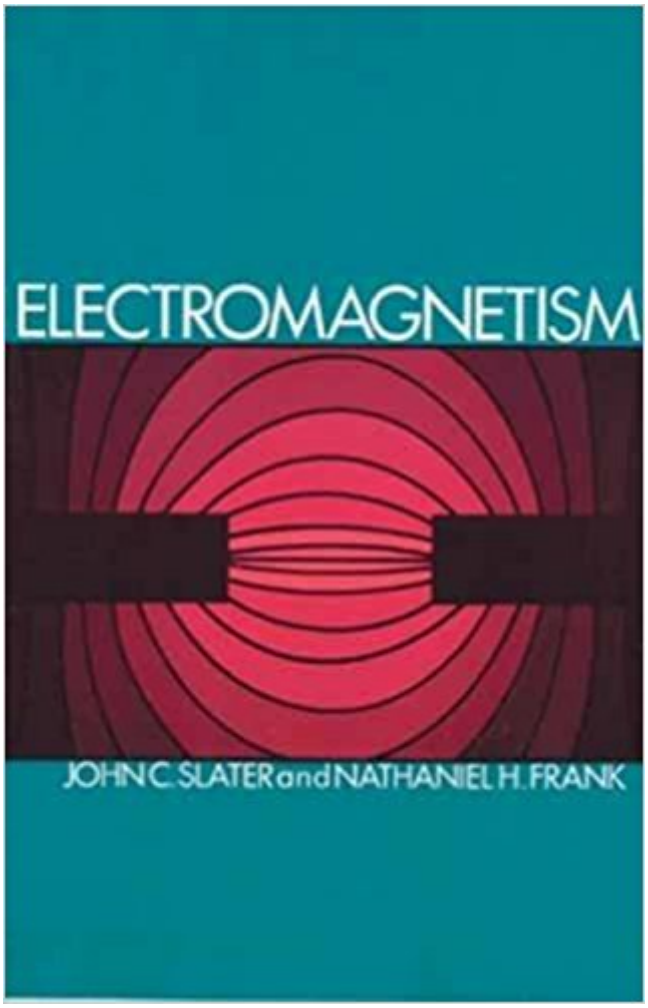
Electromagnetism (Dover Books On Physics)



Synopsis

Clearly developed from first principles, this introductory study supplies basic material on electrostatics and magnetostatics, then concentrates on electromagnetic theory Ã¢â ¬â • the authors are both leading men in the field. The book ranges freely over many areas of electromagnetic theory with some concern for electrical engineering. It covers the field theory of electromagnetism, electrostatics and the equations and theorems of Gauss, Poisson, Laplace and Green, solutions of Laplace's equation, dielectrics, magnetic fields of linear and circular currents, electromagnetic induction and Maxwell's equations, electromagnetic waves, electron theory, wave guides and cavity resonators, spherical electromagnetic waves, Huygen's principle and Green's theorem, and Fresnel and Fraunhofer diffraction. Practice problems are supplied at chapter ends.Physicists and engineers will find this presentation particularly useful; but mathematicians have also used the book not only as an introduction to electromagnetism, but also as a means to an increased knowledge of the aims and tools of theoretical physics. The only background required to follow the development is a knowledge of the calculus and differential equations. More advanced mathematics is developed in appendixes.

Book Information

Series: Dover Books on Physics
Paperback: 256 pages
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Customer Reviews

Noted American physicist and theoretical chemist John Clarke Slater (1900-76) taught at MIT and collaborated with Niels Bohr and Hendrik Kramers on the foundations for Werner Heisenberg's full quantum theory.Nathaniel H. Frank (1904-84) played an active role in shaping physics education. He was the head of MIT's physics department, specializing in theoretical physics and metallic

conduction.

No doubt this is an excelent book on electromagnetism, but it is too old-fashioned to appeal to modern readers. That is not the only "problem" with this book, though. It is very concise (which is a good thing in these days of textbooks of literally thousands of pages), but sometimes seems to miss the point of its primary purpose, that is to teach undergarduates electromagnetism. For instance, you will not be able to solve most of the exercises (which are hard, btw, although very "physical") based solely on what has been said on the text, unless you are an exceedingly ingenious student. It is short of examples, formulae, and references, too.That said, you may be thinking that I am a fan of the EM book by Griffiths, but I am not!, despite it being a reasonably good textbook. If you want to dig into electromagnetism, pure and applied, but would like to avoid the "Happy Meal" textbooks out there, I suggest that you try first the book by M. Schwartz, "Principles of Electrodynamics" and then K. H. Panofsky & M. Philips' "Classical Electricity and Magnetism," 2nd. ed., both by Dover at incredibly reasonable prices. I really believe that this is a much more insightfull path to electromagnetism then the standard Griffiths + Jackson one.

good

Very dense read. However, if you have a good background in this subject, it's perfect for you.

Thanks.

Very good book, excellent price, and excellent seller.

another classic

Assumes you already know the basics of electromagnetism. Good for a quick refresher (it is a very small book) or a fresh look at electromagnetics concepts.

This is one of the finest books on E&M. Uses SI units, ... units cause much confusion in E&M, this book was one of the first to use SI units. As most introductory Calculus based courses now use SI units this is a good second course. Very good example using the "method of images," a topic that confused me my first time through. I had a Physics prof. that gave me good advice at this point, ... I

am a good, not a gifted science student, my prof. had the modesty to tell me to move on, ... "nobody understands Physics with one reading, ... or even two, sometimes it takes years, or even a lifetime."This book reads well and treats a few difficult topics with the simplest examples possible. You need only basic calculus and desire, and possibly more than one reading. I stick this book in my back pocket, just in case a little insight comes my way.

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