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Titolo	Scattering and Structures : Essentials and Analogies in Quantum Physics // by Bogdan Povh, Mitja Rosina
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Descrizione fisica	1 online resource (XVII, 227 p. 119 illus.)
Collana	Graduate Texts in Physics, , 1868-4513
Disciplina	530.12
Soggetti	Quantum theory Nuclear physics Particles (Nuclear physics) Quantum field theory Astronomy Astrophysics Atoms Physics Quantum Physics Particle and Nuclear Physics Elementary Particles, Quantum Field Theory Astronomy, Astrophysics and Cosmology Atomic, Molecular, Optical and Plasma Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Photon Scattering - Form Factors -- Lepton Scattering - Nucleon Radius -- Quasi-Elastic Scattering - Virtual Photons and Gluons -- The Hydrogen Atom - The Playground of Quantum Mechanics -- Many Electron Atoms - Shell Structure -- Covalent and Ionic Binding - Electron Sharing -- Intermolecular Forces - Building Complex Structures -- Cold Neutron - Spectroscopy of the Solid State -- Quantum Gases - Quantum Degeneration -- Quantum Liquids - Superfluidity -- Metals - Quasi-free Electrons -- Hadrons - Atoms of Strong Interaction -- The Nuclear Force - Pion Sharing -- Nuclei -

Droplets of a Fermi Liquid -- Stars, Planets and Asteroids - Interplay between Gravitation and Quantum Phenomena -- Elementary Particles - Fundamental Interactions -- Cosmology - The Early Universe.

Sommario/riassunto

Quantum physics may appear complicated, especially if one forgets the "big picture" and gets lost in the details. However, it can become clearer and less tangled if one applies a few fundamental concepts so that simplified approaches can emerge and estimated orders of magnitude become clear. Povh and Rosina's *Scattering and Structures* presents the properties of quantum systems (elementary particles, nucleons, atoms, molecules, quantum gases, quantum liquids, stars, and early universe) with the help of elementary concepts and analogies between these seemingly different systems. In this new edition, sections on quantum gases and an up to date overview of elementary particles have been added.
