

CHAPTER OVERVIEW

8: Multielectron Atoms

Electrons with more than one atom, such as Helium (He), and Nitrogen (N), are referred to as multi-electron atoms. Hydrogen is the only atom in the periodic table that has one electron in the orbitals under ground state. We will learn how additional electrons behave and affect a certain atom.

- [8.1: Atomic and Molecular Calculations are Expressed in Atomic Units](#)
- [8.2: Perturbation Theory and the Variational Method for Helium](#)
- [8.3: Hartree-Fock Equations are Solved by the Self-Consistent Field Method](#)
- [8.4: An Electron has an Intrinsic Spin Angular Momentum](#)
- [8.5: Wavefunctions must be Antisymmetric to Interchange of any Two Electrons](#)
- [8.6: Antisymmetric Wavefunctions can be Represented by Slater Determinants](#)
- [8.7: Hartree-Fock Calculations Give Good Agreement with Experimental Data](#)
- [8.8: Term Symbols Gives a Detailed Description of an Electron Configuration](#)
- [8.9: The Allowed Values of J - the Total Angular Momentum Quantum Number](#)
- [8.10: Hund's Rules Determine the Term Symbols of the Ground Electronic States](#)
- [8.11: Using Atomic Term Symbols to Interpret Atomic Spectra](#)
- [8.E: Multielectron Atoms \(Exercises\)](#)

Thumbnail: Neon Atom. (CC BY 3.0 Unported; [BruceBlas](#) via [Wikipedia](#))

8: Multielectron Atoms is shared under a [CC BY 4.0](#) license and was authored, remixed, and/or curated by LibreTexts.