On the Coupling of Analytical and Numerical Methods for the Solution of Weakly Nonlinear Chaotic Dynamical Systems Mastroddi, F. G., Ceccarelli, G. and Morino, L.	1535
Governing Equations for the Dynamic Stability of Thin Shells Subjected to Follower Forces and some Numerical Results Fukuchi, N. and George, T.	1541
Threshold Curves of Quantitative Dynamic Stability of Thin Shells subjected to Follower Forces George, T. and Fukuchi, N.	1547
Delamination Buckling of Laminated Composite Structures with Curvature Kim, Y. and Im, S.	1553
Elasto-Plastic Analysis of Steel Columns under Uniaxial Cyclic Loading Using Minimum Residual Displacement Method Ishikawa, T. and Yoda, T.	1559
On Elasto-Plastic Buckling Analysis of Cylindrical Shells  Damjanic, F.B.; Brank, B. and Peric, D.	1565

Author Index

## **VOLUME 2**

New Developments in Finite Element	1571
Some remarks on Free Mesh Method: A Kind of Meshless Finite Element Method Yagawa, G.; Yamada, T. and Kawai	1572
Assumed Stress Function Finite Element Method: Towards Unification Barakrishna, C.; Kane, J.H. and Gallagher, R.H.	1578
Continuum-based Shell Elements for Nonlinear Applications Parisch, H.	1584
Assumed Stress Stabilization Vectors for 9-node Shell Element Sze, K.Y.	1590
A B-spline Field Approximation Model for Shells Varmeulen, A.H. and Heppler, G.R.	1596
Quadrilateral Mindlin Plate Bending Element Using Continuous Shear Constraint Kondoh, K. and Hanai, M.	1602
A Locking-free Mixed Triangular Element for the Reissner-Mindlin Plates Kikuchi, F. and Ishii, K.	1608
The Modify Variational Method of Calculation of Turbomachines Blading Vibrations Vorobiev, Y.S. and Korsunskiy, M.L.	1614
Investigation and Improvement of Rational Displacement Fields of Incompatible Element Jiao, Z.P.; Sheng, Y. and Wu, C.C.	1620
Shear Locking in B-spline Based Finite Element Formulations Varmeulen, A.H. and Heppler, G.R.	1626
Patch Test Oriented Analytical Element Formulations Zirwas, G. and Cornu, C.	1632
Global/Local Analysis of Stepped Plates with Cutouts Haryadi, S.G.; Kapania, R.K. and Haftka, R.T.	1638

Galerkin Finite Element Method and Collocation Method using Piecewise Cubic B-Spline Basis Function Kim, Y-M; Kim, J-S and Kim, S-D	1644
On the Numerical Analysis of General Piezoelectric Thin Shells Bernadou, M. and Haenel, C.	1650
Modified Beam Element Based on Mindlin's Theory Bittnar, Z. and Kruis, J.	1656
Finite Dynamic Element for Free Vibration Analysis by Hybrid Stress Formulation He, G.; Chen, D. and Pian, T.H.H.	1661
Recent Advances in Constitutive Laws for Engineering Materials	1666
On the representation of rate dependence of hardening and non-proportional loading effects by a viscoplastic model ${\bf Bodner, S.}$ and ${\bf Rubin, M.}$	1667
Constitutive Modelling of Inelastic Single Crystals for Localization Phenomena Perzyna, P. and Duszek-Perzyna, M.K.	1673
From the Standard Linear Solid to the Viscoplasticity Theory Based on Overstress $\mathbf{Krempl}, \mathbf{E}.$	1679
Shock Properties of High-Strength Ceramics Grady, Dennis	1685
The Effect of Thermodynamic Constraints upon the Mie-Grucuoiscu equation of State . Segletes, Steven	1691
Navy Initiative to Enhance Structural Failure Simulations Garrett, Robert Jr. and Mair, H.	1697
Review of Ductile Failure Models for Shock-Wave Propagation Finite Element Codes Rajendran, A.M. and Garrett, Jr., R.K.	1703
Computational Simulation of Surface Formation in Solid Continua Rashid, Mark	1709
The Role of Dynamic Experimentation for Computation Analysis Chhabildas, L. and Trucano, T.G.	1715
Partitioned-Modeling approach for Domain-Transition Problems Chen, Z.	1721
Simulation of Hypervelocity Impact on Massively Parallel Supercomputer Fang, H. Eliot	1727
Dynamic Fracture Analysis Based on a Continuum Damage Model Chen, E.P.	1733
A Cyclic Plasticity Model for Metal-Matrix Composites Voyladjis, G.Z. and Thiagaranjan, G.	1739
Delamination Evolution in Composites Using a Cohesive Zone Model Lo, D.C. Costanzo, F. and Allen D.H.	1745
Numerical Simulation of Perforation of Aluminum Plates by Tumbling Projectiles Li Kezhun and Goldsmith, W.	1751
Application of Schemes on Moving Grids to Numerical Simulation of High Energy Density Physics Problems Vorobiev, O.; Shutov, A. and Fortov, V.	1752
Nucleation and Growth of Deformation Twins Fried, E.	1758

