

<<现代复分析理论和应用的新进展>>

图书基本信息

书名：<<现代复分析理论和应用的新进展>>

13位ISBN编号：9787030280343

10位ISBN编号：7030280342

出版时间：1970-1

出版时间：科学出版社

作者：本社 编

页数：230

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>

<<现代复分析理论和应用的新进展>>

内容概要

This book consists of select works of the author, which include most important results about complex analytic theory, methods and applications obtained by the author in recent 25 years, mainly properties of solutions and various boundary value problems for nonlinear elliptic equations and systems, parabolic equations and systems, hyperbolic and mixed complex equations with parabolic degeneracy. In other words, a large portion of the works is devoted to boundary value problems for general elliptic complex equations of first and second order, initial-boundary value problems for nonlinear parabolic complex equations and systems of second order including some equations and systems in higher dimensional domains, and properties of solutions for hyperbolic complex equations of second order. Moreover, some results about second order complex equations of mixed (elliptic-hyperbolic) type are introduced. Applications of nonlinear complex analysis to continuum mechanics, and approximate methods of elliptic complex equations are also investigated.

## 书籍目录

Preface Chapter 1 Foundational Theorems of Nonlinear Quasiconformal Mappings and Quasiconformal Shift Theorems 1.1 Existence Theorems of Nonlinear Quasiconformal Mappings in Multiply Connected Domains 1.2 Uniqueness Theorems of Nonlinear Quasiconformal Mappings in Multiply Connected Domains 1.3 General Quasiconformal Shift Theorems in Multiply Connected Domains 1.4 Quasiconformal Shift Theorems with Other Shift Conditions Chapter 2 Boundary Value Problems for Nonlinear Elliptic Complex Equations and Systems 2.1 Reduction of General Uniformly Elliptic Systems of First Order Equations to Standard Complex Form 2.2 The Well-Posedness of Riemann-Hilbert Problem with Nonsmooth Boundary 2.3 A Priori Estimate of Solutions for Problems B and B' 2.4 Uniqueness of Solutions and Solvability for Problems B and B' 2.5 Formulation of Oblique Derivative Problems of Second Order Systems and Statement of Main Theorem 2.6 Formulation of Modified Problem of First Order System and Integral Expression of Its Solutions 2.7 Estimates of Solutions for Modified Boundary Value Problem of First Order System 2.8 Solvability of Modified Problem of First Order System and Oblique Derivative Problem of Second Order System Chapter 3 Discontinuous Boundary Value Problems for Analytic Functions and Nonlinear Elliptic Equations 3.1 General Discontinuous Boundary Value Problem for Analytic Functions in Upper Half-Plane 3.2 General Discontinuous Boundary Value Problem for Analytic Functions in Unit-Disk 3.3 Formulation of Discontinuous Irregular Oblique Derivative Problems for Nonlinear Elliptic Equations 3.4 Uniqueness and Estimates of Solutions of General Discontinuous Oblique Derivative Problems 3.5 Solvability of General Discontinuous Oblique Derivative Problems 3.6 General Continuous Oblique Derivative Problems Chapter 4 Approximate Methods for Solving Elliptic Systems and Their Error Estimate 4.1 Newton Imbedding Method of Riemann-Hilbert Problem for Nonlinear Elliptic Systems of First Order 4.2 Error Estimates of Approximate Solutions of Riemann-Hilbert Problem for Elliptic Systems of First Order 4.3 Transformation of Elliptic Systems and Compound Boundary Value Problem 4.4 Variation-Difference Method of Solving Compound Boundary Value Problem 4.5 Variation-Difference Method of Oblique Derivative Problem for Second Order Elliptic Equations Chapter 5 Oblique Derivative Problems for Degenerate Equations of Mixed Type in Multiply Connected Domains 5.1 Formulation of Oblique Derivative Problem for Degenerate Equations of Mixed Type 5.2 Representation of Solutions of Oblique Derivative Problem for Degenerate Equations of Mixed Type 5.3 Uniqueness of Solutions of Oblique Derivative Problem for Degenerate Equations of Mixed Type 5.4 Solvability of Oblique Derivative Problem for Degenerate Hyperbolic Equations 5.5 Solvability of Oblique Derivative Problem for Degenerate Elliptic Equations and Equations of Mixed Type 5.6 Frankl Type Problem for General Equations of Mixed Type in Multiply Connected Domains Chapter 6 Applications of Complex Analysis and Inverse Problem for Planar Elliptic Complex Equations 6.1 Planar Filtration of Earth Dam with Nonhomogeneous Medium 6.2 Planar Filtration Problems Associated with Nonhomogeneous and Anisotropic Medium 6.3 Boundary Value Problems for Axisymmetric Filtration 6.4 Two Free Boundary Problems in Planar Subsonic Steady Flow 6.5 Formulation of Inverse Problem for Quasilinear Elliptic Complex Equations of First Order 6.6 Existence of Solutions of Inverse Problem for Elliptic Complex Equations of First Order 6.7 Global Uniqueness for Inverse Problem of Elliptic Complex Equations' of First Order 6.8 Inverse Problem for Quasilinear Elliptic Equations of Second Order from Dirichlet to Neumann Map Chapter 7 Some Boundary Value Problems for Several Complex Variables and Clifford Analysis 7.1 Riemann Boundary Value Problem for Analytic Functions 7.2 Riemann Problem of Inhomogeneous Cauchy-Riemann Systems 7.3 Riemann-Hilbert Problem for Analytic Functions in Polycylinder 7.4 General Boundary Value Problem for Analytic Functions 7.5 Oblique Derivative Problems for Generalized Regular Functions in  $R^3$  7.6 Oblique Derivative Problem for Degenerate Elliptic System of First Order in  $R^3$  7.7 Oblique Derivative Problem for Elliptic System of First Order in  $R^4$  Chapter 8 Nonlinear Parabolic and Elliptic Systems of Second Order in Higher Dimensional Domains 8.1 Formulation of Initial-Irregular Oblique Derivative Problem for Nonlinear Parabolic Equations 8.2 A Priori Estimates of Solutions of Initial-Oblique Derivative Problem 8.3 Solvability of Initial-Oblique Derivative Problem 8.4 Estimates and Existence of Solutions of Initial-Irregular Oblique Derivative

Problems 8.5 Formulation of Initial-Oblique Derivative Problems for Parabolic Systems in High Dimensional Domains 8.6 A Priori Estimates of Solutions for Initial-Oblique Derivative Problems for Nonlinear Parabolic Systems 8.7 Solvability of Initial-Oblique Derivative Problems for Nonlinear Parabolic Systems 8.8 Oblique Derivative Problems for Nonlinear Elliptic Systems in High Dimensional Domains References Appendix Curriculum Vitae of WEN Guochun

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>