

Table of Contents

Preface	v
Sponsors and Committees	vi

Part 1

Chapter 1: Applied Mechanics and Materials

The Study about Hole Distance Calculating Method of Wide-Space Bench Blasting S.L. Dai and Y. Cheng	3
Molecular Dynamics Simulation of Crack Initiation of Aluminum under Tensile Deformation G.X. Bian, Y.L. Chen, J.J. Hu and L. Xu	7
Numerical Simulation of Shock Diffraction on Cartesian Grid H. Chen, W.B. Zhu, R.P. Sun and B. Zhang	11
Numerical Simulation of Ring-Shape Rock Failure under Compressive Loading Y.B. Zhang, Z.Z. Liang, S.B. Tang and J.H. Jia	15
Numerical Simulation of the Quasi-Static Axial Compression of the Pseudo-Elastic Phase Transformation Cylindrical Shells D. Li, J.L. Tao and Z.P. Tang	19
Discussions on the Principle to Reduce the Sliding Fall Rock Impact Force against Protective Structure W.J. Niu	23
A Standing Wave-Duct System for Acoustical Property Prediction of Multi-Layered Noise Control Materials Y.S. Wang, T. Zhang, N. Chen and J. Lei	27
Numerical Simulation on Combined Deformation of Tip-Loaded Cantilever Beam with Particle Flow Code Y.B. Xiong, C.M. Wang and L. Peng	31
Hourglass Control Methods in Numerical Simulation Code RingForm X.B. Zhang, Q. Wan and Z.G. Li	35
Acoustic Radiated Calculation of a Finite Cylindrical Shell and Interface Design of the Programs F.F. Qiu, X.W. Liu, H.W. Shi and Y. Wang	39
Acoustic Emission Characteristics of Rock Failure under Uniaxial Loading T. Xie, Q.H. Jiang, R. Chen and W. Zhang	43
Microstructure and Properties of WC_p/Cu Layered Functionally Graded Materials Prepared by Vacuum Hot-Pressed Sintering R.X. Guo, F. Yan and H.T. Xia	47
Investigation on Random Parameters of Aircraft Structural Reliability Model J.J. Hu, Y.L. Chen, X.M. Tan, G.X. Bian and L. Xu	51
Carbonation of Fly Ash Concrete and Micro-Hardness Analysis L.Q. Tu, W.B. Xu and W. Chen	56

Multi-Phase Explosion Detonation and JWL EOS Parameters Numerical Calculation H. Ning and Z. Qi.....	60
SHPB Experimental Investigation used for Concrete W. Zhang, H.D. Song, W. Yang and G.P. Jiang.....	64
The Patch Test of Numerical Manifold Schemes with Mixed Cover Coupled Velocity and Pressure for Steady N-S Equations S.P. Chen, Z.R. Zhang and J.H. Yan.....	68
Numerical Simulation of Wave Propagation in Variable Cross-Section Bars H.B. Jin	72
Behavior of FRP Sandwich Panels under Synergistic Effects of Low Temperature and Cyclic Loading II: Results and Discussion B.S. Du, Z.G. Ma and L. Luo.....	77
Study on Anoxic / Anaerobic / Aerobic Process to Treat Rural Domestic Wastewater S. Chang and J.P. Zhu.....	81
Analysis of the Force Characteristics of Stem to the Roots by SM Solver F.Y. Guo, J. Liu, L. Ping, C.L. Wang, X.J. Yao and X. Sun	85
Symplectic Solutions in Singularity Problems of Anisotropic Beams Y.Z. Yang.....	90
Flow Field Analysis and Experiment Study on Air Losing of Hydraulic Retarder H.Y. Li, M. Xu and C. Wu.....	94
Strain Measurements Based Finite Element Model Updating Y.X. Zhang, Z.Z. Wang and Y.Y. Liu	98
Behavior of FRP Sandwich Panels under Synergistic Effects of Low Temperature and Cyclic Loading I: Experiment and Numerical Simulation Method B.S. Du, Z.G. Ma and L. Luo.....	102
Effect of Heat Treatment on Al-40Si Alloy Modified by Sr Addition W.K. An, A.H. Cai, X.F. Tan, X.S. Li and Y. Luo.....	108
The Reliability Analysis of Concrete Perforated Brick Wall Shrinkage Cracking L. Yan, X.S. Yin and B. Wang.....	112
Inversion of Functionally Graded Materials to Improve the Elastic Ultimate Bearing Capacity of Thick-Walled Hollow Cylinder A.Z. Lu and N. Zhang	116
Applications of Carbon Fiber Composites C.L. Zhu	121
Design of Safety Monitoring System for Super-Large Deep Foundation Pit in City Center W.D. Pan, R.G. Gu, G.X. Hu and X.L. Sheng.....	125
Magneto-Elastic Analysis of a Superconducting Film with a Crack-Like Flaw H.D. Yong, J. Zeng and Y.H. Zhou	131
Running Cars Induced Wind Loads on Sound Barrier of Elevated Roads D.L. Wang, L. Zheng and A.R. Chen	137
Numerical Simulation Using FE-SPH Method for Concrete Slabs Penetrated and Perforated by Steel Projectiles Y.B. Xiong, J.J. Chen, Y.L. Hu and F.C. Wang	143
Effects of Restraint Condition on Carbonation of Concrete Containing Expansive Agent L.Q. Tu, Z.H. Shui, W.B. Xu, W. Chen and J.T. Ma.....	147

