

---

# Applied Electromagnetics Shen And Kong

---

Probability Theory

Microwave/RF Applicators and Probes

Electromagnetic and Optical Pulse Propagation 1

Balanis' Advanced Engineering Electromagnetics

Electromagnetic Metasurfaces

Modelling and Control of Switched Reluctance Machines

Electromagnetics

Practical Electromagnetics

Information Metamaterials

Applied Electromagnetism

Conceptual Electromagnetics

Computational Electromagnetics Using Boundary Elements

Applied Electromagnetism

Applied Electromagnetism

Bioeffects and Therapeutic Applications of Electromagnetic Energy

Electromagnetics through the Finite Element Method

Advanced Engineering Electromagnetics

Non-linear Electromagnetic Systems

Advanced Computational Electromagnetic Methods

Applied Electromagnetism

Electromagnetic Seabed Logging

Analytical and Computational Methods in Electromagnetics

Introduction to Electrodynamics

Electromagnetic Wave Theory

An Introduction to Classical Electromagnetic Radiation

Radar Systems Principles

Electromagnetics  
EMI/EMC Computational Modeling Handbook  
Handbook of GaN Semiconductor Materials and Devices  
The Theory of Electromagnetism  
Advanced Computer Techniques in Applied Electromagnetics  
Electromagnetic Field Theory and Transmission Lines  
Electromagnetic Scattering  
Solutions Manual for Shen and Kong's Applied Electromagnetism  
Electromagnetic Wave Propagation, Radiation, and Scattering  
High-Voltage Engineering  
Microwave and RF Vacuum Electronic Power Sources  
Handbook of Engineering Electromagnetics  
Fundamentals of Engineering Electromagnetics  
Special Topics in Electromagnetics

*Applied  
Electromagnetics Shen  
And Kong*

Downloaded from [music-  
school.fbny.org](http://music-school.fbny.org) by guest

---

## **ALLIE RAIDEN**

---

**Probability Theory** CRC Press

A primary resource for graduate teaching and research in advanced electromagnetic materials, Special Topics in Electromagnetics covers some new methods for treating the interaction of electromagnetic field with materials, as well as biological applications and radar identification using electromagnetic

waves. This book supplements its content with detailed mathematical derivation and covers some practical applications.

*Microwave/RF Applicators and Probes* BoD  
– Books on Demand

For junior/senior-level electricity and magnetism courses. This book is known for its clear, concise and accessible coverage of standard topics in a logical and pedagogically sound order. The Third Edition features a clear, accessible treatment of the fundamentals of electromagnetic theory, providing a sound platform for the exploration of related

applications (ac circuits, antennas, transmission lines, plasmas, optics, etc.). Its lean and focused approach employs numerous examples and problems.

Electromagnetic and Optical Pulse  
Propagation 1 Elsevier

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.

*Balanis' Advanced Engineering Electromagnetics* CRC Press

This is a first year graduate text on electromagnetic field theory emphasizing mathematical approaches, problem solving and physical interpretation. Examples deal with guidance, propagation, radiation and scattering of electromagnetic waves, metallic and dielectric wave guides, resonators, antennas and radiating structures, Cerenkov radiation, moving media, plasmas, crystals, integrated optics, lasers and fibers, remote sensing, geophysical probing, dipole antennas and stratified media.

*Electromagnetic Metasurfaces* William Andrew

The contents is dominated by the latest problems of applied electrical engineering,

micro electromechanics, biosensor technology and biomagnetism. The book covers the numerical calculation methods for the design and optimization of sensors, actuators and electric machines, as well as the treatment of inverse problems, in materials testing and in the field of medicine in particular. Other central topics are the material properties and their simulation and much consideration is given to micro-electromechanics.

Modelling and Control of Switched

Reluctance Machines Wiley-Interscience

Included topics: Electromagnetism and Electrical Engineering, Electromagnetic Fields and their Sources, Time-varying Currents and Fields in Conductors, Electromagnetic Radiation I, Electromagnetic Problems.

**Electromagnetics** Cambridge University Press

"Bridges the gap between laboratory research and practical applications in industry and power utilities-clearly organized into three distinct sections that cover basic theories and concepts, execution of principles, and innovative new techniques. Includes new chapters detailing industrial uses and issues of

hazard and safety, and review exercises to accompany each chapter."

