Physics 835: Problem Set 6.

Due Wednesday, February 23 by 5PM.

1. Fill in the steps to go from Jackson (9.40) to (9.44).
2. Jackson, problem 9.2
3. A wire loop of radius a, carrying current I is rotated about a diameter with constant angular velocity ω. Calculate the time-averaged radiated power per unit solid angle in the small-loop approximation ($\omega a/c \ll 1$). What is the polarization of the radiated wave?
4. Jackson, problem 9.16. Omit radiation resistance.