Comparison of Three Constitutive Models for the Analysis of Laminar Magnetorheological Fluid Flows F.G. Jin, R. Liu and L.X. Wang	151
The Influence of Dipeptide Composition on Protein Folding Rates J.X. Guo and N.N. Rao	157
The Practical Step-by-Step Procedure of High-Order Dynamic Response Analysis for General Damped System R.F. Yu, X.Y. Zhou and M.Q. Yuan	161
Virtual Boundary Element Collocation Method with RBF Interpolation on Virtual Boundary and Diagonalization Feature in Fast Multipole Method W. Si and Q. Xu	166
Bidirectional Moving Force Identification on an Orthotropic Rectangular Plate W. Zhang and L. Yu	171

Chapter 2: Structural and New Functional Materials

Mechanics Model of Stress Compute on Contract Deformation of the Concrete's Foundation Mat Y.H. Dong, H.M. Wang, X.M. Wang and H. Xing	179
Numerical Modelling of the THM Behaviour of Underground Radioactive Waste Storages Cell X.M. Qiu and H.B. Bian	187
Public Transportation Share Ratio Prediction Based on Disaggregate Dogit Model B.Y. Qi and H.L. Dou	191
Peak Traffic Prediction Using Nonparametric Approaches Y. Zhang	196
Experimental Study on Concrete's Dry-Shrinkage Stress in Construction Stage D.T. Xia, M.S. He, Y.J. Tang and L.W. Shi	200
A New Health Monitoring System for Cable-Stayed Bridges I: Consist and Contents L. Luo, B.S. Du and H. Luo	204
Dynamic Stability of Large-Span Suspen-Domessubjected to Seismic Excitations H.J. Liu, L.F. Yang and Y.F. Luo	209
Transient Analysis of Dam-Reservoir Interaction Based on Dynamic Stiffness of SBFEM S.M. Li	213
Analysis of Tunnel Rock's Dynamic Stress with Input of Different Peak Ground Motions Y.W. Sun, N. Men, J.S. Bo, P. Li and X.G. Cai	218
Traffic Accidents Prediction Using Improved Grey-Markov Model K.M. Chen, L.F. Xie and W.S. Xiang	222
Applying Research on Testing Technique of High Performance Concrete Z.J. Wang, M. Han and F. Zhao	226
Simple Formulate for Distortional Buckling Load of Liffed Channel Aluminium Alloy Members under Axial Force L.Z. Jiang, W.B. Zhou and Y. Luo	230
Influence of Soil Saturation on the Free Field Response of Liquefiable Soils F.S. Liu and H.B. Bian	237

