

Detailed Licensing

Overview

Title: [Quantum States of Atoms and Molecules \(Zielinski et al.\)](#)

Webpages: 111

Applicable Restrictions: Noncommercial

All licenses found:

- [CC BY-NC-SA 4.0](#): 84.7% (94 pages)
- [CC BY-NC-SA 3.0](#): 9% (10 pages)
- [Undeclared](#): 6.3% (7 pages)

By Page

- [Quantum States of Atoms and Molecules \(Zielinski et al.\) - CC BY-NC-SA 4.0](#)
 - [Front Matter - CC BY-NC-SA 4.0](#)
 - [TitlePage - Undeclared](#)
 - [InfoPage - Undeclared](#)
 - [Table of Contents - Undeclared](#)
 - [Licensing - Undeclared](#)
 - [1: Spectroscopy - CC BY-NC-SA 4.0](#)
 - [2: Foundations of Quantum Mechanics - CC BY-NC-SA 4.0](#)
 - [2.E: Foundations of Quantum Mechanics \(Exercises\) - CC BY-NC-SA 4.0](#)
 - [2.S: Foundations of Quantum Mechanics \(Summary\) - CC BY-NC-SA 4.0](#)
 - [2.1: Prelude to the Foundations of Quantum Mechanics - CC BY-NC-SA 3.0](#)
 - [2.2: Black-Body Radiation - CC BY-NC-SA 4.0](#)
 - [2.3: Photoelectric Effect - CC BY-NC-SA 4.0](#)
 - [2.4: The Compton Effect - CC BY-NC-SA 4.0](#)
 - [2.5: Hydrogen Luminescence - CC BY-NC-SA 4.0](#)
 - [2.6: Early Models of the Hydrogen Atom - CC BY-NC-SA 4.0](#)
 - [2.7: Derivation of the Rydberg Equation from Bohr's Model - CC BY-NC-SA 4.0](#)
 - [2.8: Summary of Bohr's Contribution - CC BY-NC-SA 4.0](#)
 - [2.9: The Wave Properties of Matter - CC BY-NC-SA 4.0](#)
 - [3: The Schrödinger Equation - CC BY-NC-SA 4.0](#)
 - [3.E: The Schrödinger Equation \(Exercises\) - CC BY-NC-SA 4.0](#)
 - [3.1: Introduction to the Schrödinger Equation - CC BY-NC-SA 4.0](#)
 - [3.2: A Classical Wave Equation - CC BY-NC-SA 4.0](#)
 - [3.3: Invention of the Schrödinger Equation - CC BY-NC-SA 4.0](#)
 - [3.4: Operators, Eigenfunctions, Eigenvalues, and Eigenstates - CC BY-NC-SA 4.0](#)
 - [3.5: Momentum Operators - CC BY-NC-SA 4.0](#)
 - [3.6: The Time-Dependent Schrodinger Equation - CC BY-NC-SA 4.0](#)
 - [3.7: Meaning of the Wavefunction - CC BY-NC-SA 4.0](#)
 - [3.8: Expectation Values - CC BY-NC-SA 4.0](#)
 - [3.9: Postulates of Quantum Mechanics - CC BY-NC-SA 4.0](#)
 - [4: Electronic Spectroscopy of Cyanine Dyes - CC BY-NC-SA 4.0](#)
 - [4.E: Electronic Spectroscopy of Cyanine Dyes \(Exercises\) - CC BY-NC-SA 4.0](#)
 - [4.S: Electronic Spectroscopy of Cyanine Dyes \(Summary\) - CC BY-NC-SA 4.0](#)
 - [4.1: Introduction - CC BY-NC-SA 4.0](#)
 - [4.2: Cyanine Dyes - CC BY-NC-SA 4.0](#)
 - [4.3: The Particle-in-a-Box Model - CC BY-NC-SA 4.0](#)
 - [4.4: Spectroscopy of the Particle-in-a-Box Model - CC BY-NC-SA 4.0](#)
 - [4.5: The Transition Dipole Moment and Spectroscopic Selection Rules - CC BY-NC-SA 4.0](#)
 - [4.6: Selection Rules for the Particle-in-a-Box - CC BY-NC-SA 4.0](#)
 - [4.7: Using Symmetry to Identify Integrals that are Zero - CC BY-NC-SA 4.0](#)
 - [4.8: Other Properties of the Particle-in-a-Box - CC BY-NC-SA 4.0](#)
 - [4.9: Properties of Quantum Mechanical Systems - CC BY-NC-SA 4.0](#)
 - [5: Translational States - CC BY-NC-SA 4.0](#)
 - [5.E: Translational States \(Exercises\) - CC BY-NC-SA 4.0](#)
 - [5.S: Translational States \(Summary\) - CC BY-NC-SA 4.0](#)
 - [5.1: The Free Particle - CC BY-NC-SA 4.0](#)

