

Table of Contents

Preface

Plasticity in Monocrystalline Silicon: Experiment and Modelling L.C. Zhang	1
Analysis of Ridging in Ferritic Stainless Steel and Aluminum Alloy Sheets H.J. Shin, S.H. Hong and D.N. Lee	11
Numerical Evaluation of Micro- to Macroscopic Mechanical Behavior of Carbon Black-Filled Rubber Y. Tomita, W. Lu and Y. Furutani	19
Plastic Collapse of Honeycombs under In-Plane Biaxial Compression T.X. Yu and D. Karagiozova	25
Micromechanics of Nonlinear Composites G.K. Hu and Z.P. Huang	35
Mesoplasticity and Its Applications in Micro-Scale Deformation Processing W.B. Lee and S. To	43
Dislocation Depleted Deformation in Nano-Grained Metals W. Yang, X. Ma, H.T. Wang and W. Hong	51
High Temperature Low Cycle Fatigue of Steels and their Welds S.L. Mannan and M. Valsan	57
Quadratic Programming Method for Numerical Modeling of Elastoplastic Contact Problems: Theory, Software, Applications H.W. Zhang and W.X. Zhong	65
On Integral Elastoplastic Constitutive Theories S.X. Zhao and Z.B. Kuang	73
Interaction of Two Closely Spaced Voids during Growth to Coalescence Y. Nakayama and V. Tvergaard	81
Analysis of Particle Reinforced Composites Based on Incremental Damage Mechanics Y.T. Cho, K.H. Im and J.Y. Kim	87
Damages Induced by Thermomechanical Cycles in Superplastic Forming Tools C.Y. Gao, P. Lours and G. Bernhart	93
Analysis of Plastic Strain Localization, Damage Localization and Energy Dissipated Localization for Strain-Softening Heterogeneous Material Based on Gradient-Dependent Plasticity X.B. Wang, M. Yang and Y.S. Pan	99
Damage Simulation Finite Element Equation of Large Concrete Structures X.D. Wang, D.Y. Xu, Z.B. Wang, A.M. Deng and W.X. Zhu	105
Progressive Damage Analysis of Composite Shell under Impact Loading G.P. Zhao and C.D. Cho	111
High Temperature Forming of Ti-6Al-4V Alloy Considering Microstructural Evolution Y.H. Lee, C.S. Lee, T.J. Shin, S.M. Hwang and I.O. Shim	117
Damage Degradation of Concrete due to Compressive Fatigue Loading Q.B. Li, P. Lü and L.X. Zhang	123
Evaluation of Excess Pore Pressure in Strain-Softening Soils Induced by Cavity Expansion L.Z. Chen and F.Y. Liang	129
The Ductile versus Brittle Fracture Behavior Assessed by the Competition between Dislocation Emission and Cleavage at Blunt Crack Tip M.X. Huang and Z.H. Li	135
Experimental Investigation on Fracture Criterion of Three-Dimensional Mixed Mode Interface Crack for Rock/Concrete S.C. Yang, L. Song, H.J. Liao and S.M. Huang	141
The Dynamic Response and Failure of Three-Span Continuous Pipe-Beam G.Y. Lu, J. Lei and S.Y. Zhang	147
Splitting Behaviour Analysis of Steel Cladding Systems M.L. Duan	151