Design of Mountain Road Tunnel Safety Monitoring System W.D. Pan, R.G. Gu, Y.G. Lv and X.L. Sheng	241
Baseline Correction of Digital Strong-Motion Data-Examples from the 2008 Wenchuan, China, Earthquake H. Li, D. Wang, Y.J. Cai, J.C. Wu and G. Liu	247
The Seismic Response Analysis of Continuous Rigid-Frame Bridge - Energy Method Q.C. Yu, A.R. Liu, R. Xiong and H.J. Yu	251
Numerical Simulation for Dynamic Response of EPS Geofoam Seismic Buffers Y.M. Wang, H. Li and H. Zhang	256
Influence of Ship Traffic Rules in Y-Type Fairway Intersection Water on Port Service Level W.Y. Wang, Z.J. Guo, G.L. Tang and X.Q. Song	262
Performance Comparison of Dense Frequency Identifications for Empirical Mode Decomposition M. Zheng and F. Shen	266
Comparison of Near-Fault Effect Considered in Seismic Design Codes for Building J. Zhou and X.D. Fang	270
Scientific Location between Rail Transit and Bus in China Y.P. Wang, L. Zhao, C.Q. Ma and Y.Y. Guo	274
Seismic Response Analysis of Frame Structure on a Slope L.P. Liu, Y. Liu and Y.M. Li	278
Research on the Consolidation Theory of Sand Drain Foundation Settlement W.D. Pan, X.L. Sheng, R.G. Gu and K. Zhu	282
Study on Grouting Pressure of Splitting Grouting Based on Cylindrical Expansion Considering Large Strain K. Wu, M.Y. Ma and D.X. Hao	288
Seismic Assessment of Out-of-Code High-Rise Building Using Dynamic Nonlinear Analysis X.S. Wu, W.L. Xue, G. Rui, X.Q. Zhao and G. Li	292
Research on Stability of Pressure Bars under the Function of Lateral Centralism Load Z.L. Li, Y.B. Gao and X.S. Wang	297
Mechanical Analysis for the Deck Pavement of Long-Span Steel Bridge C.Y. Wu and Z.X. Zhang	302
Effects of Site Classification on Platform Value of Response Spectrum P. Li, J.S. Bo, X.Y. Guo, Y.W. Sun and Y.D. Zhang	306
Seismic Behaviors of an Upper Deck Type Steel Arch Bridge Y.W. Niu and T. Yamao	310
The Characteristic of the Seismic Response Spectrum of Slope Reinforced with Piles under the Different Diameters R.J. Li, Y.Z. Yu and Y.J. Jiao	315
A Mobile Payment Based on-Street Parking Management System Y.G. Sui, Y. Wei and J.H. Guo	319
Numerical Simulation on Non-Normal Penetration into Reinforced Concrete L. Xiao, W.Z. Qu and Q.J. Wang	323
A New Health Monitoring System for Cable-Stayed Bridges II: Applications L. Luo, H. Luo and B.S. Du	328

Random Seismic Response Analysis of Leaning-Type Arch Bridge Y.H. Li, A.R. Liu, Q.C. Yu, P. Tang and F.J. Cheng	332
Earthquake-Induced Economic Loss Estimation of a Reinforced Concrete Office Building in Kunming T. Tan, H. Yang, Z.M. Yan and S.L. Bai	337
Calculation of Cable Force for Long-Span Rib Arch Bridge Construction under Seasonal Ambient Temperature W.F. Tian, S.X. Zhou and A.T. Saeed	341
Defects Detection in Concrete Structure with Infrared Thermal Imaging and Numerical Simulation H.G. Xu, Z.H. Shui, B. Chen, W. Chen and S. Ding	345
Internal Load Determination of Two Spatial Structures: A Simple Roof Truss and a Quadrangular Pyramid W.J. Niu	349
Highway Bridge Load-Bearing Capacity Assessment Under Chinese and British Methodologies M.H. Selman	353
Least Square Method to Calibrate Seismic Design Response Spectrum X.Y. Guo, J.S. Bo, P. Li and Y.D. Zhang	358
Study of Permeability Coefficient in Pumping Test on Steady Flow in Completely Penetrating Well N. Men, Y.W. Sun, J.S. Bo, P. Li and W. Lin	362
Simulation Researches of Angular Displacement Control System with Constant Vertical Wind Disturbance D.C. Qu, J.Y. Yu and J.H. Cheng	366
Study on Impact Compaction of Aeolian Sand Subgrade and its Effect Evaluation Y.Q. Yuan, X.C. Wang and H.J. Shao	370
The Anti-Bending Bearing Capacity Analysis of the Reinforced RC Girder with External Prestress Base on ABAQUS Y.X. Zhang	374

