

Phy403 Quantum Mechanics
Second Homework Assignment
Due Monday April 21

Problem 1. **Page 359, Problem 9.10.** This is a pretty easy problem with only a few lines of algebra. We went over this in the Radiation Physics Laboratory Class.

Problem 2. **Page 363, Problem 9.14.** For part c) only consider the dipole transition from the initial state $|300\rangle$ to the $|21m\rangle$ final state.

Problem 3. **Page 364, Problem 9.17a.** Do part a) only. Hint: H' does not depend on x , so the position part of the transition matrix is zero unless $m = n$ due to the orthogonality of the eigenstates of H_0 .

Problem 4. **Page 365, Problem 9.18.**