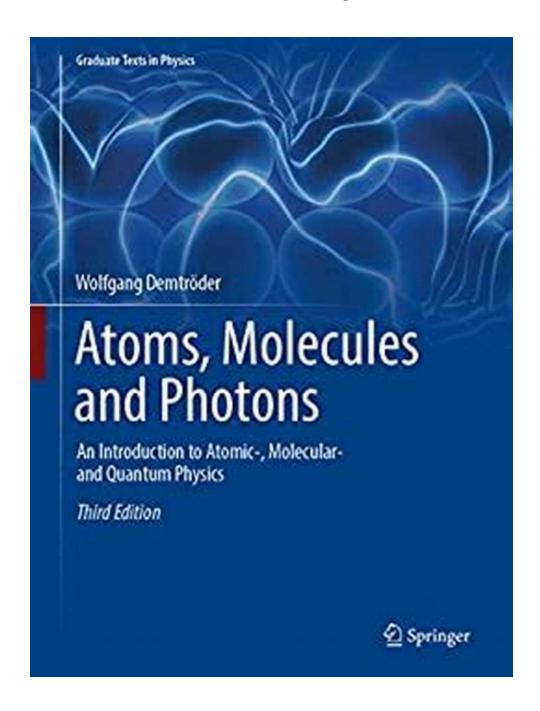
Unveiling the Enigmatic World of Atomic, Molecular, and Quantum Physics!



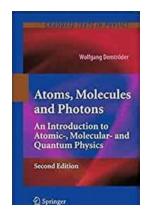
What is Atomic, Molecular, and Quantum Physics?

Atomic, molecular, and quantum physics form the fundamental branches of the field of physics that deal with the science of matter and energy. These fascinating

disciplines explore the behavior and properties of atoms, molecules, and quantum systems, shedding light on the mysterious microscopic world that holds the secrets of our universe.

The Journey Begins: A Peek into the Atomic World

The story of physics commences with a dive into the realm of atoms. Atoms are the basic building blocks of matter, made up of a nucleus containing positively charged protons and electrically neutral neutrons, surrounded by negatively charged electrons orbiting in specific energy levels.



Atoms, Molecules and Photons: An Introduction to Atomic-, Molecular- and Quantum Physics (Graduate Texts in Physics)

by Steven G. Krantz (3rd Edition, Kindle Edition)

★★★★ 4.5 out of 5

Language : English

File size : 243390 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Word Wise : Enabled

Print length



: 1901 pages

Discover the awe-inspiring properties of atoms, such as electronegativity, atomic size, and ionization energy, and how they contribute to the diversity and behavior of elements on the periodic table.

Unraveling the Complexities of Molecular Physics

Molecules, the combination of multiple atoms, play a crucial role in the world around us. From the air we breathe to the water we drink, everything consists of molecules. Dive into the world of molecular physics and reveal the diverse chemical bonds that hold molecules together.

Explore intriguing concepts like molecular orbitals, hybridization, and electronegativity, and witness how molecular interactions govern the chemical reactions and properties of substances.

Quantum Physics: The Mind-Blowing Frontier

Enter the surreal and mind-boggling domain of quantum physics, where the classical rules of physics are upended. Quantum physics explores the behavior of matter and energy at unimaginably small scales, uncovering the strange phenomena that occur at the atomic and subatomic levels.

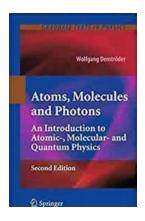
Prepare to be captivated by the concepts of wave-particle duality, superposition, and entanglement. Marvel at the astonishing experiments that revolutionized our understanding of the quantum world, such as the famous double-slit experiment and Schrödinger's cat thought experiment.

The Implications and Applications

Atomic, molecular, and quantum physics have far-reaching implications and applications across a vast array of fields. Delve into the realms of nanotechnology, quantum computing, and medical imaging, and grasp how these futuristic technologies are made possible by the principles of atomic, molecular, and quantum physics.

An Exciting Journey of Discovery

Embark on this exhilarating journey through the realms of atomic, molecular, and quantum physics. The deeper we delve into the mysteries of the microscopic world, the more we realize how interconnected and astonishing our universe truly is.



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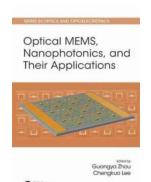
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This to Atomic and Molecular Physics explains how our present model of atoms and molecules has been developed over the last two centuries both by many experimental discoveries and, from the theoretical side, by the of quantum physics to the adequate description of micro-particles. It illustrates the wave model of particles by many examples and shows the limits of classical description. The interaction of electromagnetic radiation with atoms and molecules and its potential for spectroscopy is outlined in more detail and in particular lasers as modern spectroscopic tools are discussed more thoroughly. Many examples and problems with solutions are offered to encourage readers to actively engage in applying and adapting the fundamental physics presented in this textbook to specific situations.

Completely revised third edition with new sections covering all actual developments,

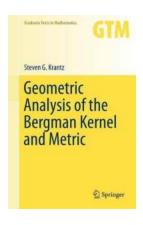
like photonics, ultrashort lasers, ultraprecise frequency combs, free electron lasers.

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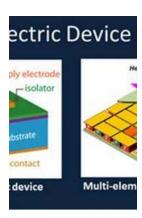
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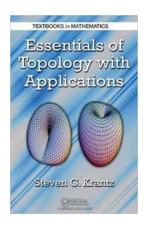
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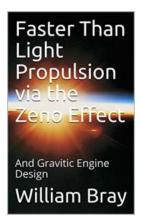
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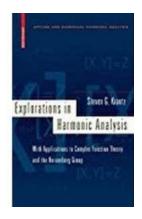
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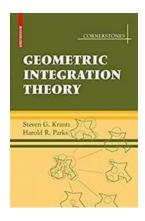
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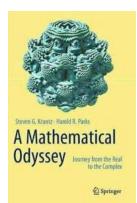
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