A Constitutive Law for Commercial-Purity Aluminum Deformed under Hot-Working Conditions <b>Puchi, E.S. and Staia, M.</b>	1759
Constitutive Equations for the Critical Resolved Shear Stresses of Monocrystalline Al-Cu and Al-Mg Solid Solutions Wu, H-M; Przystupa, M. and Ardell, A.J.	1760
Evolution of Microstructures and a Micromechanical Model Wang, J-G and Ichikawa, Y.	1761
A Simple Technique for Evaluating Material Constants for Solid Materials for Various Flow Stress Models Hamouda, A.M.S. and Hashmi, M.S.J.	1767
An Evaluation of a Recently Developed Elastoplastic Constitutive Model by General FEM Code ADINA Xia, Z.; Ellyin, F.; Meijer, G. and Wu, J.	1768
Constitutive Model for Viscoplasticity and Creep Ishikawa, H. and Sasaki, K.	1773
A Rationale for Constitutive Laws of Soft Tissues Conway, T.; Mazilu, N. and Vossoughi, J.	1779
Strain Localization in Clear Wood in Compression Tonnesen, M.; Poulsen, J.S. and Byskov, E.	1785
Analysis of Adiabatic Shear Bands in Thermoviscoplastic Materials under Combined Loading Liu, D-S and Lee, M.	1791
An Efficient Method for Creep Failure Analysis Using Continuum Damage Mechanics Hsiao, J.; Fong, M. and Gibbons, T.	1797
Effect of Viscoplastic Constitutive Behavior on Residual Stresses in Metal Matrix Composites Mukherjee, S.; Anath, C. and Chandra, N.	1803
A Cap-Model for Masonry-Like Material Constitutive Laws Fuschi, P. and Rizzo, S.	1809
Numerical Algorithm on moving adaptive grids for modelling into the atmosphere of a planet Utyuzhnikov, S.V.; Ganzha, D.H. and Polukhin, V.V.	1810
Constitutive Relation of the Couple-Stress Theory for Fiber-Reinforced Composite <b>Ma</b> , <b>J</b> .	1816
On the Numerical Implementation of Renewal Inelasticity Theory French, M.; Freed, A. and Bagley, R.	1818
Numerical Prediction of Failure of Cast Zinc Using an Anisotropic Plasticity Model with MTS Hardening Lewis, M.W.; Maudlin, P.J.; Schreyer, H.I. and Stout, M.G.	1824
Multi-Phase Equation of State of Metals for Large Computer Codes Lomonosov, I and Fortov, V.	1830
Materials Characterization of Overinjected Thermoplastic Composite  Harte, A.M. and McNamara, J.F.	1836
A Two-Step Approach for the Simulation of Semi-Solid Metalworking Xu, J.; Cheng, S.; Trasorras, J.R.; Hsu, S. and Dax, F.R.	1838
Molecular Dynamics	1839
Numerical Melting Simulation and Phase Transition Analysis of Solid Crystal Kato, S. and Hu, H.	1840
A Multi Particle Simulation of Charged Particle System with Reactivity	1846

High-Speed Computing Algorithm for Molecular Dynamic Simulation  Aratani, T.	1852
Some Challenges to Feel Molecular Dynamics Simulations for Solid Mechanics Tsuji, T. and Noda, N.	1858
A New Method for Fatigue Life Evaluation of Polycrystalline BCC Iron Inoue, H.; Chobara, H.; Wada, H.; Akahoshi, Y. and Harada, S.	1864
Molecular Dynamics Simulation of Hypervelocity Impact Problem Ando, H.; Inoue, H.; Akahoshi, Y and Harada, S.	1870
Meso/Damage Mechanics of Material Failure	1876
Cyclic Liquefaction Analysis Using the Disturbed State Concept Desai, C.S. and Shao, C.	1877
Modeling the Flow of Fragmented, Brittle Material Curran, D.R.; Seaman, L.; Simons, J.W. and Cooper, T.	1879
A Computational Study of Random Crack Nucleation in Polycrystalline Ice Niu, B.J. and Wu, M.S.	1886
The Thermodynamic Structure of a Ternary Model of Porous Compressible Materials Bluhm, J.	1892
Fundamental Study on Application of Damage Mechanics for Evaluation of Material Degradation Watanabe, T.; Yoshino, M.; Gu, W.; Nakayama, M.; Maeda, N. and Yagawa, G.	1898
An Anisotropic Damage Model for Metals Fatigue Chow, C.L. and Yu, L.	1904
Mesoscopic Analysis of Small Deformation in Heterogeneous Materials Using Voronoi Cell Finite Element Method Moorthy, S. and Ghosh, S.	1916
Plastic Deformation of Perforated Sheets as a Model of Damaged Materials Nagaki, S.; Nakayama, Y. and Abe, T.	1922
New Strategy for Through Coupled Computer Modeling of the Process of Macroscopic Behavior Formation in Composite Materials with Real Multilevel Architecture Ivanov, V.N. and Orlova, E.P.	1928
Multi-scale Modelling of Damage Processes in Shell Structures Kratzig, W.B.; Knöke, C. and Basar, Y.	1934
Composite Laminates: Stress Singularities and Failure Mechanisms Basar, Y.; Ding, Y.; Krä tzíg, W.B. and Schultz, R.	1940
Damage Evolution and Failure Mode Krajcinovic, D. and Mastilovic, S.	1947
Three-Dimensional Mesoscopic Simulation of Brittle Microcracking Solids Toi, Y. and Kiyusue, T.	1953
Numerical Analysis of Residual Stress due to Surface Induction Hardening Xu, D. and Kuang, Z.	1959
Damage Characterization by the Measurements of Elastic Constants Tang, C.Y. and Lee, W.B.	1965
Computational Modelling of Fragmentation and Penetration of Ceramic Plates Camacho, F. and Ortiz, M.	1971
Microcracking and Electric Fatigue of Ferroelectric Ceramics Jiang, Q.	1977
Study of Weld Geometry and Microstructure by Ultrasonic Means Yung, W.C.; Ralph, B; Fenn, R. and Lee, W.B.	1983

