

KFUPM
Department of Physics
Phys307
Laser Molecular Spectroscopy

Homework #4

Due on Monday, March 14, 2004

Problem 1

Question 3.8 from your textbook.

Problem 2

Question 3.10 from your textbook.

Problem 3

Question 3.11 from your textbook.

Problem 4

For spontaneous emission the number of atoms in the excited state is governed by an exponential decay such as $N_1(t) = N_1(0)e^{-At}$, show that $1/A$ is the average life time of an atom in the excited state.