

# Table of Contents

## Preface

|   |     |
|---|-----|
| <b>Annealing Textures of Thin Films and Copper Interconnects</b>  |     |
| D.N. Lee  | 1   |
| <b>Impact of a Combined Use of Focused Ion Beam Technique and Transmission Electron Microscopy on Materials Characterization</b>                                    |     |
| H. Saka   | 9   |
| <b>Novel Properties of Nanostructured Metals</b>  |     |
| K. Lu   | 21  |
| <b>A Unified Technology Combining Plastic Forming and Heat Treatment of Steels</b>  |     |
| T.Y. Hsu  | 31  |
| <b>Structural Refinement of Interstitial Free (IF) Steel by Deformation and Phase Transformation</b>  |     |
| N. Hansen and X. Huang  | 37  |
| <b>Grain Refinement and Mechanical Properties of a Metastable Austenitic Fe-Cr-Ni-Mn Alloy</b>  |     |
| Y. Ma, J.E. Jin and Y.K. Lee  | 43  |
| <b>Characteristics of Deformation-Enhanced Transformation in Plain Low Carbon Steel</b>   |     |
| Z.Q. Sun, W.Y. Yang and J.J. Qi   | 49  |
| <b>Corrosion Resistance of Si and Al-Bearing Ultrafine Grained Weathering Steel</b>   |     |
| T. Nishimura  | 55  |
| <b>Evaluation of Corrosivity in Atmospheric Environment by ACM (Atmospheric Corrosion Monitor) Type Corrosion Sensor</b>  |     |
| T. Shinohara, S. Motoda and W. Oshikawa   | 61  |
| <b>Continuous Cooling Transformation Temperatures and Microstructures of Niobium Bearing Microalloyed Steels</b>  |     |
| Y.K. Lee, J. Hong, C.S. Choi and J.K. Lee   | 65  |
| <b>Control of Martensitic Morphology in Thermal-Mechanical Processing of Ferrous Alloys</b>   |     |
| Q.P. Meng, Y.H. Rong and T.Y. Hsu   | 69  |
| <b>Characterization of Kinetics of Deformation-Enhanced Transformation in a Low Carbon Steel</b>  |     |
| J.J. Qi, W.Y. Yang, Z.Q. Sun and X. Zhang   | 73  |
| <b>Study on Microstructures and Mechanical Properties of B510L Steel by TMCP</b>  |     |
| L. Li, C.Z. Yang, H. Ding, L.X. Du, X. Liu, G.D. Wang, H. Song and P. Zhang   | 77  |
| <b>Microstructural Evolution and Mechanical Properties of Modified 9%Cr-1%Mo Steel upon Isothermal Heat-Treatment</b>   |     |
| S.K. Hur, K.S. Shin, J.H. Yoo, J.M. Koo, S. Lee, Y. Jung and C.W. Bae   | 81  |
| <b>Formation and Control of the Acicular Ferrite in Low Carbon Microalloying Steel</b>  |     |
| C.J. Shang, Y.T. Zhao, X.M. Wang, L.J. Hu, S.W. Yang and X.L. He  | 85  |
| <b>Effects of the Finish Rolling Temperature on Mechanical Properties and Microstructure Evolution of Line Pipe Steel</b>   |     |
| K.H. Kim, N.M. Hwang, B.J. Lee and J.K. Yoon  | 89  |
| <b>Microstructures and Properties of a Bainite and Martensite Dual-Phase Cast Steel Fabricated by Combination of Alloying and Controlled Cooling Heat Treatment</b> |     |
| Y.H. Jiang, R.F. Zhou, D. Lu and Z.H. Li  | 93  |
| <b>Strengthening and Toughening Mechanisms of the Microalloying Non-Quenching and Tempering Steel</b>   |     |
| Y.H. Huang, Y. Zhang, H. Zhai, C. Zhou and J. He  | 97  |
| <b>TEM Observation on Nano-Precipitation of Plain Low Carbon Steel by CSP</b>   |     |
| L.N. Zhang, X. Zhang, Y. Ma and D.L. Liu  | 101 |
| <b>Strain-Induced Precipitation of Nb(CN) during Deformation of Undercooled Austenite in Nb-Microalloyed HSLA Steels</b>  |     |
| G. Chen, W.Y. Yang, S.Z. Guo and Z.Q. Sun   | 105 |
| <b>Distribution of Mo at Grain Boundary of 1300MPa CrMo Steel</b>   |     |
| W.G. Yang, L.N. Zhang, X. Zhang and W.J. Hui  | 109 |

|   |     |
|---|-----|
| <b>The Mechanism of Intragranular Ferrite Nucleation on Inclusion in Steel</b>  | 113 |
| Z.G. Yang, C. Zhang and T. Pan  |     |
| <b>Subsurface Microstructure Evolution of Hadfield Steel under High Impact Energy</b>   | 117 |
| Y.H. Xu, L. Fang, Q. Cen and J.H. Zhu   |     |
| <b>Evolution of Microstructures in a Low Carbon Bainitic Steel during Reheating</b>   | 121 |
| H.B. Wu, S.W. Yang, S.Q. Yuan, C.J. Shang, X.M. Wang and X.L. He  |     |
| <b>Dislocation-Precipitate Interaction and Its Effect on Thermostability of Bainite in a Nb-Bearing Steel</b>   | 125 |
| S.W. Yang, H.B. Wu, S.Q. Yuan, C.J. Shang, X.M. Wang and X.L. He  |     |
| <b>The Aging Behavior for Low Carbon Bainitic Steel Bearing Cu-Nb</b>   | 129 |
| X.M. Wang, G.F. Zhou, C.J. Shang, S.W. Yang and X.L. He   |     |
| <b>Surface Nanocrystallization of Low Carbon Steel Induced by Circulation Rolling Plastic Deformation</b>   | 133 |
| X.M. Fan, B. Zhou, L. Zhu, H.Z. Wang and J.W. Huang   |     |
| <b>Microstructures and Microhardness of SNCed Medium Carbon Low Alloy Steels</b>  | 137 |
| J.B. Zhang, Y.L. Liu, X.Q. Zhao, J. Wu, H.W. Song and T.Y. Xiong  |     |
| <b>Ultra-Fine Grain Size by Dynamic Recrystallization in Strip Rolling of Nb Microalloyed Steel</b>   | 141 |
| S.V. Subramanian, G. Zhu, C. Klinkenberg and K. Hulka   |     |
| <b>Continuous Dynamic Recrystallization of AISI 430 Ferritic Stainless Steel by Hot Torsion Deformation</b>   | 145 |
| J. An, S.M. Han, Y.J. Kwon and Y.C. Yoo   |     |
| <b>Dynamic Recrystallization of Ferrite in a Low Carbon Nb-Microalloyed Steel</b>   | 149 |
| L.F. Li, W.Y. Yang and Z.Q. Sun   |     |
| <b>Study on Recrystallization Behavior of High Strength Automobile Steel Sheets Produced by CSP</b>   | 153 |
| Z.Z. Zhao, Y.L. Kang, X.P. Mao, Y.L. Chen, G.J. Chen and X.W. Chen  |     |
| <b>Models for Static and Metadynamic Recrystallisation of Interstitial Free Steels</b>  | 157 |
| S.H. Zahiri, S.I. Kim, S.M. Byon, P. Hodgson and Y. Lee   |     |
| <b>The Effect of Deformation Temperature on the Recrystallization Behavior of AISI 304 Stainless Steel</b>  | 161 |
| S.J. An, J. An, S.I. Kim, Y.J. Kwon and Y.C. Yoo  |     |
| <b>Texture Developments during Ferrite Refinement through Deformation-Enhanced Ferrite Transformation and Dynamic Recrystallization in Low Carbon Steel</b> | 165 |
| P. Yang, W.Y. Yang and Z.Q. Sun   |     |
| <b>Prediction of Flow Stress and Microstructural Evolution during Hot Forging of Three Microalloyed Medium Carbon Steels</b>                                | 169 |
| Y.C. Yoo, S.I. Kim, S.M. Byon and Y.S. Lee  |     |
| <b>Effect of Initial Structure on Recrystallized Austenite Grain Size of Fe-32%Ni Alloy</b>   | 175 |
| I.J. Shon, S.J. Lee, Y.S. Seo, Y.K. Lee, Y.H. Jeong and C.S. Choi   |     |
| <b>Effect of Austempering Process on the Properties of TRIP-Steel</b>   | 179 |
| L. Wang and T.Y. Hsu  |     |
| <b>Influences of Severe Deformation and Alloy Modification on Secondary Hardening and Fracture Behavior</b>   | 183 |
| H.S. Sim, K.S. Lee, K.B. Lee, H.R. Yang and H. Kwon   |     |
| <b>Surface Age-Hardened High Speed Steel with High Co Content Formed on Undecarburized Carbon Steel</b>   | 187 |
| Y.M. Zhang, Y.P. Liu, Z.H. Li and Z. Xu   |     |
| <b>Effect of Aging Treatment on High Temperature Strength of Nb Added Ferritic Stainless Steels</b>   | 191 |
| J.C. Ahn, G.M. Sim and K.S. Lee   |     |
| <b>Effect of Ti on Formability of IF Steels</b>   | 195 |
| S.Y. Kim, I.D. Choi, I.M. Park and K.M. Cho   |     |
| <b>Wear Behavior of an Austempered Ductile Iron Containing Mo-Ni-Cu</b>   | 199 |
| S. Yazdani and M.A. Rahimi  |     |
| <b>Effect of Heat Treatment on the Thermal Expansion Coefficient of Austempered Ductile Iron</b>  | 203 |
| M.T. Saidi, N. Baghersaie and N. Varahram   |     |

|  |     |
|--|-----|
| <b>The Effect of Si on the Toughness of High Strength Mn-Si-Cr Series Bainitic Steels</b>  | 213 |
| Z.L. Tan, B.Z. Bai, H.S. Fang and F.B. Yang  |     |
| <b>The Effects of RE-Mg on Thermal Fatigue Resistance of Cast High Speed Steel (HSS) Rolls</b>   | 217 |
| H.G. Fu, Z.Q. Jiang, J.D. Xing and Y.X. Li   |     |
| <b>Effect of Thickness of Water Film on Atmospheric Corrosion Behavior of Carbon Steel</b>   | 221 |
| Y. Hosoya, T. Shinohara, S. Motoda and W. Oshikawa   |     |
| <b>Localized Corrosion Behavior of High Nitrogen Steel</b>   | 225 |
| N. Washizu and H. Baba   |     |
| <b>A New Method to Determine the Activation Energy for Hydrogen Desorption from Steels</b>   | 229 |
| F.G. Wei, K. Tsuzaki and T. Hara   |     |
| <b>Origin of the Hydrogen Absorbed by Incoherent TiC Particles in Iron</b>   | 233 |
| K. Tsuzaki and F.G. Wei  |     |
| <b>Development of Corrosion and Wear Resistant Coatings by an Improved HVOF Spraying Process</b>   | 237 |
| Y. Ishikawa, J. Kawakita and S. Kuroda   |     |
| <b>Influence of Trace Boron and Cooling Rate on the Thermal Embrittlement of 2.25Cr-1Mo Steel</b>  | 241 |
| A.M. Guo, Z.X. Yuan and W.X. Yuan  |     |
| <b>Fatigue Property of High-Strength Carbon Steel Deformed by Repetitive Side Extrusion Process</b>  | 245 |
| K. Aoki, A. Azushima and Y. Kondo  |     |
| <b>Study on Thermal Fatigue Behavior of Boride Layer of H13 Steel</b>  | 249 |
| X.C. Wu, W.Y. Peng and Y.A. Min  |     |
| <b>Interactive Mechanisms of Sulfide Inclusions and Environmental Factors in Low Cycle Fatigue Process of Pressure Vessel Steels in High Temperature Water</b> | 253 |
| X.Q. Wu  |     |
| <b>Evaluation of Thermal Degradation of 2.25Cr-1Mo Steel by High Frequency Ultrasonic Attenuation Measurement</b>  | 257 |
| J.W. Byeon, C.S. Kim, S.I. Kwun and S.J. Hong  |     |
| <b>Damping Capacity of the Fe-Cr-Al Based Alloys</b>   | 261 |
| R. Lin, M.Z. Cao and R. Yang   |     |
| <b>An Investigation of a Nitrogen Enhanced Steel Processed by Explosive Powder Compaction</b>  | 265 |
| C.D. Zhou, J.F. Fan, H.R. Le, G.C. Jiang and J.G. Zhang  |     |
| <b>Development of the SAW Wire for High Strength TMCP Steel</b>  | 269 |
| X.H. Xue, S.N. Lou, B. Qian and S. Yu  |     |
| <b>Manufacturing and Oxidation Property of Steel and Ti Metal Fibers</b>   | 273 |
| D.B. Lee, T.H. Kim and J.H. Ko   |     |
| <b>Determination of Optimum Parameters Effect on Kerf Width of 316L Stainless Steel Tube in Nd:YAG Laser Cutting</b>   | 277 |
| J.M. Ahn, H.Y. Kim and T.H. Kim  |     |
| <b>The Electromagnetic Confinement and Shaping Process of Liquid Metal</b>   | 281 |
| C. Song, Z.M. Xu and J.G. Li   |     |
| <b>Modeling and Numerical Calculation of Heat Transfer during Magnetic Field Quenching</b>   | 285 |
| Z.H. Li, M.H. Liu, J.R. Chen and R.F. Zhou   |     |
| <b>Correlation of Yield Ratio with Materials Constants of Constitutive Equation</b>  | 289 |
| Y.M. Kim, S.K. Kim and N.J. Kim  |     |
| <b>Experimental and Thermodynamic Modeling of the MnO-SiO<sub>2</sub>-TiO<sub>2</sub>-Ti<sub>2</sub>O<sub>3</sub> System</b>                                   | 293 |
| Y.B. Kang, I.H. Jung and H.G. Lee  |     |
| <b>Investigations on the Photoprotection Ability of TiO<sub>2</sub> Coated on Copper</b>   | 297 |
| R. Subasri and T. Shinohara  |     |
| <b>Phase Transformation in Fe-Based Alloys in High Magnetic Fields</b>   | 301 |
| X.J. Hao and H. Ohtsuka  |     |
| <b>Variant Selection in Fcc-to-Bcc Precipitation at Grain Boundaries in Ni-43Cr Alloy</b>  | 305 |
| Y. Adachi, F.X. Yin, K. Hakata and K. Tsuzaki  |     |
| <b>Analysis of Porosity Characteristics in Weld Metal of High Strength Aluminum Alloy and the Effect of Mixed Shielding Gas</b>                                | 309 |
| X.M. Zhang, Z.Y. Zhang, Y. Peng, Z.L. Tian, C.H. He, H.J. Xiao and C.Y. Ma   |     |