Mechanism of Crack Extension in Rock Y.L. Chen and J. Sun	157
Lateral Crushing of a Rubber Sandwiched Steel Tube D.W. Shu and G.X. Lu	163
Frictionally Excited, Thermoelastic/Plastic Instabilities of Plates C. Kremaszky and H. Lippmann	169
A Treatise on Instability in Inelastic Materials P.B. Béda	175
A New Conception on Fatigue Plasticity and Its Application to Notch Problems H. Matsuno and Y. Mukai	181
Die Service Life Considering Wear and Plastic Deformation in Hot Forging Process D.H. Kim, B.M. Kim and C.G. Kang	187
Effect of Texture on Fatigue Properties of an Extruded AZ61 Magnesium Alloy Plate Z. Sajuri, Y. Miyashita, Y. Mutoh and Y. Hosokai	193
Modeling of Response of Red Sandstone in Compression and Cyclic Loading Tests J.Y. Zheng	199
A Microscopic Mechanics Model for Thermal Fatigue Crack Growth Y. Sun, R. Zhang and J. Ma	205
The Applied Research of Fracture for Low Carbon Steel in Extra-Low Cycle Rotating Bending Fatigue Y.T. Li, Z.Y. Rui and C.F. Yan	211
Super Long Life Fatigue in Nitrided High Strength Steels Q.Y. Wang, N. Kawagoishi, T. Li and Q. Chen	217
A Fatigue Damage Analysis of Composite Construction Composed Asphalt Concrete Pavement and Steel-Box Beam Deck of Steel Bridge X.C. Zhang, W. Huang, Q. Wei, L. Zhang and X.D. Tong	223
Constitutive Model for the Subsequent Time-Dependent Deformations of Type 304 Stainless Steel at Room Temperature T. Mayama, K. Sasaki and H. Ishikawa	229
Study on the Plastic Constitution and the Energy-Absorbing Characteristics of Aluminum Foam L.L. Hu, X.Q. Huang, L.Q. Tang and Y.P. Liu	235
Study on Stress-Strain Relationship of Loess B. Han, H.J. Liao, W. Pu and Z.H. Xiao	241
Temperature-Dependent Cyclic Deformation of SS304 Stainless Steel under Non-Proportionally Multiaxial Load and Its Constitutive Modeling G.Z. Kang and Q. Gao	247
Evolution of Plastic Anisotropy during Deformation of Metal Sheets W. Gambin	253
Identification of Constitutive Model for Geo-Materials Using Bionics Algorithm W. Gao	259
Disturbed State Model for Analysis of the Constitutive Relationship of Sandstone under Different Strain Rates G. Wu and L. Zhang	265
A Constitutive Modeling Analysis for Deformation of Prepared Sugar Cane M.L. Duan and J.G. Longhran	271
Assessment of Constitutive Equations Used in Machining J.A. Arsecularatne and L.C. Zhang	277
Post-Mechanical Properties of Superplastically-Forged Zn-22wt%Al Alloy T. Tanaka, S.W. Chung, L.F. Chiang, K. Makii, A. Kushibe, M. Kohzu and K. Higashi	283
Processing Fine-Grained and Superplastic AZ31 Mg Tubes for Hydroforming C.C. Huang, J.C. Huang, Y.K. Lin and Y.M. Hwang	289
Mechanical Anisotropy of Superplastic Ti₃Al Based Alloy K.L. Yang, J.C. Huang and S.C. Chen	295
Internal Variable Approach to Superplastic Deformation in Duplex Stainless Steel J.S. Park, W. Bang and Y.W. Chang	301

