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Nota di contenuto	1 Superconvergent Graded Meshes for an Elliptic Dirichlet Control Problem -- 2 Explicit and Implicit Reconstructions of the Potential in Dual Mixed hp-Finite Element Methods -- 3 Two Stabilized Three-Field Formulations for the Biharmonic Problem -- 4 Analysis of the hp-Version of a First Order system least squares method for the Helmholtz equation -- 5 Numerical Study of Goal-Oriented Error Control for Stabilized Finite Element Methods -- 6 Uniform Exponential Stability of Galerkin Approximations for a Damped Wave System -- 7 Adaptive Algorithm Based on Functional-Type A Posteriori Error Estimate for Reissner-Mindlin Plates -- 8 Wavelet Boundary Element Methods — Adaptivity and Goal-Oriented Error Estimation -- 9 Comparison Analysis of Two Numerical Methods for Fractional Diffusion Problems Based on the Best Rational Approximations of t^γ on $[0;1]$ -- 10

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Sommario/riassunto

Finite element methods are the most popular methods for solving partial differential equations numerically, and despite having a history of more than 50 years, there is still active research on their analysis, application and extension. This book features overview papers and original research articles from participants of the 30th Chemnitz Finite Element Symposium, which itself has a 40-year history. Covering topics including numerical methods for equations with fractional partial derivatives; isogeometric analysis and other novel discretization methods, like space-time finite elements and boundary elements; analysis of a posteriori error estimates and adaptive methods; enhancement of efficient solvers of the resulting systems of equations, discretization methods for partial differential equations on surfaces; and methods adapted to applications in solid and fluid mechanics, it offers readers insights into the latest results.
