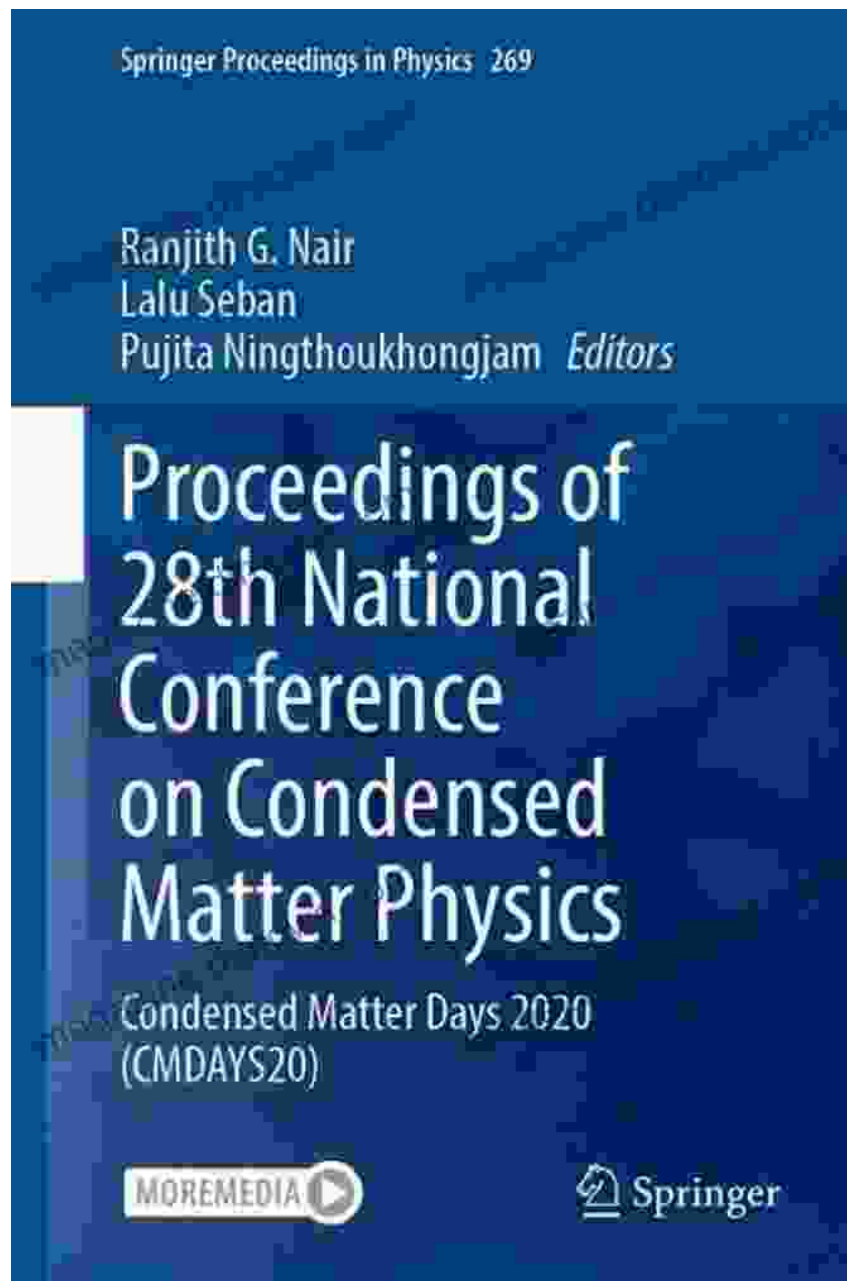
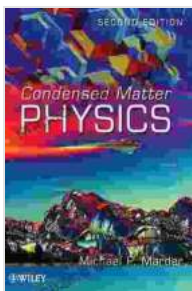


Unveiling the Frontiers of Condensed Matter Physics: Delve into the Proceedings of the 28th National Conference



Condensed matter physics, a captivating field of physics, delves into the enigmatic realm of materials and their properties. It encompasses a vast

and diverse array of topics, ranging from the electronic structure of solids to the intricate behavior of complex fluids. The 28th National Conference on Condensed Matter Physics (NCCP) brought together a brilliant congregation of scientists, researchers, and scholars to engage in thought-provoking discussions and exchange groundbreaking ideas in this multifaceted field. The conference proceedings serve as a testament to the remarkable progress made in condensed matter physics and offer invaluable insights into the latest advancements and future directions of research.



