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CD-ROM contains: Demonstration exercises -- Complete solutions -- Problem statements.

Fundamental of Engineering Electromagnetics not only presents the fundamentals of electromagnetism in a concise and logical manner, but also includes a variety of interesting and important applications. While adapted from his popular and more extensive work, Field and Wave Electromagnetics, this text incorporates a number of innovative pedagogical features. Each chapter begins with an overview which serves to offer qualitative guidance to the subject matter and motivate the student. Review questions and

worked examples throughout each chapter reinforce the student's understanding of the material. Remarks boxes following the review questions and margin notes throughout the book serve as additional pedagogical aids.

Bridging the gap between circuits and electromagnetics. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and electromagnetics material. Fundamentals of Applied Electromagnetics begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. The 8th Edition builds on the core content and style of previous editions, retaining the stu-

student-friendly approach and hands-on simulation modules that help students develop a deeper understanding of electromagnetic concepts and applications. Enhanced graphs and illustrations and an expanded scope of topics in the Technology Briefs, establish additional bridges between electromagnetic fundamentals and their countless engineering and scientific applications. For courses in electromagnetics. Pearson eText is a simple-to-use, mobile-optimized, personalized reading experience. It lets students highlight, take notes, and review key vocabulary all in one place, even when offline. Seamlessly integrated videos and other rich media engage students and give them access to the help they need, when they need it. Educators can easily schedule readings and share their own notes with students so they see the connection between their eText and what they learn in class -- motivating them to keep reading, and keep learning. And, reading analytics offer insight into how students use the eText, helping educators tailor their instruction. NOTE: This ISBN is for the Pearson eText access card. For students purchasing this product from an online retailer, Pearson eText is a fully digital delivery of Pearson content and should only be purchased when required by your instructor. In addition to your purchase, you will need a course invite link, provided by your instructor, to register for and use Pearson eText.

Bridging the gap between electric circuits and electromagnetics, this text leads students from familiar concepts into more advanced topics and applications. Earlier and heavier emphasis on dynamics permits coverage of practical applications in communication systems, radar, optics and solid state computers.

KEY BENEFIT Widely acclaimed both in the U.S. and abroad, this reader-friendly yet authoritative volume bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading readers from familiar concepts into more advanced topics and applications. **KEY TOPICS** Introduction: Waves and Phasors; Transmission Lines; Vector Analysis; Electrostatics; Magnetostatics; Maxwell's Equations for Time-Varying Fields; Plane-Wave Propagation; Reflection, Transmission, and Waveguides; Radiation and Antennas; Satellite Communication Systems and Radar Sensors. **MARKET** A useful reference for engineers.

For courses in electromagnetics. Bridging the gap between circuits and electromagnetics Widely in the field, this authoritative text bridges the gap between circuits and electromagnetics material. Fundamentals of Applied Electromagnetics begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. The 8th Edition builds on the core content and style of previous editions, retaining the student-friendly approach and hands-on simulation modules that help students develop a deeper understanding of electromagnetic concepts and applications. Enhanced graphs and illustrations and an expanded scope of topics in the Technology Briefs, establish additional bridges between electromagnetic fundamentals and their countless engineering and scientific applications.

Applied Electromagnetics and Electromagnetic Compatibility deals with Radio Frequency Interference (RFI), which is the reception of undesired radio signals originating from digital electronics and electronic equipment. With today's rapid development of radio communication, these undesired signals as well as signals

due to natural phenomena such as lightning, sparking, and others are becoming increasingly important in the general area of Electro Magnetic Compatibility (EMC). EMC can be defined as the capability of some electronic equipment or system to be operated at desired levels of performance in a given electromagnetic environment without generating EM emissions unacceptable to other systems operating in the vicinity.

STUDENT COMPANION SITE Every new copy of Stuart Wentworth's Applied Electromagnetics comes with a registration code which allows access to the Student's Book Companion Site. On the BCS the student will find: * Detailed Solutions to Odd-Numbered Problems in the text * Detailed Solutions to all Drill Problems from the text * MATLAB code for all the MATLAB examples in the text * Additional MATLAB demonstrations with code. This includes a Transmission Lines simulator created by the author. * Weblinks to a vast array of resources for the engineering student. Go to www.wiley.com/college/wentworth to link to Applied Electromagnetics and the Student Companion Site.

ABOUT THE PHOTO Passive RFID systems, consisting of readers and tags, are expected to replace bar codes as the primary means of identification, inventory and billing of everyday items. The tags typically consist of an RFID chip placed on a flexible film containing a planar antenna. The antenna captures radiation from the reader's signal to power the tag electronics, which then responds to the reader's query. The PENI Tag (Product Emitting Numbering Identification Tag) shown, developed by the University of Pittsburgh in a team led by Professor Marlin H. Mickle, integrates the antenna with the rest of the tag electronics. RFID systems involve many electromagnetics concepts, including antennas, radiation, trans-

mission lines, and microwave circuit components. (Photo courtesy of Marlin H. Mickle.)

With the rapid growth of wireless technologies, more and more people are trying to gain a better understanding of electromagnetics. After all, electromagnetic fields have a direct impact on reception in all wireless applications. This text explores electromagnetics, presenting practical applications for wireless systems, transmission lines, waveguides, antennas, electromagnetic interference, and microwave engineering. It is designed for use in a one- or two-semester electromagnetics sequence for electrical engineering students at the junior and senior level. The first book on the subject to tackle the impact of electromagnetics on wireless applications: Includes numerous worked-out example problems that provide you with hands-on experience in solving electromagnetic problems. Describes a number of practical applications that show how electromagnetic theory is put into practice. Offers a concise summary at the end of each chapter that reinforces the key points. Detailed MATLAB examples are integrated throughout the book to enhance the material.

Covering both statics and dynamics, this book uses many tools to facilitate understanding of EM concepts and to demonstrate their relevance to modern technology. It also provides overviews of fundamental and sophisticated technologies. It is useful for courses in Electromagnetics offered in Electrical Engineering departments and Applied Physics.

