

CHAPTER OVERVIEW

30: Atomic Physics

Atomic physics studies atoms as an isolated system of electrons and an atomic nucleus and is primarily concerned with the arrangement of electrons around the nucleus and the processes by which these arrangements change. This comprises ions, neutral atoms and, unless otherwise stated, it can be assumed that the term atom includes ions.

[30.0: Prelude to Atomic Physics](#)

[30.1: Discovery of the Atom](#)

[30.2: Discovery of the Parts of the Atom - Electrons and Nuclei](#)

[30.3: Bohr's Theory of the Hydrogen Atom](#)

[30.4: X Rays - Atomic Origins and Applications](#)

[30.5: Applications of Atomic Excitations and De-Excitations](#)

[30.6: The Wave Nature of Matter Causes Quantization](#)

[30.7: Patterns in Spectra Reveal More Quantization](#)

[30.8: Quantum Numbers and Rules](#)

[30.9: The Pauli Exclusion Principle](#)

[30.E: Atomic Physics \(Exercises\)](#)

Thumbnail: In the Bohr model, the transition of an electron with $n=3$ to the shell $n=2$ is shown, where a photon is emitted. An electron from shell ($n=2$) must have been removed beforehand by ionization. (CC-SA-BY-3.0; JabberWok).

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