CHAPTER OVERVIEW

3: The Schrödinger Equation

The discussion in this chapter constructs the ideas that lead to the postulates of quantum mechanics, which are given at the end of the chapter. The overall picture is that quantum mechanical systems such as atoms and molecules are described by mathematical functions that are solutions of a differential equation called the Schrödinger equation. In this chapter we want to make the Schrödinger equation and other postulates of Quantum Mechanics seem plausible. We follow a train-of-thought that could resemble Schrödinger's original thinking. The discussion is not a derivation; it is a plausibility argument. In the end we accept and use the Schrödinger equation and associated concepts because they explain the properties of microscopic objects like electrons and atoms and molecules.

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