New edition of a text intended primarily for the undergraduate courses on the subject which are frequently found in electrical engineering curricula--but the concepts and techniques it covers are

also of fundamental importance in other engineering disciplines. The book is structured to develop in parallel the methods of analysis for continuous-time and discrete-time signals and systems, thus allowing exploration of their similarities and differences. Discussion of applications is emphasized, and numerous worked examples are included. Annotation copyrighted by Book News, Inc., Portland, OR

This book serves as a tool for any engineer who wants to learn about circuits, electrical machines and drives, power electronics, and power systems basics. From time to time, engineers find they need to brush up on certain fundamentals within electrical engineering. This clear and concise book is the ideal learning tool for them to quickly learn the basics or develop an understanding of newer topics. *Fundamentals of Electric Power Engineering: From Electromagnetics to Power Systems* helps non-electrical engineers—those who must learn power system information quickly by imparting tools and trade tricks for remembering basic concepts and grasping new developments. Created to provide more in-depth knowledge of fundamentals—rather than a broad range of applications only—this comprehensive and up-to-date book: Covers topics such as circuits, electrical machines and drives, power electronics, and power system basics as well as new generation technologies. Allows non-electrical engineers to build their electrical knowledge quickly. Includes exercises with worked solutions to assist readers in grasping concepts found in the book. Contains “in-depth” side bars throughout which pique the reader’s curiosity. *Fundamentals of Electric Power Engineering* is an ideal refresher course for those involved in this interdisciplinary branch. For supplementary files for this book, please visit <http://booksupport.wiley.com/> or [\[port.wiley.com/a\]\(http://booksupport.wiley.com/a\)](http://booksup-</p>
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Fundamentals of Applied Electromagnetics is intended for use in one- or two-semester courses in Electromagnetics. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and electromagnetics material. Coverage begins with transmission lines, leading students from familiar concepts into more advanced topics and applications. A student-friendly approach, full-color figures and images, and a set of interactive simulations will help students develop a deeper understanding of electromagnetic concepts and applications.

This second edition comes from your suggestions for a more lively format, self-learning aids for students, and the need for applications and projects without being distracted from *EM Principles*. Flexibility Choose the order, depth, and method of reinforcing *EM Principles*—the PDF files on CD provide Optional Topics, Applications, and Projects. Affordability Not only is this text priced below competing texts, but also the topics on CD (and downloadable to registered users) provide material sufficient for a second term of study with no additional book for students to buy. MATLAB This book takes full advantage of MATLAB’s power to motivate and reinforce *EM Principles*. No other EM book is better integrated with MATLAB. The second edition is even richer and easier to incorporate into course use with the new, self-paced MATLAB tutorials on the CD and available to registered users.

This text should serve as an introduction to the application of electromagnetics *EM*, following an initial course in basic *EM* theory. A particular feature of the book is that it examines time domain rather than frequency domain methods in depth.; This book is in-

tended for advanced undergraduate and graduates in electrical and electronic engineering. Research and practitioners in electromagnetics in electrical and electronic engineering and physics.

Balanis' second edition of *Advanced Engineering Electromagnetics* – a global best-seller for over 20 years – covers the advanced knowledge engineers involved in electromagnetic need to know, particularly as the topic relates to the fast-moving, continually evolving, and rapidly expanding field of wireless communications. The immense interest in wireless communications and the expected increase in wireless communications systems projects (antenna, microwave and wireless communication) points to an increase in the number of engineers needed to specialize in this field. In addition, the Instructor Book Companion Site contains a rich collection of multimedia resources for use with this text. Resources include: Ready-made lecture notes in Power Point format for all the chapters. Forty-nine MATLAB® programs to compute, plot and animate some of the wave phenomena Nearly 600 end-of-chapter problems, that's an average of 40 problems per chapter (200 new problems; 50% more than in the first edition) A thoroughly updated Solutions Manual 2500 slides for Instructors are included.

Fundamentals of Applied Electromagnetics Prentice Hall *Fundamentals of Applied Electromagnetics: Incl CDRom*. *Fundamentals of Applied Electromagnetics* Prentice Hall CD-ROM contains: Demonstration exercises -- Complete solutions -- Problem statements. *Fundamentals of Applied Electromagnetics* *Fundamentals of Applied Electromagnetics* Prentice Hall Bridging the gap between electric circuits and electromagnetics, this text leads students from fa-

miliar concepts into more advanced topics and applications. Earlier and heavier emphasis on dynamics permits coverage of practical applications in communication systems, radar, optics and solid state computers. *Fundamentals of Applied Electromagnetics, Global Edition* *Fundamentals of Applied Electromagnetics* is intended for use in one- or two-semester courses in electromagnetics. It also serves as a reference for engineers. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. A user-friendly approach, full-color figures and images, and a set of interactive simulations will help readers understand the concepts presented. *Fundamentals of Applied Electromagnetics* Pearson Etext *Fundamentals of Applied Electromagnetics* -- Access Card Bridging the gap between circuits and electromagnetics. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and electromagnetics material. *Fundamentals of Applied Electromagnetics* begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. The 8th Edition builds on the core content and style of previous editions, retaining the student-friendly approach and hands-on simulation modules that help students develop a deeper understanding of electromagnetic concepts and applications. Enhanced graphs and illustrations and an expanded scope of topics in the Technology Briefs, establish additional bridges between electromagnetic fundamentals and their countless engineering and scientific applications. For courses in electromagnetics. Pearson eText is a simple-to-use, mobile-opti-

mized, personalized reading experience. It lets students highlight, take notes, and review key vocabulary all in one place, even when offline. Seamlessly integrated videos and other rich media engage students and give them access to the help they need, when they need it. Educators can easily schedule readings and share their own notes with students so they see the connection between their eText and what they learn in class -- motivating them to keep reading, and keep learning. And, reading analytics offer insight into how students use the eText, helping educators tailor their instruction. NOTE: This ISBN is for the Pearson eText access card. For students purchasing this product from an online retailer, Pearson eText is a fully digital delivery of Pearson content and should only be purchased when required by your instructor. In addition to your purchase, you will need a course invite link, provided by your instructor, to register for and use Pearson eText.

An Introduction to Applied Electromagnetics and Optics

CRC Press

Modern technology is rapidly developing and for this reason future engineers need to acquire advanced knowledge in science and technology, including electromagnetic phenomena. This book is a contemporary text of a one-semester course for junior electrical engineering students. It covers a broad spectrum of electromagnetic phenomena such as, surface waves, plasmas, photonic crystals, negative refraction as well as related materials including superconductors. In addition, the text brings together electromagnetism and optics as the majority of texts discuss electromagnetism disconnected from optics. In contrast, in this book both are discussed. Seven labs have been developed to accompany the material of the book.