|  |     |
|--|-----|
| <b>The Behavior of AlTiC Master Alloys in Grain Refining of Commercial and High Pure Aluminum</b>  | 313 |
| J.G. Li, M. Huang, Z. Shi and D.Y. Liu   |     |
| <b>The Investigation on Aluminium Alloys Automobile Wheel with Low-Titanium Content Produced by Electrolysis</b>                                 | 317 |
| J.P. Xie, J.W. Li, Z.X. Liu, A.Q. Wang, Y.G. Weng, T.F. Song, Z.Y. Liu and J.F. Wang   |     |
| <b>Production and Mechanical Properties of In-Situ Ti Alloying A356 Alloys</b>   | 321 |
| Z.X. Liu, M.X. Wang, T.F. Song, Y.G. Weng, J.P. Xie and Z.Y. Liu   |     |
| <b>Thermodynamics-Based Constituent Design of Lithium Containing 7000 Series Aluminum Alloys</b>   | 325 |
| Y. Ji, T.T. Zhou and P.Y. Liu  |     |
| <b>Mechanical Characteristic of Flowing Solidification under the Extrusion for the Mixture of the Liquid Aluminum with Sillimanite Particles</b> | 329 |
| W. Chen, C.Q. Sun and Y.L. Li  |     |
| <b>Compressive Properties and Energy Absorption of Hollow Sphere Aluminum</b>  | 333 |
| Y. Yamada, C.E. Wen, T. Asahina, K. Katou, T. Sonoda and M. Mabuchi  |     |
| <b>Control of Nano-Precipitates in Age-Hardenable Aluminum Alloys and Their Mechanical Properties</b>  | 337 |
| T. Sato and H. Shoichi   |     |
| <b>High Speed Roll Casting of Aluminum Alloy Strip</b>   | 343 |
| R. Nakamura, H. Watari and S. Kumai  |     |
| <b>Interfacial Reaction and Strength of Dissimilar Joints of Aluminum Alloys to Steels for Automobile</b>  | 349 |
| A. Hirose, F. Matsui, H. Imaeda and K.F. Kobayashi   |     |
| <b>Microstructures and Thermal Stability of the Metastable-Phase Precipitates Formed in an Al-Cu Alloy</b>                                       | 353 |
| S.K. Son, M. Takeda and T. Endo  |     |
| <b>Nano-Scale Clusters Formed in the Early Stage of Phase Decomposition of Al-Mg-Si Alloys</b>   | 357 |
| H. Shoichi and T. Sato   |     |
| <b>Study of Precipitation Sequence in Al-Mg-Si Alloys by HRTEM</b>   | 361 |
| K. Matsuda and S. Ikeno  |     |
| <b>The Metastable Phase Responsible for Peak Hardness and Its Morphology in an Al-Mg-Si Alloy</b>  | 365 |
| K. Fukui, M. Takeda and T. Endo  |     |
| <b>Dilute Alloy Designs of 7xxx Aluminum Alloys for Thick Forging Applications</b>   | 369 |
| S.T. Lim, Y.Y. Lee and I.S. Eun  |     |
| <b>Deformation Behaviors of 6061 and 7075 Aluminum Tubes at Elevated Temperatures for Warm Hydroforming</b>                                      | 373 |
| D.W. Suh, S.M. Sohn, M.Y. Lee and S.Y. Lee   |     |
| <b>Development of Horizontal Reheating System for Semi-Solid Die Casting and Its Microstructure Evaluation</b>                                   | 377 |
| P.K. Seo, B.M. Kim and C.G. Kang   |     |
| <b>Effect of Be Addition on the Precipitation Behaviors and Mechanical Properties in Al-Cu-Li-Mg-Zr-(Ag) Alloys</b>                              | 381 |
| J.K. Kim, D. Chung, H.S. Park and M. Enoki   |     |
| <b>Electrochemical Etching of Aluminum Foil for Electrolytic Capacitors</b>  | 385 |
| C.-. Chi, Y. Jeong, S.S. Kim, J.H. Lee and H.J. Oh   |     |
| <b>Evolution of Annealing Textures and Microstructures in AA 3103 after Cold Rolling and Repeated Shear Deformation</b>                          | 389 |
| M.Y. Huh, J.P. Lee, J.C. Lee, J.W. Park and Y.H. Chung   |     |
| <b>High Temperature Deformation Behavior of Pre-Sintered Al-10Si-5Fe Based Alloy</b>   | 393 |
| D.S. Lee, G. Shim, M.S. Kim, W.Y. Kim and H. Yamagata  |     |
| <b>Microstructural Characterization of Rheology Material Fabricated by Rotational Barrel Type</b>  | 397 |
| P.K. Seo and C.G. Kang   |     |
| <b>Sliding Wear Characteristics of Ultrafine-Grained Non-Strain-Hardening Aluminum-Magnesium Alloys</b>  | 401 |
| Y.S. Kim, J.S. Ha and D.H. Shin  |     |

|   |     |
|---|-----|
| <b>The Effect of Electromagnetic Vibration on the Continuous Elimination of Inclusions in Molten Aluminum Alloy by Electromagnetic Force</b>  | 405 |
| Y.G. Kim, J.P. Choi, J.P. Park, K.B. Kim, E.P. Yoon and T.W. Nam  |     |
| <b>The Effect of Electromagnetic Vibration on the Silicon Size at Hypoeutectic Al-Si Alloy</b>  | 409 |
| J.P. Choi, K.B. Kim, J.P. Park, E.P. Yoon and T.W. Nam  |     |
| <b>The Effect of Frequency of Electromagnetic Vibration on the Primary Silicon Size in Hypereutectic Al-Si Alloy</b>                          | 413 |
| E.P. Yoon, J.P. Choi, J.P. Park, K.B. Kim, W.Y. Yoon, M.H. Kim, K.H. Kim and T.W. Nam   |     |
| <b>The Texture of 1050 Al Sheet Produced by Equal Channel Angular Pressing</b>  | 417 |
| S. Akramov, M.G. Lee, I.S. Kim, D.Y. Sung and B.H. Park   |     |
| <b>Enhancement of Ductility in Aluminum Alloys by the Control of Transition-Metal Solutes during Thermo-Mechanical Processing</b>             | 421 |
| S. Saimoto, S. Cao and R.K. Mishra  |     |
| <b>Localized Deformation of Equal Channel Angular Extruded Aluminum</b>   | 425 |
| F. Yang, L. Peng and K. Okazaki   |     |
| <b>A Low Environmental Load Modifying and Refining Treatment of Casting Al Alloys with RE</b>   | 429 |
| X.M. Mao, Z.Y. Ouyang and J.L. Zhang  |     |
| <b>Closed-Cell Metal Foams Manufactured from Bulk Metal and Alloy Sheets through ARB Process</b>  | 433 |
| K. Kitazono and E. Sato   |     |
| <b>Effect of Solution Heat Treatment on Microstructure and Mechanical Properties of Al Alloy FOAM</b>   | 437 |
| S.M. Lee, K. Ryu, Y.J. Kwon, J.G. Kim, W.S. Cho, N.H. Cho, C.M. Whang and Y.C. Yoo  |     |
| <b>Enhanced Mechanical Properties of A206 Aluminum Casting Alloy by Addition of Rare Earth Elements</b>                                       | 441 |
| J.H. Jun, J.M. Kim, K.D. Seong, K.T. Kim and W.J. Jung  |     |
| <b>The Influence of Processing Parameters on Mechanical Properties and Microstructure of Welding Zone for Ti<sub>3</sub>Al-TC4 Dual Alloy</b> | 445 |
| Z.K. Yao, X. Liang, H.Z. Guo, B. Wang, G.H. Li, Z. Qiao and H. Zhang  |     |
| <b>Wear and Corrosion Behaviour of In-Situ Al-TiB<sub>2</sub> Metal Matrix Composites</b>   | 449 |
| D.S. Sekhawat, M. Chakraborty and U.K. Chatterjee   |     |
| <b>Materials and Processing Designs for High-Performance Magnesium Alloys</b>   | 453 |
| K. Kondoh, R. Tsuzuki, W. Du and S. Kamado  |     |
| <b>Development of Mg Alloy Sheets via Strip Casting</b>   | 457 |
| S.S. Park, Y.M. Kim, D.H. Kang and N.J. Kim   |     |
| <b>Effect of Section Thicknesses on Tensile Behavior and Microstructure of High Pressure Die Cast Magnesium Alloy AM50</b>                    | 463 |
| M. Zhou, N.Y. Li and H. Hu  |     |
| <b>Microstructure and Tensile Properties of Magnesium Alloy Containing Quasicrystallines Processed by Equal-Channel-Angular-Extrusion</b>     | 469 |
| M.Y. Zheng, X.G. Qiao, S.W. Xu, K. Wu, S. Kamado and Y. Kojima  |     |
| <b>Phase and Morphological Transformation of Preformed AZ91D Magnesium Alloys in Remelting</b>  | 473 |
| M. Xia, H. Zheng, S. Yuan and J.G. Li   |     |
| <b>Study on Microstructure and Properties of Mg-9Al-xZn Alloys</b>  | 477 |
| X.Y. Zhang, F. Jiang, S. Zhou, C. Jia, M. Zhao and X.Q. Li  |     |
| <b>Microstructure, Texture and Deformation Behavior of Lithium Containing Magnesium Alloys</b>  | 481 |
| L.P. Feng, B. Chen, P.Y. Liu and T.T. Zhou  |     |
| <b>The Influence of the Stirrer's Shape and Process Parameter on Friction Stir Welded MB3 Magnesium Joining</b>                               | 485 |
| K. Wang, J. Liu, K.W. Xu and Y. Shen  |     |
| <b>Effects of Rolling Condition on Warm Deep Drawability of Magnesium Alloy Sheets Produced by Twin-Roll Strip Casting</b>                    | 489 |
| H. Watari, K. Davey, M.T.A. Rasgado, L.D. Clark, R. Nakamura and N. Koga  |     |
| <b>Grain Refinement in AZ91E Magnesium Alloy by Thermo-Mechanical Treatments</b>  | 493 |
| A. Yamamoto, M. Ikeda and H. Tsubakino  |     |

|   |     |
|---|-----|
| <b>In-Situ Solid-State Synthesis of Mg Composite with Mg<sub>2</sub>Si Dispersoids</b><br>R. Tsuzuki and K. Kondoh  | 497 |
| <b>Magnesium Foam Produced from Bulk AZ31 Magnesium Alloy Sheets</b><br>Y. Kikuchi, K. Kakehi, K. Kitazono, E. Sato and K. Kurabayashi                                      | 501 |
| <b>Surface Modification on Magnesium Alloys by Coating with Magnesium Fluorides</b><br>T. Ohse, H. Tsubakino and A. Yamamoto  | 505 |
| <b>The Forming Process of Magnesium Alloy for Japanese Home Electric Components</b><br>A. Takara and K. Higashi   | 509 |
| <b>Vacuum Distillation Refining and Extrusion Process of Magnesium</b><br>M. Inoue, T. Doi, T. Aida, K. Matsuki, S. Kamado and Y. Kojima                                    | 513 |
| <b>Continuous Casting of Magnesium Billets for Semi-Solid Processing</b><br>H.C. Jung and K.S. Shin   | 517 |
| <b>Development of Creep Resistant Mg Alloys</b><br>D.H. Kang, M.S. Yoo, S.S. Park and N.J. Kim  | 521 |
| <b>Development of Mg-Al-Zn Based Diecasting Alloys for Elevated Temperature Applications</b><br>J.M. Kim, B.K. Park, K.S. Shin, J.H. Jun, K.T. Kim and W.J. Jung            | 525 |
| <b>Effect of Rolling Conditions on Microstructure and Mechanical Properties of AZ31 Mg Alloy</b><br>T.K. Ha, H.J. Sung, W.J. Park and S.H. Ahn                              | 529 |
| <b>Effects of Grain Refinement on Rollability of AZ31 Mg Alloy</b><br>Q. Jin, S.G. Lim and B.S. You   | 533 |
| <b>Effects of Precipitates and Alloying Element on Microstructure and High Temperature Properties of Mg-Al Alloys</b><br>Y.J. Chung and K.S. Shin                           | 537 |
| <b>Fluxless Recycling of Die-Cast AZ91 Magnesium Alloy Scrap</b><br>H.C. Jung, Y.C. Lee and K.S. Shin   | 541 |
| <b>Mechanical Properties and Texture Evolution of AZ31 Mg Alloy during Equal Channel Angular Pressing</b><br>H.T. Jeong and W.J. Kim  | 545 |
| <b>Grain Refinement and Texture Evolution in AZ31 Alloy during ECAP Process and Their Effects on Mechanical Properties</b><br>H.S. Kim, H.T. Jeong, H.G. Jeong and W.J. Kim | 549 |
| <b>The Joint Characteristics of Friction Stir Welded Mg-Zn-Y Alloy</b><br>C.Y. Lee, W.B. Lee, Y.M. Yeon and S.B. Jung   | 555 |
| <b>Recrystallization in AZ31 Magnesium Alloy during Hot Deformation</b><br>E. Essadiqi, W.J. Liu, V. Kao, S.L. Yue and R. Verma   | 559 |
| <b>Current Research Situation and Development of Titanium Alloy in China in Recent Five Years</b><br>Y.Q. Zhao and L. Zhou  | 563 |
| <b>Research on Semi-Solid Oxidation Behavior of Ti14 Alloy</b><br>Y.Q. Zhao, X.D. Ma, W.L. Wu, L. Feng, H.Y. Yang and L. Yu   | 569 |
| <b>Surface Roughness and Deformation of Grain during Tensile Plastic Deformation of Polycrystalline Titanium</b><br>Y. Li and T. Abe  | 573 |
| <b>Dislocation Structure for Ambient Temperature Creep in Titanium Metal</b><br>T. Yamada, H. Tanaka, E. Sato and I. Jimbo  | 577 |
| <b>Effect of Heat Treatment on Microstructure and Mechanical Property of 45XD and 47XD TiAl Alloys</b><br>H. Zhu, D.Y. Seo and K. Maruyama                                  | 581 |
| <b>Effects of Contact Pressure on Fretting Fatigue Characteristics of Ti-4.5Al-3V-2Mo-2Fe with Acicular Alpha Structure</b><br>J. Takeda, M. Niinomi and T. Akahori         | 585 |
| <b>High and Low Cycle Fatigue of Orthorhombic Ti-22Al-27Nb Alloy</b><br>M. Hagiwara, A. Araoka and S. Emura   | 589 |
| <b>Effects of Microstructure and Environment on Fatigue Properties of Investment Cast Ti-6Al-4V Alloy Welds</b><br>H.C. Lee, J.W. Choi, J.K. Oh and N.J. Kim                | 595 |

|  |     |
|--|-----|
| <b>Low Cycle Fatigue Behavior of a Near-<math>\alpha</math> Ti Alloy Containing Rare Earth Nd</b>  | 599 |
| Z.S. Zhu, C.X. Cao and M.G. Yan  |     |
| <b>The Size Range of Volume Change of Melting</b>  | 603 |
| H.M. Lu and Q. Jiang   |     |
| <b>Progress of Directional Solidification in Processing of Advanced Materials</b>  | 607 |
| H.Z. Fu and L. Liu   |     |
| <b>An Investigation of Structure Stability and Its Improvement on New Developed Ni-Cr-Co-Mo-Nb-Ti-Al Superalloy</b>                                    | 613 |
| X.S. Xie, S.Q. Zhao, J.X. Dong, G.D. Smith and S.J. Patel  |     |
| <b>Evolution of Internal Stress Field in Ni-Base Superalloy through Creep Deformation</b>  | 619 |
| K. Tanaka, T. Kajikawa, T. Ichitsubo, M. Osawa, T. Yokokawa and H. Harada  |     |
| <b>Strengthening Mechanisms in Some Single-Crystal Superalloys</b>   | 623 |
| Y. Koizumi and H. Harada   |     |
| <b>The Possibility of Cr-Base Alloys for High-Temperature Applications</b>   | 627 |
| Y.F. Gu, Y. Ro and H. Harada   |     |
| <b>Effect of Grain Size on Mechanical Properties of Single Phase Co-Ni-Cr-Mo Based Superalloy</b>  | 631 |
| J.K. Sung, M.S. Kim, W.Y. Kim and A. Chiba   |     |
| <b>Tensile Properties of HIP/DB'ed Ni-Base Superalloys</b>   | 635 |
| N.K. Park and J.T. Yeom  |     |
| <b>Phase Transition during Slow Heating in the Mixture Insert Metal Using TLP Bonded Interlayer</b>  | 639 |
| S.W. Kim and C.H. Lee  |     |
| <b>Influence of Microstructural Changes and Grain Boundary Precipitation on the Behavior of 25Ni-15Cr-2Ti Superalloy during High Temperature Creep</b> | 643 |
| A.E. Amer, S.A. EL-Ghazaly, Y.S. Shash and S. Weiss  |     |
| <b>Assessment of Surface Damage in Thermally Aged FSX414 Cobalt-Based Superalloy Using Ultrasonic Rayleigh Wave</b>                                    | 651 |
| J.W. Byeon, C.S. Kim, Y.H. Kim, S.I. Kwun and S.J. Hong  |     |
| <b>New Phases in a Multicomponent High Ruthenium Single Crystal Superalloy</b>   | 655 |
| Q. Feng, L.J. Rowland and T.M. Pollock   |     |
| <b>Roll Bonding and the Application in Making FeCrAl Alloy</b>   | 661 |
| L. Chen and B. Jha   |     |
| <b>Interface Morphologies and Microstructure of a Single Crystal Superalloy under High Thermal Gradient Directional Solidification</b>                 | 665 |
| L. Liu, J. Zhang, T. Hang and H.Z. Fu  |     |
| <b>Effect of Ta on the Oxidation Resistance of a Cast Nickel-Base Die Material with Low Cr and High W Content</b>                                      | 669 |
| Q. Li, C.B. Xiao, J.X. Song, D.G. Wang and Y.F. Han  |     |
| <b>Precipitation Behavior during Ageing Treatment of a Single Crystal Nickel-Base Superalloy</b>   | 673 |
| D.Y. Yang, T. Jin, N.R. Zhao, Z. Wang, X.F. Sun, H.R. Guan and Z.Q. Hu   |     |
| <b>Room Temperature Deformation Behavior of Inconel718</b>   | 677 |
| F. Bian, G. Su, F.Y. Kong and K. Yang  |     |
| <b>Mechanical Behaviour of a Single Crystal Superalloy DD32 - A Comparison with the Alloy SRR99</b>  | 681 |
| J.J. Yu, X.F. Sun, T. Jin, H.R. Guan and Z.Q. Hu   |     |
| <b>Effect of Chromium on the Oxidation of a Fe-10 Al Alloy at 1000°C</b>   | 685 |
| Z.G. Zhang and Y. Niu  |     |
| <b>The Control of Microstructures in <math>(\text{Mo}_{1-x}, \text{Nb}_x) \text{ Si}_2</math> Intermetallics</b>                                       | 689 |
| H.B. Yang, W. Li, A.D. Shan and J.S. Wu  |     |
| <b>Elastic and Thermal Expansion Anisotropy of Mo-Based 5-3 Silicides</b>  | 695 |
| T. Hayashi, K. Ito, M. Takamoto and K. Tanaka  |     |
| <b>An Assessment of Ir-Nb-X (X=Hf,Ta,Ti) Ternary Alloys for Ultra-High Temperature Applications</b>  | 699 |
| C. Huang, Y. Yamabe-Mitarai, S. Nakazawa and H. Harada   |     |
| <b>Solid Solution Hardening Effect of Ir</b>   | 703 |
| Y. Yamabe-Mitarai, T. Maruko, T. Miyazawa and T. Morino  |     |

