

Physics 113 Quantum Theory Seminar

Assignment 3 February 06, 2013

This week we cover the final aspect of probability ideas and then start to think about the quantum formalism.

Part 1: Readings

Zettili: Chapter 3

Sections: 3.1-3.6 (pages 165-183) + relevant solved problems

Boccio - Chapter 5 (Pages 348-357 Sections 5.4, 5.5) ; Chapter 6(Pages 367-394 Sections 6.1-6.8).

Part 2: Problems

1. Zettili 3-16 - Measuring Energy and Other Stuff
2. Zettili 3-17 - Measuring Energies - Use Ket-Bra Method
3. Zettili 3-17 - Measuring Energies - Use Density Operator Method
4. Zettili 3-18 - Measuring Energies - Measuring Two Observables (Drop $\sqrt{2}$ in front of A matrix and normalize the vector)
5. Zettili 3-19 - Measuring Energies - Measuring Two Observables (Drop $\sqrt{2}$ in front of A matrix and normalize the vector)
6. Boccio 5.6.9 - Bergers Burgers-Maximum Entropy Ideas
7. Boccio 5.6.10 - Extended Menu at Bergers Burgers
8. Boccio 6.19.2 - Pure and Nonpure States
9. Boccio 6.19.3 - Probabilities
10. Boccio 6.19.4 - Acceptable Density Operators
11. Boccio 6.19.7 - More Density Matrices
12. Boccio 6.19.9 - Operator Properties