Computational Electronics

Semiconductor Transport and Device Simulation

Springer Science & Business Me-

dia

Large computational resources are of ever increasing importance for the simulation of semiconductor processes, devices and integrated circuits. The Workshop on Computational Electronics was intended to be a forum for the discussion of the state-of-the-art of device simulation. Three major research areas were covered: conventional simulations, based on the drift-diffusion and the hydrodynamic models; Monte Carlo methods and other techniques for the solution of the Boltzmann transport equation; and computational approaches to quantum transport which are relevant to novel devices based on quantum interference and resonant tunneling phenomena. Our goal was to bring together researchers from various disciplines that contribute to the advancement of device simulation. These include Computer Science, Electrical Engineering, Applied Physics and Applied Mathematics. The success of this multidisciplinary formula was proven by numerous interactions which took place at the Workshop and during the following three-day Short Course on Computational Electronics. The format of the course, including a number of tutorial lectures, and the large attendance of graduate students, stimulated many discussions and has proven to us once more the importance of cross-fertilization between the different disciplines.

Foundations of Applied Electrodynamics

John Wiley & Sons

Foundations of Applied Electrodynamics takes a fresh look at the essential concepts and methods of electrodynamics as a whole, uniting the most relevant contemporary topics under a common mathematical framework. It contains clear explanations of high-level concepts as well as the mutual relationships between the essential ideas of electromagnetic theory. Starting with the fundamentals of electrodynamics, it methodically covers a wide spectrum of research and appli-

cations that stem from electromagnetic phenomena, before concluding with more advanced topics such as quantum mechanics. Includes new advances and methodologies in applied electrodynamics, and provides the whole picture of the theory of electrodynamics in most active areas of engineering applications. Systematically deals with eigenvalue problems, integral equation formulations and transient phenomena in various areas of applied electrodynamics. Introduces the complete theory of spherical vector wave functions, and presents the upper bounds of the product of gain and bandwidth for an arbitrary antenna. Presents the field approach to multiple antenna system, which provides a theoretical tool for the prediction of channel models of MIMO, and is also the basis of wireless power transmission system. One of the first books on electromagnetics that contains the general theory of relativity, which is needed in the design of mobile systems such as global positioning system (GPS). By summarising both engineering and theoretical electromagnetism in one volume, this book is an essential reference for practicing engineers, as well as a guide for those who wish to advance their analytical techniques for studying applied electrodynamics.

Fundamentals of Applied Electromagnetics KEY BENEFIT Widely acclaimed both in the U.S. and abroad, this reader-friendly yet authoritative volume bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading readers from familiar concepts into more advanced topics and applications. KEY TOPICS Introduction: Waves and Phasors; Transmission Lines; Vector Analysis; Electrostatics; Magnetostatics; Maxwell's Equations for Time-Varying Fields; Plane-Wave Propagation; Reflection, Transmission, and Waveguides; Radiation and Antennas; Satellite Com-

munication Systems and Radar Sensors. MARKET A useful reference for engineers. Studyguide for Fundamentals of Applied Electromagnetics by Ulaby, Fawwaz T. Cram101Never HIGHLIGHT a Book Again Virtually all testable terms, concepts, persons, places, and events are included. Cram101 Textbook Outlines gives all of the outlines, highlights, notes for your textbook with optional online practice tests. Only Cram101 Outlines are Textbook Specific. Cram101 is NOT the Textbook. Accompanys: 9780521673761 Fundamentals of Applied Electromagnetics, Global Edition eBook Fundamentals of Applied Electromagnetics is intended for use in one- or two-semester courses in Electromagnetics. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and electromagnetics material. Coverage begins with transmission lines, leading students from familiar concepts into more advanced topics and applications. A student-friendly approach, full-color figures and images, and a set of interactive simulations will help students develop a deeper understanding of electromagnetic concepts and applications.

Fundamentals of Applied Electromagnetics Pearson This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Fundamentals of Applied Electromagnetics is intended for use in one- or two-semester courses in electromagnetics. It also serves as a reference for engineers. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. A user-friendly approach, full-color figures and images, and a set of inter-

active simulations will help readers understand the concepts presented. Outlines and Highlights for Fundamentals of Applied Electromagnetics by Fawwaz T Ulaby, ISBN 9780132139311 Academic Internet Pub Incorporated Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompany: ISBN 9780132139311. Applied Electromagnetics and Electromagnetic Compatibility John Wiley & Sons Applied Electromagnetics and Electromagnetic Compatibility deals with Radio Frequency Interference (RFI), which is the reception of undesired radio signals originating from digital electronics and electronic equipment. With today's rapid development of radio communication, these undesired signals as well as signals due to natural phenomena such as lightning, sparking, and others are becoming increasingly important in the general area of Electro Magnetic Compatibility (EMC). EMC can be defined as the capability of some electronic equipment or system to be operated at desired levels of performance in a given electromagnetic environment without generating EM emissions unacceptable to other systems operating in the vicinity. Applied Electromagnetics Early Transmission Lines Approach John Wiley & Sons STUDENT COMPANION SITE Every new copy of Stuart Wentworth's Applied Electromagnetics comes with a registration code which allows access to the Student's Book Companion Site. On the BCS the student will find: * Detailed Solutions to Odd-Numbered Problems in the text * Detailed Solutions to all Drill Problems from the text * MATLAB code for all the MAT-

