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ISBN	9783031176357 9783031176340
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Descrizione fisica	1 online resource (489 pages)
Collana	Graduate Texts in Physics Series
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Formato	Materiale a stampa
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Nota di contenuto	Perception and Imagination -- Quantum Phenomena -- Wave Function, Schrödinger Equation -- Physical Quantities and Measurement -- Energy, Quantization and Quantum Tunnelling -- Principles of Quantum Mechanics -- Principles of Quantum Mechanics.
Sommario/riassunto	The new edition of this remarkable textbook offers the reader a conceptually strong introduction to quantum mechanics, but goes beyond this to present a fascinating tour of modern theoretical physics. Beautifully illustrated and engagingly written, it starts with a brief overview of diverse topics across physics including nanotechnology, materials science, and cosmology. It provides new chapters on astrophysics, quantum information and the photon. Each chapter provides a set of exercises, questions, a problem and solutions. The core of the book covers both established and emerging aspects of quantum mechanics. A concise introduction to traditional quantum mechanics covers the Schrödinger equation, Hilbert space, photon physics, the algebra of observables, hydrogen atom, spin and Pauli principle. Modern features of the field are presented with Bell's inequality by exploring systems of entangled states, that have generated the 'second quantum revolution' of systems that communicate instantly at a distance, and the birth of quantum information: cryptography, teleportation and quantum computers.

