

<<电磁场与电磁波>>

图书基本信息

书名：<<电磁场与电磁波>>

13位ISBN编号：9787030349798

10位ISBN编号：7030349792

出版时间：2012-7

出版时间：科学出版社

作者：焦其祥

页数：433

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<电磁场与电磁波>>

内容概要

《电磁场与电磁波（第2版）（英文版）》中文版是普通高等教育“十一五”国家级规划教材，也是北京邮电大学通信工程国家级特色专业建设点主干教材。全书共11章，主要讲述电磁场与电磁波的基本理论和计算方法。本书在叙述上由浅入深、循序渐进，强调数学与物理概念的结合，思路清晰，易于学习。对一些重要内容和例题采用了不同的分析方法，强调分析方法的多样性，拓展思考空间，扩大适应面。

书中配有近百道例题，以帮助学生分析问题，引导学生自学。

《电磁场与电磁波（第2版）（英文版）》可作为高等院校电子信息、通信工程、微波工程及相关专业本科生的教材，也可供相关教学和工程技术人员参考。

<<电磁场与电磁波>>

书籍目录

Preface to the Second Edition
 Preface to the First Edition
 Main Character, Parameters and The Expressions of Gradient, Divergence, Rotation
 Chapter 1 Vector Analysis
 1.1 Scalar and Vector Fields
 1.2 Operation of Vector
 1.3 Flux and Divergence of Vector
 1.4 Gauss's Theorem
 1.5 Vector Circulation and Rotation
 1.6 Stockes' Theorem
 1.7 Gradient of a Scalar Field
 1.8 The Helmholtz Theorem
 Exercises
 Chapter 2 Electrostatic Fields
 2.1 Electrostatic Field's Divergence Equation and Rotation Equation
 2.2 Electric Potential and Electric Potential Gradient
 2.3 Laplace's equation and Poisson's equation
 2.4 Electric Dipole
 2.5 Conductors in the Electrostatic Field
 2.6 Dielectrics in the Electrostatic Field
 2.7 The Boundary Conditions of the Electrostatic Field
 2.8 Capacitance of Conductor System
 2.9 Energy of Electrostatic Field and Electrostatic Force
 2.10 5 Function and Its Related Properties
 Exercises
 Chapter 3 Constant Magnetic Field
 3.1 The Curl Equation and Divergence Equation of Constant Magnetic Field
 3.2 Magnetic Vector Potential A and Scalar Magnetic Potential ψ_m
 3.3 Magnetic Dipole
 3.4 Medium in Constant Magnetic Field
 3.5 Boundary Condition of Constant Magnetic Field
 3.6 Self Inductance and Mutual Inductance
 3.7 Magnetic Energy and Magnetic Force
 Exercises
 Chapter 4 Steady Electric Field
 4.1 Current Density
 4.2 Current Continuity Equation
 4.3 Steady Electric Fields are Irrotational Fields
 4.4 Loss of Energy in A Conducting Medium
 4.5 Boundary Condition of the Steady Electric Field
 4.6 Analogy of the Steady Electric Field and the Electrostatic Field
 4.7 Capacitor Considering the Loss of Medium
 Exercises
 Chapter 5 Solutions of Electrostatic Field Boundary Value Problem
 5.1 Electrostatic Field Boundary Value Problems
 5.2 Uniqueness Theorem
 5.3 Solving the One-Dimension Field by Integral
 5.4 Using Separation of Variables to Solve Two-Dimension and Three-Dimension Laplace's Equation
 5.5 Image Method
 5.6 Conformal Transformation, or Called Conformal Mapping
 5.7 Finite-Difference Method--Numerical Computation Methods
 5.8 Green's Function and Green's First, Second Identities
 Exercises
 Chapter 6 Alternating Electromagnetic Fields
 6.1 Maxwell's Equations
 6.2 Law of Induction and Maxwell's Second Equation
 6.3 Ampere's Circuital Law and Maxwell's First Equation
 6.4 Gauss's Law and Maxwell's Third Equation
 6.5 Maxwell's Fourth Equation
 6.6 Maxwell's Equations and Auxiliary Equations
 6.7 Complex Format of Maxwell's Equations
 6.8 Boundary Conditions for Alternating Fields
 6.9 Poynting's Theorem and Poynting Vector
 6.10 Potentials and Fields for Alternating Fields
 6.11 On Lorentz Gauge
 Exercises
 Chapter 7 Propagation of Plane Wave in Infinite Medium
 7.1 Wave Equations and Solutions
 7.2 Plane Wave in Perfect Dielectric
 7.3 Polarization of Electromagnetic Wave
 7.4 Plane Wave in A Conducting Medium
 7.5 Loss Tangent $\tan \delta$ and Medium Category
 7.6 Plane Wave in A Good Dielectric
 7.7 Plane Wave in A Good Conductor
 7.8 Skin Effect
 7.9 Surface Impedance Z_s of A Good Conductor
 7.10 Power Loss in A Conducting Medium
 7.11 Dispersive Medium, Dispersive Distortion and Normal Dispersion, Anomalous Dispersion
 7.12 Electromagnetic Waves in Ferrite Medium
 Exercises
 Chapter 8 Reflection and Refraction of Electromagnetic Waves
 8.1 Plane Wave Normally Incident on the Surface of Perfect Conductor
 8.2 Plane Wave Normally Incident on the Interface between Perfect Dielectrics
 8.3 Plane Waves Obliquely Incident upon the Surface of Perfect Conductor
 8.4 Plane Wave Obliquely Incident upon the Interface between Perfect Dielectrics
 8.5 Reflection and Refraction of Waves on the Interface between Conductive Media
 8.6 Plane Waves Normally Incident upon the Interfaces among Multi-layered Media
 8.7 On the Multiformality of the Definitions of Fresnel Equations (R , T)
 Exercises
 Chapter 9 Two-Conductor Transmission Lines--Transverse Electromagnetic Wave Guiding System
 9.1 Introduction
 9.2 Properties of Wave Equations for TEM Waves
 9.3 Parallel-Plate Transmission System
 9.4 Two-Wire Transmission Lines
 9.5 Coaxial Cable
 9.6 Quasi-TEM Waves in Lossy Transmission Lines
 Exercises
 Chapter 10 TE and TM Modes Transmission System--Waveguide
 10.1 Rectangular Waveguide
 10.2 Circular Waveguide
 10.3 Higher Modes in Coaxial Line
 Exercises
 Chapter 11 Electromagnetic Radiation
 11.1 Lag Potential of Alternating Field
 11.2 Electric Dipole
 11.3 The Magnetic Dipole
 11.4 Dipole Antenna and the Concept of Antenna Array
 11.5 Duality Theory
 Exercises
 References
 Appendix Common Formula
 Answer

<<电磁场与电磁波>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>