Prediction of Microstructure and Properties during Controlled Rolling and Controlled Cooling of Medium Plate Y.B. Xu, Y.M. Yu, G.D. Wang and X. Liu	307
Characterization of Micro- to Macroscopic Responses of Trinary Polymer-Based Composite System N. Esmaeili K., W. Lu and Y. Tomita	313
Finite Element Analysis of Nano/Micro Pit Array Fabrication by Nanoindentation Process C.G. Kang, S.W. Youn and J.W. Lee	319
Tensile Deformation of Single-Wall Carbon Nanotube Based on a Quasi-Continuous Analysis Y. Wang, D.N. Fang, G.W. Ma and A.K. Soh	325
The Deformation of Nano-Whiskers of Mono-Crystalline Copper: Shape Effect, Properties, Shear Banding and Necking L.C. Zhang, H. Tanaka and P.K. Gupta	331
Observation of Microscopic Plastic Deformation of Polycrystalline Aluminum during Uniaxial Tension by Confocal Laser-Scanning Microscope H.L. Song, T. Abe, I. Shimizu, N. Tada and T. Torii	337
FE Analysis According to Hinge Condition of Micro Stage for Micro Cutting Machine L.K. Kwac, J.Y. Kim and Y.T. Cho	343
Atomistic Computer Simulation of Fracture Process at Nanoscale H.A. Wu, X.G. Ni, X.X. Wang and K. Haghighi	349
A Micromechanical Failure Study of AS₄/PEEK Composites S.B. Wang, D.S. Dong, Z.Y. Wang, P. Goudeau, L.A. Li and J.W. Tong	355
Geometry Sensitivity Analyses of Micro-Structures of IC Packages on Metal Lines Shifting Induced by Plastic Deformation Y.T. He, G.Q. Zhang, F. Li, L.J. Ernst and J. Zhang	361
Mechanical Behavior of Nano-Al₂O₃ Dispersion-Hardened Copper-Base Composite at Elevated Temperature B.H. Tian, P. Liu, S.L. Han, K.X. Song, Q.M. Dong, X. Cao and L. Niu	367
Evaluation of Mechanical Properties and Formability of Metastable β-Type Ti-Mo Alloy Y. Takemoto and I. Shimizu	373
Forming Characteristics of Cast Magnesium Alloy Sheets Manufactured by Roll Strip Casting Process H. Watari, R. Paisarn, N. Koga, R. Nakamura, K. Davey and M.T.A. Rasgado	379
Forming Limit of TWBs with Material Damage Consideration - Finite Element Simulation and Experiments M. Jie, C.L. Chow, L.C. Chan and C.H. Cheng	385
Study on Forming Limit of Tubular Materials Y.M. Hwang, Y.K. Lin and J.C. Lin	391
Prediction of Forming Limits for Anisotropic Sheets with Ellipsoidal Voids S.G. Choi, H.S. Son and Y.S. Kim	397
Formability of the Steel Sheet at the Intermediate Strain Rate H. Huh, J.H. Lim, S.B. Kim, S. Han and S.H. Park	403
New Corresponding Relationships between Frictional Coefficient and Frictional Factor in Compression Forming of a Rotating Circular Disk M.N. Huang, G.Y. Tzou and C.J. Chen	409
Modeling of Surface Asperity Flattening in Metal Forming C. Lu, A.K. Tieu, Z.Y. Jiang, H.T. Zhu and H.B. Ren	415
Periodic and Chaotic Motions of an Impact Forming Machinery with Double Masses G.W. Luo, Y.X. Chang and S.C. Zhang	421
Process Design and FE Analysis of Multi-Stage Rectangular Deep Drawing with Extreme Aspect Ratio T.W. Ku and B.S. Kang	427
Partial Lining of Thin Foils to Metal Surface Using Shot Peening K. Matsuura	433
An Axisymmetric Forging Analysis by Using the Rigid-Plastic Point Collocation Method Y.M. Guo and Y. Yokouchi	439

Maskless Fabrication of a Hyperfine Silicon Stamper and Its Application to the PDMS Rheology Casting Process S.W. Youn and C.G. Kang	445
Mechanical Cutting Model of Magnetic Abrasive Particles and Analysis of Experimental Results Y. Wang and D.J. Hu	451
High Speed Milling of SiC Particle Reinforced Aluminum-Based MMC with Coated Carbide Inserts F.H. Sun, Z.Y. Wu, J.W. Zhong and M. Chen	457
Estimation of Laser Welding Behaviors of SM45C Steel by Plume Monitoring D.J. Yang, J.Y. Kim, Y.T. Yoo, K.B. Ro and J.H. Han	463
Process of Push Bending Elbows and Its Parameters CAD System S.L. Han, Z.Q. Lin and X.Y. Lu	469
Establishment and Application of Load-Deflection Model of Press Straightening J. Li, H. Zou and G.L. Xiong	475
Behavior of Rubber Cutting by a Sharp Cutter L.Q. Liu, Z.Q. Yao, X.P. Zhang and G.J. Yuan	481
A Study on the Improvement of Extrudability for Extrusion Process of Heat Sink J.M. Lee, B.M. Kim and C.G. Kang	487
Development of Form Rolling Technology for High Precision Worm Using the Rack Dies of Counter Flow Type D.C. Ko, J.M. Lee, B.M. Kim and D.W. Joo	493
Modelling of Surface Roughness Transfer in Hot Strip Rolling with Oxide Scale J.N. Tang, A.K. Tieu and Z.Y. Jiang	499
Friction Consideration in Sheet Metal Rolling Z.Y. Jiang, A.K. Tieu and X.M. Zhang	505
Effect of Hot Rolling Conditions on Deformation Behavior of Oxide Scale at High Temperatures W.H. Sun, A.K. Tieu, Z.Y. Jiang and H.T. Zhu	511
A Method to Analyse of Roll Bending Force Effect Rate in 4-High Hot Strip Mill J.Z. Xu, H.S. Di, D.Y. Gong, X. Liu, G.D. Wang and X.L. Zhao	517
Analysis on Influence of Technological Parameters on Temperature and Plastic Strain during Metal-Cutting W.F. Li, B. Xu, Y.X. Yan, P. Shi and P. Liu	523
Pass Reduction Effect on the Course of the Strain Condition, and the Behaviour of Surface Defects Concerning Drawing Processes S. Rusz, J. Petruška, L. Janicek and M. Greger	529
Phase Transformation Die Casting Process for Manufacturing a Thin-Type Product and Its Mechanical Performance Assessment H.K. Jung, P.K. Seo, C.G. Kang and B.M. Kim	535
A Control Technology of Grain Size in Novel Multi-Power Induction Heating Process Using the Cleaner Rheological Material H.K. Jung, C.G. Kang and B.M. Kim	541
Continuous Fabrication Process of Grain Controlled Aluminum Material for Rheology Forming and Its Microstructural Evaluation P.K. Seo, C.G. Kang and M.D. Lim	547
An Influence of Tool Profiles on the V-Bending Process of Sheet Metal Y.M. Huang and T.C. Chen	553
Investigation of the Flange Earring of Deep-Drawing Aluminum Sheets by Rate-Independent Polycrystalline Plasticity Finite Element Analysis D.Y. Li, S.R. Zhang and Y.H. Peng	559
An Effect of Material Parameters on the Camber Behavior Y.M. Huang and T.C. Chen	565
Arbitrariness of Asymmetric Hat-Type Channel Members in the Axial Crush J.H. Lim, J. Kim, H. Huh and J.S. Kim	571
Wear Simulation Based on Node-to-Segment Element F. Liu, P. Wriggers and L.J. Li	577