Part 2

Chapter 3: Environmental and Materials

Changes in <i>Cupressus funebris</i> and <i>Cryptomeria fortunei</i> Root Parameters in Landslides Caused by the Wenchuan Earthquake H. Yu, S. Cheng, G. Yang, Y.H. Gao, Z.Y. Zhang, B. Peng and G. Xiong	381
Application of Models-3/CMAQ on Asian Dust Storm Y.B. Wang, J.F. Fei, X.G. Huang, X.P. Cheng and Y.J. Ge	385
Porosity and Permeability Analysis of Sludge Stabilised with Fly Coal Ash and Portland Cement T. Daněš, J. Thomas, J. Jelínek and J. Mališ	389
The Study on Flow Simulation Based on Virtual Reality C. Wen	393
Screening Houseplants to Remove Ammonia from Indoor Air through Fumigation H. Yang, Y.J. Liu and W. Shao	397

Research on Hydrocarbon Emission Regularity of Passenger Car X.M. Qiao and A. Xu	401
The Design and Production of Map Symbol Database Based on ArcGIS J.Y. Xu and M.Y. Yang	405
Exogenous Nitric Oxide Reduces Cadmium Toxicity of Maize Roots H.Y. Li and H. Shao	409
Demineralization of Mine Water by Electrodialysis J. Hajduková, J. Thomas, P. Maliková and J. Vidlár	414
The Prediction of High-Speed Landslide Movement and Simulation of Generated Impulsive Wave by SPH Method J.L. Miao, J.Q. Chen and C. Wen	418
Abscisc Acid-Induced Chilling Tolerance in Maize Seedlings Is Mediated by Nitric Oxide and Associated with Antioxidant System H.Y. Li and W.Z. Zhang	423
Effect of pH on the Microbial Community Structure of SBBR Autotrophic Nitrogen Removal Process Y. Qin, J.S. Guo and F. Fang	428
Environmental Sustainability of Microalgae Production as a Biofuel Source L.D. Zhu, M. Naaranoja and E. Hiltunen	433
Strength Properties of Sludge Solidified with Fly Coal Ash and Portland Cement T. Daněk, J. Thomas, J. Mališ and J. Jelinek	439

Chapter 4: Geotechnical and Building Materials

Centrifuge Modeling and Numerical Simulation of Air Sparging Process L.M. Hu, H.Z. Lee, J. Wang and J.T. Du	445
Three-Dimensional Face Stability Analysis of EPBS Tunnels X.G. Huang, Y.Y. Yang and G.H. Wang	449
Study on Limestone Uniaxial Compression Creep Test with Chemistry–Mechanics Coupling Action A.N. Jiang and S.A. Jiang	453
Effects of Mining Excavation on Surface Structures C. Sun and Q. Wang	457
Face Stability Analysis of Rectangular Tunnels Driven by a Pressurized Shield X.M. Tu, Y.Y. Yang and G.H. Wang	461
Determine to Slip Surface in Waterfront Soil Slope Analysis J.J. Wang, H.P. Zhang and T. Liu	466
Model Test Research on Bearing Behavior of Pile-Net Composite Foundation in Super Large Area and Deep Soft Soil J.J. YU, Q.G. Cheng, C.H. Li, J.J. Wu and H. Wen	470
Seismic Response Characteristics of Deep Soft Site with Depth under Far-Field Ground Motion of Great Earthquake J.Y. Zhan, G.X. Chen and D.D. Jin	477
Study on Soil Improvement Technology of EPBS Tunnel G.H. Wang and Y.Y. Yang	484
3-D Granular Simulation on the Process of Slope Failure and Collapse B. Yang and J. Yang	489