|  |     |
|--|-----|
| <b>Microstructure and Mechanical Property of MoSi<sub>2</sub> Based Composites</b>   | 707 |
| S.L. Lee, J.K. Lee, B.H. Min, Y.S. Shin, D.S. Bae, J.Y. Park and G. Sasaki   |     |
| <b>Powder Injection Molding of Niobium</b>   | 711 |
| I. Smid and G. Aggarwal  |     |
| <b>High Temperature Oxidation in Multicomponent Nb Alloys</b>  | 717 |
| E.S.K. Menon and M.G. Mendiratta   |     |
| <b>Oxidation Behavior of Rh-xTi Refractory Alloys</b>  | 721 |
| R. Mahapatra and A.W. Davis  |     |
| <b>Bonding Character in the Laves-Phases TiCr<sub>2</sub> and TiCo<sub>2</sub></b>   | 725 |
| J. Sun, X.S. Sun, F. Sun, B. Jiang and D.J. Smith  |     |
| <b>Growth of Single Crystals and Low Temperature Oxidation Behaviors of MoSi<sub>2</sub> and NbSi<sub>2</sub></b>                      | 729 |
| F. Zhang, L.T. Zhang, J.X. Yu and J.S. Wu  |     |
| <b>Microstructure and Properties of Directionally Solidified NbSi<sub>2</sub>/Nb<sub>5</sub>Si<sub>3</sub> Composites</b>              | 733 |
| W. Li, H.B. Yang, A.D. Shan, L.T. Zhang and J.S. Wu  |     |
| <b>Microstructures and Properties of Refractory Niobium-Silicide-Based Composites</b>  | 737 |
| S.Y. Qu, Y.F. Han and L. Song  |     |
| <b>Oxidation Resistant Silicide Coatings for Nb<sub>ss</sub>/Nb<sub>5</sub>Si<sub>3</sub> In-Situ Composites</b>                       | 741 |
| Y.P. Wang, S.S. Li, C. Zhou, S.Y. Qu, L. Song and Y.F. Han   |     |
| <b>Unidirectional Solidification of a Nb<sub>ss</sub>/Nb<sub>5</sub>Si<sub>3</sub> In-Situ Composite</b>                               | 745 |
| X.P. Guo, P. Guan, X. Ding, J. Zhang, K. Kusabiraki and H.Z. Fu  |     |
| <b>Preparation of Nanocrystalline NiAl Compounds and Composites by Mechanical Alloying</b>   | 749 |
| J.T. Guo, X.H. Du and L.Z. Zhou  |     |
| <b>Catalytic Properties of Ni<sub>3</sub>Al for Hydrogen Production Reactions</b>  | 755 |
| Y. Xu, S. Kameoka, K. Kishida, M. Demura, A.P. Tsai and T. Hirano  |     |
| <b>Mechanical Anisotropy of NiAl Alloys Processed by Hot Hydrostatic Extrusion</b>   | 759 |
| Z. Witczak, P. Witczak and R. Jemielniak   |     |
| <b>Tensile Creep Behavior of NiAl-9Mo Eutectic Alloy</b>   | 763 |
| W.L. Ren, J.T. Guo, G.S. Li and J.S. Wu  |     |
| <b>Effect of Y Ion Implantation on Oxidation Behavior of IC6 Alloy at 1100°C</b>   | 767 |
| J.X. Song, Y.F. Han and C.B. Xiao  |     |
| <b>Microstructure and High-Temperature Creep Behavior of NiAl-25 at.% Cr Intermetallic Compound</b>                                    | 771 |
| X.H. Du, G.Y. Zhang and J.T. Guo   |     |
| <b>Oxidation of Four NiAl-Ag Alloys at 900°C in 1 Atm O<sub>2</sub></b>  | 775 |
| X.J. Zhang and Y. Niu  |     |
| <b>Advances in Ambient Temperature Creep Deformation Behavior of Two-Phase Titanium Alloys</b>   | 779 |
| A. Jaworski and S. Ankem   |     |
| <b>Microstructure and Tensile Properties of Hot Worked High Nb Containing TiAl Alloy on Industrial Scale</b>                           | 785 |
| J.P. Lin, X.J. Xu, J.F. Gao, Y.L. Wang, Z. Lin and G.L. Chen   |     |
| <b>Selection of Can and Insulating Materials for Controlled-Dwell Extrusion of Gamma-TiAl</b>  | 789 |
| C.G. Bai, D. Liu, D.S. Xu, Y.Y. Cui, Y.L. Hao and R. Yang  |     |
| <b>Recent Work on Alloy and Process Development of Ti<sub>2</sub>AlNb Based Alloys</b>   | 795 |
| S.Q. Li, Y.J. Cheng, X.B. Liang and J.W. Zhang   |     |
| <b>High Temperature Oxidation of Ti45.4Al4.8Nb and Ti46Al2Mo2Nb Alloys</b>   | 801 |
| J.W. Kim and D.B. Lee  |     |
| <b>Investigation on a Fabrication Technique of TiAl Sheet</b>  | 805 |
| Y.Q. Su, G.X. Zhang, J.J. Guo, J. Jia and H.Z. Fu  |     |
| <b>Skull Variation during the Induction Skull Melting Processing of γ-TiAl Alloy</b>   | 809 |
| J.J. Guo, G.H. Liu, Y.Q. Su, H.S. Ding, J. Jia and H.Z. Fu   |     |
| <b>Finite Element Simulation of Canned Forging on TiAl Alloy Containing High Nb</b>  | 813 |
| H.Z. Lin, S.S. Li, X. Su and Y.F. Han  |     |
| <b>Effects of Cooling Rate on the Microstructure and Room Temperature Tensile Properties of Orthorhombic Ti-22Al-21Nb-1Ta-1W Alloy</b> | 817 |
| D. Luo, Y.Y. Cui and R. Yang   |     |
| <b>Electron Beam Welding of Ti-24Al-17Nb-0.5Mo Alloy</b>   | 821 |
| J.Y. Zou, Y.Y. Cui and R. Yang   |     |

|   |     |
|---|-----|
| <b>Flow Stress Behavior and Deformation Characteristics of Ti-22Al-25Nb Alloys at Elevated Temperature</b>  |     |
| X.B. Liang, S.Q. Li, Y.J. Cheng and J.W. Zhang  | 825 |
| <b>The Effect of Temperature on Microstructure and Mechanical Behavior of the Vacuum Brazed Joint of Ti-46.5Al-5Nb Alloy and 42CrMo Steel</b>                                 |     |
| W. Liu, Q. Gao, W. Cong and J.T. Guo  | 829 |
| <b>Microstructure Control of Co<sub>3</sub>AlC-Base Heat Resistant Alloys Using Optical Floating Zone Melting</b>   |     |
| Y. Kimura, K. Sakai, S. Teramoto and Y. Mishima   | 833 |
| <b>Investigation on the Microstructure and High Temperature Mechanical Properties of Al<sub>3</sub>Ti-Mo<sub>3</sub>Al Two-Phase Alloys</b>                                   |     |
| S. Miura, H. Shimamura, K. Ohkubo and T. Mohri  | 837 |
| <b>Phase Constitution and Transformation Behavior of Ni<sub>2</sub>MnGa-Cu<sub>2</sub>MnAl Pseudobinary Intermetallic Compounds</b>   |     |
| H. Hosoda, Y. Higaki and S. Miyazaki  | 841 |
| <b>Precipitation Behavior and Phase Stability of Intermetallic Phases in Fe-Cr-W-Co Ferritic Alloys</b>   |     |
| K. Yamamoto, Y. Kimura and Y. Mishima   | 845 |
| <b>Substructure Development in Rapidly Solidified B2-Type TiCo Ribbons</b>  |     |
| K. Yoshimi, M. Sung, S. Tsurekawa, A. Yamauchi, R. Nakamura, S. Hanada, K. Kawahara and T. Watanabe   | 849 |
| <b>High Temperature Oxidation Behavior of TiNi Alloys</b>   |     |
| J.H. Ko and D.B. Lee  | 853 |
| <b>Phase Transformation and Synthesis of Ni Substituted CoSb<sub>3</sub> Skutterudite Synthesis during Solid State Reaction</b>   |     |
| J.Y. Yang, Y. Chen, J. Peng, W. Zhu and X.L. Song   | 857 |
| <b>RCu<sub>1+x</sub>Sb<sub>2</sub> (R = La, Ce, Pr, Nd, Sm, Gd, Tb, Dy, Ho and Y) Phases with Defect CaBe<sub>2</sub>Ge<sub>2</sub>-Type Structure</b>                        |     |
| X.X. Yang, Y.M. Lu, S.K. Zhou, S.Y. Mao, J.X. Mi, Z.Y. Man and J.T. Zhao  | 861 |
| <b>Iron-Aluminium-Base Alloys with Strengthening Laves Phase for Structural Applications at High Temperatures</b>   |     |
| D.D. Risanti and G. Sauthoff  | 865 |
| <b>Investigation on Microstructure Transformation and Failure Behavior of Cu-Cd-Nb-C<sub>P</sub> Electrical Contact Material</b>  |     |
| Y.S. Cui, W.Z. Shao, L. Zhen and V.V. Ivanov  | 869 |
| <b>Effect of Cu Content on Microstructure and Properties of Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Fiber Reinforced Aluminum Matrix Composites</b>                       |     |
| H.Y. Xu, L. Geng and Q.C. Meng  | 873 |
| <b>Hot Compression Behaviour of In-Situ Synthesized (TiB+TiC)/Ti Composites Prepared by Hot-Pressing</b>  |     |
| Z.Z. Zheng, L. Geng and X.N. Zhang  | 877 |
| <b>Microstructure and Properties of a 70vol.% SiCp/Al-12Si Composite for Electronic Packaging</b>   |     |
| Q. Zhang, Z.Y. Xiu, M.H. Song and G. Wu   | 881 |
| <b>Influence of Strain Rate and Temperature on the Compressive Deformation of a Eutectic Al-Si Alloy Based Composite Reinforced with -Si<sub>3</sub>N<sub>4</sub> Whisker</b> |     |
| A.H. Feng, L. Geng and S.J. Qu  | 885 |
| <b>Microstructure and Mechanical Properties of B/Al Composite after Thermal-Mechanical Cycling</b>  |     |
| Y.C. Qin, S.Y. He and Dezhua  | 889 |
| <b>Hot Deformation Behavior of SiCw/AZ91 Magnesium Matrix Composite in Compression</b>  |     |
| S.B. Li, M.Y. Zheng, W.M. Gan and K. Wu   | 893 |
| <b>Magnetoresistance of La<sub>2/3</sub>(Ca<sub>x</sub>Ba<sub>1-x</sub>)<sub>1/3</sub>MnO<sub>3</sub>/NiO Composite Materials</b>   |     |
| S.Y. Chen, Z.G. Huang, H. Lai, R. Gai, F.M. Zhang and Y.W. Du   | 897 |
| <b>Solidification of Aluminum Infiltrated Composites</b>  |     |
| J.K. Yu, Q. Yan and P.Y. Fang   | 901 |
| <b>Laser Cladding Ni-Base Composite Coating on Titanium Alloy with Pre-Placed B4C+NiCoCrAlY</b>   |     |
| Q.W. Meng, L. Geng and Z.Z. Zheng   | 905 |

|  |      |
|--|------|
| <b>Influence of Toughening Method on Microstructures and Mechanical Properties of Alumina-Matrix Composites</b>                            | 909  |
| Y. Zhou, H.X. Zhai, Z.Y. Huang, M.X. Ai, Z.L. Zhang, S.B. Li and C.W. Li   |      |
| <b>Manufacture of Al/SiC Composites by Pressure Infiltration Process</b>   | 913  |
| F.Z. Yin, C.C. Jia, X. Mei, B. Ye, Y. Ping and X.H. Qu   |      |
| <b>Rolling and Annealing Textures of SiC<sub>w</sub>/Al Composite</b>  | 917  |
| W.L. Zhang, M.Y. Gu and D.Z. Wang  |      |
| <b>Fabrication of the Aluminum Matrix Composite by Ultrasonic Infiltration Technique</b>   | 921  |
| G. Sasaki, J. Adachi, Y.B. Choi, J. Pan, T. Fujii, K. Matsugi and O. Yanagisawa  |      |
| <b>In Situ Synthesis and Properties of Aluminum Composites with Ultrafine TiB<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> Particulates</b> | 925  |
| K. Wakashima, T. Shimoyamada, H. Noma, T. Inamura and H. Hosoda  |      |
| <b>Fracture Behavior of Brittle Coating Layer on Metal Substrate</b>   | 929  |
| S. Ochiai, T. Tomida, T. Nakamura, S. Iwamoto, H. Okuda, M. Tanaka and M. Hojo   |      |
| <b>Bending Damage Evolution and Its Influence on Critical Current and N-Value of Bi2223/Ag Superconducting Composite Tape</b>              | 933  |
| D. Doko, N. Miyazaki, S. Ochiai, H. Okuda, S.S. Oh, M. Tanaka, M. Hojo and K. Osamura  |      |
| <b>A Monte Carlo Simulation on the PFZ Microstructures in Al-Based Alloys during Multistep Annealing</b>                                   | 937  |
| H. Okuda and S. Ochiai   |      |
| <b>Proposal of Pseudo Crack Model for the Un-Cracking Delamination Behavior of Fiber Reinforced Metal Laminates</b>                        | 941  |
| C.W. Kim, S.H. Song and D.J. Oh  |      |
| <b>Processing and Microstructures of Tungsten/Copper Composites Produced by Plasma Spray and Cold Spray</b>                                | 945  |
| S.B. Kang, H. Kang and K.J. Euh  |      |
| <b>Elevated Sliding Wear Characterization of Al/SiCp Composites</b>  | 949  |
| S.W. Kim, J.S. Park, K.K. Kim, D.K. Kim and K.D. Woo   |      |
| <b>Mechanical and Damping Properties of Squeeze Cast Hybrid Mg Matrix Composites</b>   | 953  |
| I.D. Choi, I.M. Park, K.M. Cho and Y.H. Park   |      |
| <b>Process Conditions and Interfacial Characteristics of Al/Cu Clad Composite Formed by Hot Hydrostatic Extrusion</b>                      | 959  |
| D.J. Yoon, H.G. Jeong, S.-. Lim, K.H. Na and E.Z. Kim  |      |
| <b>Synthesis of In-Situ Titanium Carbide Particle Reinforced Titanium Composites</b>   | 963  |
| M.G. Kim, S.Y. Sung and Y.J. Kim   |      |
| <b>Effects of Core Material on Extrudability of Cu/Pure Al, Cu/Al3003 Clad Composites by Indirect Extrusion</b>                            | 967  |
| T.K. Jung, H.C. Kwon, S.C. Lim, Y.S. Lee and M.S. Kim  |      |
| <b>On Carbide Particle Reinforced Al Composites Fabricated by Pressureless Infiltration Technique</b>                                      | 971  |
| K.B. Lee, H.S. Sim, H.R. Yang and H. Kwon  |      |
| <b>Oxidation Behavior of BN/(Al-Mg) Metal Matrix Composites</b>  | 975  |
| W.S. Woo, W.G. Jung and D.B. Lee   |      |
| <b>On Thermomechanical Processing of High Ductility SiC<sub>p</sub>/Zn 22wt.%Al Metal Matrix Composites</b>                                | 979  |
| P. Zhu, W.Y. Yeung, G. Heness and B.J. Duggan  |      |
| <b>Numerical Estimation of Thermal Conductivity in Copper and Superalloy Matrix Composites</b>   | 985  |
| D. Alcaraz and F. Alhama   |      |
| <b>Effects of Carbon Nanotubes Incorporation on the Grain Growth and Properties of WC/Co Nanocomposites</b>                                | 989  |
| F.M. Zhang, J.F. Sun and J. Shen   |      |
| <b>Stabilization of Nano-Al<sub>2</sub>O<sub>3</sub>p/Cu Composite after High Temperature Annealing Treatment</b>                          | 993  |
| K.X. Song, P. Liu, B.H. Tian, Q.M. Dong and J.D. Xing  |      |
| <b>Influence on Optical Properties of the New-Type Rear Projection Screen by the Content of Additive TiO<sub>2</sub> Nano-Particle</b>     | 997  |
| J.Y. Cui, L. Guo and J.S. Ma   |      |
| <b>Studies on Nanostructured Polyurethane/Clay Interpenetrating Polymer Networks</b>   | 1001 |
| N. Zhou, X.X. Xia, L. Li, S.H. Wei and J. Shen   |      |