LAB examples in the text * Additional MATLAB demonstrations with code. This includes a Transmission Lines simulator created by the author. * Weblinks to a vast array of resources for the engineering student. Go to www.wiley.com/college/wentworth to link to Applied Electromagnetics and the Student Companion Site. ABOUT THE PHOTO Passive RFID systems, consisting of readers and tags, are expected to replace bar codes as the primary means of identification, inventory and billing of everyday items. The tags typically consist of an RFID chip placed on a flexible film containing a planar antenna. The antenna captures radiation from the reader's signal to power the tag electronics, which then responds to the reader's query. The PENI Tag (Product Emitting Numbering Identification Tag) shown, developed by the University of Pittsburgh in a team led by Professor Marlin H. Mickle, integrates the antenna with the rest of the tag electronics. RFID systems involve many electromagnetics concepts, including antennas, radiation, transmission lines, and microwave circuit components. (Photo courtesy of Marlin H. Mickle.) Fundamentals of Engineering Electromagnetics CRC Press Electromagnetics is too important in too many fields for knowledge to be gathered on the fly. A deep understanding gained through structured presentation of concepts and practical problem solving is the best way to approach this important subject. Fundamentals of Engineering Electromagnetics provides such an understanding, distilling the most important theoretical aspects and applying this knowledge to the formulation and solution of real engineering problems. Comprising chapters drawn from the critically acclaimed Handbook of Engineering Electromagnetics, this book supplies a focused treatment that is ideal for specialists in areas such as medicine, com-

munications, and remote sensing who have a need to understand and apply electromagnetic principles, but who are unfamiliar with the field. Here is what the critics have to say about the original work "...accompanied with practical engineering applications and useful illustrations, as well as a good selection of references ... those chapters that are devoted to areas that I am less familiar with, but currently have a need to address, have certainly been valuable to me. This book will therefore provide a useful resource for many engineers working in applied electromagnetics, particularly those in the early stages of their careers." -Alastair R. Ruddle, The IEE Online "...a tour of practical electromagnetics written by industry experts ... provides an excellent tour of the practical side of electromagnetics ... a useful reference for a wide range of electromagnetics problems ... a very useful and well-written compendium..." -Alfy Riddle, IEEE Microwave Magazine

Fundamentals of Electromagnetics lays the theoretical foundation for solving new and complex engineering problems involving electromagnetics. **Fundamentals of Electromagnetics with MATLAB-SciTech Publishing** This second edition comes from your suggestions for a more lively format, self-learning aids for students, and the need for applications and projects without being distracted from EM Principles. **Flexibility** Choose the order, depth, and method of reinforcing EM Principles—the PDF files on CD provide Optional Topics, Applications, and Projects. **Affordability** Not only is this text priced below competing texts, but also the topics on CD (and downloadable to registered users) provide material sufficient for a second term of study with no additional book for students to buy. **MATLAB** This book takes full advantage of MATLAB's power to motivate and reinforce EM Principles. No other EM books

is better integrated with MATLAB. The second edition is even richer and easier to incorporate into course use with the new, self-paced MATLAB tutorials on the CD and available to registered users. **Fundamentals of Electromagnetics with Engineering Applications Wiley** With the rapid growth of wireless technologies, more and more people are trying to gain a better understanding of electromagnetics. After all, electromagnetic fields have a direct impact on reception in all wireless applications. This text explores electromagnetics, presenting practical applications for wireless systems, transmission lines, waveguides, antennas, electromagnetic interference, and microwave engineering. It is designed for use in a one- or two-semester electromagnetics sequence for electrical engineering students at the junior and senior level. The first book on the subject to tackle the impact of electromagnetics on wireless applications: Includes numerous worked-out example problems that provide you with hands-on experience in solving electromagnetic problems. Describes a number of practical applications that show how electromagnetic theory is put into practice. Offers a concise summary at the end of each chapter that reinforces the key points. Detailed MATLAB examples are integrated throughout the book to enhance the material. **Fundamentals of Applied Electromagnetics, Global Edition Pearson** For courses in electromagnetics. Bridging the gap between circuits and electromagnetics Widely in the field, this authoritative text bridges the gap between circuits and electromagnetics material. **Fundamentals of Applied Electromagnetics** begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. The 8th Edition builds on the core content and style of previous editions, retaining the student-friendly

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world. But for all its utility and prevalence, it is much less commonly understood and less readily explained than other common medical imaging techniques. Unlike optical, ultrasonic, X-ray (including CT), and nuclear medicine-based imaging, MRI does not rely primarily on simple transmission and/or reflection of energy, and the highest achievable resolution in MRI is orders of magnitude smaller than the smallest wavelength involved. In this book, MRI will be explained with emphasis on the magnetic fields required, their generation, their concomitant electric fields, the various interactions of all these fields with the subject being imaged, and the implications of these interactions to image quality and patient safety. Classical electromagnetics will be used to describe aspects from the fundamental phenomenon of nuclear precession through signal detection and MRI safety. Simple explanations and illustrations combined with pertinent equations are designed to help the reader rapidly gain a fundamental understanding and an appreciation of this technology as it is used today, as well as ongoing advances that will increase its value in the future. Numerous references are included to facilitate further study with an emphasis on areas most directly related to electromagnetics. Computational Methods in Geophysical Electromagnetics SIAM This monograph provides a framework for students and practitioners who are working on the solution of electromagnetic imaging in geophysics. Bridging the gap between theory and practical applied material (for example, inverse and forward problems), it provides a simple explanation of finite volume discretization, basic concepts in solving inverse problems through optimization, a summary of applied electromagnetics methods, and MATLAB® code for efficient computation. Electromagnetic Wave Propagation, Radi-

ation, and Scattering From Fundamentals to Applications John Wiley & Sons One of the most methodical treatments of electromagnetic wave propagation, radiation, and scattering—including new applications and ideas Presented in two parts, this book takes an analytical approach on the subject and emphasizes new ideas and applications used today. Part one covers fundamentals of electromagnetic wave propagation, radiation, and scattering. It provides ample end-of-chapter problems and offers a 90-page solution manual to help readers check and comprehend their work. The second part of the book explores up-to-date applications of electromagnetic waves—including radiometry, geophysical remote sensing and imaging, and biomedical and signal processing applications. Written by a world renowned authority in the field of electromagnetic research, this new edition of *Electromagnetic Wave Propagation, Radiation, and Scattering: From Fundamentals to Applications* presents detailed applications with useful appendices, including mathematical formulas, Airy function, Abel's equation, Hilbert transform, and Riemann surfaces. The book also features newly revised material that focuses on the following topics: Statistical wave theories—which have been extensively applied to topics such as geophysical remote sensing, bio-electromagnetics, bio-optics, and bio-ultrasound imaging Integration of several distinct yet related disciplines, such as statistical wave theories, communications, signal processing, and time reversal imaging New phenomena of multiple scattering, such as coherent scattering and memory effects Multiphysics applications that combine theories for different physical phenomena, such as seismic coda waves, stochastic wave theory, heat diffusion, and temperature rise in biological and other media Metamaterials and solitons in