Numerical Prediction of Springback and Side-Wall Curl in U-Bending of Anisotropic Sheet Metals	
M. Kadkhodayan	583
Automation of Hull Plates Classification in Ship Design System Using Neural Network Method	
B.Y. Moon, S.Y. Kim, D.E. Kim and S.K. Lee	589
Evaluation of Suitability of Homogeneous Deformation Assumption on Generating Material Parameters	
B.Y. Xu, J. Qu and Q.L. Jin	595
Analytical Approach to Bursting Failure Prediction in Tube Hydroforming Based On Plastic Instability	
J. Kim and B.S. Kang	601
Elasto-Plastic Singular Behavior at an Interface Edge	
J.Q. Xu, Y. Mutoh and L.D. Fu	607
Texture Analysis and Numerical Simulation of the Cracked Anisotropic Drawing Sheets	
L.J. Wang, Z.D. Wang, G.D. Wang and X. Liu	613
The Numerical Analysis of the Formability of Aluminium Alloy Sheet in Complex Shape Box Deep Drawing Forming	
Z.Q. Yu, Z.Q. Lin and Y.X. Zhao	619
Three-Dimensional Elastoplastic Numerical Simulation of Excavation and Support Processes for the Underground Powerhouse of the Shuibuya Hydroelectric Project	
A.N. Jiang, X.T. Feng, J. Liu and Z.L. Ru	625
The Elastoplastic Stochastic Finite Element Method (ESFEM) under Fatigue Loading	
H. Jin, L.B. Wang and Q. Zhang	631
Current Condition and Development of Crystal Plasticity Simulation in Metal Forming	
H.C. Pi, J.T. Han, A.K. Tieu and Z.Y. Jiang	637
Analysis of the Mechanical Behaviour in Shear of Woven Fabric Reinforced Composite under Uniaxial Tension	
A. Naceri and A. Vautrin	643
Incompatible Element Method for Couple Stress Plasticity and Numerical Study of Some Scale Effects Phenomena	
L. Li, C.C. Wu and S.S. Xie	649
Finite Element Analysis and Die Design for Extrusion of Complex-Shaped Parts	
Y.M. Hwang, H.C. Chen, P. Hwang and C.Y. Wu	655
Three Dimensional Numerical Simulation of Immersed Tunnel Seismic Response Based on Elastic-Plastic FEM	
X.L. Jin, Y.Z. Guo and J.H. Ding	661
Study on Mechanical Property of Corroded R.C. Beam Based on Fractal and Artificial Neural Network	
Y. Fan, J. Zhou and X. Feng	667
Elasto-Plastic Analysis of Frames by Differential Quadrature Element Method	
G.J. Nie and Z. Zhong	673
Finite Element Simulation of Martensitic Transformation in Single-Crystal TRIP Steel Based on Crystal Plasticity Theory with Cellular Automata Approach	
T. Iwamoto and T. Tsuta	679
A Nonlinear Finite Element Method for Ferroelectric Structures with Hysteresis	
R.Y. Huang and C.C. Wu	685
Inclusion of Real Material Behaviour in the Numerical Model for Stringer Stiffened Cylinders	
W. Vanlaere, R. Van Impe, G. Lagae, J. Belis, P. Buffel and M. De Beule	691
Application of the Green Quasifunction Method in Problem of Plastic Torsion	
H. Wang, B. Yuan, Y.F. Zhu and F.M. Ren	697
Finite Element Analysis of Grain Refinement of Bulk Metal by Multi-Forging Process	
K. Fann and C.Y. Chen	703
A Shape Prediction Model in Cold Strip Mill Integrating Principal Component Analysis and Neural Network	
H.T. Zhu, A.K. Tieu, C. Lu, Z.Y. Jiang and G. D'Alessio	709
Analysis of Asymmetrical Rolling for Cold Rolling due to Roll Edge Contact	
Z.Y. Jiang, H.T. Zhu and A.K. Tieu	715