Dynamic Response Analysis of Asphalt Pavement Based on Transversely Isotropic Subgrade under Different Speeds	
X.Y. Guo, Z.F. Li and M. Zhang	493
Blast-Induced Cumulative Effects in Surrounding Rock of Largespan Tunnel under Multiple Blasts	
L.F. Li, X.B. Li, H.P. Ma and J.F. Xie.....	498
A Numerical Analysis on the Behavior of End-Bearing Pile for Supporting Embankment over Soft Soils	
W.P. Cao, M. Zhao and Q.C. Shi.....	502
Application of Fuzzy Cluster to Geotechnical Stratum Division	
Y.Y. Yang, X.G. Huang, X.J. Wang, Q.F. Zhang and C. Liu.....	507
Application of Information Entropy and FAHP Evaluation Model in Optimization Decision of Bracing System for Deep Excavation	
M. Ding, Y. Yan and Y.X. Zhang.....	512

Chapter 5: Electronic Materials and Applications

Sliding Mode Control with Adaptive Approaching Law for Bioreactor	
L.P. Fan, Y. Song and J. Zhang	521
TOPSIS-Based Multi-Criteria Group Decision Making under Heterogeneous Information Setting	
D.H. Peng, C.Y. Gao and L.X. Wu.....	525
2x2 Optical Switch Based on Silicon-on-Insulator Microring Resonator	
B. Mardiana, A.R. Hanim, H. Hazura, S. Shaari, P.S. Menon, H. Abdullah and N. Arsad.....	531
Characterization of Silicone Rubber Reinforced with Conductive Powder	
E.V. Stoian	535
Pulse-Driving Based Magnetic Coupling Resonant Wireless Power Transmission System Research	
Q. Wang and H. Li.....	539
A Matrix of Valves Based on Electro-Rheological Fluid and its Application on Multi-Line Braille Displayer	
L.N. Xu, J.B. Liu and L. Han.....	543
Performance of Optical Wavelength Demultiplexer Based on Silicon-on-Insulator (SOI) Microring Resonators (MRRs)	
H. Hazura, A.R. Hanim, B. Mardiana, S. Shaari, B.Y. Majlis and P.S. Menon	549
Electric Motor Fault Analysis Based on Windowed-Zeropadded FFT	
J. Treerong	553
Application of Signal Processing for Motor Condition Monitoring Based on Filtered-Signals and Eliminated-Signals	
J. Treerong	557
A New Method of Electric Motor Fault Detection Based on Bi-Spectrum of Eliminated Signals	
J. Treerong	561
Study of Fraunhofer Diffraction Pattern from a Circular Aperture Using an Optical Fiber Microprobe	
W.M. Mukhtar, P.S. Menon and S. Shaari.....	565
A VLSI Implementation of Filterbank for MPEG2/4 AAC Encoder	
T.H. Tsai and Y.J. Sha	569