- 5.2: The Uncertainty Principle - *CC BY-NC-SA 4.0*
- 5.3: Linear Combinations of Eigenfunctions - *CC BY-NC-SA 4.0*
- 6: Vibrational States - *CC BY-NC-SA 4.0*
 - 6.S: Vibrational States (Exercises) - *CC BY-NC-SA 4.0*
 - 6.S: Vibrational States (Summary) - *CC BY-NC-SA 4.0*
 - 6.1: Spatial Degrees of Freedom, Normal Coordinates and Normal Modes - *CC BY-NC-SA 4.0*
 - 6.2: Classical Description of the Vibration of a Diatomic Molecule - *CC BY-NC-SA 4.0*
 - 6.3: Quantum-Mechanical Description of the Harmonic Oscillator - *CC BY-NC-SA 4.0*
 - 6.4: Harmonic Oscillator Properties - *CC BY-NC-SA 4.0*
 - 6.5: Quantum Mechanical Tunneling - *CC BY-NC-SA 4.0*
 - 6.6: Harmonic Oscillator Selection Rules - *CC BY-NC-SA 4.0*
- 7: Rotational States - *CC BY-NC-SA 4.0*
 - 7.E: Rotational States (Exercises) - *CC BY-NC-SA 4.0*
 - 7.1: Introduction to Rotation - *CC BY-NC-SA 4.0*
 - 7.2: The Hamiltonian Operator for Rotational Motion - *CC BY-NC-SA 4.0*
 - 7.3: Solving the Rigid Rotor Schrödinger Equation - *CC BY-NC-SA 4.0*
 - 7.4: Angular Momentum Operators and Eigenvalues - *CC BY-NC-SA 4.0*
 - 7.5: Quantum Mechanical Properties of Rotating Diatomic Molecules - *CC BY-NC-SA 4.0*
 - 7.6: Rotational Spectroscopy of Diatomic Molecules - *CC BY-NC-SA 4.0*
 - 7.7: Overview of the Rigid Rotor - *CC BY-NC-SA 4.0*
- 8: The Hydrogen Atom - *CC BY-NC-SA 4.0*
 - 8.E: The Hydrogen Atom (Exercises) - *CC BY-NC-SA 4.0*
 - 8.S: The Hydrogen Atom (Summary) - *CC BY-NC-SA 4.0*
 - 8.1: The Schrödinger Equation - *CC BY-NC-SA 4.0*
 - 8.2: The Wavefunctions - *CC BY-NC-SA 4.0*
 - 8.3: Orbital Energy Levels, Selection Rules, and Spectroscopy - *CC BY-NC-SA 4.0*
 - 8.4: Magnetic Properties and the Zeeman Effect - *CC BY-NC-SA 4.0*
 - 8.5: Discovering Electron Spin - *CC BY-NC-SA 4.0*
 - 8.6: Other One-Electron Systems - *CC BY-NC-SA 4.0*
 - 8.7: Spin-Orbitals and Electron Configurations - *CC BY-NC-SA 4.0*
 - 8.8: Coupling of Angular Momentum and Spectroscopic Term Symbols - *CC BY-NC-SA 4.0*
- 9: The Electronic States of the Multielectron Atoms - *CC BY-NC-SA 4.0*
 - 9.E: The Electronic States of the Multielectron Atoms (Exercises) - *CC BY-NC-SA 4.0*
 - 9.S: The Electronic States of the Multielectron Atoms (Summary) - *CC BY-NC-SA 3.0*
 - 9.1: The Schrödinger Equation For Multi-Electron Atoms - *CC BY-NC-SA 4.0*
 - 9.2: Solution of the Schrödinger Equation for Atoms- The Independent Electron Approximation - *CC BY-NC-SA 4.0*
 - 9.3: Perturbation Theory - *CC BY-NC-SA 4.0*
 - 9.4: The Variational Method - *CC BY-NC-SA 4.0*
 - 9.5: Single-electron Wavefunctions and Basis Functions - *CC BY-NC-SA 4.0*
 - 9.6: Electron Configurations, The Pauli Exclusion Principle, The Aufbau Principle, and Slater Determinants - *CC BY-NC-SA 4.0*
 - 9.7: The Self-Consistent Field Approximation (Hartree-Fock Method) - *CC BY-NC-SA 4.0*
 - 9.8: Configuration Interaction - *CC BY-NC-SA 4.0*
 - 9.9: Chemical Applications of Atomic Structure Theory - *CC BY-NC-SA 4.0*
 - 9.9.9A: Total Electronic Energies - *CC BY-NC-SA 3.0*
 - 9.9.9B: Orbital Energies - *CC BY-NC-SA 3.0*
 - 9.9.9C: Atomic Sizes and Electron Density Distributions - *CC BY-NC-SA 3.0*
 - 9.9.9D: Ionization Potentials - *CC BY-NC-SA 3.0*
 - 9.9.9E: Electron Affinity - *CC BY-NC-SA 3.0*
- 10: Theories of Electronic Molecular Structure - *CC BY-NC-SA 4.0*
 - 10.E: Theories of Electronic Molecular Structure (Exercises) - *CC BY-NC-SA 3.0*
 - 10.S: Theories of Electronic Molecular Structure (Summary) - *CC BY-NC-SA 3.0*
 - 10.1: The Born-Oppenheimer Approximation - *CC BY-NC-SA 4.0*
 - 10.2: The Orbital Approximation and Orbital Configurations - *CC BY-NC-SA 4.0*
 - 10.3: Basis Functions - *CC BY-NC-SA 3.0*
 - 10.4: The Case of H_2^+ - *CC BY-NC-SA 4.0*
 - 10.5: Homonuclear Diatomic Molecules - *CC BY-NC-SA 4.0*
 - 10.6: Semi-Empirical Methods- Extended Hückel - *CC BY-NC-SA 4.0*
 - 10.7: Mulliken Populations - *CC BY-NC-SA 4.0*
 - 10.8: The Self-Consistent Field and the Hartree-Fock Limit - *CC BY-NC-SA 4.0*
 - 10.9: Correlation Energy and Configuration Interaction - *CC BY-NC-SA 4.0*
 - 10.10: Electronic States - *CC BY-NC-SA 4.0*

- [Back Matter - CC BY-NC-SA 4.0](#)
 - [Index - Undeclared](#)
- [Glossary - Undeclared](#)
- [Detailed Licensing - Undeclared](#)