

# Physics 106C: Electromagnetism

## Homework 7: Radiation

**DUE: Thursday, May 31 2001**

Remember: Late homework will be granted 50% credit UNLESS PRIOR ARRANGEMENTS ARE MADE WITH ME OR A TA. If you have an extension, please indicate who granted it clearly on the top of the paper OR YOU WILL NOT GET FULL CREDIT. Note that for the rest of Phys106, you must solve integrals analytically, or by looking them up in a table, but you may not use Mathematica.

Reading Assignment: Jackson 7.1-7.3, 9.1 - 9.3

1. Jackson 9.3
2. Jackson 9.5
3. Consider a monochromatic electromagnetic wave incident on a thick slab of conducting material.
  - a) What percentage of the total energy delivered to the slab is deposited within the skin depth?
  - b) Confirm that the total power dissipated in the slab is equal to the power crossing the surface.