The Numerical Simulation and Mechanics Analysis for Deep-Draw Thermo- Rheological Forming of One Ti Alloy Rectification Internal Hood	
Y.S. Luo, F. Liu, L. Yang, Z.C. Wang, Y.D. Liang, Y.M. Li, Q. Chen, P. Yuan and L.X. Zhang	721
Finite Element Modeling of the Fine-Blanking Process	
P.F. Zheng, T.C. Lee and L.C. Chan	727
Prediction of a Billet Shape for Axisymmetric Warm Forming Using Variational Analysis	
T.F. Kong, L.C. Chan and T.C. Lee	733
Plastic Limit Analysis of Periodic Heterogeneous Materials by a Static Approach	
H.T. Zhang, Y.H. Liu and B.Y. Xu	739
Design and Plastic Analysis on Prestressed Concrete Frames with Non-End-Section Plastic Hinge of Beam Hinging Collapse Mechanism under Lateral Action of Earthquake	
X.B. Chen, H.W. Ma and H.F. Chen	745
A Dynamic Model for Concrete with Finite Deformation	
S. Chen	751
Application of Singular Point Analytical Element Method in Crack Problem	
Y. Sun and J. Xie	757
Comparison of Cyclic Inelastic Features of a Lead-Free Solder Alloy and a Nickel-Base Superalloy	
M. Akamatsu, N. Ohno, H. Takahashi and T. Kawakami	763
Experiments of Three-Roll Planetary Rolling	
Y.M. Hwang, H.L. Hu and Y.C. Tang	769
Experimental Study on Mechanical Damping System Using Colloid Suspension	
W.J. Song, B.Y. Moon, J. Kim and B.S. Kang	775
Experimental Study of Aluminium Foams under Impact Loading	
S. Abdennadher and H. Zhao	781
Experimental Study of Sheet Metals under Dynamic Double Shear at Large Strains	
R. Merle and H. Zhao	787
Determining Sheet Metal Hardening Curve by Laminated Specimen	
H.B. Tian, D. Kang and J.P. Lin	793
New Experimental Technique for Material Instability Study	
S.B. Wang, Y.D. Cao, X.Y. Li, P. Goudeau and J.W. Tong	799
Elastic-Plastic Bending Deformation of Adhesively Bonded Sheet Metals in Tensile Lap Shear Tests with Special Reference to Effect of Tensile Speed	
M. Takiguchi, T. Yoshida and F. Yoshida	805
Transformation Behavior of Retained Austenite for a TRIP700 Steel during Sheet Forming - An Experimental Study	
H.Y. Yu, G.L. Chen, Z.Q. Lin and W.G. Zhang	811
In Situ Observation of the Micro-Hole Healing Process	
Y.J. Zhang, J.T. Han, J. Liu and L. Zhang	817
Uniaxial Ratcheting Behavior of Stainless Steels: Experiments and Modeling	
L.X. Cai, Y.J. Liu, Y.M. Ye and Q.Y. Niu	823
Friction Condition Effect on the Deep Drawing Process Using Taguchi Method	
L. Wang and T.C. Lee	829
Experimental Study on Whole Stress-Strain Characteristic of Marble under the Action of High Temperature	
Y. Yang, G.J. Yang and X.C. Huang	835
Quasi-Static and Impact Tests on Pre-Cracked Tubular Beams	
F.L. Chen, T.X. Yu, H.C. Lai and K.Y. Poon	841
Experimental Study on Dynamic Mechanical Properties of Al₂O₃ Ceramics	
X. Yao, X.Q. Zhang, L.M. Zhao and G.T. Yang	847
Ultrasonic Scan Characterization of Layup Using CFRP Composite Laminates	
J.K. Sim, K.H. Im, D.K. Hsu, Y.T. Cho, K.S. Lee and I.Y. Yang	853
A Test Method Used for the Study on Dynamic Behavior of Porous Materials	
J.H. Lu, L.M. Zhao and G.T. Yang	859
Measurement of Residual Stresses in Fiber Reinforced Composite Material	
J.B. Chen, S.X. Zhao, X.H. Jin and Z.B. Kuang	865
Study of Residual Stress Relaxation Using X-Ray Diffraction	
W.C.D. Cheong, W.Z. Zhuang and L.C. Zhang	871

