

PHYS 8501: Introduction to Atomic and Molecular Physics

Spring 2019

Instructor: Dr. Meyer
Room: 223-B, 102
Office Hours: By Appointment

Topics:

Chap. 1: Review of classical mechanics and quantum mechanics

Chap. 2: Atomic structure

Chap. 3: Electronic structure and Born-Oppenheimer approximation

Chap. 4: Vibration and rotation of diatomics

Chap. 5: Non-linear polyatomic molecules: Rigid rotor and harmonic oscillator

Chap. 6: Light interaction: One-photon, (two-photon absorption), Raman scattering

Chap. 7: Special topics e.g.

open shell diatoms,

internal rotation,

triatomic systems,

alignment and orientation,

effective Hamiltonians

Grades:	Homework	50%
	Exams	50%