Chapter 6: New Materials and Composites Materials

Inverse Hall-Petch Effect of Hardness in Nanocrystalline Ta Films Z.H. Cao and X.K. Meng	575
Comparison of Mechanical Properties between Thai Orthodontic Elastics with Different Ammonia Contents and Commercial Orthodontic Elastics N. Anuwongnukroh, P. Senarak, S. Dechkunakorn, T. Suddhasthira, C. Kongkaew, S. Loykulnant, W. Wichai and S. Jitboon	580
Design and Experimental Evaluation of a Novel 2 DOF Haptic Master Device Featuring Magneto-Rheological Fluid P.B. Nguyen, J.S. Oh and S.B. Choi	585
Magnetic Phase Transitions in Ultrathin Films of Different Crystal Structures L. Afremov and Y. Kirienko	589
Improved Extraction of the Local Carrier Generation Lifetime from Forward Diode Characteristics W. Pengchan, T. Phetchakul and A. Poyai	593
Microstructural Evolution during Accumulative Roll-Bonding Process of a High Performance Copper Alloy S.H. Lee, D. Yoon and H. Utsunomiya	597
Preparation of the Three Main Layers of CdS/CdTe Thin Film Solar Cells Using a Single Vacuum System S.N. Alamri, M.S. Benghanem and A.A. Joraid	601
New Method for Improving the Electrical Characteristics of P-N Junction Diode I. Srithanachai, S. Ueamanapong, A. Poyai and S. Niemcharoen	606
Failure Analyses of Damaged Booster Pumps in a Power Plant A. Alavi-Shoushtari, S.M. Mousavi and D. Azimi-Yancheshmeh	610
Alumina Supported Ni-Mg-La Tri-Metallic Catalysts for Toluene Steam Reforming as a Biomass Gasification Tar Model Compound S. Thassanaprichayanont, D. Atong and V. Sricharoenchaikul	614
Preparation of Lightweight Bricks Using Sewage Sludge J.A. Jeong and W.K. Lee	619
Improvement of Mechanical Properties and Transformation Behavior of NiTi Drawn Wires for Orthodontics Applications N. Noonai, A. Khantachawana, P. Kaewtathip and J. Kajornchaiyakul	623
Activation Energies of Liquid Crystalline Thermoset Containing Rigid-Rod Epoxy S.H. Byun and S.H. Cho	628
Depression of Self-Excited Pressure Oscillations and Noise in the Pilot Stage of a Hydraulic Jet-Pipe Servo-Valve Using Magnetic Fluids S.J. Li, J.H. Peng, S.Z. Zhang and J.M. Mchenya	632
Study of Dye-Sensitized Solar Cells with Nanostructure Inn Compact Layer and Au Nano Particles C.C. Chen, L.C. Chen and S.J. Kuo	636
Density of States Extraction in Bulk Channel Area of a-Si:H Thin-Film Transistors by Using Low-Frequency Noise Analysis K. Lee, Y. Son, J. Lee, J. Lee, S. Jang, J.J. Park, S. Kim and H.C. Shin	642
LED with Ocean Battery J.C. Wang	646

Effect of Cu and Co Additions on Corrosion Behavior of NiTi Alloys for Orthodontic Applications

- A. Phukaoluan, A. Khantachawana, S. Dechkunakorn, N. Anuwongnukroh,
P. Santiwong and J. Kajornchaiyakul 650

Design and Simulation of Low-Power Multistage Amplifiers

- M.Y. Ren 655

Electrostatic Control and New Device Handling Consideration for MEMS Manufacturing Process

- A. Chakkaew and W. Titiroongruang 659

The Study of p-n and Schottky Junction for Magnetodiode

- T. Phetchakul, W. Luanatikomkul, C. Leepattarapongpan, E. Chaowicharat,
P. Pengpad and A. Poyai 663

Comparison of the Mechanical Properties of Thai Nonlatex with Commercial Latex Orthodontic Elastics for Orthodontic Application

- S. Dechkunakorn, V. Jittanonda, N. Anuwongnukroh, T. Suddhasthira,
W. Wichai and P. Tua-Ngam 668

Residual Force of Orthodontic Elastomeric Ligature

- S. Dechkunakorn, N. Viriyakosol, N. Anuwongnukroh, T. Suddhasthira, P. Laokijcharoen,
P. Churnjitapirom, P. Tua-Ngam and T. Kaewprakob 674

Investigation of Fluoride Release from Orthodontic Acrylic Plate

- S. Srithongsuk, N. Anuwongnukroh, S. Dechkunakorn, T. Srihirin and P. Tua-Ngam 681

Equilibrium and Thermodynamics of Adsorption of Fe/Ac for Aniline from Dilute Solutions

- B.Z. Li, Y.B. Guo, L.S. Liu, Y.B. Xue and D.K. Sun 688

Design of 3 DOF Haptic Master Mechanisms Featuring Bi-Directional Clutch/Brake for MIS

- J.S. Oh, S.G. Lim, P.B. Nguyen and S.B. Choi 692

Influence of Sn Content on the Mechanical and Corrosion Behavior of AM60 Base Alloys

- J.M. Kim, J.S. Park and K.T. Kim 697

Performance Evaluation of Scintillation Fiber-Optic Dosimeter for Measuring High-Energy Photon Beams

