

<<有限元法 (第3卷)>>

图书基本信息

书名：<<有限元法 (第3卷)>>

13位ISBN编号：9787506265492

10位ISBN编号：7506265494

出版时间：2005-4

出版时间：世界图书出版公司

作者：R.L.Taylor

页数：334

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>

<<有限元法 (第3卷)>>

内容概要

这是一套在国际上颇具权威性的经典著作(共3卷),由有限元法的创始人zienkiewicz教授和美国加州大学Taylor教授合作撰写。

本书初版于1967年,以后经过多次修订再版,深受力学界和工程界科技人员的欢迎。

本套书的特点是理论可靠,内容全面,既有基础理论,又有其具体应用。

适用于计算力学、力学、土木、水利、机械、航天航空等领域的专家、教授、工程技术人员和研究生

。

书籍目录

PreJace to Volume1 Introduction and the equations of fluid dynamics 1.1 General remarks and classification of fluid mechanics problems discussed in this book 1.2 The governing equations of fluid dynamics 1.3 Incompressible (or nearly incompressible) flows 1.4 Concluding remarks References2 Convection dominated problems - finite element approximations to the convection-diffusion equation 2.1 Introduction 2.2 The steady-state problem in one dimension 2.3 The steady-state problem in two (or three) dimensions 2.4 Steady state - concluding remarks 2.5 Transients - introductory remarks 2.6 Characteristic-based methods 2.7 Taylor-Galerkin procedures for scalar variables 2.8 Steady-state condition 2.9 Non-linear waves and shocks 2.10 Vector-valued variables 2.11 Summary and concluding remarks References3 A general algorithm for compressible and incompressible flows - the characteristic-based split (CBS) algorithm 3.1 Introduction 3.2 Characteristic-based split (CBS) algorithm 3.3 Explicit, semi-implicit and nearly implicit forms 3.4 Circumventing' the Babuska-Brezzi (BB) restrictions 3.5 A single-step version 3.6 Boundary conditions 3.7 The performance of two- and single-step algorithms on an inviscid problem 3.8 Concluding remarks References4 Incompressible laminar flow - newtonian and non-newtonian fluids 4.1 Introduction and the basic equations 4.2 Inviscid, incompressible flow (potential flow) 4.3 Use of the CBS algorithm for incompressible or nearly incompressible flows 4.4 Boundary-exit conditions 4.5 Adaptive mesh refinement 4.6 Adaptive mesh generation for transient problems 4.7 Importance of stabilizing convective terms 4.8 Slow flows - mixed and penalty formulations 4.9 Non-newtonian flows - metal and polymer forming 4.10 Direct displacement approach to transient metal forming 4.11 Concluding remarks References5 Free surfaces, buoyancy and tubulent incompressible flows 5.1 Introduction 5.2 Free surface flows 5.3 Buoyancy driven flows 5.4 Turbulent flows References6 Compressible high-speed gas flow 6.1 Introduction 6.2 The governing equations 6.3 Boundary conditions - subsonic and supersonic flow 6.4 Numerical approximations and the CBS algorithm 6.5 Shock capture 6.6 Some preliminary examples for the Euler equation 6.7 Adaptive refinement and shock capture in Euler problems 6.8 Three-dimensional inviscid examples in steady state 6.9 Transient two and three-dimensional problems 6.10 Viscous problems in two dimensions 6.11 Three-dimensional viscous problems 6.12 Boundary layer-inviscid Euler solution coupling 6.13 Concluding remarks References7 Shallow-water problems 7.1 Introduction 7.2 The basis of the shallow-water equations 7.3 Numerical approximation8 Waves9 Computer implementation of the CBS algorithmAppendix A:Non-conservative form of Navier-Stokes equationsAppendix B:Discontinuous Galerkin methods in the solution of the convection-diffusion equationAppendix C:Edge-based finite element formulationAppendix D:Multigrid methodsAppendix E:Boundary layer-inviscid flow couplingAuthor indexSubject index

<<有限元法 (第3卷)>>

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>