

PHYS 3414 - Electricity and Magnetism- Homework Set 3

Chapter 3 - Magnetic Fields

Due 12:30pm Friday February 8, 2008 at the beginning of class.

Good's Problems

All problems must be worked from first principles by starting from the Biot-Savart Law or Ampere's Law

3.6

3.8

3.10

3.12

3.14

3.16

3.18 (Skip solid angle part)

3.20

3.24

3.26 (The field is sketched in the problem.)

Additional Problems

Problem A1 Let the system in parts (a) and (b) of problem A1 of Homework 1 rotate about its axis with an angular velocity ω . Calculate the magnetic field along the axis.

UPII Problems

No UPII problems this time because many of the above are UPII problems.