Calculation of Positron Annihilation Characteristics in Fatigue Damaged Type 304 Stainless Steel	1989
Takimoto, M.; Kodama, A.; Itoh, G.; Otani, Y.; Nakayama, M.; Maeda, N. and Yagawa, G.	
Fracture and Damage Mechanics	1995
Modelling of Rapid Crack Propagation by the Finite Volume Method Ivankovic, A. and Williams, J.G.	1996
Some Aspects of Crack Growth in Creep Brittle Materials Hall, D.; McDowell, D. and Saxena, A.	2002
Impact Fracture of Concrete Beams Suspended in the Air by Tameshi-wari of Karate-doh Daimaruya, M.; Kobayashi, H.; Perez, J.L.; Fuad, K. and Syam, B.	2008
Mathematical Simulation of Underground Explosion Bykovtsev, A.S. and Kramarovsky, D.B.	2014
Review of Methods for Calculating Fracture Parameters for Interface Crack Problems Raju, I.S. and Dattaguru, B.	2020
Computational Analysis of the Stress Distribution along the Bimaterial Interface near a Crack by the Singular Integral Equations Method Fujimoto, K. and Shioya, T.	2027
A Study on Fracture Criterion of Atomic Array Crack Model Watanabe, K.; Sato, Y. and Ichimura, S.	2033
3D-Effects on Strain Energy Release Rates, Stresses and Stress Singularities Adjacent to Crack Front Edges Ding, S.; Buchholz, F.; Bürger, M. and Kumosa, M.	2039
Crack-tip stress singularity field of a mixed-mode three-dimensional crack Machida, K. and Kikuchi, M.	2045
A Computational Investigation of Crack Growth in Multiple Fiber Ceramic Matrix Composites Brust, F.W.; Bonora, N. and Newaz, G.M.	2051
Fracture Toughness Measurement of Short Fiber Reinforced Thermosetting Resin Kikuchi, M. and Koizumi, T.	2057
Effect of Loading Rate on Crack Tip Behavior - An Experimental and Numerical Investigation Liu, C.T. and Ravichandran, G.	2063
Cracking Formation in Heterogeneous Materials Sumi, Y. and Weng, Z.N.	2069
A Hybrid Finite Element Method for Cracks Zhang, J. and Katsube, N.	2075
Mesh-Dependence and Damage Localization in Creep Fracture Analysis to a Plate with Circular Cut-Out Liu, Y and Murakami, S.	2081
An Investigation of the Effects of History Dependent Damage In Time Dependent Fracture Mechanics  Brust, F.W.	2087
Analysis of Localized Deformation in Sheet Metal Based on Crystal Plasticity Theory Kitagawa, H.; Nakatani, A. and Konishi, H.	2093
On the General Solution of Plane Crack Problems in Westerguard Form Sanford, R.J.	2099
Computer-Aided Simulation of Chip Flow and Tool Damage in Metal Machining Maekawa, K.; Shirakashi, T. and Obikawa, T.	2105
An Information Theory Approach to the Random Microstructural Stresses in Polycrystals Kreher, W.S.	2111