|  |      |
|--|------|
| <b>Encapsulation of Nanometer CaCO<sub>3</sub> by Polymer Network</b>  | 1005 |
| W.F. Liu, Z.X. Guo and J. Yu   |      |
| <b>Advanced CVI-SiC/SiC Composite with In-Situ Growth of SiC Nanowires in the Matrix as Additional Reinforcements</b>                          | 1009 |
| W. Yang, H. Araki, S. Thaveethavorn, A. Kohyama, J.N. Yu, H. Suzuki and T. Noda  |      |
| <b>Coating of SWNTs with Nickel by Electroless Plating Method</b>  | 1013 |
| Q. Zeng, Y. Bayazitoglu, J. Zhu, K. Wilson, M.A. Imam and E.V. Barrera   |      |
| <b>Study on Dynamic Mechanic Properties of Thermosetting/Thermoplastic System Used as the Matrix of Advanced Composite</b>                     | 1019 |
| B.M. Tang, X. An and X.S. Yi   |      |
| <b>Study on a Novel Radar Absorbing Structure Composite</b>  | 1023 |
| S. Jiang, L.Y. Xing and B.T. Li  |      |
| <b>Synthesis of a Novel SAP with PS Foam</b>   | 1029 |
| L. Li, N. Zhou, S.H. Wei, B. Xu, Y. Qin and J. Shen  |      |
| <b>Studies on Tetrapod-Shaped ZnO Whisker Modified Polymer Composites</b>  | 1033 |
| Z.W. Zhou, S. Hu and L.S. Chu  |      |
| <b>Photo-Oxidation of Polyethylene Composites with Different Interfacial Interactions</b>  | 1037 |
| R. Yang, J. Yu and K.H. Wang   |      |
| <b>Study on the Cure Kinetics of Middle Temperature Curing 3234 Epoxy Resin System</b>   | 1041 |
| T.S. Liu, X.B. Chen and B.Y. Zhang   |      |
| <b>Experimental Study on Dynamic Properties of High Strength Fiber Clusters</b>  | 1045 |
| C.G. Huang, S.Y. Chen and Z.P. Duan  |      |
| <b>Study on the Assorted Non-Asbestos Fiber Reinforce Composite by Beater-Addition Process</b>   | 1051 |
| M.H. Liu, Z.H. Li, Z. Rong, X. Yu, R.L. Cai and S. Xie   |      |
| <b>Optimizing Analysis in the Bending Rigidity of CFRP Circular Plate with Multiple Holes</b>  | 1055 |
| X.Y. Zhong, X. Ding, J.W. Bao, Y. Li and X.B. Chen   |      |
| <b>Processing and Properties of Polymer Composites Reinforced by Functionalized SWNTs</b>  | 1059 |
| J. Zhu, V. Khabashesku, M.A. Imam, R. Crane, K. Lozano and E.V. Barrera  |      |
| <b>Evaluation of Eddy Current Inspection on the Defects of Unloading vs. Loading Conditions in the Fiber Reinforced Composite Materials</b>    | 1063 |
| C.W. Kim, J.S. Lee, T.G. Um, D.J. Oh and I. Song   |      |
| <b>Static Analysis of Thick Laminated Beams: Two-Dimensional Elasticity Solutions via Differential Quadrature</b>                              | 1067 |
| C. Lü, Y. Gao and W.Q. Chen  |      |
| <b>Cryogenic Mechanical and Electrical Properties of Polyimide Nanocomposites</b>  | 1073 |
| Y.H. Zhang, R.K.Y. Li, S.Y. Fu, J. Wu, Y.Q. Li, Z.M. Dang and S.Y. Yang  |      |
| <b>Determination of Friction and Wear of Engineering Polymers by Means of Large-Scale Specimen Testing</b>                                     | 1077 |
| P. Samyn and P. de Baets   |      |
| <b>On-Line Wear Monitoring of Polymer Matrix Composites</b>  | 1083 |
| J. Quintelier, P. de Baets, J. Degrieck, A. Ledda, W. Philips, H. Sol and D. Van Hemelrijck  |      |
| <b>Research on Electromechanical Properties of Cymbal Piezocomposite Transducer</b>  | 1087 |
| D.H. Li, K. Li and Y. Cheng  |      |
| <b>Tensile and Bending Behavior of Melt Growth Al<sub>2</sub>O<sub>3</sub>/YAG Composite at Ultra High Temperatures (1773-2023K)</b>           | 1091 |
| S. Ochiai, Y. Sakai, K. Sato, T. Ueda, K. Morishita, H. Okuda, M. Tanaka, M. Hojo, Y. Waku, N. Nakagawa, S. Sakata, A. Mitani and T. Takahashi |      |
| <b>Application of Grazing-Incidence Small-Angle X-Ray Scattering Technique to Semiconducting Composite Materials</b>                           | 1097 |
| T. Ogawa, H. Niwa, H. Okuda and S. Ochiai  |      |
| <b>Fracture Behavior and Its Shear Lag – Monte Carlo Simulation of SiC/SiC Composite Exposed in Air at High Temperatures</b>                   | 1101 |
| K. Morishita, H. Tanaka, S. Kimura, H. Okuda, S. Ochiai, M. Tanaka, M. Hojo, H. Nakayama and M. Sato   |      |
| <b>Research on Tribology of C/C Composites in Wet Conditions</b>   | 1105 |
| F.K. Zhang, Y.D. Yuan and W.C. Zhou  |      |
| <b>Designing a Composite Material for Use in Brake Applications</b>  | 1109 |
| J. Lo  |      |

|  |      |
|--|------|
| <b>A Study on the Fracture Mechanism of Smart Composite under Thermal Shock Cycles Using AE Technique</b>  | 1113 |
| J.K. Lee, Y.C. Park and S.L. Lee   |      |
| <b>A Search for New Red and Green Phosphors Using a Computational Evolutionary Optimization Process</b>  | 1117 |
| J.M. Lee, J.G. Yoo, J.S. Kim and K.S. Sohn   |      |
| <b>Dynamic Visualization of Crack Tip Stress Field and Propagation Using the Mechano-Luminescence in SrAl<sub>2</sub>O<sub>4</sub>: (Eu,Dy,Nd)</b> | 1121 |
| J.S. Kim, Y.N. Kwon and K.S. Sohn  |      |
| <b>Effects of S-Doping and Subsequent Annealing on Photoluminescence around 1.54μm from Er-Containing ZnO</b>                                      | 1125 |
| Z. Zhou, N. Sato, T. Komaki, A. Koizumi, T. Komori, M. Morinaga, Y. Fujiwara and Y. Takeda   |      |
| <b>A Study on Nanometer-Sized BaTiO<sub>3</sub>-Based Dielectric for Ni-MLCC with Y5V Specification</b>  | 1129 |
| Z. Ji, Z. Xiao, S. Wang, Y.S. Gu, C. Zhou and Y. Zhang   |      |
| <b>Anisotropic Properties of Grain Orientated Bismuth Titanate Ceramics by Spark Plasma Sintering</b>  | 1133 |
| J.J. Hao, X.H. Wang, J.L. Zhao and L.T. Li   |      |
| <b>Effect of Excess PbO on the Kinetics of the Growth of PMNT Polycrystals by Tempered Grain Growth Method</b>                                     | 1137 |
| L. Zhao, F. Gao, W.M. Wang and C.S. Tian   |      |
| <b>Effect of TiO<sub>2</sub> on the Property of RuO<sub>2</sub>/γ-Al<sub>2</sub>O<sub>3</sub> Catalyst</b>   | 1141 |
| S.X. Yang, Y.J. Feng, J. Wan, W. Zhu and Z. Jiang  |      |
| <b>Microstructure and Mechanical Properties of PMS-PZT Ceramics with Silica Additives</b>  | 1145 |
| Z.G. Zhu, B.S. Li, G.R. Li, X.P. Jiang and Q.R. Yin  |      |
| <b>Fabrication of NiO-SDC Composite Anodes Using Gel-Casting for Low-Temperature SOFCs</b>   | 1149 |
| Y.H. Yin, C.R. Xia, W. Zhu, G. Yong and G.Y. Meng  |      |
| <b>Molten Salts Synthesis and Dielectric Properties of PMN-PT Ceramics</b>   | 1153 |
| S.X. Zhao, Q. Li and F.B. Song   |      |
| <b>Intermediate-Temperature Solid Oxide Fuel Cells with Y<sub>0.25</sub>Bi<sub>0.75</sub>O<sub>1.5</sub>-Ag Cathodes</b>                           | 1157 |
| X.Y. Xu, C.R. Xia, S.G. Huang and G.Y. Meng  |      |
| <b>Preparation and Characterization of Tin Doped Tetra-Pod Shaped Zinc Oxide</b>   | 1161 |
| J.J. Liu, Z.W. Zhou, K. Wang and Y. Li   |      |
| <b>SPS Sintering of NaNbO<sub>3</sub>-KNbO<sub>3</sub> Piezoelectric Ceramics</b>  | 1165 |
| B.P. Zhang, L.M. Zhang, J.F. Li, H.L. Zhang and S.Z. Jin   |      |
| <b>Stabilization Effect in BaTiO<sub>3</sub> Single Crystal during Aging below Tc</b>  | 1169 |
| D.Z. Sun, X.B. Ren, S.P. Yang, H.S. Luo and K. Otsuka  |      |
| <b>Study of the Weak Ferromagnetism in Ca<sub>1-x</sub>La<sub>x</sub>B<sub>6</sub> Ceramics</b>  | 1173 |
| M.H. Cao, J. Yuan and J. Jiang   |      |
| <b>Preparation and Characterization of Antibacterial Titanate Whiskers</b>   | 1177 |
| Y.H. Ling, X.J. Jiang and X.D. Bai   |      |
| <b>Synthesis and Photoluminescence of Eu<sup>3+</sup> Doped Sr<sub>2</sub>CeO<sub>4</sub> via Carbonate Precursor</b>                              | 1181 |
| S.K. Shi, J.M. Li and J. Zhou  |      |
| <b>The Interface and Grain Growth in Cofired Ferroelectric / Ferrite Multilayer Composites</b>   | 1185 |
| F. Gao, C.S. Zhang, X. Liu and C.S. Tian   |      |
| <b>The Structure and Optical Properties of Dy<sup>3+</sup> Doped PLZT Ceramics</b>   | 1189 |
| Y. Zhang, A.L. Ding and Q.R. Yin   |      |
| <b>Composition Dependent Fatigue in Antiferroelectric PZST Ceramics Induced by Bipolar Electric Cycling</b>  | 1193 |
| L.J. Zhou, G. Rixecker, A. Zimmermann and F. Aldinger  |      |
| <b>Preparation, Phase Transformation and Dielectric Properties of Aluminum Phosphate Compounds</b>   | 1197 |
| X.P. Wang and S. Tian  |      |
| <b>Comparative Study on Microstructure of Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub>-PbTiO<sub>3</sub> Ceramics</b>                         | 1201 |
| C.H. Li, Q. Li and F.B. Song   |      |
| <b>Extraction Efficiency in Pulsed Laser Deposited Y<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> Thin Film Phosphors on Corrugated Substrates</b>     | 1205 |
| J.G. Yoo, D.H. Park, N. Shin, J.S. Kim and K.S. Sohn   |      |

|  |      |
|--|------|
| <b>Electrical Conductivity of SrRuO<sub>3</sub> Thin Films Prepared by Laser Ablation</b>  | 1209 |
| A. Ito, H. Masumoto and T. Goto  |      |
| <b>Laser CVD Process for High Speed Deposition of YSZ Films</b>  | 1213 |
| T. Goto  |      |
| <b>Preparation of Rutile and Anatase TiO<sub>2</sub> Films by MOCVD</b>  | 1219 |
| R. Tu and T. Goto  |      |
| <b>A Study on the Preparation of TiO<sub>2-x</sub>N<sub>x</sub> Films by Reactive Deposition and Their Absorption Properties in Visible Region</b>     |      |
| M. Zhao, D.M. Zhuang, G. Zhang, L. Fang and M.S. Wu  | 1223 |
| <b>Study on the Cracking of SiO<sub>2</sub>-TiO<sub>2</sub> Films Prepared by Sol-Gel Method</b>   | 1227 |
| F. Zhou, K.M. Liang and H. Shao  |      |
| <b>Influence of Deposition Processing Conditions on Polycrystalline Silicon Thin Film for Solar Cells on Ceramic Substrates</b>                        |      |
| H.F. Li, Y. Huang, Z.J. Wan, H.X. Zhang and Y. Xu  | 1231 |
| <b>Synthesis of Titanium Dioxide Nanotubes by Ion Exchange Approach</b>  | 1235 |
| N. Wang, H. Lin, J.B. Li, X.Z. Yang and B. Chi   |      |
| <b>Synthesis and Growth Mechanism of Silicon Nitride Nanostructures</b>  |      |
| Z.P. Xie, W.Y. Yang, H.Z. Miao, L.G. Zhang and L.N. An   | 1239 |
| <b>Synthesis and Properties of Ti<sub>3</sub>SiC<sub>2</sub>/SiC Ceramic Composites</b>  | 1243 |
| T.W. Lin, W.B. Cao, J.T. Li and C.C. Ge  |      |
| <b>Fabrication of Ti<sub>3</sub>AlC<sub>2</sub> Powder with High-Purity by Pressureless Sintering</b>  |      |
| C.Q. Peng, C.A. Wang, L. Qi and Y. Huang   | 1247 |
| <b>Ti<sub>3</sub>AlC<sub>2</sub> — A Soft Ceramic Exhibiting Low Friction Coefficient</b>  |      |
| H.X. Zhai, Z.Y. Huang, Y. Zhou, Z.L. Zhang, S.B. Li and Y.F. Wang  | 1251 |
| <b>Joining of SiC Ceramic with Ternary Carbide Ti<sub>3</sub>SiC<sub>2</sub></b>   |      |
| H. Dong, W.B. Han and S.J. Li  | 1255 |
| <b>Self-Lubricant Effect of Tri-Oxidizing Layer in Surface of Bulk Ti<sub>3</sub>SiC<sub>2</sub> Materials</b>   |      |
| Z.L. Zhang, H.X. Zhai, Z.Y. Huang, Y. Zhou and S.B. Li   | 1259 |
| <b>Effect of Different Abrasive Particle Hardness on the Erosion Resistant Performance of <math>\alpha</math>-Al<sub>2</sub>O<sub>3</sub> Ceramics</b> |      |
| C.G. Bao, W. Pan and H.Z. Miao   | 1263 |
| <b>Joining of C/SiC Ceramic Matrix Composite Using SiC-Si<sub>3</sub>N<sub>4</sub> Preceramic Polymer</b>  |      |
| H.L. Liu, S.J. Li and Z.J. Chen  | 1267 |
| <b>Study on Phase Transformation and Microstructure Development of Yb <math>\alpha</math>-SiAlON Ceramics Prepared by Pressureless Sintering</b>       |      |
| G.H. Liu, K.X. Chen, H.P. Zhou and J.M.F. Ferreira   | 1271 |
| <b>Laminated Fabrication Ceramics by Aqueous Tape Casting Technology</b>   |      |
| X.M. Cui, J. Zhou, Y. Huang, C.A. Wang and S.X. Ouyang   | 1275 |
| <b>Study on Thermal Conductivity of SPS-Sintered Si<sub>3</sub>N<sub>4</sub> Ceramics after Heat-Treatment</b>   |      |
| X. Lu, X.S. Ning, W. Xu, H.P. Zhou and K.X. Chen   | 1279 |
| <b>Study on the Oxidation Behavior of Ca-<math>\alpha</math>-SiAlON in an Air Stream</b>   |      |
| L.M. Dong, C. Wang, Q.F. Zan and J.M. Tian   | 1283 |
| <b>Three-Dimensional Simulation of Sintering of Ceramics</b>   |      |
| X. Qin, J. Sun and G.Q. Liu  | 1287 |
| <b>Study on Densification Behavior and Microwave Attenuation Characteristics in AlN/SiC Composites</b>   |      |
| X.Y. Li, T. Qiu, H. Wu and C.Y. Shen   | 1291 |
| <b>High-Temperature Strength of Directionally Solidified Al<sub>2</sub>O<sub>3</sub>/YAG/ZrO<sub>2</sub> Eutectic Composite</b>                        |      |
| Y. Murayama, S. Hanada, J.H. Lee, A. Yoshikawa, K. Shimizu, N. Nakagawa, Y. Waku and T. Fukuda   | 1295 |
| <b>Processing and Microstructure of an All-Oxide Ceramic Composite</b>   |      |
| Z.C. Chen, R. Kulkarni, K.K. Chawla, M. Koopman and K. Ikeda   | 1301 |
| <b>Fast Uniform Mixing &amp; Controllable Colloidal Forming of Ceramics</b>  |      |
| T. Ma, Y. Huang, J.L. Yang and L.M. Zhang  | 1305 |
| <b>Gelcasting of Alumina Ceramic in Presence of Water-Soluble Polymer</b>  |      |
| J.T. Ma, Z.P. Xie, H.Z. Miao, B.Q. Zhang and X.P. Lin  | 1309 |

