

## <<电磁波理论.下>>

### 图书基本信息

书名 : <<电磁波理论.下>>

13位ISBN编号 : 9787040115925

10位ISBN编号 : 7040115921

出版时间 : 2002-1

出版时间 : 高等教育出版社

作者 : 孔金瓯

页数 : 227

版权说明 : 本站所提供之下载的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>

## &lt;&lt;电磁波理论.下&gt;&gt;

## 内容概要

本书原来是美国麻省理工学院电磁波理论课程的教材。本书作者从事电磁波理论的研究已有30多年，作者近年来在美国国家科学基金、美国海军和陆军研究机构、IBM公司等支持下完成了多个研究项目，部分项目成果编入本书。本书详细介绍了基于麦克斯韦程组的电磁波完整理论，特别强调波矢量在其中的重要性，并交电磁波理论的应用贯穿于全书。根据国内高校的教学情况，本书影印后分为三册出版。上册的主要内容包括电磁理论的基本原理、公式以及传输线理论，可作为高等学校电子信息类专业本科生的教材或参考书，同时可供有关工程技术人员参考使用。本书中册的内容包括三部分：电磁波的发射、反射、传输、导行、调谐；辐射和天线理论；麦克斯韦理论的定理和限制条件。中册可作为高等学校电子信息类专业硕士研究生的教材或参考书。下册内容包括：球、圆柱、粗糙表面和不规则物体对电磁波的散射；麦克斯韦方程组与相对论的一致性。下册可作为高等学校电子信息类专业硕士及博士研究生的教材或参考书。

## &lt;&lt;电磁波理论.下&gt;&gt;

## 书籍目录

Chapter1.FUNDAMENTALS 1.1 MaxwellEquationsinFreeSpace A.SpatialFrequency  
 B.VectorAnalysisandBoundaryConditions 1.2 Polarization  
 Topic1.2AStokesParametersandPoincareSphere 1.3 LorentzForceLaw  
 A.Poynting'sTheoremandPoynting'sVector B.MomentumConservationTheorem 1.4  
 HertzianWaves Topic1.4 AElectricFieldPattern 1.5 WavesinMedia A.WaveVector  
 B.WavesinConductingMedia C.WavesinPlasmaMedia D.WavesinUniaxialMedia 1.6  
 WaveReflections 1.7 WaveGuidance A.GuidancebyConductingParallelPlates  
 B.GuidancebyRectangularWaveguides C.RectangularCavityResonators 1.8 ConstitutiveRelations  
     A.AnisotropicandBianisotropicMedia Topic1.8 AConstitutiveMatrices 1.9  
 BoundaryConditions Topic1.9 ADerivationofBoundaryConditions Topic1.9  
 BBoundaryConditionsforMovingBoundaries AnswersChapter2.TRANSMISSIONLINES 2.1  
 TransmissionLineTheory A.WaveEquationsandWaveSolutions B.Poynting'sTheorem Topic2.1  
 ACircuitTheory 2.2 TransientsonTransmissionLines 2.3 SinusoidalSteadyStateTransmissionLines  
     A.ReflectionfromaTerminatedTransmissionLine B.InputImpedance  
 C.GeneralizedReflectionCoefficient Topic2.3 ASmithChart 2.4 LumpedElementTransmissionLines  
     2.5 NormalmodesonTransmissionLines A.NormalModesandNaturalFrequencies  
 B.InitialValueProblem 2.6 TransmissionLineModeling A.ModelingReflectionandTransmission  
     B.ModelingAntennaRadiation Topic2.6 APatternMultiplicationTechnique  
 C.ModelingRadiationbyCurrentSheets Topic2.6 BEquivalencePrinciple  
 AnswersChapter3.PROpagATIONANDGUIDANCE 3.1 Time-HarmonicFields  
 A.MaxwellEquationsforTime-HarmonicFields B.ConstitutiveRelationsandDispersiveMedia  
 C.Time-AveragePoyntingPowerVector Topic3.1 ASymmetryConditionsforLosslessMedia 3.2  
 PlaneWaveSolutions A.PhaseandGroupVelocities B.PenetrationDepthinLossyMedia  
 C.EvanescentWavesinLosslessMedia 3.3 WavesinMediaandtheKDBSystem A.KDBSystem  
 B.MaxwellEquationsinKDBSystem C.PlaneWavesinUniaxialMedia Topic3.3  
 APlaneWavesinGyrotropicMedia Topic3.3 BPlaneWavesinBianisotropicMedia Topic3.3  
 CPlaneWavesinNonlinearMedia 3.4 ReflectionandTransmission A.PhaseMatching  
 B.ReflectionandTransmissionataplane Boundary C.ReflectionandTransmissionbyaLayered  
 Medium 3.5 Guidance A.GuidancebyConductingParallelPlates  
 B.GuidedWavesinaSlabDielectricWaveguide C.GuidedWavesinLayeredMedia  
 D.CylindricalRectangularWaveguides E.CylindricalCircularWaveguides 3.6 Resonance  
 A.RectangularCavityResonator B.CircularCavityResonator C.SphericalCavityResonator  
 Topic3.6 ACavityPerturbation AnswersChapter4.RADIATION 4.1 CerenkovRadiation 4.2  
 Green'sFunctions A.DyadicGreen'sFunctions B.RadiationFieldApproximation 4.3  
 HertzianDipoles A.HertzianElectricDipole B.HertzianMagneticDipoleandSmallLoop Antenna  
 4.4 LinearDipoleArrays A.UniformArrayAntennawithProgressivePhaseShift  
 B.ArrayAntennaswithNonuniformCurrentDistributions C.Dolph-ChebyshevArrays  
 D.ArrayPatternSynthesis 4.5 LinearAntennas 4.6 BiconicalAntennas  
 A.FormulationandWaveSolutions B.SolutionintheAirRegionandDipoleFields  
 C.SolutionintheAntennaRegion D.TransmissionLineModel  
 E.FormalSolutionoftheBiconicalAntennaProblem 4.7 DipoleAntennasinLayeredMedia  
 A.IntegralFormulation B.ContourIntegrationMethods Topic4.7 ADipoleonaTwo-LayerMedium  
 AnswersChapter5.THEOREMSOFWAVESANDMEDIA 5.1 EquivalencePrinciple  
 A.ElectricandMagneticDipoleSources B.ImageSources C.ElectricandMagneticCurrentSheets  
 D.ImpressedandInducedCurrentSheets Topic5.1 AUniquenessTheorem Topic5.1