Dual Boundary Element Analysis of Multiple Cracks Contact Problem with Friction Chen, T-C and Chen, W-H.	2117
Numerical Techniques for Determining Stress Intensity and Higher Order factors Using the Finite Difference Methods Liu, K.M.; Lee, K.M. and Pan, C.K.	2123
On Fault System Interaction Bykovtsev, A.S. and Semenova, J.	2129
On Evaluation of Fracture Parameters in Statistical Fracture Mechanics Kunin, B.I.	2135
Aging Aircraft	2141
Mixed Mode Fatigue Crack Growth Related to Widespread Fatigue Damage Jeong, D.Y. and Tong, P.	2142
Plane Stress Crack Growth and T* Integral an Experimental -Numerical Analysis Okada, H.; Suzuki, Y.; Ma, L.; Lam, P.W.; Pyo, CR.; Atluri, S.N.; Kobayashi, A.S. and Tan, P.	2148
Elastic-Plastic Residual Strength Analysis of Aircraft Structures with Wide-Spread Damage Pyo, CR.; Okada, H. and Atluri, S.N.	2154
On Schwartz-Neumann Alternating Method for the Elastic-Plastic Analysis of Elliptical Cracks in 3D Body Wang, L. and Atluri, S.N.	2160
Impact Loads and Containment Aspects during a Rotor Failure in Aircraft Jet Engines Sarkar, S. and Atluri, S.N.	2165
Topology Optimization of Mechanical Repairs for Aging Aircraft Chickermane, H. and Gea, H.C.	2171
Elastic-Plastic Analysis of Multiple Cracks in Airplane Fuselage <b>Denda, A. and Dong, Y.</b>	2177
Factors Affecting the Early Stages of Corrosion-Fatigue in Commercial Aircraft Skin Schmidt, C.G.; Kanazawa, C.H.; Shockey, D.A. and Flournay, T.H.	2183
Development of New Frame Finite Elements for Aircraft Crash Analysis Vasudevan, S.; Okada, H. and Atluri, S.N.	2189
Computational Design Methods for Laminated Composites	2195
Optimal Design of Composite Pressure Vessels Using Three Dimensional Elasticity Theory Verijenko, V.E.; Adali, S. and Tabakov, P.Y.	2196
Bi-criteria Optimum Design of Fiberous Laminated Plates Under Axial Compression and Shear Kassaimah, S.A.; Mohammad, A.A. and Kolkailah, F.A.	2202
Fracture Analysis of Microcrack Induced Delaminations in Composite Laminates Chen, H.; McGrath, P.A. and Cheng, C.	2208
An Asymptotic Finite Element Model for Multilayered Composite Plates Tarn, J.Q.	2214
Optimal Design of Laminated Composite Shells Based on the Use of Refined Theory Piskunov, V.G.; Demtchouk, O.N. and Prisyazhmuk, V.K.	2220
Optimization of Thick Sandwich Plates Adali, S; Verijenko, V.E. and Summers, E.B.	2226
Equation Decomposition Method for Analysis of Plates Made of Composite Material Koreneva , E.B. and Pshenichov, G.I.	2232

Optimal Design of Laminated Composite Pressure Vessels with Flat and Hemispherical Endcaps for Maximum Buckling Pressure Walker, M. and Reiss, T.	2238
Creep Relaxation in Filament-Wound Composite Pressure Vessels Azzam, B.S.; Mohammad, A.A.; Moktar, M.O. and Kolkailah, F.A.	2244
Analysis and Application of Composites	2250
Bending of Laminated Plate Composed of Moderately Thick Layers <b>Kumperscak</b> , V.	2251
Static and Dynamic Analysis of Laminated Shells using a Triangular Conforming Element ${\bf Qatu}, {\bf M.}$	2257
Structural Analysis and Computation Program for Generally Laminated Thick Composite Plates Narita, Y.; Ohta, Y. and Fukushi, K.	2263
Approximate Fundamental Frequency of Variable Thickness Composite Plates Barton, Jr., O. and Reiss, R.	2269
Elastic Wave Propagation Analysis for Laminated Composite Using a Quasi-Three-Dimensional Model Nishiwaki, T.; Yokoyama, A.; Maekawa, Z. and Mori, S.	2275
Corner Singularities of Logarithmic Form for the Cantilever Orthotropic Strip under Flexure Savoia, M. and Tullini, N.	2281
Determination of Effective Properties of Particulate Metal Matrix Composites Using Finite Element Method Ramakrishnan, N.	2287
Macroscopic Behaviour of Fibrous Composite Material with Frictional Fibre-matrix Interface Wieckowski, Z.	2293
Computational Modeling of Damage Extension Ahead of Notch Tip in Fiber-Reinforced Composites Sekine, H. and Suzuki, H.	2299
Nonlinear Analysis of Woven Fabric Composite Materials by Homogenization Method Considering Microscopic Fracture Takano, N. and Zako, M.	2305
Simulation System for Mechanical Behaviors of Textile Composites Fujita, A.; Nakai, A.; Yokoyama, A. and Hamada, H.	2311
Stability and Failure of Layered Composites with Interface Cracks Guz, I.A.	2317
Delamination Analysis of an Angle-Ply Laminated Three-Point Bending Specimen Wang, H.; Buchholz, F. and Rikards, R.	2323
Numerical Algorithm for Local Failure Analysis of Reinforced Concrete Structures Takeda, H. and Kusabuka, M.	2329
Computational Applications of Alternative Mathematical Models for Reinforced Concrete Bergan, P.G.; Arnesen, A. and Fyrileiv, O.	2334
Determination of the Torsion Stiffness of Thick-walled Multiple-connected Cross-sections with Nonlinear Material Parameters by Using the FEM Kleinhenz, A.; Strippel, R. and Schulz, J.	2340
Smart Structures Technology to Monitor Through-the-Thickness Behavior of Composites Foos, B.C.; Wolfe, W.E. and Butalia, T.S.	2346
Deflection of Orthotropic Plates with Defects  Lam, C.L.; Lalor, M.J.; Leung, T.P. and Burton, D.R.	2352

