

## Table of Contents

Nonlinear Shell Models of Koiter's Type .....	1
<i>Philippe G. Ciarlet</i>	
A Survey of Stabilized Plate Elements .....	11
<i>Mikko Lyly, Rolf Stenberg</i>	
Prediction of the Fatigue Crack Growth Life in Microelectronics Solder Joints .....	23
<i>Ken Kaminishi</i>	
Multi-phase Flow with Reaction .....	39
<i>Hideo Kawarada, Hiroshi Suito</i>	
Universal and Simultaneous Solution of Solid, Liquid and Gas in Cartesian-Grid-Based CIP Method .....	57
<i>Takashi Yabe</i>	
Subgrid Phenomena and Numerical Schemes .....	73
<i>Franco Brezzi, Donatella Marini</i>	
Two Scale FEM for Homogenization Problems .....	91
<i>Christoph Schwab</i>	
Numerical Analysis of Electromagnetic Problems .....	109
<i>Fumio Kikuchi</i>	
A-priori Domain Decomposition of PDE Systems and Applications ....	125
<i>S. Delpino, J.L. Lions, O. Pironneau</i>	
A One Dimensional Model for Blood Flow: Application to Vascular Prosthesis .....	137
<i>Luca Formaggia, Fabio Nobile, Alfio Quarteroni</i>	
Essential Spectrum and Mixed Type Finite Element Method .....	155
<i>Takashi Kako, Haniffa Mohamed Nasir</i>	
Can We Trust the Computational Analysis of Engineering Problems? ..	169
<i>I. Babuška, T. Strouboulis</i>	
Numerical Computations for Ill-conditioned Problems by Multiple-Precision Systems .....	185
<i>Yuusuke Iso, Hiroshi Fujiwara, Kimihiro Saito</i>	

VIII Table of Contents

Numerical Verification Methods for Solutions of Free Boundary Problems .....	195
<i>Mitsuhiro T. Nakao, Cheon Seoung Ryoo</i>	
Pattern Formation of Heat Convection Problems .....	209
<i>Takaaki Nishida, Tsutomu Ikeda, Hideaki Yoshihara</i>	
Mathematical Modeling and Numerical Simulation of Earth's Mantle Convection .....	219
<i>Masahisa Tabata, Atsushi Suzuki</i>	
Theoretical and Numerical Analysis on 3-Dimensional Brittle Fracture .	233
<i>Kohji Ohtsuka</i>	
Exploiting Partial or Complete Geometrical Symmetry in Boundary Integral Equation Formulations of Elastodynamic Problems .....	253
<i>Marc Bonnet</i>	
A New Fast Multipole Boundary Integral Equation Method in Elastostatic Crack Problems in 3D .....	271
<i>Ken-ichi Yoshida, Naoshi Nishimura, Shoichi Kobayashi</i>	
Computational Crack Path Prediction and the Singularities in Elastic-Plastic Stress Fields .....	289
<i>Tetsuhiko Miyoshi</i>	

Mathematical Modeling and Numerical Simulation in  
Continuum Mechanics

Proceedings of the International Symposium on  
Mathematical Modeling and Numerical Simulation in  
Continuum Mechanics, September 29 – October 3, 2000  
Yamaguchi, Japan

Babuska, I.; Ciarlet, P.G.; Miyoshi, T. (Eds.)

2002, VIII, 306 p. 29 illus., Softcover

ISBN: 978-3-540-42399-7