## &lt;&lt;电磁波理论.下&gt;&gt;

BDualityandComplementarity Topic5.1 CMathematicalFormulationsofHuygens'Principle Topic5.1  
 DFresnelandFraunhoferDiffraction 5.2 ReactionandReciprocity A.Reaction B.Reciprocity  
     C.ReciprocityConditions D.ModifiedReciprocityTheorem Topic5.2  
 AStationaryFormulasandRayleigh-RitzProcedure Topic5.2 BMETHODOFMOMENTS 5.3  
     Quasi-StaticLimits 5.4 GeometricalOpticsLimit 5.5 ParaxialLimit Topic5.5 AGaussianBeam  
     5.6 QuantizationofElectromagneticWaves A.UncertaintyPrinciple  
     B.AnnihilationandCreationOperators C.WaveQuantizationinBianisotropicMedia  
     AnswersChapter6.SCATTERING 6.1 ScatteringbySpheres A.RayleighScattering B.MieScattering  
     6.2 ScatteringbyaConductingCylinder A.ExactSolution B.WatsonTransformation  
     C.CreepingWaves 6.3 ScatteringbyPeriodicRoughSurfaces  
     A.ScatteringbyPeriodicCorrugatedConductingSurfaces B.ScatteringbyPeriodicDielectricSurfaces 6.4  
     ScatteringbyRandomRoughSurfaces A.KirchhoffApproximation B.GeometricalOpticsSolution  
     C.SmallPerturbationMethod 6.5 ScatteringbyPeriodicMedia A.First-OrderCoupled-ModeEquations  
     B.ReflectionandTransmissionbyPeriodically-ModulatedSlab C.Far-FieldDiffractionofaGaussianBeam 6.6  
     ScatteringbyRandomMedia A.DyadicGreen'sFunctionforLayeredMedia  
     B.ScatteringbyaHalf-SpaceRandomMedium 6.7 EffectivePermittivityforaVolumeScatteringMedium  
     A.RandomDiscreteScatterers B.EffectivePermittivityforaContinuousRandomMedium  
     AnswersChapter7.ELECTROMAGNETICWAVETHEORY AND SPECIALRELATIVITY 7.1  
     Maxwell-MinkowskiTheory Topic7.1 AAmperianFormulation Topic7.1 BBoffiFormulation  
     Topic7.1 CChuFormulation 7.2 LorentzTransformation Topic7.2  
     ADerivationofElectromagneticFieldTransformation Topic7.2 BLorentzInvariants Topic7.2  
     CElectromagneticFieldClassification Topic7.2 DTransformationofFrequencyandWaveVector  
     Topic7.2 EAberrationEffect Topic7.2 FDopplerEffect 7.3 WavesinMovingMedia  
     A.TransformationofConstitutiveRelations Topic7.3 APlaneWavesinMovingUniaxialMedia  
     Topic7.3 BPhaseMatchingatMovingBoundaries Topic7.3 CForceonaMovingDielectricHalf-space  
         Topic7.3 DGuidedWavesinMovingDielectricSlab Topic7.3  
     EGuidedWavesinMovingGyrotropicMedia 7.4 MaxwellEquationsinTensorForm Topic7.4  
     AContravariantandCovariantVectors Topic7.4 BFieldTensorandExcitationTensor Topic7.4  
     CConstitutiveRelationsinTensorForm 7.5 Hamilton'sPrincipleandNoether'sTheorem A.ActionIntegral  
         B.Hamilton'sPrincipleandMaxwellEquations C.Noether'sTheoremandEnergyMomentumTensors  
     AnswersREFERENCESINDEX

## <<电磁波理论.下>>

### 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>