|  |      |
|--|------|
| <b>Origin, Transformation and Control of the Inner Stress in the Green Bodies Prepared by Ceramic Colloidal Forming Processing</b>           | 1313 |
| L.M. Zhang, L.G. Ma, T. Ma, J.L. Yang and Y. Huang   |      |
| <b>Study on Elimination of Surface-Exfoliation and Crack of ZrO<sub>2</sub> Green Body of Gelcasting with Water-Solubility Macromolecule</b> | 1317 |
| Z.Z. Yi, S. Wang and Y. Huang  |      |
| <b>Pretreatment Processing of Gelcast Green Body before Debinding</b>  | 1321 |
| C.L. Dai, J.L. Yang and Y. Huang   |      |
| <b>Controllable Forming Technology in Gelcasting</b>   | 1325 |
| J.L. Yang, C.L. Dai and Y. Huang   |      |
| <b>Biaxial Fracture Behavior of Polycrystalline Alumina</b>  | 1329 |
| M. Tsukada, E. Sato and K. Kuribayashi   |      |
| <b>Tensile Properties and Creep Behavior of SiC-Based Fibers under Various Oxygen Partial Pressures</b>                                      | 1333 |
| J.J. Sha, J.S. Park, T. Hinoki, A. Kohyama and J. Yu   |      |
| <b>Microstructure and Electrode Discharge Machining of TiN/Si<sub>3</sub>N<sub>4</sub> Composites</b>  | 1337 |
| C.C. Liu and J.L. Huang  |      |
| <b>Studies of Damage Accumulation in 4H Silicon Carbide by Ion-Channeling Techniques</b>   | 1341 |
| Y. Zhang, F. Gao, W. Jiang, D.E. McCready and W.J. Weber   |      |
| <b>Defects and Ion-Solid Interactions in Silicon Carbide</b>   | 1345 |
| W.J. Weber, F. Gao, R. Devanathan, W. Jiang and Y. Zhang   |      |
| <b>Crystal Structure and Phase Relationships in the Reduced-Reoxidized Ceria-Zirconia Solid Solution</b>                                     | 1351 |
| T. Sasaki, Y. Ukyo, K. Kuroda, S. Arai and H. Saka   |      |
| <b>Material Processing and Testing of Plasma-Interactive Components for Fusion Energy Systems</b>  | 1355 |
| I. Smid  |      |
| <b>Development and High Heat Flux Testing of Plasma Facing Materials for Future Fusion Experiments</b>                                       | 1361 |
| J. Linke, A. Kapoustina, D. Pitzer, M. Rödig and L. Singheiser   |      |
| <b>Behavior of Thick SiC Gradient Coatings on Graphite under High Heat Flux and HT-7 Limiter Plasma Irradiation</b>                          | 1367 |
| H. Li, J.G. Li and J.L. Chen   |      |
| <b>Research on W/Cu Functionally Graded Materials as Divertor Material in China</b>  | 1371 |
| C.C. Ge and Z.J. Zhou  |      |
| <b>Development of Tungsten Coatings for Application in Fusion Experiments</b>  | 1377 |
| H. Maier   |      |
| <b>The Structure and Properties of Low Activation Ferritic / Martensitic Steels</b>  | 1383 |
| F. Zhao, K. Wan, F. Wan, Y. Long, Y. Xu and Q.Y. Huang   |      |
| <b>Effects of Pb on SCC of Alloy 600 and Alloy 690 in Prototypical Steam Generator Chemistries</b>   | 1387 |
| J. Lumsden, A. McIlree, R. Eaker, R. Thompson and S. Slosnerick  |      |
| <b>Electron Irradiation Damage in Stabilized Cubic Zirconia</b>  | 1393 |
| K. Yasuda, C. Kinoshita, S. Matsumura and A.I. Ryazanov  |      |
| <b>Research on Fatigue Properties on Two Kinds of New Developed Zirconium Alloys</b>   | 1397 |
| J.J. Zhang, Z.K. Li, J.Z. Liu, Q.Z. Song and W.S. Wang   |      |
| <b>Effects of Heat Treatment on Corrosion of Zr-1.0Nb-1.0Sn-0.1Fe</b>  | 1401 |
| J.H. Baek and Y.H. Jeong   |      |
| <b>Creep Resistance of Zr-Sn-Nb-Fe-Cr Alloy</b>  | 1405 |
| Z. Li, W.S. Wang, J.J. Zhang and L. Zhou   |      |
| <b>Delayed Hydride Cracking Velocity of Irradiated Zr-2.5Nb Tubes after a 30-Year Operation in the Wolsong Unit 1</b>                        | 1409 |
| Y.S. Kim, S.B. Ahn, K.S. Im and W.H. Oh  |      |
| <b>An Analysis of Deformation and Fracture Behaviour of Zircaloy-4 Alloy Using Small Punch Test</b>  | 1415 |
| M.D. Callaghan, W.Y. Yeung, M.I. Ripley and D.G. Carr  |      |
| <b>Microstructural Evolution and Micro-Texture in Zr-2.5Nb Tubes</b>   | 1421 |
| P. Zhao and R.A. Holt  |      |

|   |      |
|---|------|
| <b>Effect of He-Injection on Irradiation Damage of High Mn-Cr Steel</b><br>D.S. Bae, S.L. Lee, S.H. Nahm, J.W. Choi and H. Takahashi  | 1425 |
| <b>Improvement of Thermomechanical Fatigue Life in Nitrogen Alloyed 316 Stainless Steel</b><br>D.W. Kim, C.H. Han and W.S. Ryu  | 1429 |
| <b>Application of Creep Ductility Model for Evaluation Creep Crack Growth Rate of Type 316SS Series</b><br>W.G. Kim, H.H. Kim, K.B. Yoon and W.S. Ryu   | 1433 |
| <b>Features of Swelling in Modified Austenitic Steels</b><br>V. Voyevodin, V. Bryk, O. Borodin, I.M. Neklyudov, N. Akasaka and S. Onose   | 1437 |
| <b>Effect of Impurities on Vacancy Mobility in V-4Cr-4Ti</b><br>Q. Xu, T. Yoshiie, T. Nagasaka and T. Muroga  | 1441 |
| <b>Behavior of Oxygen in Fusion Candidate Vanadium Alloys during Oxidation and Annealing</b><br>Z. Yao, A. Suzuki, T. Nagasaka and T. Muroga  | 1445 |
| <b>Improvement of Vanadium Alloys by Precipitate Control for Structural Components of Fusion Reactors</b><br>T. Muroga, T. Nagasaka, A. Nishimura and J.M. Chen   | 1449 |
| <b>Effect of Helium and Aging Treatment on Radiation Damage Behavior in Low Activation Fe-Cr-Mn (W, V) Alloy</b><br>H. Kinoshita, B. Hu and H. Takahashi  | 1455 |
| <b>A TEM Study of Cavity Structures in a Fe-Cr-Mn Alloy and a 316L Stainless Steel Heavily Irradiated with 92 MeV Ar Ions</b><br>C.H. Zhang, Y.S. Wang, K.Q. Chen, J.G. Sun, J.M. Quan and C.Q. Chen        | 1459 |
| <b>Damage Behavior of Electron/Heilum Dual-Beam Irradiation on Fe-Cr-Mn (W, V) Alloy</b><br>B. Hu, H. Kinoshita, T. Shibayama and H. Takahashi  | 1463 |
| <b>Nano-Meso Structures and Ring-Tensile Properties of Neutron-Irradiated ODS Steels</b><br>S. Yamashita, T. Yoshitake, N. Akasaka, S. Ukai and S. Ohnuki   | 1467 |
| <b>Changes in the Microhardness and Young's Modulus in 2 MeV C+ Ion-Irradiated IG-110 Nuclear Graphite</b><br>S.H. Chi, G. Kim, J.H. Hong, S.C. Kwon and J.H. Chang   | 1471 |
| <b>Fabrication and Evaluation of B<sub>4</sub>C/Cu FGM as Plasma Facing Materials</b><br>Z.J. Zhou and C.C. Ge  | 1475 |
| <b>The Microstructure of Pure Copper after Stepwise Change of Irradiation Temperature</b><br>Y. Sumino, H. Watanabe and N. Yoshida  | 1479 |
| <b>Effect of Cr Content on Supercritical Water Corrosion of High Cr Alloys</b><br>J.S. Jang, Y.B. Lee, C.H. Han, Y.S. Yi and S.S. Hwang   | 1483 |
| <b>Structure Changes in Stainless Steels Used in Nuclear Reactors and Turbo Generators after Minor Low Cycle Fatigue Deformation</b><br>T. Eterashvili, T. Dzigrashvili and M. Vardosanidze                 | 1487 |
| <b>The Microstructure of Laser Welded V-4Cr-4Ti Alloy after Ion Irradiation</b><br>H. Watanabe, M. Nagamine, K. Yamasaki, N. Yoshida, N. Heo, T. Nagasaka and T. Muroga                                     | 1491 |
| <b>Development of an Innovative Carbon-Based Ceramic Material Application in High Temperature, Neutron and Hydrogen Environment</b><br>C.H. Wu  | 1497 |
| <b>Characterization of Al<sub>3</sub>Fe Particle within Al-Al<sub>3</sub>Fe Functionally Graded Material Fabricated by Semi-Solid Forming</b><br>K. Matsuda, Y. Watanabe, K. Yamagiwa and Y. Fukui          | 1503 |
| <b>Functionally Graded Tungsten Carbide Cobalt Coatings Fabricated by Detonation Gun</b><br>S.Y. Park, M.C. Kim, H.S. Song and C.G. Park  | 1507 |
| <b>Fabrication of W/Cu Functionally Gradient Materials by Multi-Billet Extrusion</b><br>J.X. Xie, S.B. Li and S. Chen   | 1511 |
| <b>Effects of the Rotating Speed of Centrifugal Machine on the Gradient Structure and Properties of Heavy Cross-Sectional WCP/Fe-C Composites</b><br>Y.P. Song, X.M. Mao, Q.M. Dong, B.Z. Li and H.Y. Liang | 1517 |
| <b>In-Situ Fabrication and Fracture Characteristics of Structural Gradient Ni/Ni-Aluminide//Ti/Ti-Aluminide Layered Materials</b><br>D. Chung, J.K. Kim and M. Enoki  | 1521 |
| <b>A New Technique for Fabrication of Flat PP/Talc Graded Material</b><br>B. Wen, G. Wu and J. Yu   | 1525 |

|   |      |
|---|------|
| <b>Calculation of Thermal Stresses in Mo-Ti FGM with a Continuous Change of Composition</b><br>L.M. Zhang, Q. Shen and Z.M. Yang  | 1529 |
| <b>Application of the Equivalent Transformation Layering Calculation Model in Heavy Cross-Section FGCs - Axis-Symmetrical Mechanics Problems</b><br>L.D. Tang, X.B. Zhang and B.Z. Li               | 1533 |
| <b>Characteristic Wave Impedance of Ti-Mo System Composites and FGM</b><br>C.B. Wang, Q. Shen, G. Luo and L.M. Zhang  | 1537 |
| <b>Determination of the Impact Fatigue Behavior of the Mo Surface Modified Ti6Al4V Alloy</b><br>X.Y. Li, Y.M. Li, Y.M. Qin, B. Tang and Z. Xu   | 1541 |
| <b>The Damage Mechanisms under Different Fretting Modes of Bonded Molybdenum Disulfide Coating</b><br>M.H. Zhu and Z.R. Zhou  | 1545 |
| <b>Numerical Simulation on Thermal Shock Resistance of TiB<sub>2</sub>-Cu Interpenetrating Phase Composites</b><br>C.Q. Hong, X.H. Zhang, J.C. Han and X.D. He                                      | 1551 |
| <b>TiB<sub>2</sub>/Cu Electrode Material Fabricated via SPS</b><br>S.Z. Jin, H.L. Zhang, S.S. Jia and J.F. Li   | 1555 |
| <b>Graded Structure in SHS Ceramic-Lined Layered Pipes</b><br>L. Zhang, Z.M. Zhao, Y.Z. Yang and B.H. Han   | 1559 |
| <b>The Properties of W Coatings on Cu by Supersonic Plasma Spray</b><br>W.P. Shen, Z.J. Zhou, S. Gu, C.C. Ge, H. Zhang and H.L. Liu   | 1563 |
| <b>Porosity-Graded Piezoelectric Ceramics: Processing and Electric-Induced Displacement</b><br>J.F. Li, H.L. Zhang, K. Takagi and R. Watanabe   | 1567 |
| <b>Plasma Sputtering and Optical Properties of Au/SiO<sub>2</sub> Nano-Composite Films</b><br>B.P. Zhang, L. Jiao, H. Masumoto and T. Goto  | 1571 |
| <b>Gradient Microstructure Analysis of PI-SiO<sub>2</sub> Hybrid Tubular Films</b><br>Y.K. Xu and M. Zhan   | 1575 |
| <b>TEM and TEM-EDX Analysis of Cross-Section of Anti-Reflective Thin Film and Glass Substrate</b><br>X.G. Yu, H.W. Ma, Y. Zuo, H.F. Zhao, W.W. Luo, W. Bi and L. Wang                               | 1579 |
| <b>Preparation and Characterization of Pb(Zr,Ti)O<sub>3</sub> Films on SrTiO<sub>3</sub> Substrates</b><br>W. Gong, J.F. Li, X.C. Chu and L.T. Li   | 1583 |
| <b>Electrical and Physical Properties of Al and Nb Doped PbTiO<sub>3</sub> Ceramic Thin Films</b><br>B.P. Zhang, J.F. Li, Y. Dong and T. Iijima   | 1587 |
| <b>Thermoelectric Properties on n-Type Bi<sub>x</sub>Sb<sub>1-x</sub>/Bi<sub>2</sub>Te<sub>3</sub> Graded Materials Containing Fullerite or Carbon Tube</b><br>X.F. Wu, G.Y. Xu, S. Niu and C.C. Ge | 1591 |
| <b>Chemical Solution Deposition Process and Characterization of Li and Ti Doped NiO Thin Films</b><br>B.P. Zhang, J.F. Li, L.M. Zhang, J. Zeng and Y. Dong  | 1595 |
| <b>New Progress on SHS of Silicon Nitride with High <math>\alpha</math>-Phase Content</b><br>C.C. Ge, F. Wang and W.P. Shen   | 1599 |
| <b>Combustion Synthesis of Carbide Particle Dispersed Aluminide Intermetallics</b><br>K. Matsuura, Y. Hikichi and M. Kudoh  | 1605 |
| <b>Ternary Ceramics Ti<sub>3</sub>SiC<sub>2</sub>: Combustion Synthesis and the Reaction Mechanism</b><br>T.Y. Huang and C.C. Chen  | 1609 |
| <b>Synthesis of Porous TiAl-Mn Intermetallic Compounds by Reactive Sintering Process</b><br>Y.S. Yang, M.S. Kim and W.Y. Kim  | 1615 |
| <b>Effect of Copper Content on the Microstructures and Properties of TiB<sub>2</sub> Based Cermets by SHS</b><br>Q. Xu, X.H. Zhang, J.C. Han and W. Pan   | 1619 |
| <b>Effect of La<sub>2</sub>O<sub>3</sub> on the Properties of Combustion-Synthesized Molybdenum Disilicide</b><br>J.Y. Gao, W. Jiang and G. Wang  | 1623 |
| <b>Immobilization of Radioactive Wastes into Perovskite Synrock by the SHS Method</b><br>R.Z. Zhang, Z.M. Guo, C.C. Jia and G. Lu   | 1627 |
| <b>The Effects of Nitrogen Purity and Pressure on Combustion Synthesis of <math>\alpha</math>-Si<sub>3</sub>N<sub>4</sub> Powders</b><br>W.P. Shen, F. Wang and C.C. Ge                             | 1631 |

