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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Genesis of Quantum Mechanics -- Heisenberg's Matrix Mechanics -- Schrödinger's Wave Mechanics -- Lagrangian Formalism -- Wave Particle Duality -- The Eigenvalue Problem -- Atom Radiation -- Scattering of Light and Particles -- Atom in Magnetic Field -- Electron Spin and Pauli Equation -- Relativistic Quantum Mechanics. - Electrodynamics and Special Relativity -- Mathematical Appendices -- Exercises -- Index.
Sommario/riassunto	The focus of the present work is nonrelativistic and relativistic quantum mechanics with standard applications to the hydrogen atom. The author has aimed at presenting quantum mechanics in a comprehensive yet accessible for mathematicians and other non-physicists. The genesis of quantum mechanics, its applications to basic quantum phenomena, and detailed explanations of the corresponding mathematical methods are presented. The exposition is formalized (whenever possible) on the basis of the coupled Schroedinger, Dirac and Maxwell equations. Aimed at upper graduate and graduate students in mathematical and physical science studies.