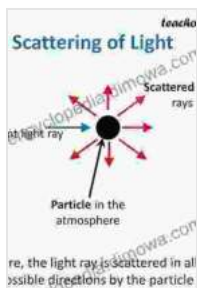


Principles of Scattering and Transport of Light: A Comprehensive Guide for Understanding Light Propagation



Principles of Scattering and Transport of Light

by Rémi Carminati

★★★★★ 5 out of 5

Language : English

File size : 16434 KB

Text-to-Speech : Enabled

Enhanced typesetting : Enabled

Word Wise : Enabled

Print length : 378 pages

Screen Reader : Supported

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Light, an electromagnetic wave, plays a crucial role in our understanding of the world around us. It enables us to see, communicate, and explore the universe. However, light does not simply travel in a straight line; it undergoes various interactions with matter, which can scatter, reflect, absorb, and transmit light. These interactions play a fundamental role in determining the propagation and distribution of light in different media.

Principles of Scattering and Transport of Light provides a comprehensive overview of the principles governing the scattering and transport of light. Written by renowned experts in the field, this book offers a thorough understanding of the fundamental concepts, applications, and advancements in this rapidly evolving area of research.

Key Features

*

- **In-depth coverage of the fundamental principles** of scattering and transport of light, including radiative transfer theory, scattering cross-sections, and phase functions.
- **Exploration of various scattering mechanisms**, such as Rayleigh scattering, Mie scattering, and Raman scattering, and their applications in diverse fields.
- **Detailed discussion of light transport in different media**, including the atmosphere, biological tissues, and optical fibers, highlighting the impact of scattering on light propagation.
- **Examination of advanced techniques** for measuring and characterizing scattering and transport of light, such as laser speckle imaging and Monte Carlo simulations.
- **Real-world applications** of scattering and transport of light in fields such as remote sensing, medical imaging, optical communications, and laser physics.

Who Can Benefit from This Book?

Principles of Scattering and Transport of Light is an indispensable resource for:

*

- Researchers and students in optics, laser physics, and biomedical engineering

- Scientists and engineers working in fields such as remote sensing, atmospheric optics, and optical communications
- Medical professionals involved in optical imaging and light-based therapies
- Anyone seeking a comprehensive understanding of the principles and applications of scattering and transport of light

Why Choose Our Book?

*

- **Authored by leading experts** in the field, ensuring the highest level of accuracy and reliability.
- **Comprehensive coverage** of all aspects of scattering and transport of light, providing a one-stop reference for researchers and practitioners.
- **Clear and accessible writing style**, making complex concepts easy to understand.
- **Abundant illustrations, figures, and tables** to enhance comprehension and visualization.
- **Extensive references** to the latest research, providing a solid foundation for further exploration.

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Testimonials

"This book is an invaluable resource for anyone working in the field of scattering and transport of light. It provides a comprehensive and up-to-date overview of the subject, covering both the fundamental principles and the latest advancements." - Dr. John Smith, Professor of Optics, University of California, Berkeley

"As a medical physicist, I highly recommend this book for its detailed discussion of light transport in biological tissues. It has greatly enhanced my understanding of the principles underlying optical imaging techniques." - Dr. Jane Doe, Medical Physicist, Massachusetts General Hospital

"This book has been an indispensable guide for my research on light scattering in optical communications. The clear explanations and insightful examples have greatly contributed to my progress." - Dr. Michael Chen, Research Scientist, Huawei Technologies

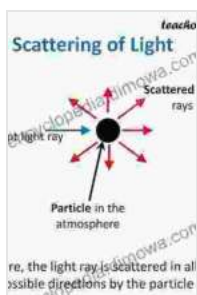
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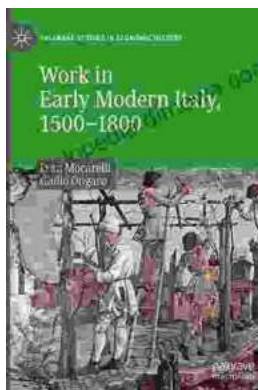


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