- W.J. Yoo, K.W. Jang, J.S. Moon, K.T. Han, B.S. Lee, S.H. Cho and S. Kim 701

Comparison of Properties between General Purpose Stainless Steel Wire and Commercial Orthodontic Stainless Steel Wire

- N. Anuwongnukroh, S. Dechkunakorn, P. Churnjitapirom, E. Sukhanun,
T. Intrarasuksanti, P. Jarounkonkit and S. Sarakul 706

Study of Effect on Cell proliferation and Hemolysis of HAP and TCP Nanometer Particles

- Z.W. Huang, T.T. Ding and J. Sun 711

***Ab Initio* Study on the Structural Stability and Elastic Properties of Tungsten Borides with Hexagonal Structure**

- X.W. Xu, X. Yu, L. Hu, Z.M. Lu and C.C. Tang 715

Processing and Recycling Experiments of Dust from Electric Arc Furnace

- Z. Bacinschi, C.Z. Rizescu, E.V. Stoian, D.N. Ungureanu, A.A. Poinescu and C. Ittu 719

Chloride Penetration through Cracks in Concrete with Various Mixing Properties

- I.S. Yoon 723

Fabrication Optimization of Magnesium Az61 Alloys via Extrusion for High Productivity	
J.S. Park, J.M. Kim, Y.H. Song, B. Hwan-Hong, Y.W. Cho, S.W. Joo and J. Seok-Oh.....	727
Structural and Optical Properties of Nanostructured Zn_{1-x}Mn_xO Thin Films	
A.R.A. Rashid, P.S. Menon and S. Shaari	731
Direct Reactive Compatibilization of GMA on PE/Wood-Flour Composite	
Y.W. Li and X.H. Chen.....	735
Growth of Vertically Aligned ZnO Nanowires on Iron Oxide Layer	
S.Y. Pung and K.L. Choy.....	740
Effect of Solid Solution Treatment on the Microstructure and Mechanical Properties of IN738LC Superalloy	
J.M. Kim, J.S. Park, H.S. Yun, S.J. Lee and S.U. An.....	744
Effect of Attenuation on Four-Wave Mixing Generation	
M.A. Nizam, N. Arsad, A.R. Hanim, S. Shaari, A.E. Annuar, M.Z.A. Nasir and A.Z.A. Rashid	748
Hot Isostatic Pressing of Large Bore, Stainless Steel Pipework for a Safety Critical Application	
J.L. Sulley, B.K. Bull and A.C. Wood	752
Study on the Water Proof Seal for Underwater Robot Using MR Fluid	
D.W. Yun, K. Jinho and S.H. Kim.....	759
Defect Characterization Using Random Telegraph Noise in GaN-Based Light-Emitting Diodes	
J.J. Park, T.W. Kang, D.Y. Woo, J.K. Son and H.C. Shin.....	763
Pseudo Transistor Matrix for Defect Density Extraction of Gate Oxide Shorts	
Y. Ding, X.H. Luo and C. Gao.....	767

Chapter 7: Other Related Fields

On the Analysis and Design of Steel Structure to Mitigate Progressive Collapse	
M. Mirtahery and Z.M. Abbasi	775
Landfill Clay Barrier: Fibre Reinforcement Technique	
O. Plé, T. Ngoc Hà Lê and M.S. AbuAisha	780
Cyclic Test of Steel Plate Shear Wall Designed by PFI Method	
F. Emami and M. Mofid.....	785
Numerical Simulations of Canyon Topography Effects on Long-Span Bridge with High Piers under Incident SH Seismic Waves	
G.L. Zhou, X.J. Li and Q.L. Meng.....	789
Measurement of Chloride Ion Using a Long-Period Fiber-Grating-Based Microfluidic Chip System	
J.N. Wang, J.L. Tang, W.T. Wu, D.C. Chen, C.H. Chen and C.Y. Luo.....	795
Study on the Principle of Tunnel Collapse Treatment and its Application	
L. Mu, Z.L. Huo and Y.H. Fan	799
Keyword Index	805
Author Index	813