Numerical and Experimental Investigations of Failure in Integrally Stiffened, Layered Composite Panels	2358
Skrna-Jakl, I.C.; Rammerstorfer, F.G. and Tschegg, E.K.	
District The and Takemereneous Metandala	2264
Dissimilar and Inhomogeneous Materials	2364
Modeling Analyses of a Honeycomb Sandwich Construction Ogasawara, N.; Shiratori, M.; Miyahara, S.; Yu, Q. and Miyano, A.	2365
An Analysis of Functional Gradient Materials by Molecular Dynamics Method Tsuji, T.; Noda, N. and Fukazawa, M.	2371
Strength Evaluation of Ceramic-Metal Joints with Interface Crack Based on Interfacial Fracture Mechanics	2377
Ebihara, Y.; Kimura, K.; Miyoshi, T.; Shimokoshi, Y. and Minami, N.	
Stresses Near the Free Edge of the Interface in a Dissimilar Materials Joint with Elastic-Plastic Material Behaviour Munz, D.; Sckuhr, M.A. and Yang, Y.Y.	2383
Free-Edge Stress Singularity and Its Disappearance in Bonded Dissimilar Materials Ioka, S.; Kubo, S. and Ohji, K.	2389
Three-Dimensional Stress Analysis for Dissimilar Materials <b>Koguchi, H.</b>	2395
Elastoplastic Finite Element Analysis of Single-lap Adhesive Joints Subjected to External Bending Moments Sawa, T. and Yajima, A.	2401
A Two-Dimensional Stress Analysis of a Butt Adhesive Joint Filled with Rigid Circular Fillers in the Adhesive Subjected to a Tensile Load Sawa, T.; Nakano, Y. and Urae, K.	2407
Axisymmetrical Stress Analysis of Joints Combining an Adhesive with a Tap Bolt Sawa, T. and Nishijima, H.	2413
Effect of By-Pass Loads on the Strength of Bolted Composite Joints Hung, C.; Sun, HT. and Chang, FK.	2419
Large Deformation	2425
Accuracy of Corotational Formulation for Timoshenko's Beam under Finite Displacements Iura, M. and Furuta, M.	2426
Correction of Unbalanced Forces in the Large Deflection Analysis of Rigid Frames Yoda, T. and Ishikawa, T.	2432
Finite Element Formulation for 3-Dimensional Large Rotation Analysis of A Beam Ishihara, M.	2438
Large Deflection Analysis of Rectangular Plates Using a Nonlinear Programming Theory Ohtaki, S.	2444
Modified Rosenbrock Method for Computing the Transient Response of Nonlinear Structures Piché, R. and Tuomala, M.	2450
Finite Element Procedure of Initial Shape Determination for Hyperelasticity Kamada, T.	2456
Optimization of an Anisotropic Blank Shape Based on Ideal Sheet Forming Design Theory and FEM Analysis Chung, K.; Barlat, F.; Brem, J.C.; Lege, D.J. and Richmond, O.	2462
Study on Improvement Technique for Bilinear Element in Elastoplastic Large Deformation Analysis Guo, Z. and Wetonebo, O	2468

A New Formulation of Assumed Stress Hybrid Elements and the Applications for Strain Localization Problems Seki, W. and Atluri, S.N.	2474
Embedded Localized Strain Zone Constitutive Model in Finite Strain and Finite Rotation Okada, H. and Atluri, S.N.	2480
Adiabatic Shear Bands	2486
Adaptive Methods for Parabolic Partial Differential Equations with Application to Shear Band Formulation Flaherty, J.E.; Moore, P.K. and Walter, J.	2487
Flow Localization in Porous Solids with Pressure-Sensitive Matrices Pan, J. and Jeong, H.	2493
Mathematical Framework of Band Formation Under Condition of Plane Stress Valanis, K.C.	2499
Computational Composite Structures	2505
Equivalent Domain Integral for Delamination Growth Estimation Naganarayana, B.P. and Atluri, S.N.	2506
Free Vibration Characteristics of Symmetric Cross-Ply Laminated Plates: A Semi-Analytical Differential Quadrature Analysis Bert, C.W. and Malik, M.	2514
A Numerical Evaluation of the Effects of Matrix Cracking in a Viscoelastic Composite Zocher, M.A.; Allen, D.H. and Groves, S.E.	2520
Evaluation of Shear Deformation Plate Theories of Composite Laminates Reddy, J.N. and Bose, P.	2526
A Generalized FE-Method for Non-Linear Composite Shells with 2D- and 3D-Modeling Gruttmann, F.; Stein, E. and Wagner, W.	2533
Recent Development in Computational Analytical Techniques for Elastodynamics of Advanced Materials and Structures	2539
A complete model of ultrasonic NDE for internal and surface-breaking cracks <b>Bostrom, A. and Bövîlc, P.</b>	2540
The Perfectly Matched Layer for Computational Acoustics Qi, Q. and Geers, T.L.	2546
Dynamic Response of Layered Poroelastic Media Senjuntichai, T. and Rajapakse, R.K.	2551
Dynamic Modal Response Analysis of Composite Laminates Zhu, J.; Shah, A. and Datta, S.K.	2557
Lattice Analysis to Assess Fiber-Matrix Interface Behavior Under Various Experimental Configurations Frantziskonis, G.; Matikas, T.E.; Karpur, P.; Krishnamurty, S. and Shaw, L.	2563
Dynamics and Control	2569
Stochastic Delayed Control Algorithm for SDOF Structures Baratta, A.; Papa, F. and Zuccaro, G.	2570
Direct Output Feedback Control of Flexible Structures Swei, S. and Chang, C.C.	2576

