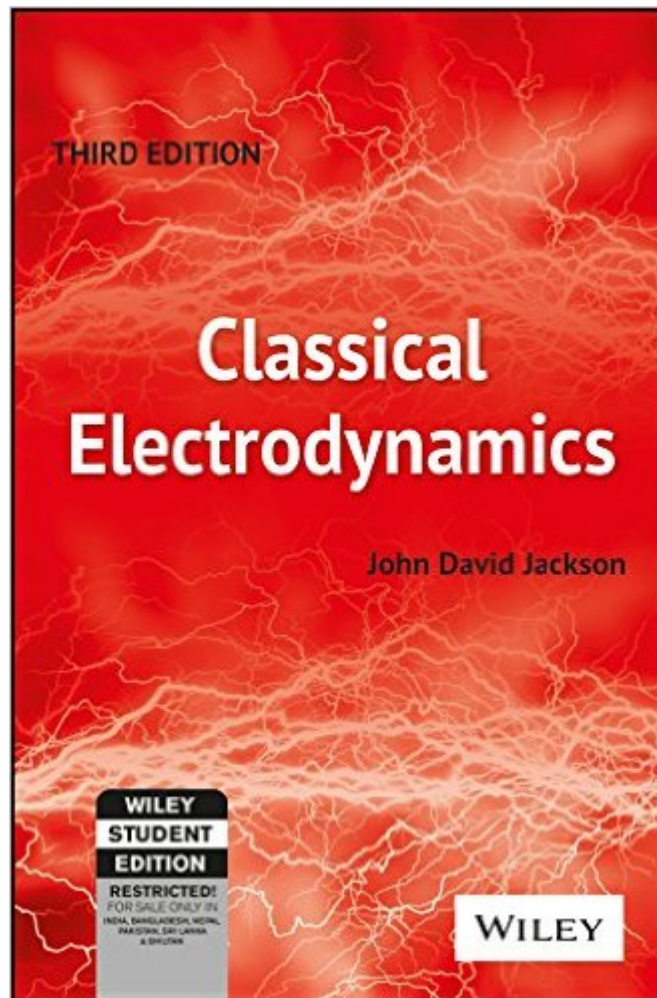


The book was found

# Classical Electrodynamics



## Synopsis

This book covers information relating to physics and classical mathematics that is necessary to understand electromagnetic fields in materials and at surfaces and interfaces.    introduction to electrostatics    boundary-value problems in electrostatics: i    boundary-value problems in electrostatics: ii    multipoles, electrostatics of macroscopic media, dielectrics    magnetostatics, faraday's law, quasi-static fields    maxwell equations, macroscopic electromagnetism, conservation laws    plane electromagnetic waves and wave propagation    waveguides, resonant cavities, and optical fibers    radiating systems, multipole fields and radiation    scattering and diffraction    special theory of relativity    dynamics of relativistic particles and electromagnetic fields    collisions, energy loss, and scattering of charged particles, cherenkov and transition radiation    radiation by moving charges    bremsstrahlung, method of virtual quanta, radiative beta processes    radiation damping, classical models of charged particles

## Book Information

Paperback: 832 pages

Publisher: W; 3rd edition (2007)

Language: English

ISBN-10: 8126510943

ISBN-13: 978-8126510948

Product Dimensions: 8.7 x 6 x 1.2 inches

Shipping Weight: 1.8 pounds

Average Customer Review: 3.6 out of 5 stars    See all reviews    (137 customer reviews)

Best Sellers Rank: #104,159 in Books (See Top 100 in Books)    #10 in    Books > Engineering & Transportation > Engineering > Electrical & Electronics > Superconductivity    #17 in    Books > Science & Math > Physics > Solid-State Physics

## Customer Reviews

(...but I wish I could!!!)The title of my review just about sums my opinion on this "classic" grad electrodynamics text. The book kind of [stinks] as a textbook, but there is nothing even remotely close to it in scope out there. So like a previous reviewer said: "Jackson's here to stay; GET USED TO IT!!"...P>For those who still want my opinion on the specifics of this book (I promise, they won't help you-- you still have to get through Jackson!) I offer the following brief comments, some of which you may have heard before, some which may be new:(1) The problems are hard. Damn hard.