|  |      |
|--|------|
| <b>Combustion Synthesis of Al<sub>2</sub>O<sub>3</sub>-30vol%ZrO<sub>2</sub> Nano-Submicron Structured Multiphase Ceramics</b>                               | 1635 |
| Z.M. Zhao, L. Zhang, W.G. Wang and H. Lu   |      |
| <b>Synthesis Ba<sub>3</sub>(Ca<sub>1.18</sub>Nb<sub>1.82</sub>)O<sub>9-δ</sub> with Sol-Gel Auto-Ignition Process and Its Electrical Conducting Property</b> | 1639 |
| X.T. Su, Q.Z. Yan and C.C. Ge  |      |
| <b>Comparison of Characteristics of BaTiO<sub>3</sub> Prepared by Different Process</b>  | 1643 |
| Q.Z. Yan, L. Zhao, X.T. Su, W.F. Zhang and C.C. Ge   |      |
| <b>XPS Studies on Composite TiO<sub>2</sub>-SiO<sub>2</sub> Thin Films Deposited on Metal Substrate by Sol-Gel</b>   | 1647 |
| X.G. Yu, H.W. Ma, F. Long, H.F. Zhao, W. Bi, W.W. Luo, L. Wang and N. Liu  |      |
| <b>Ternary Ceramics Ti<sub>3</sub>SiC<sub>2</sub>: Combustion Synthesis and the Reaction Mechanism</b>   | 1651 |
| T.Y. Huang and C.C. Chen   |      |
| <b>Thermal and Solute Transportation Effects during Bridgman Crystal Growth of II-VI Compounds</b>   | 1657 |
| W.Q. Jie   |      |
| <b>Low Threshold Current Density 1.5 μm Strained-MQW Laser by n-Type Modulation-Doping</b>   | 1663 |
| R. Zhang, W. Wang, F. Zhou, J. Bian, L. Zhao, H.L. Zhu and S.S. Jian   |      |
| <b>Infrared Studies of GaN<sub>1-x</sub>P<sub>x</sub> Ternary Alloys</b>   | 1669 |
| F.J. Xu, B. Shen, D.J. Chen, Y.Q. Tao and Y.D. Zheng   |      |
| <b>TEM Studies of Grain Boundary Structure in a Cast Polycrystalline Silicon</b>   | 1673 |
| I. Kuchiwaki, T. Hirabayashi and H. Fukushima  |      |
| <b>Effect of Zn and Fe Concentrations on Structure and Optical Damage Resistances of Near Stoichiometric Zn:Fe:LiNbO<sub>3</sub> Crystals</b>                | 1677 |
| H.T. Li, Z.J. Sun, S. Ye, W. Cai and L.C. Zhao   |      |
| <b>Growth of an In<sub>x</sub>(OOH,S)<sub>y</sub> Buffer Layer and Its Application to Cu(In,Ga)(Se,S)<sub>2</sub> Solar Cells</b>                            | 1681 |
| K.H. Kim, L.L. Larina, K.H. Yoon, M. Konagai and B.T. Ahn  |      |
| <b>Comparison the Gain Characteristic of AlInGaAs/AlGaAs and GaAs/AlGaAs Quantum Wells</b>   | 1685 |
| H. Gai, J. Deng, J.J. Li, G.D. Shen and J. Chen  |      |
| <b>Structure Characterizations and Growth of Bulk ZnSe Single Crystals by Zn(NH<sub>4</sub>)<sub>3</sub>Cl<sub>5</sub> Transport</b>                         | 1689 |
| H.Y. Li, K.W. Xu and W.Q. Jie  |      |
| <b>Surface Morphology Evolution during LP-MOCVD Growth of ZnO on Sapphire</b>  | 1693 |
| J.D. Ye, S.L. Gu, S.M. Zhu, S.M. Liu, F. Qin, W. Liu, X. Zhou, R. Zhang, Y. Shi and Y.D. Zheng   |      |
| <b>Strain Property Studies of GaN:Mg Films Grown by MOCVD</b>  | 1697 |
| Q. Feng and Y. Hao   |      |
| <b>Coprecipitation Synthesis and Photoluminescence of BaMgAl<sub>10</sub>O<sub>17</sub>:Eu<sup>2+</sup> Phosphor for PDP Application</b>                     | 1701 |
| Z.H. Zhang and Y.H. Wang   |      |
| <b>Development of Electrode Materials for Semiconductor Devices</b>  | 1705 |
| M. Murakami, Y. Koide, M. Moriyama and S. Tsukimoto  |      |
| <b>Magnetic Properties and Magnetostriction of Zn<sub>x</sub>Ni<sub>1-x</sub>MnSb Alloys</b>   | 1715 |
| S.K. Ren, G.B. Ji, S.L. Huang, Q.Q. Cao, F.M. Zhang and Y.W. Du  |      |
| <b>Theoretical Analysis of Electron Statistics for n-Type Diamond</b>  | 1719 |
| Y. Koide   |      |
| <b>Silica and Alumina Thin Films Grown by Liquid Phase Deposition</b>  | 1725 |
| J. Sun, L. Hu, Z. Wang and G. Du   |      |
| <b>Growth of Hg<sub>1-x</sub>(Cd<sub>1-y</sub>Zn<sub>y</sub>)<sub>x</sub>Te on Si(111) by Isothermal Vapor Phase Epitaxy</b>                                 | 1729 |
| J.F. Wang, G.M. Lalev and M. Isshiki   |      |
| <b>Characteristic of Nanoporous SiO<sub>2</sub> Thin Film Prepared by Sol-Gel Method with Catalyst HF</b>  | 1733 |
| Z.W. He, X.Q. Liu, D.Y. Xu, Q. Su, D.F. Guo and Y.Y. Wang  |      |
| <b>Study on Thermal Shock Resistance of Insulated Metal Substrate</b>  | 1737 |
| L. Guo, Y. Liu and J.S. Ma   |      |
| <b>Effects of Deformation on Electric Conductivity in Al-Zr Alloys</b>   | 1743 |
| S.D. Park, B.G. Kim and H.W. Lee   |      |

|   |      |
|---|------|
| <b>Fabrication and Properties of Lead-Free Sn-Ag-Cu-Ga Solder Alloy</b>   | 1747 |
| G. Chen, J.S. Ma and Z.T. Geng  |      |
| <b>Strain Change and Creep Behavior of STACIR/AW Power Line with Heat Exposure</b>  | 1751 |
| B.G. Kim, S.D. Park, S.S. Kim and H.W. Lee  |      |
| <b>Thermophysical Properties of Aluminum Infiltrated Silicon Carbide for Electronic Packaging</b>   | 1755 |
| J.F. Liang, J.K. Yu and Y.Q. Quan   |      |
| <b>Au as an Acceptor in Thermoelectric Bismuth Antimony Telluride Alloys Prepared by Mechanical Alloying Process</b>  | 1759 |
| H.J. Yoo, C.H. Lee, Y.H. Park and I.M. Park   |      |
| <b>Preparation and Sintering Behavior of Au Conductor Pastes for LTCC Substrate</b>   | 1763 |
| Y. Wang, Y. Liu, J.S. Ma, Z. Dong and M. Yin  |      |
| <b>New Material of Ni-Ti Alloy for Chip Tantalum Capacitor Fuse</b>   | 1767 |
| Y. Liu, Y. Wang and J.S. Ma   |      |
| <b>A Study of the Degradation Mechanism for Carbon Nanotubes in Field Emitter Applications</b>  | 1771 |
| D.H. Kim, T.S. Kim, B.K. Ahn, H.Y. Shin, D. Lee, H.K. Cho and Y.R. Cho  |      |
| <b>Interface-Related In-Plane Optical Anisotropy of Quantum Wells Studied by Reflectance-Difference Spectroscopy</b>  | 1777 |
| Y.H. Chen, X.L. Ye, B. Xu, Y.P. Zeng and Z.G. Wang  |      |
| <b>Controlled Growth of III-V Compound Semiconductor Nano-Structures and Their Application in Quantum-Devices</b>   | 1783 |
| B. Xu, Z.G. Wang, Y.H. Chen, P. Jin, X.L. Ye and F.Q. Liu   |      |
| <b>Anti-Weak Localization of the Two Dimensional Electron Gas in Modulation-Doped <math>\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}</math> Single Quantum Well</b>                                  | 1787 |
| J. Lu, B. Shen, N.J. Tang, D.J. Chen and Y.D. Zheng   |      |
| <b>The Structural and Photoluminescence Character of InAs Quantum Dots Grown on a Combined InAlAs and GaAs Strained Buffer Layer</b>  | 1791 |
| G.X. Shi, B. Xu, P. Jin, X.L. Ye, C.X. Cui, C.L. Zhang, J. Wu and Z.G. Wang   |      |
| <b>Structural and Optical Investigation of Mn-Doped ZnS Nanocrystals</b>  | 1795 |
| W.Q. Peng, S.C. Qu, G.W. Cong and Z.G. Wang   |      |
| <b>High-Efficient Non-Doped Type White Organic Light-Emitting Devices Using an Electron/Exciton Blocker</b>   | 1799 |
| W. Xie and S.Y. Liu   |      |
| <b>Blue and White Organic Light-Emitting Devices Using 2,5-Diphenyl -1, 4-Distyrylbenzene with Two Trans-Double Bonds as a Blue Emitting Layer</b>  | 1805 |
| G. Cheng, Z. Xie, Y.F. Zhang, Y. Ma and S.Y. Liu  |      |
| <b>Synthesis and Electrochemical Properties of Nonstoichiometric Spinel Phase (<math>\text{Li}_{1.02}\text{Mn}_{1.90}\text{Y}_{0.02}\text{O}_{4-y}\text{F}_{0.08}</math>) for Lithium Ion Battery</b> | 1809 |
| C.Q. Feng, K. Zhang and J. Sun  |      |
| <b>Improving the Performance of Organic Light-Emitting Devices by Adding the Starburst Amine as Buffer Layer</b>  | 1813 |
| H.S. Yang, S.F. Chen, Z.J. Wu, Y. Zhao, J. Hou and S.Y. Liu   |      |
| <b>Raman and Photoluminescence Spectral Study of <math>\text{Eu}(\text{DBM})_3 \cdot 2\text{H}_2\text{O}</math> at High Pressures</b>   | 1817 |
| Q.G. Zeng, Z.J. Ding, B. Chen and Q.J. Zhang  |      |
| <b>Synthesis and Characterization of a New Organic Photochromic Function Material</b>   | 1821 |
| G.F. Liu, L. Liu, D.Z. Jia, X. Hu and K. Yu   |      |
| <b>Structural Properties of Sputter-Deposited ZnO Thin Films Depending on the Substrate Materials</b>   | 1825 |
| J.H. Myung, N.H. Kim and H.W. Kim   |      |
| <b>Control of Morphology of <math>\text{YBO}_3:\text{Eu}</math> by a Mild Hydrothermal Process</b>  | 1829 |
| L. He and Y.H. Wang   |      |
| <b>Simulation of the MOCVD Reactor for ZnO Growth</b>   | 1833 |
| S.M. Liu, S.L. Gu, F. Qin, S.M. Zhu, J.D. Ye, W. Liu, X. Zhou, R. Zhang, Y. Shi and Y.D. Zheng  |      |
| <b>UV-Irradiation-Induced Refractive Index Increase of Ge-Doped Silica Films</b>  | 1837 |
| L. Zhang, W. Xie, Y. Hou, A. Li, J. Zheng, W. Zheng and Y. Zhang  |      |
| <b>Investigation of the Optical Properties of CdZnTe by IR Transmission and PL Spectra</b>  | 1841 |
| G.Q. Li and W.Q. Jie  |      |

|  |      |
|--|------|
| <b>Effect of Pattern Shape on the Crystallization in FALC Process</b>  | 1845 |
| B.S. Kim, Y.B. Kim and D.K. Choi   |      |
| <b>Fabrication of Glass Mixing Channels and Silicon Detection Cell with 45° Mirror Surfaces for the Indophenol Sensing Device</b>          |      |
| K.S. Shin, J.S. Park, K.B. Park, H.D. Park, J.R. Kim and M.C. Kim  | 1849 |
| <b>Fabrication of Pressure Sensors with Diaphragm by Electro-Chemical Etch-Stop</b>  |      |
| J.H. Lee, D.H. Oh, G.J. Lee, S.C. Joo, B. Yang, S.J. Kim and C.J. Kim  | 1853 |
| <b>Orientation Distributions of Ferroelectric BLT Films for High-Density Semiconductor Memories</b>  |      |
| B.I. Seo, N.J. Park, S.J. Kim, B. Yang, Y.H. Oh and S.K. Hong  | 1857 |
| <b>Influence of AC-Voltage on the Crystallization of Amorphous Silicon Thin Film during Field Aided Lateral Crystallization Process</b>    |      |
| S.H. Choi, Y.B. Kim, Y.H. Wang and D.K. Choi   | 1861 |
| <b>The Texture and Property of Diffusion Barrier of TiN Thin Films</b>   |      |
| D.Y. Sung, I.S. Kim, M.G. Lee, B.L. Yang, J.M. Yang and J.K. Ko  | 1865 |
| <b>Application of TLP (Transient Liquid Phase) Bonding Method to the High <math>T_m</math> Lead-Free Solder</b>                            |      |
| J.S. Lee, W.H. Bang, J.P. Jung and K.H. Oh   | 1869 |
| <b>Changes of Fatigue Property with Heat Exposure in INVAR/AW Wire</b>   |      |
| S.S. Kim, S.D. Park, B.G. Kim, H.W. Lee, G.Y. Sin, D.I. Lee and B.U. Min   | 1873 |
| <b>Properties of Electroless Nickel Composite Plating Film</b>   |      |
| S. Matsumura and J.S. Ma   | 1877 |
| <b>Intermetallic Formation between Sn-Ag(-Cu) Solder Bumps and Au/Ni/Ti UBM and It's Effects on the Shear Force of the Solder Bumps</b>    |      |
| S.H. Park and Y.H. Kim   | 1881 |
| <b>Simulation and Fabrication of Silicon Micro-Grippers Actuated by Piezoelectric Actuator</b>   |      |
| W. Kim, J.S. Park, K.S. Shin, K.B. Park, W.K. Seong and C.W. Moon  | 1885 |
| <b>Carbon Nanotube Field Emitters for Display Applications Using Screen Printing</b>   |      |
| H. Jung, D. Lee, H. Chun, N. Koh, Y.R. Cho and D. Lee  | 1889 |
| <b>Effect of Pressure on Melting Temperature of Silicon and Germanium</b>  |      |
| C.C. Yang and Q. Jiang   | 1893 |
| <b>Polarized Photoluminescence and Temperature-Dependent Photoluminescence Study of InAs Quantum Wires on InP (001)</b>                    |      |
| W. Lei, Y.H. Chen, Y.L. Wang, X.L. Ye, P. Jin, B. Xu, Y.P. Zeng and Z.G. Wang  | 1897 |
| <b>A New AC-Driving Method for Active-Matrix OLED Displays</b>   |      |
| X.F. Chen, Y. Si, Y. Zhao and S.Y. Liu   | 1901 |
| <b>Molecular Organic White Light-Emitting Devices Fabricated by a Simple Way through Nondoped Process</b>                                  |      |
| Z.J. Wu, W.L. Jiang, S.F. Chen, Y. Zhao, J. Hou and S.Y. Liu   | 1905 |
| <b>Perspective in Application of the Phase Field Theory to Smart Materials Performance</b>   |      |
| T.Y. Hsu, Q.P. Meng, Y.H. Rong and X.J. Jin  | 1909 |
| <b>Superelasticity in TiNi Alloys and Its Applications in Smart Systems</b>  |      |
| W. Cai, Y.F. Zheng, X. Meng and L.C. Zhao  | 1915 |
| <b>Electronic Structure Analysis for the Effect of Hf, Zr Addition on the <math>M_s</math> of TiNi Alloys</b>                              |      |
| L. Cui, X.D. Wang, M. Qi and D.Z. Yang   | 1921 |
| <b>Effect of Ni-Content on Shape Memory Behavior of Ti-Rich Ti-Ni Melt-Spun Ribbons</b>  |      |
| H. Xing, A. Khantachawana, H.Y. Kim and S. Miyazaki  | 1925 |
| <b>Effects of Bias Springs on Actuation and Transformation Behaviors of TiNi Wires</b>   |      |
| L. Huai, L.S. Cui, L.B. Zhang and Y.J. Zheng   | 1929 |
| <b>The Dynamic Impact Behaviors of NiTi Alloy</b>  |      |
| R.B. Xu, L.S. Cui and Y.J. Zheng   | 1933 |
| <b>Self-Tension of Martensite during Constrained Transformation</b>  |      |
| L.S. Cui and Y.J. Zheng  | 1937 |
| <b>Synthesis of TiNi Particles in High Temperature Molten Salts</b>  |      |
| R.S. Yang, L.S. Cui, Y.J. Zheng and J.L. Zhao  | 1941 |
| <b>Effect of Nb-Content on Mechanical Properties of <math>(\text{Ni}_{47}\text{Ti}_{44})_{100-x}\text{Nb}_x</math> Shape Memory Alloys</b> |      |
| X.M. He, D.S. Yan, Z.M. Jiang and L.J. Rong  | 1945 |