Active Vibration Control of Automobile Chassis with Reaction Mass Actuators <b>Pham, H.Q. and Vu, H.V.</b>	2582
Vibration Control of a Two-Link Pendulum Using Gas Jet Cui, H.; Qui, J.; Tani, J. and Yanase, H.	2588
Open-Loop/Closed-Loop Control Simulation on the Stability of a Landing Gear Undergoing Overrun Braking Zhang Ling and Zhu Depei	2594
Model Formulation and Vibration Control of a Two-Link Manipulator with a Flexible Forearm Fung, E.K. and Cheung, C.K.	2600
Minimum Trajectory Control of Robot : Part I Minimization of Intermediate Points Yih, T.C. and Ji, K.	2606
Minimum Trajectory Control of Robot : Part II- Control Algorithms Yih, T.C. and Ji, K.	2612
High-Speed Stability and Dynamic Response Analysis of Motorcycle-Driver System Tsuta, T.; Bai, J. and Hanano, T.	2617
$ {\bf Computational\ Human\ Dynamics\ of\ Vehicle-Passenger\ Dynamic\ Interaction\ on\ a\ Highway\ Bridge\ {\bf Nishiyama,S.} }$	2623
On the Intregrability in Nonlinear Structural Dynamics Münz, T.;, Carini, A. and Willam, K.	2629
On the Applications of Numerical Methods to Aircraft Running Dynamics Zhu, D.	2635
Computer Simulation Study on Clod Throwing Process of Subsoil Cultivation Hu, H.; Kato, S. and Sang, Z.	2641
IABEM - Mathematical Foundations	2647
IABEM - Mathematical Foundations  Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation  Tomlinson, K.; Pullan, A. and Bradley, C.	2647 2648
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation	
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration	2648
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method	2648 2654
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method Liapis, S.  The Boundary Element in Thermoelastic Stress Separation - I: Formulation and basic solution using a Monte Carlo Method	2648 2654 2659
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method Liapis, S.  The Boundary Element in Thermoelastic Stress Separation - I: Formulation and basic solution using a Monte Carlo Method Hamilton, R.; Boyle, J.T. and Mackenzie, D.  Energy Formulation of the Direct and Indirect BEM Approach in Elastostatics	2648 2654 2659 2665
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method Liapis, S.  The Boundary Element in Thermoelastic Stress Separation - I: Formulation and basic solution using a Monte Carlo Method Hamilton, R.; Boyle, J.T. and Mackenzie, D.  Energy Formulation of the Direct and Indirect BEM Approach in Elastostatics Sirtori, S. and Miccoli, S.  Applications of Stochastic boundary element method to solids with uncertain geometry	2648 2654 2659 2665 2671
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method Liapis, S.  The Boundary Element in Thermoelastic Stress Separation - I: Formulation and basic solution using a Monte Carlo Method Hamilton, R.; Boyle, J.T. and Mackenzie, D.  Energy Formulation of the Direct and Indirect BEM Approach in Elastostatics Sirtori, S. and Miccoli, S.  Applications of Stochastic boundary element method to solids with uncertain geometry Burczynski, T.  A BIE for a second order Elliptic Partial Differential Equation with Variable Coefficients	2648 2654 2659 2665 2671 2677
Selecting a Derivative Boundary Element Formulation for use with Hermitian Interpolation Tomlinson, K.; Pullan, A. and Bradley, C.  Computing Influence Functions for 2-D Compound Regions of Complex Configuration Melnikov, Y.  Error Estimation and Adaptivity in the Boundary element Method Liapis, S.  The Boundary Element in Thermoelastic Stress Separation - I: Formulation and basic solution using a Monte Carlo Method Hamilton, R.; Boyle, J.T. and Mackenzie, D.  Energy Formulation of the Direct and Indirect BEM Approach in Elastostatics Sirtori, S. and Miccoli, S.  Applications of Stochastic boundary element method to solids with uncertain geometry Burczynski, T.  A BIE for a second order Elliptic Partial Differential Equation with Variable Coefficients Ang, W.T.; Kusuma, J. and Clements, D.  The Effect of Essential Boundary Conditions on the Convergence of Iterative Equation Solvers in BEM	2648 2654 2659 2665 2671 2677 2683