Non-Destructive Evaluation of Steel-Structure Using Laser-Generated Ultrasonic K.S. Song, J.Y. Kim and M.S. Ko	877
Ultrasonic Non-Destructive Test of Stresses in Rock under High Temperatures G.J. Yang, X.W. Liu and X.C. Huang	883
Measurement on the Peak Pressure of Shocking Wave Induced by Laser and Experimental Researches on Strengthening Aviation Al-Alloy by Laser Shocking Q.L. Deng, Y. Wang, D.J. Hu, Y.K. Zhang and C.Y. Yu	889
Friction Changes during Compression Tests Using Tool Rotation Technique X. Ma, M.R. Barnett and Y.H. Kim	895
Electromagnetical Wave Reflecting Model for Testing Crack J. Xie and Y. Sun	901
Application and Study of Some Crack Detection Methods in Offshore Platforms Z.D. Zhang and D. Wang	907
Creep of Metals Subjected to Prior Plastic Deformation Z.L. Kowalewski	913
Analysis of In-Plane Elastic-Viscoplastic Behavior of Plain-Woven GFRP Composites Based on a Homogenization Theory T. Matsuda, Y. Nimiya, N. Ohno and M. Tokuda	919
Creep Deformation and Microstructural Examination of a Prior Thermally Exposed Nickel Base Superalloy J. Zrník, P. Strunz, V. Vrchovinsky, O. Muránsky, P. Horňák and A. Wiedenmann	925
Aging Effect on Creep Rupture Properties of Super-Clean 9%CrMoV Steel for Steam Turbine Rotors of Combined Cycle Power Plants L. Niu, M. Kobayashi, H. Takaku and T. Azuma	931
Effect of Strain-Rate and Temperature on Yield Locus for 5083 Aluminum Alloy Sheet T. Naka, Y. Nakayama, T. Uemori, R. Hino and F. Yoshida	937
Dynamic Characteristics Analysis of Automotive Shock Absorber by Considering Damping Force B.Y. Moon, C.T. Lee and B.S. Kang	943
Evolutionary Identification of Deformation Dynamics of Geotechnical Structures C.X. Yang and X.T. Feng	949
Elasto-Plastic Analysis of Clearance Connections Subjected to Impact Loads S.Z. Yan and Y. Ding	955
Dynamic Buckling of Circular Cylindrical Shells Subject to a Rigid Body Impact Z.J. Han, H.W. Ma and S.Y. Zhang	961
A New Mechanical Model of MR Fluids Y. Yang, C.H. Lin, H. Li and J. Zhou	965
Viscoplastic Flow of the MR Fluid in a Cylindrical Valve J. Huang, J.M. He and J.Q. Zhang	969
Glass Structures and Plasticity: Contradiction or Future? J. Belis, R. Van Impe, W. Vanlaere, G. Lagae, P. Buffel and M. De Beule	975
Design Curve to Use for Lateral Torsional Buckling of Tapered Cantilever Beams P. Buffel, G. Lagae, R. Van Impe, W. Vanlaere and J. Belis	981
A Simple Failure Criterion for Materials with Different Tensile and Compressive Strengths Y.Q. Chen and J.Q. Xu	987
Strength of Highly Ductile Acrylic Adhesive in Butt-Joint under Combined Tension and Torsion T. Yoshida, M. Takiguchi and F. Yoshida	993
A New Analytical Approach to the Cold and Hot Bond Rolling of Unbounded Clad Sheet with Constant Shear Friction G.Y. Tzou, T.R. Neitzert and M.N. Huang	999
Analytical Solutions for Stress Concentrations near a Fiber Break in Unidirectional Elastoplastic Composites S. Okabe, N. Ohno and T. Okabe	1005
Elastoplastic Singular Behavior of Residual Stress in Si₃N₄/S45C Joint with Copper Interlayer L.D. Fu, Y. Miyashita and Y. Mutoh	1011

