

Physics 220 Assignment 10  
Due Monday 4/27/09

To hand in:

1. TZD 9.19 (this problem refers to the electron magnetic moment)
2. TZD 9.20
3. a) TZD 9.25  
b) In order to obtain a 3-D image of the tissue within the body, an MRI device uses electromagnets to vary the strength of the magnetic field across the large cylindrical magnet into which the person is placed. Assume the magnetic field varies linearly from 1 T on the left side of the magnet ( $x=0$ ) to 2 T on the right side ( $x=0.50$  m). If a proton produces photons with a frequency of 50.0 MHz, at what value of  $x$  (in meters) is it located?
4. TZD 10.4
5. TZD 10.5
6. TZD 10.11
7. TZD 10.16