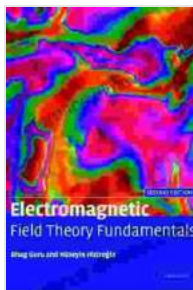


# Unraveling the Mysteries of Electromagnetic Field Theory with Fuhuo Li's Comprehensive Guide

Electromagnetic field theory plays a pivotal role in understanding the interactions between charged particles and their environment. It finds applications in various fields, including electrical engineering, electronics, telecommunications, and astrophysics. However, grasping the intricacies of this complex subject can be challenging.

Enter "Electromagnetic Field Theory Fundamentals," a comprehensive textbook authored by Fuhuo Li, a renowned expert in the field. This masterpiece provides a profound understanding of the fundamental concepts and mathematical frameworks underlying electromagnetic field theory.

Structured into 12 comprehensive chapters, "Electromagnetic Field Theory Fundamentals" guides readers through the following topics:



## Electromagnetic Field Theory Fundamentals by Fuhuo Li

★★★★☆ 4.5 out of 5

Language : English  
File size : 40722 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 693 pages

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1. **Electrostatic Fields:** Explore the properties of electric fields, including Gauss's law, Coulomb's law, and Laplace's equation.
2. **Magnetostatic Fields:** Delve into the principles of magnetic fields, covering Ampère's law, Biot-Savart's law, and magnetic materials.
3. **Maxwell's Equations:** Unravel the foundational equations that govern electromagnetic phenomena, including Gauss's theorem, Faraday's law, and the Lorentz force law.
4. **Plane Waves in Lossy Dielectrics:** Understand the propagation characteristics of electromagnetic waves in various materials.
5. **Waveguides and Transmission Lines:** Explore the theory and applications of waveguides and transmission lines, essential components in communication systems.
6. **Antennas:** Discover the principles of antenna design and operation, crucial for wireless communications.
7. **Electromagnetic Interference and Compatibility:** Gain insights into the causes and mitigation techniques for electromagnetic interference, a common problem in modern electronic devices.
8. **Electromagnetic Waves in Plasmas:** Investigate the behavior of electromagnetic waves in ionized gases, relevant to plasma physics and fusion energy research.

9. **Numerical Methods in Electromagnetics:** Learn about computational techniques for solving complex electromagnetic problems.
10. **Special Topics in Electromagnetics:** Explore advanced topics such as metamaterials, optical fibers, and microwave imaging.

"Electromagnetic Field Theory Fundamentals" stands out with its exceptional pedagogical features:

- **Clear and Concise Explanations:** Li's writing style is renowned for its clarity and accessibility, making complex concepts easy to grasp.
- **Numerous Solved Examples:** Over 200 solved examples illustrate the application of key principles and provide step-by-step guidance.
- **Practice Problems:** Over 600 practice problems test understanding and provide opportunities for self-assessment.
- **MATLAB Codes:** MATLAB codes for select problems enable readers to simulate electromagnetic phenomena and deepen their comprehension.
- **Figures and Illustrations:** Over 300 figures and illustrations enhance visualization and make the learning process more engaging.

"Electromagnetic Field Theory Fundamentals" is an invaluable resource for:

- Undergraduate and graduate students in electrical engineering, physics, and related fields.
- Engineers and researchers in telecommunications, antenna design, and other electromagnetic-related industries.
- Technicians and practitioners seeking a deeper understanding of electromagnetic principles.

This comprehensive guide serves as a solid foundation for further exploration in electromagnetics, including advanced topics such as microwave engineering, electromagnetic compatibility, and computational electromagnetics.

"Electromagnetic Field Theory Fundamentals" has received widespread critical acclaim for its exceptional clarity, comprehensive coverage, and user-friendly approach. It has been adopted as a textbook in numerous universities worldwide and has become a standard reference for professionals in the field.

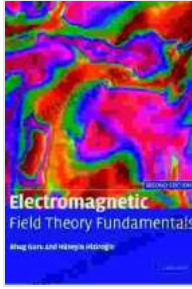
"Electromagnetic Field Theory Fundamentals" by Fuhuo Li is a masterpiece that empowers readers with a profound understanding of the fundamental principles governing electromagnetic phenomena. Its exceptional clarity, wealth of examples, and extensive illustrations make it an indispensable resource for students, researchers, and professionals alike.

**Electromagnetic Field Theory Fundamentals** by Fuhuo Li

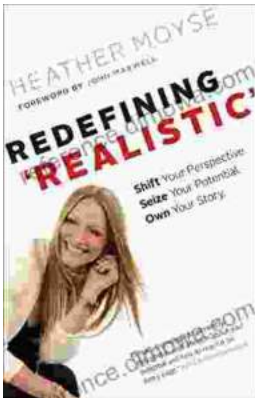
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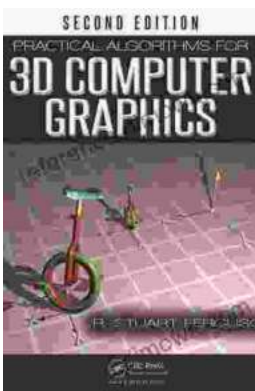


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