

Physics 113 Quantum Theory Seminar

Assignment 7 March 06, 2013

This week we start to learn about angular momentum

Part 1: Readings

Zettili - Chapter 5

Boccio - Chapter 9(Pages 691-722 Sections 9.1-9.3).

Lots of problems this week

Start this assignment as early as possible.

Part 2: Problems

1. Z5-16 What is happening in this state?
2. Z5-18 What is happening in this other state?
3. Z5-31 Spin 3/2 states
4. Z5-32 Spin 5/2 states
5. Boccio 9.7.1 Position representation wave function
6. Boccio 9.7.2 Operator identities
7. Boccio 9.7.5 Rigid rotator
8. Boccio 9.7.7 $L = 1$ System
9. Boccio 9.7.9 Arbitrary Directions
10. Boccio 9.7.10 Spin state probabilities
11. Boccio 9.7.12 Simultaneous Measurement
12. Boccio 9.7.47 Spin operators ala Dirac

Midterm Problem #4 - Only consult with Professor

Boccio 9.7.11 A spin operator (solution written up in LaTeX)