

<<物理学与偏微分方程（上册）>>

图书基本信息

书名：<<物理学与偏微分方程（上册）>>

13位ISBN编号：9787040346572

10位ISBN编号：7040346575

出版时间：2013-1

出版时间：高等教育出版社

作者：李大潜、秦铁虎 著，李亚纯

页数：264

字数：350000

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>

内容概要

The first volume of the Chinese edition of this book was published in July 1997 , and the second volume was published in June 2000. In July 2000 , upon the readers' request , we corrected several typographical errors and republished the first volume.

In this edition , minor typographical errors are corrected , and a small paragraph has been added to section 5.5.4 in Chapter 5 , while the remaining text is unchanged.

We would like to take this opportunity to express our sincere thanks to our teachers , friends , and readers for their encouragement and support.

作者简介

Tatsien Li is a Professor in the School of Mathematical Sciences at Fudan University in Shanghai. He is a member of the Chinese Academy of Sciences and a foreign member of the French Academy of Sciences.

Tiehu Qin is a Professor in the School of Mathematical Sciences at Fudan University in Shanghai.

书籍目录

Preface to the English Edition
Preface to the Chinese Edition
1 Electrodynamics
1.1 Introduction
1.2 Preliminaries
1.3 Maxwell's Equations in a Vacuum; Lorentz Force
1.4 Electromagnetic Energy and Momentum; Conservation and Transformation Laws of Energy and Momentum
1.5 Mathematical Structure of Maxwell's Equations; Wave Effect of Electromagnetic Fields
1.6 Scalar Potential and Vector Potential of an Electromagnetic Field
1.7 Maxwell's Equations in a Medium
1.8 Electrostatic Fields and Magnetostatic Fields
1.9 Darwin Model
Exercises
Bibliography
2 Fluid Dynamics
2.1 System of Ideal Fluid Dynamics
2.2 System of Viscous Fluid Dynamics
2.3 Navier-Stokes Equations
2.4 Shock Waves
2.5 System of One-Dimensional Fluid Dynamics in Lagrangian Representation
Exercises
Bibliography
3 Magnetohydrodynamics
3.1 Plasma
3.2 System of Magnetohydrodynamics
3.3 System of Magnetohydrodynamics When the Conductivity is Infinite
3.4 Mathematical Structure of Magnetohydrodynamics System
3.5 System of One-Dimensional Magnetohydrodynamics
Exercises
Bibliography
4 Reacting Fluid Dynamics
4.1 Introduction
4.2 System of Reacting Fluid Dynamics
4.3 System of One-Dimensional Reacting Fluid Dynamics
Exercises
Bibliography
5 Elastic Mechanics
5.1 Introduction
5.2 Description of Deformation; Strain Tensor
5.3 Conservation Laws; Stress Tensor

5.4 Constitutive Equation : Relationship Between Stress and Deformation

5.5 System of Elastodynamics and Its Mathematical Structure

5.6 Well-Posed Problems of the System of Elastostatics

Exercises

Bibliography

Appendix A Cartesian Tensor

A.1 Definition of Tensor

A.2 Operations of Tensor

A.3 Invariants of the Second-Order Symmetric Tensor

A.4 Isotropic Tensor

A.5 Differentiation of Tensor

Appendix B Overview of Thermodynamics

B.1 Objective of the Study of Thermodynamics

B.2 The First Law of Thermodynamics; Internal Energy

B.3 The Second Law of Thermodynamics; Entropy

B.4 Legendre Transform

B.5 Thermodynamic Functions

B.6 Expressions of Internal Energy and Entropy

Index

编辑推荐

李大潜和秦铁虎编著的《物理学与偏微分方程上》内容介绍：The fundamental equations in many important physical and mechanical disciplines are partial differential equations. Although the names of these equations are well known, and although a considerable amount of research has been done on these equations, it is not an easy task to comprehensively and profoundly understand the related physical and mechanical background.

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>