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Disciplina	530
Soggetti	Electrical engineering Biophysics Biological physics Mathematical models Manufactures Electrical Engineering Biological and Medical Physics, Biophysics Mathematical Modeling and Industrial Mathematics Manufacturing, Machines, Tools, Processes
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Part I : [Applied Physics] -- 1 Quantum Thermodynamics and Coherence in Ion Channels -- 2 Micro-Pulse Stimulation -- 3 Exploring the Therapeutic Effects of Micro-Pulse Stimulation -- 4 Application of BaTiO3 Perovskite Material for Piezoelectric Multilayer Actuators -- 5 Modeling of the Waterflooding Process in the Presence of Discontinuities in the Oil Reservoirs -- 6 Terahertz Spectroscopy Applications in Medicament Analysis -- 7 Stability of Capillary Waves of Finite Amplitude -- 8 High Temperature Behavior of Two Titanium Aluminides for Blade Engine Applications - Preliminary Study -- 9 The Numerical Scheme for the Basset Type Integro-Differential Equation in Hydrodynamics -- 10 On the Issue of Choosing the Measuring Zones in a Faraday Balance when Studying Magnetic Susceptibility of Small

Samples.

Sommario/riassunto

This book reports on advanced theories and methods in three related fields of research: applied physics, system science and computers. It is organized in two main parts, the first of which covers applied physics topics, including lasers and accelerators; condensed matter, soft matter and materials science; nanoscience and quantum engineering; atomic, molecular, optical and plasma physics; as well as nuclear and high-energy particle physics. It also addresses astrophysics, gravitation, earth and environmental science, as well as medical and biological physics. The second part focuses on advances in system science and computers, exploring automatic circuit control, power systems, computer communication, fluid mechanics, simulation and modeling, software engineering, data structures and applications of artificial intelligence among other areas. Offering a collection of contributions presented at the 1st International Conference on Applied Physics, System Science and Computers (APSAC 2016), the book bridges the gap between applied physics and electrical engineering. It not only to presents new methods, but also promotes collaborations between different communities working on related topics at the interface between physics and engineering, with a special focus on communication, data modeling and visualization, quantum information, applied mechanics as well as bio and geophysics.