #7 Spring '12
Dr. Drake

This assignment is due on March 29.

1. Jackson 5.14: Calculate the magnetic fields everywhere. Skip the plots. For $\mu \gg \mu_0$ and $b - a \ll a$ but with $(\mu - \mu_0)(b - a) \gg \mu_0 b$ calculate the lowest order expressions for the magnetic field in the three regions. What is the size of the region where $\mathbf{B}$ is strongly affected by the cylinder. Estimate the magnetic field in the three regions based on simple physical arguments and check their consistency with your earlier expressions.

2. Jackson 5.18a,c
   Hint: you can use the results of 5.17 and 5.10a.

3. Jackson 5.19a

4. Jackson 5.22