optical fibers, nonlinear phenomena, and porous media Primarily a textbook for graduate courses in electrical engineering, *Electromagnetic Wave Propagation, Radiation, and Scattering* is also ideal for graduate students in bioengineering, geophysics, ocean engineering, and geophysical remote sensing. The book is also a useful reference for engineers and scientists working in fields such as geophysical remote sensing, bio-medical engineering in optics and ultrasound, and new materials and integration with signal processing. *Analytical Modeling in Applied Electromagnetics* Artech House *Analytical Modeling in Applied Electromagnetics* encompasses the most complete treatment on the subject published to date, focusing on the nature of models in radio engineering. This leading-edge resource brings you detailed coverage of the latest topics, including metamaterials, photonic bandgaps and artificial impedance surfaces, and applies these concepts to a wide range of applications. The book provides you with working examples that are mainly directed to antenna applications, but the modeling methods and results can be used for other practical devices as well. *Applied Computational Electromagnetics* State of the Art and Future Trends Springer Science & Business Media @EOI: AEI rEOMETPEI Epigram of the Academy of Plato in Athens Electromagnetism, the science of forces arising from Amber (HAEKTPON) and the stone of Magnesia (MARNHΛIA), has been the foundation of major scientific breakthroughs, such as Quantum Mechanics and Theory of Relativity, as well as most leading edge technologies of the twentieth century. The accuracy of electromagnetic fields computations for engineering purposes has been significantly improved during the last decades, due to the development of efficient computational techniques and the availa-

bility of high performance computing. The present book is based on the contributions and discussions developed during the NATO Advanced Study Institute on Applied Computational Electromagnetics: State of the Art and Future Trends, which has taken place in Hellas, on the island of Samos, very close to the birthplace of Electromagnetism. The book covers the fundamental concepts, recent developments and advanced applications of Integral Equation and Method of Moments Techniques, Finite Element and Boundary Element Methods, Finite Difference Time Domain and Transmission Line Methods. Furthermore, topics related to Computational Electromagnetics, such as Inverse Scattering, Semi-Analytical Methods and Parallel Processing Techniques are included. The collective presentation of the principal computational electromagnetics techniques, developed to handle diverse challenging leading edge technology problems, is expected to be useful to researchers and postgraduate students working in various topics of electromagnetic technologies. Fundamentals of Electromagnetics for Electrical and Computer Engineering Pearson Higher Ed This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Fundamentals of Electromagnetics for Electrical and Computer Engineering, First Edition is appropriate for all beginning courses in electromagnetics, in both electrical engineering and computer engineering programs. This is ideal for anyone interested in learning more about electromagnetics. Dr. N. Narayana Rao has designed this compact, one-semester textbook in electromagnetics to fully reflect the evolution of technologies in both electrical and computer engineering. This book's unique approach begins with Maxwell's equations for time-vary-

ing fields (first in integral and then in differential form), and also introduces waves at the outset. Building on these core concepts, Dr. Rao treats each category of fields as solutions to Maxwell's equations, highlighting the frequency behavior of physical structures. Next, he systematically introduces the topics of transmission lines, waveguides, and antennas. To keep the subject's geometry as simple as possible, while ensuring that students master the physical concepts and mathematical tools they will need, Rao makes extensive use of the Cartesian coordinate system. Topics covered in this book include: uniform plane wave propagation; material media and their interaction with uniform plane wave fields; essentials of transmission-line analysis (both frequency- and time-domain); metallic waveguides; and Hertzian dipole field solutions. Material on cylindrical and spherical coordinate systems is presented in appendices, where it can be studied whenever relevant or convenient. Worked examples are presented throughout to illuminate (and in some cases extend) key concepts; each chapter also contains a summary and review questions. (Note: this book provides a one-semester alternative to Dr. Rao's classic textbook for two-semester courses, Elements of Engineering Electromagnetics, now in its Sixth Edition.) Fundamentals of Engineering Electromagnetics: Pearson New International Edition Pearson Higher Ed Fundamental of Engineering Electromagnetics not only presents the fundamentals of electromagnetism in a concise and logical manner, but also includes a variety of interesting and important applications. While adapted from his popular and more extensive work, Field and Wave Electromagnetics, this text incorporates a number of innovative pedagogical features. Each chapter begins with an overview which serves to offer

qualitative guidance to the subject matter and motivate the student. Review questions and worked examples throughout each chapter reinforce the student's understanding of the material. Remarks boxes following the review questions and margin notes throughout the book serve as additional pedagogical aids. *Electromagnetics for Engineers* Covering both statics and dynamics, this book uses many tools to facilitate understanding of EM concepts and to demonstrate their relevance to modern technology. It also provides overviews of fundamental and sophisticated technologies. It is useful for courses in Electromagnetics offered in Electrical Engineering departments and Applied Physics. *Signals and Systems: Theory and Applications* This is a signals and systems textbook with a difference: Engineering applications of signals and systems are integrated into the presentation as equal partners with concepts and mathematical models, instead of just presenting the concepts and models and leaving the student to wonder how it all relates to engineering."--Preface. *Fundamentals of Applied Electromagnetics: International Version* *Fundamentals of Electric Power Engineering* From Electromagnetics to Power Systems John Wiley & Sons This book serves as a tool for any engineer who wants to learn about circuits, electrical machines and drives, power electronics, and power systems basics From time to time, engineers find they need to brush up on certain fundamentals within electrical engineering. This clear and concise book is the ideal learning tool for them to quickly learn the basics or develop an understanding of newer topics. *Fundamentals of Electric Power Engineering: From Electromagnetics to Power Systems* helps nonelectrical engineers amass power system information quickly by imparting tools and trade tricks for remembering basic con-