Practical Electromagnetics John Wiley & Sons

Balanis' Advanced Engineering

Electromagnetics The latest edition of the foundational guide to advanced electromagnetics Balanis' third edition of *Advanced Engineering Electromagnetics* - a global best-seller for over 30 years - covers the advanced knowledge engineers involved in electromagnetics need to know, particularly as the topic relates to the fast-moving, continuously evolving, and rapidly expanding field of wireless communications. The immense interest in wireless communications and the expected increase in wireless communications systems projects (antennas, microwaves and wireless communications) points to an increase in the number of engineers needed to specialize in this field. Highlights of the 3rd Edition include: A new chapter, on Artificial Impedance Surfaces (AIS), contains material on current and advanced EM technologies, including the exciting and fascinating topic of metasurfaces for: Control and broadband RCS reduction

using checkerboard designs. Optimization of antenna fundamental parameters, such as: input impedance, directivity, realized gain, amplitude radiation pattern. Leaky-wave antennas using 1-D and 2-D polarization diverse-holographic high impedance metasurfaces for antenna radiation control and optimization. Associated MATLAB programs for the design of checkerboard metasurfaces for RCS reduction, and metasurface printed antennas and holographic LWA for radiation control and optimization. Throughout the book, there are: Additional examples, numerous end-of-chapter problems, and PPT notes. Fifty three MATLAB computer programs for computations, graphical visualizations and animations. Nearly 4,500 multicolor PowerPoint slides are available for self-study or lecture use.

**Information Metamaterials** Artech House

Electromagnetic Scattering is a collection of studies that aims to discuss methods, state of the art, applications, and future research in electromagnetic scattering. The book covers topics related to the subject, which includes low-frequency

electromagnetic scattering; the uniform asymptotic theory of electromagnetic edge diffraction; analyses of problems involving high frequency diffraction and imperfect half planes; and multiple scattering of waves by periodic and random distribution. Also covered in this book are topics such as theories of scattering from wire grid and mesh structures; the electromagnetic inverse problem; computational methods for transmission of waves; and developments in the use of complex singularities in the electromagnetic theory. Engineers and physicists who are interested in the study, developments, and applications of electromagnetic scattering will find the text informative and helpful.

*Applied Electromagnetism* Allied Publishers

This book provides a thorough description of classical electromagnetic radiation, starting from Maxwell's equations, and moving on to show how fundamental concepts are applied in a wide variety of examples from areas such as classical optics, antenna analysis, and electromagnetic scattering. Throughout, the author interweaves theoretical and

experimental results to help give insight into the physical and historical foundations of the subject. A key feature of the book is that pulsed and time-harmonic signals are presented on an equal footing.

Mathematical and physical explanations are enhanced by a wealth of illustrations (over 300), and the book includes more than 140 problems. It can be used as a textbook for advanced undergraduate and graduate courses in electrical engineering and physics, and will also be of interest to scientists and engineers working in applied electromagnetics. A solutions manual is available on request for lecturers adopting the text.

**Conceptual Electromagnetics** CRC Press

This text provides a thorough introduction to the theory of electromagnetism, which motivates the study of electromagnetism and numerous practical examples and applications. Shen and Kong employ a unique approach to electromagnetics, beginning with Maxwell's equations and the study of dynamics, and covering statistics later. This allows students to work with electromagnetic concepts using relatively simple computational analysis.

Shen and Kong then "build" to the more complex electromagnetic topics and mathematical methods for analysis, in a logical progression.

**Computational Electromagnetics Using Boundary Elements** PWS

Publishing Company

Shelving Guide: Electrical Engineering Since the 1980s more than 100 books on the finite element method have been published, making this numerical method the most popular. The features of the finite element method gained worldwide popularity due to its flexibility for simulating not only any kind of physical phenomenon described by a set of differential equations, but also for the possibility of simulating non-linearity and time-dependent studies. Although a number of high-quality books cover all subjects in engineering problems, none of them seem to make this method simpler and easier to understand. This book was written with the goal of simplifying the mathematics of the finite element method for electromagnetic students and professionals relying on the finite element method for solving design problems. Filling a gap in existing literature that often uses

complex mathematical formulas, *Electromagnetics through the Finite Element Method* presents a new mathematical approach based on only direct integration of Maxwell's equation. This book makes an original, scholarly contribution to our current understanding of this important numerical method. [Applied Electromagnetism](#) CRC Press Get up-to-speed on the theory, principles and design of vacuum electron devices. [Applied Electromagnetism](#) Computational Mechanics