Adaptive Structural Analysis Using Boundary Element Method Ezawa, Y.; Yoshimura Y.; Okamoto, N. and Kobayashi, H.	2696
Heat Conduction Analysis by Improved Multiple-Reciprocity Boundary Element Method <b>Ochiai, Y.</b>	2702
Application of BEM to the Linear Buckling Problem of Thin Elastic Plates Tanaka, M.; Matsumoto, T. and Yamamoto, K.	2708
Effective Boundary Element Method for Predicting Corrosion Rate of Heat Exchanger Aoki, S.; Amaya, K. and Miyuki, H.	2714
The Boundary Element in Thermoelastic Stress Separation - II: A General Hybrid Numerical/Experimental Technique Comlekci, T. and Boyle, J.T.	2720
Boundary Integral Equation Approach to the Classical Theory of Elasticity (Application of Semi- direct Method to Gear Strength Rating)  Tanaka, M. and Fujii, K.	2726
IABEM - Coupling of FEM-BEM	2732
On Hybrid Coupled FEM-BEM Stress Analysis Hsiao, G.C.; Schnack, E. and Wendland, W.L.	2733
A Coupling Method of Boundary Element and Finite Element for Elastoplastics $\mathbf{Ma}, \mathbf{J}.$	2739
Application of Combined BEM-FEM Algorithms in Numerical Modelling of Diffusion Problems Majchrzak, E.	2744
A High-Order Couple Finite Element/Boundary Element Human Torso Model Pullan, A.	2750
IABEM - Nonlinear Problems	2756
Dynamics of Viscoplastic Plates by a Modal BEM Fotiu, P.A.; Heuer, R.; and Ziegler, Franz	2757
Application of the BEM for Numerical Modelling of Continuous Casting Mochnacki, B. and Suchy, J.S.	2763
An Internal Variable Approach Applied to Boundary Element Elastic-Plastic Analysis Nappi, A.	2769
IABEM - Singularity Issues	2775
Continuity Requirements for Density Functions in Boundary Integral Equations are not Strictly Necessary Guiggiani, M.	2776
Hypersingular BEM for Transient Dynamic Problems Gallego, R. and Dominguez, J.	2782
Hypersingular Integral Equations on Curved Boundaries  Maucher, R.	2788
Calculation of Stresses by BEM without Computation of hypersingular Integrals $\bf Fiedler, C.$	2794
Differentiability of strongly singular BIE formulations with respect to boundary perturbations <b>Bonnet</b> , <b>M</b> .	2800

On the free terms and singular integrals in isotropic and anisotropic potential theory Mantic, V. and Paris, F.	2806
A procedure for the semi-analytical evaluation of generally singular integrals that occur in the boundary element analysis of thick plates Noronha, M. and Dumont, Ney	2812
Continuity of the Elastic BIE Formulation Cruse, T.A. and Richardson, J.D.	2818
An approach for direct evaluation of singular integrals in boundary flux identity Matsumoto, T.; Tanaka, M. and Kani, M.	2824
Cauchy principal values, finite part integrals and interval normalization: some basic considerations  Dumont, Ney	2830
On the Theory of Complex Hypersingular Equations Linkov, A. and Mogilevskaya, S.	2836
Automatic numerical integration of nearly singular integrals in the boundary element method Kunihiro, N.; Hayami, K. and Sugihara, M.	2841
IABEM - Fracture Mechanics	2847
BIE Fracture Mechanics Analysis - 25 Years of Developments Cruse, T.A.	2848
Energy Release Rate Computation Using Material Differentiation of Elastic BIE in 3-D Elastic Fracture Bonnet, M. and Xiao, H.	2856
Crack Determination in time Domain with Collocation BIEM Nishimura, N. and Kobayashi, S.	2862
Boundary-integral Analysis of Anisotropic Bimaterials with an Interface Crack Berger, J. and Tewary, V.K.	2868
Development of A Variational Boundary Integral Method for the Analysis of fully 3-D Crack Advance Problems Xu, G.; Argon, A.; Ortiz, M. and Bower, A.	2874
Some Studies of Dual Reciprocity BEM for Elastodynamic Analysis Agnontiaris, J.; Polyzos, D. and Beskos, D.	2890
On the Expansion for Surface Displacement in the Neighborhood of a Crack Tip Gray, L. and Paulino, G.	2896
Elastic Green's Function for a Composite Solid Containing a Crack at an Angle to the Interface Tewary, V.K. and Berger, J.R.	2902
IABEM - Fluid Mechanics	2908
A third-order BEM for Potential aerodynamics Morino, L.; Gennaretti, M. and Calcagno, G.	2909
Compressible Potential Flow Around a Helicopter Rotor Röttgermann, A. and Wagner, S.	2915
A boundary element method for velocity-vorticity formulation and comparison with a high order finite volume scheme  Skerget, L. and Drikakis, D.	2921

