Contents

Functional Analysis, Boundary Value Problems and FiniteElementsBatmanathan Dayanand Reddy	1
Discretization Methods for Solids Undergoing Finite Deformations	17
Three-Field Mixed Finite Element Methods in Elasticity Batmanathan Dayanand Reddy	53
Stress-Based Finite Element Methods in Linear and Nonlinear Solid Mechanics Solid Mechanics Benjamin Müller and Gerhard Starke	69
Tutorial on Hybridizable Discontinuous Galerkin (HDG) forSecond-Order Elliptic Problems.Ruben Sevilla and Antonio Huerta	105
Least-Squares Mixed Finite Element Formulations for Isotropic and Anisotropic Elasticity at Small and Large Strains	131
Theoretical and Numerical Elastoplasticity	177
On the Use of Anisotropic Triangles with Mixed Finite Elements: Application to an "Immersed" Approach for Incompressible Flow Problems	195