Someone else already said that, and I agree. What I WILL add, however, is that some of the problems are also simply STUPID and a waste of time, offering or enhancing physical understanding very little if at all. (Don't get me wrong-- there are some problems which, while hard, are also pretty darn cool. Unfortunately, there are too many of the other kind, too.) The type of problems I am talking about are of the following ilk: "Prove the following six-term vector identity;" "Re-derive equation #72 for a transverse magnetic field" "Prove equation #27." Quite simply: WHO CARES!?!(2) While the volume is pretty encyclopedic, it is often hard to follow. Jackson often simply states things in the text without explaining where they come from, how they are derived, or why they are important,--- for example, as I read the text, I began to hate the two words "we see," which are used in cases like (paraphrasing now) "Therefore, we see the following relationship holds"---when it was not at all clear to me where the heck this relationship was coming from! I often felt stupid because, in fact, I often did NOT "see" at all!!!

I am currently taking the second semester of a full-year course in graduate electrodynamics. We've been using Jackson as our main textbook, but the professor sometimes use his own collection of problems as our homeworks. I've just realize why he did it, some of the problems in Jackson are extremely difficult. However, I agree with another reviewer who stated that once you are armed with full mathematical apparatus, the book would be a gold mine of electrodynamics. My own method of study involves derivations of formulas, following the discussion in Jackson. This is really hardwork, but it worth the effort. For those who are mathematically deficient, I suggest you to have your Arfken ready beside you (G.B. Arfken, H.J. Weber, Mathematical Methods for Physicist, 5th edition, Academic Press, ISBN 0120598256). As far as I know, this is the only book still in printing that provide almost all mathematical tools required for Jackson: Vector analysis, coordinate systems, tensor analysis, Lorentz group, partial differential equations and separations of variables, Sturm-Liouville theory, Green functions, Laplace, Helmholtz, modified Helmholtz (wave) equations, Bessel functions, Legendre functions (including the second solution and vector spherical harmonics), Fourier series and transform, and many more. Jackson and Arfken are really pair, you can't learn Jackson without Arfken. For those whose lack physical insights and need to brush up your undergraduate electromagnetism, I recommended one and only one textbook: D.J. Griffiths Introduction to Electrodynamics. I compared the discussion in Griffiths and Jackson, and I surprised to find that there are some identical choices of topics like Jefimenko's equations, potentials and fields, development of Maxwell tensor, even L.V.

[Download to continue reading...](#)

Lectures on Classical Electrodynamics Foundations of Classical Electrodynamics (Progress in Mathematical Physics) Classical Electrodynamics Quantum Electrodynamics, Second Edition: Volume 4 (Course of Theoretical Physics) Electrodynamics: The Field-Free Approach: Electrostatics, Magnetism, Induction, Relativity and Field Theory (Undergraduate Lecture Notes in Physics) Principles of Electrodynamics (Dover Books on Physics) Theoretical Physics 3: Electrodynamics Easy Classical Guitar & Melodica Duets: Featuring music of Bach, Mozart, Beethoven, Wagner and others. For Classical Guitar and Melodica. In Standard Notation and Tablature. A Rasa Reader: Classical Indian Aesthetics (Historical Sourcebooks in Classical Indian Thought) The Record Shelf Guide to Classical CDs and Audiocassettes: Fifth Revised and Expanded Edition (Insider's Guide to Classical Recordings) Bayesian Signal Processing: Classical, Modern and Particle Filtering Methods (Adaptive and Cognitive Dynamic Systems: Signal Processing, Learning, Communications and Control) Classical Tradition in Anatolian Carpets The Ince Blundell Collection of Classical Sculpture: Volume 1, The Portraits Part 1, The Female Portraits (Corpus Signorum Imperii Romani. Great Britain, V. 3, Fasc. 2, 9.) The Learned Collector: Mythological Statuettes and Classical Taste in Late Antique Gaul Furniture: World Styles from Classical to Contemporary Classical Turkish Cooking: Simple, Easy, and Unique Turkish Recipes (Turkish Cooking, Turkish Cookbook, Turkish Recipes) (Volume 1) The Tagine Dream: Classical and Contemporary Tagines from Morocco, Tunisia, and Algeria (Tagine Recipes, Tagine Cookbook, Algerian Recipes, Moroccan Recipes, Tunisian Recipes Book 1) Fortran Codes for Classical Methods in Linear Dynamics The Art of Classical Furniture Finishing The Story of the World: History for the Classical Child: Volume 1: Ancient Times: From the Earliest Nomads to the Last Roman Emperor

[Dmca](#)