Proceedings of 28th National Conference on Condensed Matter Physics: Condensed Matter Days 2024 (CMDAYS20) (Springer Proceedings in Physics Book 269) by Jo Greig

★★★★☆ 4.5 out of 5

Language : English
File size : 41403 KB
Text-to-Speech : Enabled
Enhanced typesetting : Enabled
Print length : 374 pages
Screen Reader : Supported



Exploring the Heart of Condensed Matter Physics:

The conference proceedings encapsulate a comprehensive array of topics that lie at the heart of condensed matter physics. These include:

1. **Electronic Structure and Band Theory:** Delving into the fundamental properties of electrons in solids, this section explores band structure

calculations, density functional theory, and the electronic properties of novel materials.

2. **Superconductivity:** Unveiling the mysteries of superconductivity, this section examines the latest discoveries in high-temperature superconductors, the development of new superconducting materials, and the potential applications of superconductivity.
3. **Magnetism:** Exploring the fascinating world of magnetism, this section delves into magnetic materials, spintronics, and the interplay between magnetism and other physical properties.
4. **Nanomaterials and Nanotechnology:** Investigating the unique properties of nanomaterials, this section explores the synthesis, characterization, and applications of nanostructures, nanoparticles, and other nanoscale systems.
5. **Soft Matter Physics:** Exploring the behavior of complex fluids, polymers, and biological systems, this section examines the viscoelastic properties, phase transitions, and self-assembly of soft materials.

Delving into the Conference's Key Themes:

Beyond the specific topics, the conference proceedings also highlight several key themes that permeated the discussions and presentations.

These include:

1. **Materials Discovery and Characterization:** Emphasizing the importance of discovering and characterizing novel materials, this theme explores advanced experimental and theoretical techniques for understanding their properties.

2. **Theoretical and Computational Methods:** Highlighting the power of theoretical and computational methods, this theme showcases the development and application of sophisticated models and simulations to unravel the complexities of condensed matter systems.
3. **Cross-Disciplinary Collaborations:** Recognizing the value of interdisciplinary research, this theme encourages collaborations between physicists, chemists, materials scientists, and other disciplines to address complex problems.

Eminent Contributions from Leading Experts:

The conference proceedings feature a stellar lineup of contributions from renowned scientists who are shaping the field of condensed matter physics. These include:

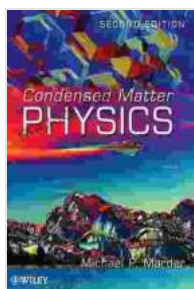
- Professor A. N. Basu (Indian Institute of Technology, Kanpur)
- Professor M. P. Das (Indian Association for the Cultivation of Science, Kolkata)
- Dr. R. Nandgaonkar (Tata Institute of Fundamental Research, Mumbai)
- Professor S. B. Roy (National Institute of Technology, Rourkela)
- Professor A. K. Sood (Indian Institute of Science, Bangalore)

Their thought-provoking presentations and insightful perspectives provide invaluable guidance and inspiration for researchers and students alike.

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The Proceedings of the 28th National Conference on Condensed Matter Physics offer an unparalleled window into the frontiers of this captivating

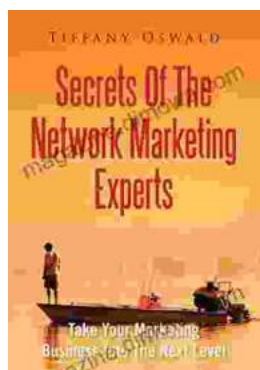
field. By delving into the latest research, cutting-edge techniques, and emerging trends, these proceedings serve as an indispensable resource for scientists, researchers, and students seeking to push the boundaries of condensed matter physics. Whether you are a seasoned expert or a curious novice, you will find valuable insights and inspiration within these pages.



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