|   |  |      |
|---|--|------|
| <b>Effects of Pre-Strain and Nb Content on Transformation Temperatures in Ti-Ni-Nb Shape Memory Alloy</b>   | T. Sakuma, Y. Mihara, Y. Ochi, M. Ozawa, K. Okita and N. Okabe                                       | 1949 |
| <b>Influence of Cold Working on Deformation Behavior and Shape Memory Effect of Ti-Ni-Nb</b>  | K. Okita, N. Okabe, T. Sakuma, H. Semba and Y. Mihara  | 1953 |
| <b>Shape Memory Alloy Pipe-Joint with Copper Coating</b>  | L. Wang, D.S. Yan, Z.M. Jiang and L.J. Rong  | 1957 |
| <b>Influence of Cyclic Deformation on Shape Memory Characteristics of Ti-Ni-Cu Alloys Fabricated by Pulse-Current Pressure Sintering Method</b>                 | H. Kyogoku, T. Kadomura, S. Komatsu, F. Yoshida and T. Sakuma  | 1961 |
| <b>The Effect of Rapidly Solidified Microstructures on the Martensitic Transformation in Ti<sub>50</sub>-Ni<sub>45</sub>-Cu<sub>5</sub> Shape Memory Alloys</b> | Y.W. Kim and T.H. Nam  | 1965 |
| <b>The Dynamic Impact Behavior of Ti<sub>50</sub>Ni<sub>47</sub>Fe<sub>3</sub> Shape Memory Alloys</b>  | F.S. Liu, Y. Qian and H.B. Xu  | 1969 |
| <b>Effect of Ce Addition on Martensitic Transformation Behavior of TiNi Shape Memory Alloys</b>   | A. Liu, X. Meng, W. Cai and L.C. Zhao  | 1973 |
| <b>Anomalies in Physical Properties Related to the Stability of the B2-Phase in Ti-Ni-Co Shape Memory Alloys</b>  | M.S. Choi, T. Fukuda and T. Kakeshita  | 1977 |
| <b>Anisotropy in Elastic Properties of Textured TiNbAl Shape Memory Alloy</b>   | T. Inamura, H. Hosoda, K. Wakashima and S. Miyazaki  | 1983 |
| <b>Mechanical Properties of (Pt, Ir)Ti</b>  | Y. Yamabe-Mitarai, T. Hara, S. Miura and H. Hosoda   | 1987 |
| <b>Martensitic Transformations of Ni<sub>54</sub>Mn<sub>25</sub>Ga<sub>21-x</sub>Al<sub>x</sub> Shape Memory Alloys</b>   | Y. Xin, Y. Li, C.B. Jiang and H.B. Xu  | 1991 |
| <b>Influence of Rare Earth on Shape Memory and Martensitic Transformation Behaviors of a FeMnSiCr Alloy</b>   | X. Huang, S. Chen and T.Y. Hsu   | 1995 |
| <b>Magnetic Field-Induced Strain of Martensite and Parent Phases in a Ferromagnetic Shape Memory Iron-Palladium Alloy</b>                                       | T. Kakeshita, T. Fukuda and T. Sakamoto  | 1999 |
| <b>Magnetic Field-Enhanced Shape Memory Effect in Ni<sub>51.6</sub>Mn<sub>23.4</sub>Ga<sub>25</sub> Single Crystals</b>   | Y.T. Cui, Z.Y. Zhu, J.L. Chen, K.J. Liao, W.L. Wang and G.H. Wu                                      | 2005 |
| <b>Martensitic Transformation and Magnetic-Field-Induced Strain in Magnetic Shape Memory Alloy NiMnGa Melt-Spun Ribbon</b>                                      | S.H. Guo, Y.H. Zhang, B.Y. Quan, J.L. Li and X.L. Wang   | 2009 |
| <b>Stress Induced and Magnetic Field Enhanced Twin Variants Reorientation in NiMnGa Single Crystal</b>  | J.M. Wang, C.B. Jiang and H.B. Xu  | 2013 |
| <b>Martensitic Transformation of Ni<sub>2.18</sub>Mn<sub>0.82</sub>Ga Single Crystal Observed by Synchrotron Radiation White X-Ray Diffraction</b>              | K. Inoue, Y. Yamaguchi, K. Ohsumi, K. Kusaka and T. Nakagawa   | 2017 |
| <b>Temperature Dependence of Rearrangement of Martensite Variants in a Ferromagnetic Shape Memory Alloy Ni<sub>2</sub>MnGa</b>                                  | N. Okamoto, T. Fukuda, T. Kakeshita and K. Kishio  | 2021 |
| <b>The Stability of Magnetic-Field-Induced Strain in a NiMnGa Ferromagnetic Shape Memory Alloy</b>  | F. Chen, Z. Gao, W. Cai and L.C. Zhao  | 2025 |
| <b>Shape Memory Effect in Co-Ni Polycrystalline Alloys</b>  | W.M. Zhou, Y. Liu, B. Jiang and X. Qi  | 2029 |
| <b>Characterization of Martensitic Transformation in Ferromagnetic Shape Memory Alloys Co-Ni-Ga Melt-Spun Ribbons</b>   | F.B. Meng, Y.X. Li, H.Y. Liu, J.P. Qu, M. Zhang, G.D. Liu, Z.H. Liu, X.F. Dai, J.L. Chen and G.H. Wu | 2033 |
| <b>Characterization of High-Speed Microactuator Utilizing Shape Memory Alloy Thin Films</b>   | M. Tomozawa, K. Okutsu, H.Y. Kim and S. Miyazaki   | 2037 |

|   |      |
|---|------|
| <b>A Study on the Application of Ni-Ti Shape Memory Alloy as a Sensor</b>   | 2043 |
| S.H. Nahm, Y.J. Kim, J.M. Kim and D.J. Yoon   |      |
| <b>Effects of Additional Reinforcing Fibers on the Interface Quality of SMA Wire/Epoxy Composites</b>   |      |
| Y.J. Zheng, L.S. Cui and J. Schrooten   | 2047 |
| <b>On the Internal Friction of Ti<sub>50</sub>Ni<sub>25</sub>Cu<sub>25</sub> Particle/Al Smart Composite</b>  |      |
| P. Shi, L.S. Cui and D.Z. Yang  | 2051 |
| <b>Axial Compressive Behavior of Single-Stage Bellows of TiNi Shape Memory Alloy for Seismic Applications</b>   |      |
| H. Semba, N. Okabe, T. Yamaji, K. Okita and K. Yamauchi   | 2055 |
| <b>Processing of Single-Stage Bellows of TiNi Shape Memory Alloy Using Rubber Bulge Method</b>  |      |
| H. Semba, N. Okabe, T. Yamaji, K. Okita and K. Yamauchi   | 2059 |
| <b>Development of Fe-Mn-Si-Cr Shape Memory Alloy Fiber Reinforced Plaster-Based Smart Composites</b>  |      |
| T. Wakatsuki, Y. Watanabe and H. Okada  | 2063 |
| <b>Shape Memory Behavior of NiMnGa/Epoxy Smart Composites</b>   |      |
| H. Hosoda, S. Takeuchi, T. Inamura, K. Wakashima and S. Miyazaki  | 2067 |
| <b>Crack-Healing Behavior of Mullite/SiC Particle/SiC Whisker Multi-Composite and Mechanical Properties of the Multi-Composite</b>                                      |      |
| W. Nakao, S.K. Lee, M. Yokouchi, K. Takahashi and K. Ando   | 2071 |
| <b>Degradation of Corrosion Resistance of Implant Metals Promoted by Living Adhesive Cells</b>  |      |
| T. Hashimoto and M. Morita  | 2075 |
| <b>Metal-Containing Diamond-Like Nanocomposite Thin Film for Advanced Temperature Sensors</b>   |      |
| T. Takeno, T. Takagi, A.A. Bozhko, M. Shupugin and T. Sato  | 2079 |
| <b>New Piezoelectric Composites-Design, Fabrication and Characterization</b>  |      |
| K. Wakashima, T. Nishida, T. Inamura and H. Hosoda  | 2083 |
| <b>Giant Magnetostrictive Actuator and Its Application in Active Vibration Control</b>  |      |
| H.B. Xu, T.L. Zhang, C.B. Jiang and H. Zhang  | 2089 |
| <b>A Novel Smart Spring Concept for Helicopter Blade Vibration and Noise Suppression</b>  |      |
| Y. Chen, V.K. Wickramasinghe and D.G. Zimcik  | 2095 |
| <b>The Novel Method of Structural Health Monitoring Using FEM and Neural Networks</b>   |      |
| S. Zheng, H.T. Wang and L. Liu  | 2099 |
| <b>Magnetostrictive Material Actuator Based Active Vibration Control-a Heuristic Iterative Learning Control Method</b>  |      |
| Z.Q. Song, J.Q. Mao, C. Li, H.B. Xu and C.B. Jiang  | 2103 |
| <b>A New Method to Identify the Preisach Distribution Function of Hysteresis</b>  |      |
| F. Li, J.Q. Mao, H.S. Ding, W.B. Zhang, H.B. Xu and C.B. Jiang  | 2107 |
| <b>On Control of Six Freedom Magnetostrictive Smart Structure</b>   |      |
| J.Q. Mao, C. Li, H.B. Xu, C.B. Jiang and L. Li  | 2111 |
| <b>Research on the Model of the Magnetostrictive Actuator</b>   |      |
| L. Li and Y. Zhang  | 2115 |
| <b>Damage Localization on Two-Dimensional Structure Based on Wavelet Transform and Active Lamb Wave-Based Method</b>  |      |
| G. Peng and S.F. Yuan   | 2119 |
| <b>Defects Distribution of Pr<sub>2</sub>Fe<sub>14</sub>B Hard Magnetic Magnet from Amorphous to Nanostructures Characterized by Positron Annihilation Spectroscopy</b> |      |
| Y.C. Wu, W. Sprengel, K. Reimann, K.J. Reichle, D. Goll, R. Würschum and H.E. Schaefer  | 2123 |
| <b>Magnetic Structure and Magnetization Reversal in Nanocomposite Pr<sub>2</sub>Fe<sub>14</sub>B/<math>\alpha</math>-Fe Ribbons</b>                                     |      |
| X. Bao, M.C. Zhang, Y. Qiao and S. Zhou   | 2127 |
| <b>Magnetic Properties of Fe-Pt Nanoparticle Protected by PVP Polymer</b>   |      |
| K. Ohmori, T. Umeda, T. Sakaguchi, M. Doi, P. Huayong, H. Asano, N. Tanaka and M. Matsui  | 2131 |
| <b>Magnetic Stability of Fe-Cr-Co Permanent Magnet Materials at High Temperature</b>  |      |
| R.S. Gao, L. Zhen, W.Z. Shao, X.Y. Sun, D.Y. Zhu and R.G. Xu  | 2135 |
| <b>Mössbauer Spectrometry Study of Spinodal Decomposition in Fe-25Cr-12Co-1Si Alloy during Step Ageing</b>  |      |
| C.Y. Xu, L. Zhen, X.Y. Sun, R.G. Xu, R.S. Gao and X.M. Zhang  | 2139 |

|   |      |
|---|------|
| <b>Study on Manufacture of 2:17 Sm-Co Magnets by Powder Injection Molding</b>   | 2143 |
| H.Q. Yin, C.C. Jia and X.H. Qu  |      |
| <b>Effect of Mini Ga Doping in Nanocrystalline Nd<sub>4.5</sub>(Fe,Co)<sub>77.5</sub>B<sub>18</sub> Magnet on Coercivity</b>  | 2147 |
| M. Zhu, J.J. Zhang, W. Chen, X.M. Li, S. Dong and W. Li   |      |
| <b>Electrochemical Impedance Spectroscopy of Nd-Fe-B Magnet Prepared by Spark Plasma Sintering</b>  | 2151 |
| W.Q. Liu, M. Yue, G.P. Wang, J.X. Zhang, T. Li and Y.F. Xiao  |      |
| <b>New YDy-Based R<sub>2</sub>(Fe,Co)<sub>14</sub>B Melt-Spun Magnets (R=Y+Dy+Nd)</b>   | 2155 |
| W. Tang, K.W. Dennis, M.J. Kramer, I.E. Anderson and R.W. McCallum  |      |
| <b>Spark Plasma Sintering Nd<sub>2</sub>Fe<sub>14</sub>B/<math>\alpha</math>-Fe Bulk Exchange-Spring Magnets</b>  | 2161 |
| M. Yue, M. Tian, W.Q. Liu and J.X. Zhang  |      |
| <b>Study on Two-Phase Nanocrystalline Nd<sub>2</sub>Fe<sub>14</sub>B/<math>\alpha</math>-Fe Bonded Magnet</b>   | 2165 |
| J. Ni, Z. Wang, H. Xu, Y.S. Wu, B. Zhou, X. Hou and Y. Li   |      |
| <b>Influence of Cooling Rate on Microstructure of NdFeB Strip Casting Flakes</b>  | 2169 |
| B.L. Guo, B. Li, D. Wang, X. Yu and J.F. Hu   |      |
| <b>Exchange-Coupling Interaction and Effective Anisotropy in Two-Phase Nanocomposite Permanent Magnetic Materials</b>   | 2173 |
| L.M. Liu, W. Chen, M.G. Zhu, L.Y. Nie, A.J. Li and J.J. Hu  |      |
| <b>The Effect of Antiferromagnetic Element Manganese on the Magnetic Properties of <math>\alpha</math>-Fe/Nd<sub>2</sub>Fe<sub>14</sub>B Magnets</b>                      | 2177 |
| G.Z. Xie, Z. Wang, Y.P. Wu, P.H. Lin and Y.W. Du  |      |
| <b>Investigation of Hard Magnetic Behaviors for Nd-Fe-B Based Magnets Prepared by Hydrogen Decrepitation Technique</b>  | 2181 |
| B. Li, D. Wang, B.L. Guo, X. Yu, H.W. Qin and J.F. Hu   |      |
| <b>Nd<sub>2</sub>Fe<sub>14</sub>B/<math>\alpha</math>-Fe Nanocomposites Prepared by Mechanically Activated Disproportionation and Subsequent Desorption-Recombination</b> | 2185 |
| G. Shi, L.X. Hu, B. Guo, X.D. Sun and E. Wang   |      |
| <b>Magneto-Transport Study on Ni<sub>1-x</sub>Mn<sub>x</sub>(0.23</b>   | 2189 |
| K. Yamada, Z. Honda, J.L. Luo and T. Okazaki  |      |
| <b>Magnetic Properties of Ni-Zn Ferrite Ceramics Prepared from the Blend of Powders</b>   | 2193 |
| H. Zhong, Q. Li, Z. Zhong and M. Cheng  |      |
| <b>Growth and Properties of Half-Metallic Double Perovskite Thin Films</b>  | 2197 |
| H. Asano, N. Koduka, M. Sugiyama and M. Matsui  |      |
| <b>Giant Magnetoimpedance in Fe<sub>89</sub>B<sub>4</sub>Hf<sub>7</sub> Nanocrystalline Ribbons</b>   | 2203 |
| X. Yu, J.F. Hu, D. Wang, H.W. Qin and B. Li   |      |
| <b>Magnetoresistance and Current-Controlled Electric Transport Properties of Fe-C Film on Si Substrate</b>  | 2207 |
| Q.Z. Xue and X. Zhang   |      |
| <b>Magnetoresistance in the Hard/Cu/Soft Sandwiches: Dependence on Layer Thickness and Field Annealing</b>  | 2211 |
| B. Yang, X.F. Bi, F. Yang, S.K. Gong and H.B. Xu  |      |
| <b>Synthesis and Magnetic Properties of FeCo Alloy Nanoparticles by Hydrogen Plasma Metal Reaction</b>  | 2215 |
| Y. Leng, Y. Zhang, X.B. Song, X.G. Li and L. Zhang  |      |
| <b>Giant Magnetoimpedance in as Quenched Fe Based Nanocrystalline Ribbons</b>   | 2219 |
| J.F. Hu, H.W. Qin, M. Jiang, B. Li, D. Zhao, X. Yu, D. Wang and X.L. Wang   |      |
| <b>Magnetoresistive Switch Effect and Its Application to Magnetic Field Sensors</b>   | 2223 |
| Z. Sun, M. Mizuguchi and H. Akinaga   |      |
| <b>Effect of Substitution of Magnetic Metal Ions on Magnetic and Magnetoresistance Properties in LaSr<sub>2</sub>Mn<sub>2</sub>O<sub>7</sub></b>                          | 2227 |
| J. Feng, Q.B. Bo, P. Che, J.P. Wang, M.F. Lu, J.F. Liu, X.Q. Cao and J. Meng  |      |
| <b>Exchange-Bias of NiFe/NiO Bilayer</b>  | 2231 |
| E.S. Noh and H.M. Lee   |      |
| <b>Martensitic Transition and Magnetic Field-Induced Strains in Melt-Spun Ni-Mn-Ga Ribbons</b>  | 2235 |
| W.R. Zhao, J.L. Li, Y. Qi and X.L. Wang   |      |
| <b>Micro-Mechanism and Impurity Influence of Ferromagnetic Shape Memory Alloy Ni<sub>2</sub>MnGa Investigation</b>  | 2239 |
| J. Mu and D. Zhao   |      |