In their successful text, Shen and Kong cover fundamentals of static and dynamic electromagnetism fields and waves. The authors employ a unique approach, beginning with a study of Maxwell's equations and waves and covering electromagnetic fields later. This presentation allows students to work with electromagnetic concepts using relatively simple computational analysis, building in a logical progression to more complex topics and mathematical methods for analysis. The Third Edition provides computer-based problems, homework problems, end-of-chapter summaries, and a rich collection of real-world application

examples that include discussion of cellular phone and microwave exposure limits set by IEEE; safety concerns about electromagnetic fields from power lines; new and powerful magnets; and single-mode optical fibers.

Bioeffects and Therapeutic Applications of Electromagnetic Energy IOS Press

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.

*Electromagnetics through the Finite Element Method* Pearson Education India

Engineers do not have the time to wade through rigorously theoretical books when trying to solve a problem. Beginners lack the expertise required to understand highly specialized treatments of individual topics. This is especially problematic for a field as broad as electromagnetics, which propagates into many diverse engineering fields. The time h

*Advanced Engineering Electromagnetics* Pws Publishing Company

In planning a radar system, having the proper mathematical modeling of propagation effects, clutter, and target statistics is essential. Radar Systems Principles provides a strong theoretical

basis for the myriad of formulas and rules of thumb required for analysis, conceptual design, and performance evaluation of radar systems. Mathematical derivations of formulas commonly used by radar engineers are presented, with detailed discussions of the assumptions behind these expressions and their ranges of validity. These principles are used in a wide range of radar applications. *Radar Systems Principles* makes it easy to understand the steps in calculating various formulas and when and how these formulas are used. A set of problems is provided for each chapter, enabling you to check your progress in applying the principles discussed in each section of the text. There are more than 170 figures illustrating key concepts. Numerous references to well-known books on radar for coverage of practical design issues and other specialized topics are given. *Radar Systems Principles* is an ideal textbook for advanced undergraduates and first-year graduate students and also makes an excellent vehicle for self-study by engineers wishing to enhance their understanding of radar principles and their implication in actual systems.

*Non-linear Electromagnetic Systems* CRC Press

Today, switched reluctance machines (SRMs) play an increasingly important role in various sectors due to advantages such as robustness, simplicity of construction, low cost, insensitivity to high temperatures, and high fault tolerance. They are frequently used in fields such as aeronautics, electric and hybrid vehicles, and wind power generation. This book is a comprehensive resource on the design, modeling, and control of SRMs with methods that demonstrate their good performance as motors and generators. *Advanced Computational Electromagnetic Methods* CRC Press

This book addresses material growth, device fabrication, device application, and commercialization of energy-efficient white light-emitting diodes (LEDs), laser diodes, and power electronics devices. It begins with an overview on basics of semiconductor materials, physics, growth and characterization techniques, followed by detailed discussion of advantages, drawbacks, design issues, processing, applications, and key challenges for state of the art GaN-based devices. It includes

state of the art material synthesis techniques with an overview on growth technologies for emerging bulk or free standing GaN and AlN substrates and their applications in electronics, detection, sensing, optoelectronics and photonics. Wengang (Wayne) Bi is Distinguished Chair Professor and Associate Dean in the College of Information and Electrical Engineering at Hebei University of Technology in Tianjin, China. Hao-chung (Henry) Kuo is Distinguished Professor and Associate Director of the Photonics Center at National Chiao-Tung University, Hsin-Tsu, Taiwan, China. Pei-Cheng Ku is an associate professor in the Department of Electrical Engineering & Computer Science at the University of Michigan, Ann Arbor, USA. Bo Shen is the Cheung Kong Professor at Peking University in China. *Applied Electromagnetism* Artech House From cell phones to treating cancer, EM energy plays a part in many of the innovations that we take for granted everyday. A basic force of nature, like nuclear energy or gravity, this energy can be harnessed and used, but still holds the potential to be harmful. The question remains, how safe are EM products?

## Bioeffects and Therapeutic Applicati