Soliary Wave Split-up due to a Sloping Bottom van Daalen, E.F.G.	2927
BEM Formulation of the trailing edge condition Davi, G.; Marretta, R. and Milazzo, A.	2933
Boundary Element Simulation of Flow through an Earthen Embankment Subjected to Cyclic Variation of Reservoir Level Srivastava, R. and Contractor, D.N	2939
Estimation of Permeability Coefficients using Extended Kalman Filter-Boundary Element and Finite Element Methods  Kanoh, M. and Kuroki, T.	2945
MPP Implementation and Computational Performance - Study of 3D Source Panel Method <b>Hu, Hong and Logan, T.G.</b>	2951
Effect of Fluid Saturated Porosity of the Seabed for Interaction Problems of Fluid-Structure-Seabed System Utsumi, H.; Kawakami, T. and Kitahara, M.	2957
Boundary Element method for Aerodynamic Sensitivity Analysis Arsoffi, G. and Morino, L.	2963
A Study of the Accuracy of Finite Volume and Boundary Element Methods in Laminar Separated Flows Drikakis, D. and Skerget, L.	2969
An Extension of the LTDRM to Some Highly Nonlinear Diffusion Equations Satravaha, P. and Zhu, S.	2975
Boundary Element Method of Stationary Viscous Incompressible Flow with Axial Symmetry Yang, W.H and Yang, J.	2981
IABEM - Stochastic BEM	2987
Random Interior Data Representations in Probabilistic Boundary Element Analysis Kaljevic, I. and Saigal, S.	2988
Dynamic Analysis of Stochastic Media by Boundary Elements Callerio, A.; Casciati, F. and Faravelli, L.	2994
A GIF-based Stochastic Boundary Element Method for Random Porous Media Lafe, O. and Cheng, A.	3000
IABEM - Interfaces & Inverse Problems	3006
A Boundary Integral Equation for Linearly Layered Potential Problems in Two and Three Dimensions Shaw, Richard P. and Gipson, S.	3007
Fundamental Solutions for an orthotropic Layer and Multilayered System Wideberg, J. and Benitez, F.	3012
Perturbed Boundary Element Method and its Solution to the Stability of Plates of Perpendicular Anisotropic Materials Chen, G.; Murata, M. and Suzuki, H.	3018
Inverse Boundary Element Solution for Locating Subsurface Cavities in Thermal and Elastostatic Problems Kassab, A.; Moslehy, F.; Ulrich, T. and Pollard, J.	3024

Shape Sensitivity Analysis and Optimization of Linear and Nonlinear Transient thermal Problems Using BEM Lee, D.H. and Kwak, B.M.	3030
IABEM - Sensitivity & Inverse Problems	3036
Boundary and path-independent integrals in sensitivity analysis of voids Burczynski, T. and Habarta, M.	3037
Sensitivity Analysis of Potential Problem by regular- and singular-function Trefftz Method Kita, E.; Kamiya, N. and Ikeda, Y.	3043
Sensitivity Analysis of 2-D Elastodynamic Problems through Boundary Integral Equations Tanaka, M.; Nakamura, M. and Hanaoka, S.	3049
IABEM - Dynamic Systems	3055
On Stability and Efficiency of 3D Acoustic BE Procedures for Moving Noise Sources Antes, H. and Jäger, M.	3056
Dynamic Response Analysis of 2-D Elastoplastic Systems by a BEM/FEM Scheme Pavlatos, G.D. and Beskos, D.E.	3062
On the Determination of Approximate Frequency-Dependent Mass Matrices in the Hybrid Boundary Element Method Dumont, N.A. and de Oliveira, R.	3068
A New hybrid symmetric boundary element method in elastodynamics Gaul, L.; Fiedler, C. and Ricoeur, A.	3074
Applications of an Advanced Time Domain BEM to 3-D Problems in Geomechanics Rizos, D.C. and Karabalis, D.L.	3080
Scattering Wave Range Limits in a Soil and an Embedded Rock Layer Using a Boundary Element Method Heymsfield, E. and Sadegh, A.M.	3086
An Evaluation of Doubly Asymptotic boundaries for Transient Elastodynamics Geers, T.L. and Oberai, A.A.	3092
Finite-State Acoustoaeroelasticity Morino, L.; Iemma, U. and Trainelli, L.	3098
Wave Propagation Problems in Soil Media by BIEM Hadjikov, L. and Dineva, P.	3104
A Variational Formulation of the Boundary Element Method in Transient Poroelasticity Pan, E. and Maier, G. and Amadei, B.	3110
An Efficient 3-D Time domain BEM for Wave Propagation Problems Wiebe, T.	3116
A Semi-Analytical Method for Time-Dependent Problems Burton, I.; Pullan, A. and Nekos, R.	3122
Late Paper(s)	3128
Earthquake Interaction Between Adjacent Space Structures under P-Delta Effects	3129

**Authors Index**