cepts and grasping new developments. Created to provide more in-depth knowledge of fundamentals—rather than a broad range of applications only—this comprehensive and up-to-date book: Covers topics such as circuits, electrical machines and drives, power electronics, and power system basics as well as new generation technologies Allows nonelectrical engineers to build their electrical knowledge quickly Includes exercises with worked solutions to assist readers in grasping concepts found in the book Contains “in-depth” side bars throughout which pique the reader’s curiosity *Fundamentals of Electric Power Engineering* is an ideal refresher course for those involved in this interdisciplinary branch. For supplementary files for this book, please visit <http://booksupport.wiley.com/> *Plasmonics: Fundamentals and Applications* Springer Science & Business Media Considered a major field of photonics, plasmonics offers the potential to confine and guide light below the diffraction limit and promises a new generation of highly miniaturized photonic devices. This book combines a comprehensive introduction with an extensive overview of the current state of the art. Coverage includes plasmon waveguides, cavities for field-enhancement, nonlinear processes and the emerging field of active plasmonics studying interactions of surface plasmons with active media. *Metrology: from Physics Fundamentals to Quality of Life* IOS Press Metrology is a constantly evolving field, and one which has developed in many ways in the last four decades. This book presents the proceedings of the Enrico Fermi Summer School on the topic of Metrology, held in Varenna, Italy, from 26 June to 6 July 2017. This was the 6th Enrico Fermi summer school devoted to metrology, the first having been held in 1976. The 2017 program addressed two ma-

major new directions for metrology: the work done in preparation for a possible re-definition of four of the base units of the SI in 2018, and the impact of the application of metrology to issues addressing quality of life – such as global climate change and clinical and food analysis – on science, citizens and society. The lectures were grouped into three modules: metrology for quality of life; fundamentals of metrology; and physical metrology and fundamental constants, and topics covered included food supply and safety; biomarkers; monitoring climate and air quality; new SI units; measurement uncertainty; fundamental constants; electrical metrology; optical frequency standards; and photometry and light metrology. The book provides an overview of the topics and changes relevant to metrology today, and will be of interest to both academics and all those whose work involves any of the various aspects of this field.

An Introduction To Electromagnetic Wave Propagation And Antennas CRC Press This text should serve as an introduction to the application of electromagnetics EM, following an initial course in basic EM theory. A particular feature of the book is that it examines time domain rather than frequency domain methods in depth.; This book is intended for advanced undergraduate and graduates in electrical and electronic engineering. Research and practitioners in electromagnetics in electrical and electronic engineering and physics.

Applied Electromagnetism Thomson Brooks/Cole Probability and Random Processes for Electrical and Computer Engineers CRC Press With updates and enhancements to the incredibly successful first edition, Probability and Random Processes for Electrical and Computer Engineers, Second Edition retains the best aspects of the original but offers an even more potent introduction to probability and random variables and pro-

cesses. Written in a clear, concise style that illustrates the subject's relevance to a wide range of areas in engineering and physical and computer sciences, this text is organized into two parts. The first focuses on the probability model, random variables and transformations, and inequalities and limit theorems. The second deals with several types of random processes and queuing theory.

New or Updated for the Second Edition: A short new chapter on random vectors that adds some advanced new material and supports topics associated with discrete random processes Reorganized chapters that further clarify topics such as random processes (including Markov and Poisson) and analysis in the time and frequency domain A large collection of new MATLAB®-based problems and computer projects/assignments Each Chapter Contains at Least Two Computer Assignments

Maintaining the simplified, intuitive style that proved effective the first time, this edition integrates corrections and improvements based on feedback from students and teachers. Focused on strengthening the reader's grasp of underlying mathematical concepts, the book combines an abundance of practical applications, examples, and other tools to simplify unnecessarily difficult solutions to varying engineering problems in communications, signal processing, networks, and associated fields.

Signals & Systems Pearson Educación New edition of a text intended primarily for the undergraduate courses on the subject which are frequently found in electrical engineering curricula--but the concepts and techniques it covers are also of fundamental importance in other engineering disciplines. The book is structured to develop in parallel the methods of analysis for continuous-time and discrete-time signals and systems, thus allowing exploration of their similarities and differences. Dis-

cussion of applications is emphasized, and numerous worked examples are included. Annotation copyrighted by Book News, Inc., Portland, OR. *Electromagnetics Explained: A Handbook for Wireless/RF, EMC, and High-Speed Electronics*. Elsevier. Based on familiar circuit theory and basic physics, this book serves as an invaluable reference for both analog and digital engineers alike. For those who work with analog RF, this book is a must-have resource. With computers and networking equipment of the 21st century running at such high frequencies, it is now crucial for digital designers to understand electromagnetic fields, radiation and transmission lines. This knowledge is necessary for maintaining signal integrity and achieving EMC compliance. Since many digital designers are lacking in analog design skills, let alone electromagnetics, an easy-to-read but informative book on electromagnetic topics should be considered a welcome addition to their professional libraries. Covers topics using conceptual explanations and over 150 lucid figures, in place of complex mathematics. Demystifies antennas, waveguides, and transmission line phenomena. Provides the foundation necessary to thoroughly understand signal integrity issues associated with high-speed digital design.

Metrology is a constantly evolving field, and one which has developed in many ways in the last four decades. This book presents the proceedings of the Enrico Fermi Summer School on the topic of Metrology, held in Varenna, Italy, from 26 June to 6 July 2017. This was the 6th Enrico Fermi summer school devoted to metrology, the first having been held in 1976. The 2017 program addressed two major new directions for metrology: the work done in preparation for a possible re-definition of four of the base units of the SI in 2018, and the impact of the application of metrology to

issues addressing quality of life – such as global climate change and clinical and food analysis – on science, citizens and society. The lectures were grouped into three modules: metrology for quality of life; fundamentals of metrology; and physical metrology and fundamental constants, and topics covered included food supply and safety; biomarkers; monitoring climate and air quality; new SI units; measurement uncertainty; fundamental constants; electrical metrology; optical frequency standards; and photometry and light metrology. The book provides an overview of the topics and changes relevant to metrology today, and will be of interest to both academics and all those whose work involves any of the various aspects of this field.

Modern technology is rapidly developing and for this reason future engineers need to acquire advanced knowledge in science and technology, including electromagnetic phenomena. This book is a contemporary text of a one-semester course for junior electrical engineering students. It covers a broad spectrum of electromagnetic phenomena such as, surface waves, plasmas, photonic crystals, negative refraction as well as related materials including superconductors. In addition, the text brings together electromagnetism and optics as the majority of texts discuss electromagnetism disconnected from optics. In contrast, in this book both are discussed. Seven labs have been developed to accompany the material of the book.

