

# Physics 113 Quantum Theory Seminar

## Assignment 5 February 20, 2013

This week we apply the quantum formalism to photons, K-mesons, Stern-Gerlach devices and derive the Schrodinger equation.

### Part 1: Readings

**Boccio** - Chapter 7(Pages 469-527 Sections 7.1-7.4 ). Chapter 8 (pages 537-544 Section 8.1)

### Part 2: Problems

1. Boccio 7.5.2 Polaroids
2. Boccio 7.5.3 Calcite Crystal
3. Boccio 7.5.4 Turpentine
4. Boccio 7.5.5 What QM is all about - Two Views
5. Boccio 7.5.7 Time Evolution
6. Boccio 7.5.8 K-Meson oscillations
7. Boccio 7.5.12 Quarter-wave plate
8. Boccio 7.5.13 What is happening?
9. Boccio 7.5.14 Interference
10. Boccio 7.5.15 More Interference

### Midterm Problem #2 - Only consult with Professor

Boccio 7.5.6 - Photons and Polarizers (solution written up in LaTeX)