

Physics 244

Modern Physics

Homework 2

Due in Class Friday, September 21, 2007

1. Thornton and Rex Chapter 5 problem 20
2. Thornton and Rex Chapter 5 problem 22
3. Thornton and Rex Chapter 5 problem 34
4. Thornton and Rex Chapter 5 problem 43 (answer in back of book – don't look 'till you've tried it! Note, the problem means to say that the atom's excited state is 4.5 eV above the ground state energy so the emitted photons from a bunch of atoms like this will have a distribution with an average energy is 4.5 eV and some finite width about that average value. You are trying to compute the width.)
5. Thornton and Rex Chapter 5 problem 44
6. Thornton and Rex Chapter 5 problem 57
7. Thornton and Rex Chapter 5 problem 60
8. Thornton and Rex Chapter 5 problem 63. You can use any software you want here. Nothing fancy is needed – something like Excel will do the job.

“Science cannot solve the ultimate mystery of nature. And that is because, in the last analysis, we ourselves are a part of the mystery that we are trying to solve.” Max Planck (1858–1947)

