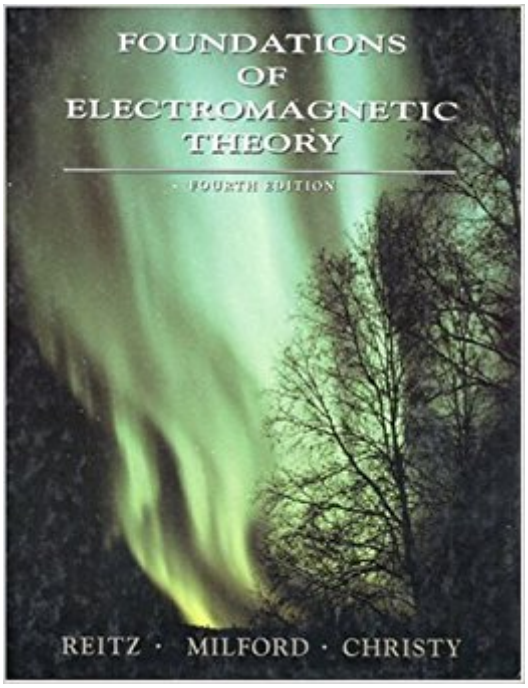
Foundations Of Electromagnetic Theory (4th Edition)



Synopsis

This revision is an update of a classic text that has been the standard electricity and magnetism text for close to 40 years. The fourth edition contains more worked examples, a new design and new problems. Plus, the new edition provides increased emphasis on electromagnetic waves and the solution of numerical problems in electromagnetism by means of a personal computer.

Book Information

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Customer Reviews

This revision is an update of a classic text that has been the standard electricity and magnetism text for close to 40 years. The fourth edition contains more worked examples, a new design and new problems.Vector Analysis, Electrostatistics, Solution of Electrostatic Problems, The Electrostatic Field in Dielectric Media, Microscopic Theory of Dielectrics, Electrostatic Energy, Electric Current, The Magnetic Field of Steady Currents, Magnetic Properties of Matter, Microscopic Theory of Magnetism, Electromagnetic Induction, Magnetic Energy, Slowly Varying Currents, Physics of Plasmas, Electromagnetic Properties of Superconductors, Maxwell’s Equations, Propagation of Monochromatic, Monochromatic Waves in Bounded Regions, Dispersion and Oscillating Fields in Dispersive Media, The Emission of Radiation, Electrodynamics, The Special Theory of Relativity.Intended for those interested in learning the basics of standard electricity and magnetism. --This text refers to an out of print or unavailable edition of this title.

John R. Reitz (Ph.D., University of Chicago, 1949) was a member of the Theoretical Division of Los

Alamos Scientific Laboratory from 1949 to 1954, and a consultant to the Lab until 1964. He was a faculty member of Case Institute of Technology (now Case Western Reserve University) from 1954 to 1965 and was appointed Professor of Physics in 1960. From 1965 to 1987 he was Manager of the physics department at Ford Motor Company. Currently he is a consultant in physics and educational software.Dr. Reitz has written approximately 50 scientific papers in the fields of solid state physics, magnetohydrodynamics, energy conversion, and applications of electromagnetic theory. He is a fellow of the American Physical Society.

This book covers with a good level of subject content I teach for a degree in Physics from our university (2nd year course for undergraduate students in physics). I think it’s a good complement Griffiths for an introductory course completed prior to advanced electromagnetism.

Book in great condition!

The book was in very good conditions and was inexpensive. The book have a notation that could be a little heavy at the begining, but the theory is quite well.

This book was sent to me in a timely fashion and it was in the best condition I have ever seen a book this old in. Thanks.

This text covers several topics that other books tend to overlook, making it a frequent choice for undergraduate courses. However, the effectiveness of the book is dependent primarily on the quality of the counterpart teacher, as the book is quite difficult to understand on its own.Many of the proofs in the book omit the most difficult and complicated steps, which are above the level of an undergraduate to be able to work on their own. Also, the book chooses to rigorously prove certain Electromagnetic properties while completely omitting other while still assuming that the reader has a full knowledge of both.As a reference, this book also falls short in that, in the fourth edition at least, most of the important constants and equations are left scattered throughout the text and not included in the summaries. Also, many of the fundamental mathematical tools are not presented in their entirety and instead rely on the completion of the problems at the end of the chapters. While this is good in that it motivates the student to do the calculations themselves, it offers no recourse to a student who has made a mistake in any problem or who lacks a preexisting intuitive knowledge of the material.

I’m writing this review to bolster the review written by glires. I believe that glires’s review is very accurate. This book assumes the reader already has a working knowledge of electromagnetism.This is not a book for self-study. If you want a self study book (or a light reference), I would recommend using David J. Griffiths book or some other book for introductory EMAG. (The book I originally learned from is no longer in print so I can’t really recommend it).That being said, once you get into chapter 3, the book is excellent. This book also uses the paradigm that solving problems is how you learn the theory. So, as glires noted, much of the proofing is left for you to do in the problems at the end of each chapter.Also as glires noted, this is not a useful reference. There is no single location where all constants and formulas are listed.

If its important to you I am a rising Senior in the study of physics at UCONN. I wanted at first to give this 3 stars, 3.5 is not available so I rounded up for on reason: I feel that my understanding of E&M is rather well developed, and I learned from this book. My professor was also quite good and he supplemented from the Griffiths text, which I have not read myself, but these may have influenced my view of the quality of this book. The probems sets I believe to be challenging and reasonable, the actual text is not in any way PHYSICAL though. The math is extensive, a pro and con simultaeneously. Everyone using this book will probably be at the appropriate level of skill therein, but a certain proficiency in READING math, feeling it in a way is necassary here. My teacher was the source of most of the education I recieved in E&M but the problem sets in the RMC played a nearly equal role. I will say that the treatment of the Dirac Delta function was foggy at best, otherwise it was fine with the porper mathematical background

The book clearly explains (mathematically) the existence of physical phenomena. Proof of experimental facts can be described through physical laws and proven by mathematics. One had to be mathematically proficient to verify the validity of the arguments presented. Vector algebra and calculus with some knowlege of differential equations will greatly help in keeping up with the material.

Electromagnetic Pulse. Protect Your Family and Survive Long After the EMP (Prepping, Survival, Homesteading, Preparedness, EMP, Electromagnetic pulse) Electromagnetic Theory: Volume 2 Inverse Acoustic and Electromagnetic Scattering Theory (Applied Mathematical Sciences) Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light Theory and Computation of Electromagnetic Fields (Wiley - IEEE) Electromagnetic Field Theory Fundamentals Interactions Between Electromagnetic Fields and Cells (Applications of Communications Theory) Radiation Nation: Fallout of Modern Technology - Your Complete Guide to EMF Protection & Safety: The Proven Health Risks of Electromagnetic Radiation (EMF) & What to Do Protect Yourself & Family EMP: Electromagnetic Pulse: Prepping for Tomorrow Series Automotive Electromagnetic Compatibility (EMC) EMP: Electromagnetic Pulse (Prepping For Tomorrow Book 1) Faraday, Maxwell, and the Electromagnetic Field: How Two Men Revolutionized Physics Overpowered: The Dangers of Electromagnetic Radiation (EMF) and What You Can Do about It Electromagnetic Fields Electromagnetic Waves Handbook of Biological Effects of Electromagnetic Fields CRC Handbook of Biological Effects of Electromagnetic Fields