

Neutron Scattering in Layered Copper Oxide Superconductors: Physics and Applications



Neutron Scattering in Layered Copper-Oxide Superconductors (Physics and Chemistry of Materials with Low-Dimensional Structures Book 20) by Albert Furrer

★★★★☆ 4 out of 5

Language : English

File size : 9873 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Print length : 420 pages



Unveiling the Secrets of High-Temperature Superconductivity

Immerse yourself in the fascinating world of high-temperature superconductivity as this book takes you on a journey to unravel the mysteries of layered copper oxide superconductors. Through the lens of neutron scattering, a powerful experimental technique, you'll gain an unparalleled understanding of the physics behind these remarkable materials.

The Power of Neutron Scattering

Neutron scattering is a unique probe that offers invaluable insights into the atomic and magnetic structures of materials. In this book, you'll learn how neutron scattering experiments provide crucial information on:

- Crystallographic structures and lattice vibrations

- Magnetic excitations and spin dynamics
- Charge density and electronic correlations

Exploring Layered Copper Oxide Superconductors

Layered copper oxide superconductors have captivated the scientific community with their ability to exhibit superconductivity at relatively high temperatures. This book delves into the unique properties of these materials, including:

- Their layered structure and its influence on superconductivity
- The role of dopants and defects in modifying their properties
- The interplay between charge, spin, and lattice degrees of freedom

Applications and Future Prospects

Beyond their fundamental scientific significance, layered copper oxide superconductors have promising applications in various fields such as:

- Efficient power transmission and storage
- Ultra-sensitive medical imaging
- High-speed computing and electronics

This book explores these potential applications and discusses the challenges and opportunities for future research in this rapidly evolving field.

Expert Insights and Cutting-Edge Research

Authored by renowned experts in the field, this book provides a comprehensive and authoritative account of the latest research on neutron scattering in layered copper oxide superconductors. You'll gain insights from leading researchers and stay abreast of the most recent developments.

Target Audience

This book is an essential resource for:

- Researchers in condensed matter physics and materials science
- Graduate students studying superconductivity and neutron scattering
- Industry professionals involved in the development of superconducting materials
- Anyone fascinated by the mysteries of high-temperature superconductivity

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Unlock the secrets of high-temperature superconductivity with this groundbreaking book. Free Download your copy today and embark on an enlightening journey into the fascinating world of layered copper oxide superconductors.

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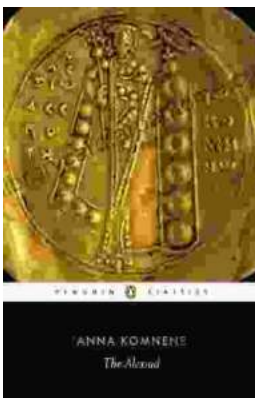
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