

<<有限元法 (第2卷)>>

图书基本信息

书名：<<有限元法 (第2卷)>>

13位ISBN编号：9787506265485

10位ISBN编号：7506265486

出版时间：2005-4

出版时间：世界图书出版公司

作者：O.C.Zienkiewicz.R.L.Taylor 著

页数：459

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2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

Preface to Volume 21. General problems in solid mechanics and non-linearity 1.1 Introduction 1.2 Small deformation nonlinear solid mechanics problems 1.3 Non-linear quasi harmonic field problems 1.4 Some typical examples of transient non-linear calculations 1.5 Concluding remarks References 2 Solution of non-linear algebraic equations 2.1 Introduction 2.2 Iterative techniques References 3 Inelastic and non-linear materials 3.1 Introduction 3.2 Viscoelasticity history dependence of deformation 3.3 Classical time dependent plasticity theory 3.4 Computation of stress increments 3.5 Isotropic plasticity models 3.6 Generalized plasticity non-associative case 3.7 Some examples of plastic computation 3.8 Basic formulation of creep problems 3.9 Viscoplasticity a generalization 3.10 Some special problems of brittle materials 3.11 Non-uniqueness and localization in elastoplastic deformations 3.12 Adaptive refinement and localization (slip line) capture 3.13 Non-linear quasi-harmonic field problems References 4. Plate bending approximation: thin (Kirchhoff) plates and  $C^1$  continuity requirements 4.1 Introduction 4.2 The plate problem: thick and thin formulations 4.3 Rectangular element with corner nodes (12 degrees of freedom) 4.4 Quadrilateral and parallelogram elements 4.5 Triangular element with corner nodes (9 degrees of freedom) 4.6 Triangular element of the simplest form (6 degrees of freedom) 4.7 The patch test an analytical requirement 4.8 Numerical examples 4.9 General remarks 4.10 Singular shape functions for the simple triangular element 4.11 An 18 degree-of-freedom triangular element with conforming shape functions 4.12 Compatible quadrilateral element 4.13 Quasi-conforming elements 4.14 Hermitian rectangle shape function 4.15 The 21 and 18 degree-of-freedom triangle 4.16 Mixed formulations - general remarks 4.17 Hybrid plate elements 4.18 Discrete Kirchhoff constraints 4.20 Inelastic material behaviour 4.21 Concluding remarks - which elements? References 5 'Thick' Reissner Mindlin plates - irreducible and mixed formulations 5.1 Introduction 5.2 The irreducible formulation reduced integration 5.3 Mixed formulation for thick plates 5.4 The patch test for plate bending elements 5.5 Elements with discrete collocation constraints 5.6 Elements with rotational bubble or enhanced modes 5.7 Linked interpolation an improvement of accuracy 5.8 Discrete 'exact' thin plate limit 5.9 Performance of various 'thick' plate elements and deviations of thin plate theory 5.10 Forms without rotation parameters 5.11 Inelastic material behaviour 5.12 Concluding remarks adaptive refinement References 6. Shells as an assembly of flat elements 6.1 Introduction 6.2 Stiffness of a plane element in local coordinates 6.3 Transformation to global coordinates and assembly of elements 6.4 Local direction cosines 6.5 'Drilling' rotational stiffness 6 degree-of-freedom assembly 6.6 Elements with mid-side slope connections only 6.7 Choice of element 6.8 Practical examples References 7. Axisymmetric shells 8. Shells as a special case of three-dimensional analysis-Reissner-Mindlin assumptions 9. Semi-analytical finite element processes-use of orthogonal functions and 'finite strip' methods 10. Geometrically non-linear problems-finite deformation 11. Non-linear structural problems-large displacement and instability 12. Pseudo-rigid and rigid-flexible bodies 13. Computer procedures for finite element analysis Appendix A: Invariants of second-order tensors Author index Subject index

<<有限元法（第2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>