Analytical Modeling in Applied Electromagnetics encompasses the most complete treatment on the subject published to date, focusing on the nature of models in radio engineering. This leading-edge resource brings you detailed coverage of the latest topics, including metamaterials, photonic bandgaps and artificial

impedance surfaces, and applies these concepts to a wide range of applications. The book provides you with working examples that are mainly directed to antenna applications, but the modeling methods and results can be used for other practical devices as well.

Large computational resources are of ever increasing importance for the simulation of semiconductor processes, devices and integrated circuits. The Workshop on Computational Electronics was intended to be a forum for the discussion of the state-of-the-art of device simulation. Three major research areas were covered: conventional simulations, based on the drift-diffusion and the hydrodynamic models; Monte Carlo methods and other techniques for the solution of the Boltzmann transport equation; and computational approaches to quantum transport which are relevant to novel devices based on quantum interference and resonant tunneling phenomena. Our goal was to bring together researchers from various disciplines that contribute to the advancement of device simulation. These include Computer Science, Electrical Engineering, Applied Physics and Applied Mathematics. The success of this multidisciplinary formula was proven by numerous interactions which took place at the Workshop and during the following three-day Short Course on Computational Electronics. The format of the course, including a number of tutorial lectures, and the large attendance of graduate students, stimulated many discussions and has proven to us once more the importance of cross-fertilization between the different disciplines.

Never HIGHLIGHT a Book Again Virtually all testable terms, concepts, persons, places, and events are included. Cram101 Text-

book Outlines gives all of the outlines, highlights, notes for your textbook with optional online practice tests. Only Cram101 Outlines are Textbook Specific. Cram101 is NOT the Textbook. Accompany: 9780521673761

Based on familiar circuit theory and basic physics, this book serves as an invaluable reference for both analog and digital engineers alike. For those who work with analog RF, this book is a must-have resource. With computers and networking equipment of the 21st century running at such high frequencies, it is now crucial for digital designers to understand electromagnetic fields, radiation and transmission lines. This knowledge is necessary for maintaining signal integrity and achieving EMC compliance. Since many digital designers are lacking in analog design skills, let alone electromagnetics, an easy-to-read but informative book on electromagnetic topics should be considered a welcome addition to their professional libraries. Covers topics using conceptual explanations and over 150 lucid figures, in place of complex mathematics Demystifies antennas, waveguides, and transmission line phenomena Provides the foundation necessary to thoroughly understand signal integrity issues associated with high-speed digital design

Fundamentals of Applied Electromagnetics is intended for use in one- or two-semester courses in electromagnetics. It also serves as a reference for engineers. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. A user-friendly approach, full-color figures and images, and a set of interactive sim-

ulations will help readers understand the concepts presented.

This monograph provides a framework for students and practitioners who are working on the solution of electromagnetic imaging in geophysics. Bridging the gap between theory and practical applied material (for example, inverse and forward problems), it provides a simple explanation of finite volume discretization, basic concepts in solving inverse problems through optimization, a summary of applied electromagnetics methods, and MATLAB[®] code for efficient computation.

One of the most methodical treatments of electromagnetic wave propagation, radiation, and scattering—including new applications and ideas Presented in two parts, this book takes an analytical approach on the subject and emphasizes new ideas and applications used today. Part one covers fundamentals of electromagnetic wave propagation, radiation, and scattering. It provides ample end-of-chapter problems and offers a 90-page solution manual to help readers check and comprehend their work. The second part of the book explores up-to-date applications of electromagnetic waves—including radiometry, geophysical remote sensing and imaging, and biomedical and signal processing applications. Written by a world renowned authority in the field of electromagnetic research, this new edition of *Electromagnetic Wave Propagation, Radiation, and Scattering: From Fundamentals to Applications* presents detailed applications with useful appendices, including mathematical formulas, Airy function, Abel's equation, Hilbert transform, and Riemann surfaces. The book also features newly revised material that focuses on the following topics: Statistical wave theories—which have been extensively applied to top-

ics such as geophysical remote sensing, bio-electromagnetics, bio-optics, and bio-ultrasound imaging Integration of several distinct yet related disciplines, such as statistical wave theories, communications, signal processing, and time reversal imaging New phenomena of multiple scattering, such as coherent scattering and memory effects Multiphysics applications that combine theories for different physical phenomena, such as seismic coda waves, stochastic wave theory, heat diffusion, and temperature rise in biological and other media Metamaterials and solitons in optical fibers, nonlinear phenomena, and porous media Primarily a textbook for graduate courses in electrical engineering, *Electromagnetic Wave Propagation, Radiation, and Scattering* is also ideal for graduate students in bioengineering, geophysics, ocean engineering, and geophysical remote sensing. The book is also a useful reference for engineers and scientists working in fields such as geophysical remote sensing, bio-medical engineering in optics and ultrasound, and new materials and integration with signal processing.

Considered a major field of photonics, plasmonics offers the potential to confine and guide light below the diffraction limit and promises a new generation of highly miniaturized photonic devices. This book combines a comprehensive introduction with an extensive overview of the current state of the art. Coverage includes plasmon waveguides, cavities for field-enhancement, nonlinear processes and the emerging field of active plasmonics studying interactions of surface plasmons with active media. This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. *Fundamentals of Applied Electro-*

magnetics is intended for use in one- or two-semester courses in electromagnetics. It also serves as a reference for engineers. Widely acclaimed both in the U.S. and abroad, this authoritative text bridges the gap between circuits and new electromagnetics material. Ulaby begins coverage with transmission lines, leading students from familiar concepts into more advanced topics and applications. A user-friendly approach, full-color figures and images, and a set of interactive simulations will help readers understand the concepts presented.

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the first time, this edition integrates corrections and improvements based on feedback from students and teachers. Focused on strengthening the reader's grasp of underlying mathematical concepts, the book combines an abundance of practical applications, examples, and other tools to simplify unnecessarily difficult solutions to varying engineering problems in communications, signal processing, networks, and associated fields.

