

Physics 113 Quantum Theory Seminar

Assignment 9 March 27, 2013

This week we study 2- and 3-dimensional systems

Part 1: Readings

Zettili - Chapter 6 (Pages 333-368)

Boccio - Chapter 9 (Pages 743-787 Section 9.6)

All kinds of problems in 2- and 3-dimensions

Start this assignment as early as possible.

Part 2: Problems

1. Z6-05 - 3D Square well energies and degeneracies
2. Z6-06 - Square well mixed with oscillator
3. Boccio 9.7.28 - In a coulomb field
4. Boccio 9.7.29 - Probabilities
5. Boccio 9.7.30 - What happens?
6. Boccio 9.7.32 - Exponential potential
7. Boccio 9.7.33 - Bouncing electron
8. Boccio 9.7.34 - Alkali Atoms
9. Boccio 9.7.38 - In magnetic and electric fields
10. Boccio 9.7.39 - Extra(Hidden) Dimensions(Everyone read)
11. Boccio 9.7.40 - Spin-1/2 Particle in a D-State
12. Boccio 9.7.54 - Hydrogen d states