Virtual Reconstruction of Vehicle Crash Accident Based on Elastic-Plastic Deformation of Auto-Body X.Y. Zhang, X.L. Jin, W. Qi and Y. Sun	1017
A Practical Method for the Nonlinear Analysis and Optimization of Reinforced Concrete Frame C.Y. Wu and X.R. Ge	1023
A Study on Wheel-Rail Elastic-Plastic Frictional Contact Problem J. Zhang, Z. Zhong and C. Wu	1029
Autofrettage Analysis of Thick-Walled Cylinder Based on Tensile-Compressive Curve of Material X.P. Huang and W. Cui	1035
Experimental Study of the Effect of Reinforcement Corrosion on Bond Strength C.Q. Fang, X.J. Kou, L. Chen, B. Chen and C. Zhu	1041
Study on Mechanical Behaviors of Wedge-Ring Connection Structure with Deformable Contact under Uniaxial Tension Load R.G. Zhao, Z.F. Chen, Y.H. Yin and C. Fu	1047
An Analysis on the Inhomogeneous Microstructure in Crack Healing Area D.B. Wei, J.T. Han, A.K. Tieu and Z.Y. Jiang	1053
An Approach for Calculation of Bulk-Solid Pressures in Squat Silos F. Yuan, F.M. Wang and X. Gao	1059
The Investigation of Residual Stress Effect on Metal-Ceramic Bond H. Xin, Y.L. Li, X. Ma, F. Xu and W.G. Guo	1065
Study of Bauschinger Effect in X80 Steel and Bending Strength P.R. Jia and W.D. Zhu	1071
A Method to Calculate the True Stress and True Strain for Tensile Test of Plastic X.W. Du, G.J. Sun and C. Nie	1077
Structural Characteristics Magnesium Alloys along of the Equal Channel Angular Pressing M. Greger, S. Rusz and M. Widomska	1083
Experimental Research on Mechanical Properties of a New TiNi Shape Memory Alloy A. Hayashi, M. Tokuda, T. Inaba and K. Hashimoto	1089
Experimental Research on Two-Way Shape Memory Effect of TiNi Shape Memory Alloy T. Kato, M. Tokuda, T. Inaba and M. Yamazaki	1095
Research on Deformation Characteristic of AZ31Mg Alloy and Its Constitutive Equations M. Mizutani, M. Tokuda, T. Inaba, S. Ikushima and S. Makino	1101
Influence of Process Parameters on Expansion Behavior of Foaming Glass K. Shinagawa and Y. Oyashiki	1107
The Influence of Yielding for Ductile Material in a Composite Beam on Slip of Shear Connectors X.H. Ni, X.Q. Liu and S. Yan	1113
Transient Anti-Plane Crack Problem for a Functionally Graded Piezoelectric Coating Bonded to an Elastic Layer J. Chen, W. Wang and Z.X. Liu	1119
Three-Dimensional Analytical Solutions for Multilayered Cylindrical Shells with Embedded Piezoelectric Shear Actuators H.Y. Li, Y. Sun and Z.X. Liu	1125
Magneto-Elastic-Plastic Dynamic Characteristic Analysis of Ferromagnetic Beam-Plate under the Pulse Magnetic Field Y. Gao, Y.H. Zhou and X. Zheng	1131
Study on the Effects of Substrate Grain Size on Diamond Thin Films Deposited on Tungsten Carbide Substrates X.G. Jian, M. Chen, F.H. Sun, Y.P. Ma and Z.M. Zhang	1137
Post-Buckling Behavior of Cantilever Beams Made of Piezoelectric Material Subjected to Subtangential Follower Forces W.C. Shi and Y. Mao	1143
Kantorovich Optimized Method of Heat-Resistant Heterogeneous Energy Storing Composites Cantilever Laminate on Automobile Y. Li, J. Song and Z.M. Zhang	1149

**Flexural and Peel Properties of High Performance Magnesium/Carbon-Fiber/PEEK
Laminated Composites**

M.C. Kuo and J.C. Huang

1153

Ductility Research of Reinforced Concrete Beams Strengthened with CFRP

C. Zhao, P.Y. Huang, X.H. Zheng and G. Yao

1159