In the past few decades, Magnetic Resonance Imaging (MRI) has become an indispensable tool in modern medicine, with MRI systems now available at every major hospital in the developed world. But for all its utility and prevalence, it is much less commonly understood and less readily explained than other common medical imaging techniques. Unlike optical, ultrasonic, X-ray (including CT), and nuclear medicine-based imaging, MRI does not rely primarily on simple transmission and/or reflection of energy, and the highest achievable resolution in MRI is orders of magnitude smaller than the smallest wavelength involved. In this book, MRI will be explained with emphasis on the magnetic fields required, their generation, their concomitant electric fields, the various interactions of all these fields with the subject being imaged, and the implications of these interactions to image quality and patient safety. Classical electromagnetics will be used to describe aspects from the fundamental phenomenon of nuclear precession through signal detection and MRI safety. Simple explanations and illustrations combined with pertinent equations are designed to help the reader rapidly gain a fundamental understanding and an appreciation of this technology as it is used today, as well as ongoing advances that will increase its value in the future. Numerous references are included to facilitate further study with an em-

phasis on areas most directly related to electromagnetics. Foundations of Applied Electrodynamics takes a fresh look at the essential concepts and methods of electrodynamics as a whole, uniting the most relevant contemporary topics under a common mathematical framework. It contains clear explanations of high-level concepts as well as the mutual relationships between the essential ideas of electromagnetic theory. Starting with the fundamentals of electrodynamics, it methodically covers a wide spectrum of research and applications that stem from electromagnetic phenomena, before concluding with more advanced topics such as quantum mechanics. Includes new advances and methodologies in applied electrodynamics, and provides the whole picture of the theory of electrodynamics in most active areas of engineering applications. Systematically deals with eigenvalue problems, integral equation formulations and transient phenomena in various areas of applied electrodynamics. Introduces the complete theory of spherical vector wave functions, and presents the upper bounds of the product of gain and bandwidth for an arbitrary antenna. Presents the field approach to multiple antenna system, which provides a theoretical tool for the prediction of channel models of MIMO, and is also the basis of wireless power transmission system. One of the first books on electromagnetics that contains the general theory of relativity, which is needed in the design of mobile systems such as global positioning system (GPS). By summarising both engineering and theoretical electromagnetism in one volume, this book is an essential reference for practicing engineers, as well as a guide for those who wish to advance their analytical techniques for studying applied electrodynamics.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Fundamentals of Electromagnetics for Electrical and Computer Engineering, First Edition is appropriate for all beginning courses in electromagnetics, in both electrical engineering and computer engineering programs. This is ideal for anyone interested in learning more about electromagnetics. Dr. N. Narayana Rao has designed this compact, one-semester textbook in electromagnetics to fully reflect the evolution of technologies in both electrical and computer engineering. This book's unique approach begins with Maxwell's equations for time-varying fields (first in integral and then in differential form), and also introduces waves at the outset. Building on these core concepts, Dr. Rao treats each category of fields as solutions to Maxwell's equations, highlighting the frequency behavior of physical structures. Next, he systematically introduces the topics of transmission lines, waveguides, and antennas. To keep the subject's geometry as simple as possible, while ensuring that students master the physical concepts and mathematical tools they will need, Rao makes extensive use of the Cartesian coordinate system. Topics covered in this book include: uniform plane wave propagation; material media and their interaction with uniform plane wave fields; essentials of transmission-line analysis (both frequency- and time-domain); metallic waveguides; and Hertzian dipole field solutions. Material on cylindrical and spherical coordinate systems is presented in appendices, where it can be studied whenever relevant or convenient. Worked examples are presented throughout to illuminate (and in some cases extend) key concepts; each chapter also contains a summary and review ques-

tions. (Note: this book provides a one-semester alternative to Dr. Rao's classic textbook for two-semester courses, Elements of Engineering Electromagnetics, now in its Sixth Edition.)

@EOI: AEI rEOMETPEI Epigram of the Academy of Plato in Athens Electromagnetism, the science of forces arising from Amber (HAEKTPON) and the stone of Magnesia (MARNHΛIA), has been the foundation of major scientific breakthroughs, such as Quantum Mechanics and Theory of Relativity, as well as most leading edge technologies of the twentieth century. The accuracy of electromagnetic fields computations for engineering purposes has been significantly improved during the last decades, due to the development of efficient computational techniques and the availability of high performance computing. The present book is based on the contributions and discussions developed during the NATO Advanced Study Institute on Applied Computational Electromagnetics: State of the Art and Future Trends, which has taken place in Hellas, on the island of Samos, very close to the birthplace of Electromagnetism. The book covers the fundamental concepts, recent developments and advanced applications of Integral Equation and Method of Moments Techniques, Finite Element and Boundary Element Methods, Finite Difference Time Domain and Transmission Line Methods. Furthermore, topics related to Computational Electromagnetics, such as Inverse Scattering, Semi-Analytical Methods and Parallel Processing Techniques are included. The collective presentation of the principal computational electromagnetics techniques, developed to handle diverse challenging leading edge technology problems, is expected to be useful to researchers and postgraduate students working in various topics of

electromagnetic technologies.

Fundamentals of Applied Electromagnetics: Incl CDRom.

Electromagnetics is too important in too many fields for knowledge to be gathered on the fly. A deep understanding gained through structured presentation of concepts and practical problem solving is the best way to approach this important subject. Fundamentals of Engineering Electromagnetics provides such an understanding, distilling the most important theoretical aspects and applying this knowledge to the formulation and solution of real engineering problems. Comprising chapters drawn from the critically acclaimed Handbook of Engineering Electromagnetics, this book supplies a focused treatment that is ideal for specialists in areas such as medicine, communications, and remote sensing who have a need to understand and apply electromagnetic principles, but who are unfamiliar with the field. Here is what the critics have to say about the original work "...accompanied with practical engineering applications and useful illustrations, as well as a good selection of references ... those chapters that are devoted to areas that I am less familiar with, but currently have a need to address, have certainly been valuable to me. This book will therefore provide a useful resource for many engineers working in applied electromagnetics, particularly those in the early stages of their careers." -Alastair R. Ruddle, The IEE Online "...a tour of practical electromagnetics written by industry experts ... provides an excellent tour of the practical side of electromagnetics ... a useful reference for a wide range of electromagnetics problems ... a very useful and well-written compendium..." -Alfy Riddle, IEEE Microwave Magazine Fundamentals of Engineering Electromagnetics lays the theoretical foundation for solving

new and complex engineering problems involving electromagnetics.

Fundamentals of Applied Electromagnetics Prentice Hall

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"This is a signals and systems textbook with a difference: Engineering applications of signals and systems are integrated into the presentation as equal partners with concepts and mathematical models, instead of just presenting the concepts and models and leaving the student to wonder how it all relates to engineering."--Preface.