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THE EVALUATION OF THE DIFFERENCE u ON 3-DIMENSIONAL POTENTIAL PROBLEMS; POISSON EQUATION; NONLINEAR POISSON TYPE EQUATION; CONCLUSIONS; REFERENCES; Chapter 5. The Use of Continuous Finite Elements in Electron Optics; ABSTRACT; KEYWORDS; INTRODUCTION; THEORETICAL BACKGROUND; CONCLUSION; REFERENCES; Chapter 6. Comparison of the Boundary Collocation and the Boundary Element Methods; INTRODUCTION; TEST PROBLEMS WITH ANALYTICAL SOLUTIONS AND ERROR CRITERIA; THE BOUNDARY COLLOCATION METHOD; THE BOUNDARY ELEMENT METHOD; COMPARISON OF RESULTS AND CONCLUSIONS; REFERENCES; Chapter 7. Efficient Numerical Integration for Boundary Integral Methods in Two-dimensional and Axisymmetric Potential Problems; INTRODUCTION; BOUNDARY INTEGRAL METHOD; NUMERICAL INTEGRATION; COMPUTATION PROCEDURE AND RESULTS; CONCLUSION; REFERENCES; Chapter 8. Improved Galerkin Methods for Integral Equations on Polygons and Polyhedral Surfaces; Acknowledgements; REFERENCES; Chapter 9. A Self-adaptive Boundary Element Technique for 2-D Potential Analysis; ABSTRACT; 1. INTRODUCTION; 2. ERROR ESTIMATION AND REFINEMENT ALGORITHM; 3. NUMERICAL APPLICATIONS; 4. CONCLUSIONS; 5. ACKNOWLEDGEMENTS; 6. REFERENCES; Chapter 10. BEASY - An Advanced Boundary Element Analysis System; 1. INTRODUCTION; 2. IMPROVED ELEMENT PERFORMANCE; 3. VOLUME INTEGRALS AND POINT SOURCES; 4. PRE AND POST PROCESSING FOR BEM; 5. CONCLUSIONS; REFERENCES; PART 3: POTENTIAL PROBLEMS; Chapter 11. An Analysis of the Axisymmetric Modified Helmholtz Equation by Using the Boundary Element Method; INTRODUCTION; FUNDAMENTAL SOLUTION; INTEGRAL EQUATION METHOD; NUMERICAL PROPERTIES; NUMERICAL RESULTS; CONCLUSIONS; REFERENCES; PART 4: ELASTICITY; Chapter 12. Application of Advanced BEM Code to Three-dimensional Stress Analysis and Fracture Mechanics Analysis

Sommario/riassunto

This Proceedings features a broad range of computational mechanics papers on both solid and fluid mechanics as well as electromagnetics, acoustics, heat transfer and other interdisciplinary problems. Topics covered include theoretical developments, numerical analysis, intelligent and adaptive solution strategies and practical applications.