|   |      |
|---|------|
| <b>Magnetic Entropy Changes in Ni<sub>54.9</sub>Mn<sub>20.5</sub>Ga<sub>24.6</sub> Alloy</b>  | 2243 |
| D. Wen, Z.Y. Zhang, Y. Long, R.C. Ye, Z. Liu and G.H. Wu  |      |
| <b>Magnetostrictive Properties of Tb<sub>x</sub>Dy<sub>1-x</sub>Fe<sub>y</sub>(x=0.3, 0.33; y=1.05, 1.36, 1.65) Composite Made by Directional Solidification and Polymer Infiltration</b> | 2247 |
| O.Y. Kwon, J.C. Kim, Y.D. Kwon, D.J. Yang, S.H. Lee and Z.H. Lee  |      |
| <b>Dynamic Characteristics of Tb-Dy-Fe Polycrystals with &lt;110&gt; Axial Alignment</b>  | 2251 |
| B.W. Wang, L. Weng, S.Y. Li, S.Z. Zhou and I. Gyuro   |      |
| <b>The First-Principles Study of Electronic Structure of Fe/MgO/Fe Magnetic Tunnel Junctions Interface</b>  | 2255 |
| J.X. Shang, F.H. Wang, X.F. Bi and H.B. Xu  |      |
| <b>Magnetotransport Behaviors in Electron-Doped Manganese Oxide La<sub>0.9</sub>Te<sub>0.1</sub>MnO<sub>3</sub></b>   | 2259 |
| G. Tan, X. Zhang and Z.H. Chen  |      |
| <b>Dynamics of Magnetization Reversal in Thin Polycrystalline Co Films</b>  | 2263 |
| H. Lai, Z.G. Huang, R. Gai, S.Y. Chen and Y.W. Du   |      |
| <b>The Magnetic Entropy Changes in Gd<sub>1-x</sub>Cr<sub>x</sub> Alloys</b>  | 2267 |
| S.L. Huang, D.H. Wang, Z.D. Han, S.K. Ren, Z.H. Su and Y.W. Du  |      |
| <b>A Study on the Preparation of PEG/FeOx Ferrofluids</b>   | 2271 |
| S. Hu and Z.W. Zhou   |      |
| <b>Chemical Synthesis of Magnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles</b>   | 2275 |
| R.F. Yang, Y.Z. Lv, Y. Zhang, C.M. Liu and L. Guo   |      |
| <b>The Precipitation of Copper in the Non-Oriental Electrical Steel</b>   | 2279 |
| B. Xu, Y. Li and Y.F. Gong  |      |
| <b>Study on Magnetoresistance for Trilayer with Fe<sub>3</sub>O<sub>4</sub> Film</b>  | 2283 |
| A. Kida, K. Kodera, K. Ohmori, H. Asano and M. Matsui   |      |
| <b>Effects of HA/TiN Coated Film on the Surface Activation of Bone Plate Alloys</b>   | 2287 |
| H.C. Choe and Y.M. Ko   |      |
| <b>Microstructures and Elastic Moduli of Binary Titanium Alloys Containing Biocompatible Alloying Elements</b>  | 2291 |
| H.W. Jeong, S.E. Kim, Y.T. Hyun, Y.T. Lee and J.K. Park   |      |
| <b>Role of Alloying Elements on the Cytotoxic Behavior and Corrosion of Austenitic Stainless Steels</b>   | 2295 |
| Y.S. Kim, Y.R. Yoo, C.G. Sohn, K.T. Oh, K.N. Kim, J.H. Yoon and H.S. Kim  |      |
| <b>High Temperature Deformation Behavior of a Beta Titanium Alloy for Biomedical Application</b>  | 2299 |
| Q. Zhou, G. Itoh, H. Hasegawa, Y. Motohashi and M. Niinomi  |      |
| <b>Dental Precision Casting of Ti-29Nb-13Ta-4.6Zr Using Calcia Mold</b>   | 2303 |
| M. Niinomi, T. Akahori, T. Takeuchi and S. Katsura  |      |
| <b>Development of Ti-30 mass% Ta Alloy for Biomedical Applications</b>  | 2309 |
| Y.L. Zhou, M. Niinomi, T. Akahori and H. Fukui  |      |
| <b>Effect of Nitrogen on Mechanical Properties of Porous Titanium Compacts Prepared by Powder Sintering</b>   | 2313 |
| N. Nomura, I.H. Oh, S. Hanada, M. Kanehira, K. Sasaki and A. Chiba  |      |
| <b>Mechanical Properties of Forged Low Ni and C-Containing Co-Cr-Mo Biomedical Implant Alloy</b>  | 2317 |
| A. Chiba, K. Kumagai, H. Takeda and N. Nomura   |      |
| <b>Pseudoelastic Properties of Cold-Rolled TiNbAl Alloy</b>   | 2323 |
| T. Inamura, Y. Fukui, H. Hosoda, K. Wakashima and S. Miyazaki   |      |
| <b>Mechanical Properties of Ti-Nb Biomedical Shape Memory Alloys Containing 13- and 14-Group Elements</b>   | 2329 |
| H. Hosoda, Y. Fukui, T. Inamura, K. Wakashima and S. Miyazaki   |      |
| <b>Wear Loss and Elution of C.P.Ti and Titanium Alloys in Simulated Body Fluids</b>   | 2333 |
| K. Ueda, T. Narushima, C. Ouchi and Y. Iguchi   |      |
| <b>Effect of Zr Addition on Phase Constitution and Heat Treatment Behavior of Ti-25mass%Nb Alloys</b>   | 2337 |
| M. Ikeda, M. Mori, T. Hirasawa and K. Toyoshima   |      |
| <b>Ambiguous Transition from Fretting to Sliding of Biomedical Alloys</b>   | 2343 |
| H. Fukui, W. Yang, S. Tsuruta, K. Kaikawa, A. Sugimura, S. Takeda and M. Niinomi  |      |

|   |      |
|---|------|
| <b>Biomedical Properties of Tantalum Coatings Prepared by Multi Arc Ion-Plating</b>   | 2349 |
| W. Cai, Y. Cheng, Y.F. Zheng, H.T. Li and L.C. Zhao   |      |
| <b>Investigation on Near-<math>\beta</math> Titanium Alloy Ti-5Zr-3Sn-5Mo-15Nb for Surgical Implant Materials</b>                                 |      |
| Z.T. Yu, L. Zhou, M. Fan and S. Yuan  | 2353 |
| <b>An Improvement in Sintering Property of <math>\beta</math>-Tricalcium Phosphate by Addition of Calcium Pyrophosphate and Calcium Carbonate</b> |      |
| X.L. Wang, H.S. Fan and X.D. Zhang  | 2359 |
| <b>Gene Expressions Induced by Calcium Phosphate Ceramics after Implantation into the Muscle of Rat</b>   |      |
| J.R. Xu, H.S. Fan, Y.F. Tan and X.D. Zhang  | 2363 |
| <b>Improving the Interconnectivity of Chitin-Gel-Cast Porous Calcium Phosphate Ceramics by Different Acid Etching Approaches</b>                  |      |
| L.F. Liang, J. Weng, B. Feng and S.X. Qu  | 2367 |
| <b>Study on Plasma Sprayed Calcium Silicate Coatings</b>  |      |
| X.B. Zheng, X.Y. Liu, W.C. Xue and C.X. Ding  | 2371 |
| <b>The Influence of Calcium at the Titanium Surface on Co-Precipitation of Ca-P and Bovine Serum Albumin</b>                                      |      |
| B. Feng, J. Weng, S.X. Qu and X.D. Zhang  | 2375 |
| <b>Compare of Electrospinning PLA and PLA/<math>\beta</math>-TCP Scaffold in Vitro</b>  |      |
| H.S. Fan, X.T. Wen, Y.F. Tan, R. Wang, H.D. Cao and X.D. Zhang  | 2379 |
| <b>A Novel Way to Prepare Nano-Hydroxyapatite/Poly(D,L-Lactide) Composite</b>   |      |
| Y.M. Xiao, H.C. Zhao, H.S. Fan, X.L. Wang, L.K. Guo, X.D. Li and X.D. Zhang   | 2383 |
| <b>Dynamic Rheological Behaviors of the Bone Scaffold Reinforced by Chitin Fibres</b>   |      |
| X.M. Li and Q.L. Feng   | 2387 |
| <b>Materials Selection and Scaffold Construction for Liver Tissue Engineering</b>   |      |
| Q.L. Feng   | 2391 |
| <b>Study on Adhesion and Biocompatibility of Copolymer of MMA-BMA-MAA for Coronary Stents Coatings</b>  |      |
| L. Tan, K. Yang, B.C. Zhang and Y. Liang  | 2395 |
| <b>Study on the Shape Memory Behavior of Poly (L-Lactide)</b>   |      |
| X. Lu, W. Cai and L.C. Zhao   | 2399 |
| <b>Particle Size Reduction of Biomaterials Using Cryogenic Milling Process</b>  |      |
| S.M. Lee, H.J. Park, S.S. Kim, T.H. Choi, E.Z. Kim, K.H. Na, H.K. Cho and K.Y. Rhee   | 2403 |
| <b>Influence of Bone Structure on Mechanical Properties of Bovine and Swine Compact Bones</b>   |      |
| J.H. Kim, M. Niinomi and T. Akahori   | 2407 |
| <b>Long Magnetic Nanochains Assembled by Magnetotactic Bacteria in a Directional Field</b>  |      |
| X.L. Wu, W. Zhong, S.Y. Gao, X.H. Qi, N.J. Tang, H.Y. Jiang and Y.W. Du   | 2411 |
| <b>Response of Human Osteoblast-Like Cells and Fibroblasts to Titanium Alloy Nitrided under Glow Discharge Conditions</b>                         |      |
| E. Czarnowska, A. Sowinska, B. Cukrowska, J.R. Sobiecki and T. Wierzchoń  | 2415 |
| <b>The Study of Apoptosis and Phagocytosis of Rabbit Synoviocytes Induced by Particulate Joint Replacement Materials</b>                          |      |
| C.T. Yung, S.S. Lian and Y.J. Sung  | 2419 |
| <b>Study of Nano-Hydroxyapatite on the Remineralization of Dismineralized Teeth</b>   |      |
| X.C. Meng, X.Y. Li and K.L. Lu  | 2423 |
| <b>Study on the Subsonic Thermal Sprayed Ti/Bioglass Composite Coatings on Titanium Alloy</b>   |      |
| M.Q. Li, D.S. Shang, C. Ma and S.Q. Yang  | 2427 |
| <b>Recent Advances in Lithium-Based Complex Hydrides for Solid-State Hydrogen Storage</b>   |      |
| Y. Nakamori, G. Kitahara, T. Kudo, T. Yamagishi and S. Orimo  | 2431 |
| <b>Metal-Complex Hydrides for Hydrogen-Storage Application</b>  |      |
| X.L. Gou, L.N. Xu, W.Y. Li, J. Chen and Q. Xu   | 2437 |
| <b>A New Concept: Hydrogen Storage in Minerals</b>  |      |
| S.C. Mu, M. Pan and R.Z. Yuan   | 2441 |
| <b>Synthesis and Properties of Nanostructured Mg<sub>2</sub>Ni-Based Compounds</b>  |      |
| H. Shao, Y.T. Wang and X.G. Li  | 2445 |

|  |      |
|--|------|
| <b>Synthesis of Composite Metal Hydride Alloy of A<sub>2</sub>B and AB<sub>2</sub> Type by Mechanical Alloying and Spark Plasma Sintering</b>                          | 2449 |
| N.Y. Suk and K.S. Lee  |      |
| <b>Hydrogenation Properties of Mg-Co and Its Related Alloys</b>  | 2453 |
| Y. Zhang, Y. Tsushio, H. Enoki and E. Akiba  |      |
| <b>Effects of Al on Cycling Stability of a New Rare-Earth Mg-Based Hydrogen Storage Alloy</b>  | 2457 |
| Y.F. Liu, H.G. Pan, R. Li and Y.Q. Lei   |      |
| <b>A Study on Hydrogen Desorption Properties of Multiwall Carbon Nanotubes</b>   | 2463 |
| J.Y. Lee, H. Lee and H.S. Kim  |      |
| <b>Hydrogen-Induced Amorphization in C15 Laves Phase DyCo<sub>2</sub> Studied by Pressure Calorimetry</b>  | 2469 |
| H.- Li, K. Ishikawa and K. Aoki  |      |
| <b>The Electrochemical Characteristics of Mg-Based Alloy Prepared by HT (Heat Treatment) and MG (Mechanical Grinding) for Nickel-Metal Hydride Secondary Batteries</b> | 2473 |
| Y.H. Kim, U.C. Chung, B. Nam, W.S. Chung and I.G. Kim  |      |
| <b>Microstructure and Mechanical Properties of Ca Containing AZ91 Magnesium Alloys</b>   | 2477 |
| B.H. Choi, B.S. You, D.Y. Chang, W.W. Park and I.M. Park   |      |
| <b>Degrading Mechanism on Hydrogen Absorbing-Desorbing Cycle Durability of V- and Ti-Cr-Based BCC-Type Solid Solutions</b>   | 2481 |
| H. Tanaka, N. Kuriyama, S. Ichikawa, H. Senoh, N. Naka, K. Aihara, H. Itoh and M. Tsukahara  |      |
| <b>Relationship between Palladium Morphology and Thermodynamics in Palladium-Hydrogen System</b>   | 2485 |
| T. Tang, S. Guo and G. Lu  |      |
| <b>Hydrogen Storage Intermetallic Compounds: First Principles Investigations of Properties Relevant to Applications</b>  | 2489 |
| M. Gupta and J.C. Crivello   |      |
| <b>Alloying Effects on Hydrogen Permeability of Niobium</b>  | 2497 |
| K. Komiya, Y. Shinzato, H. Yukawa, M. Morinaga and I. Yasuda   |      |
| <b>Investigation of Cobalt-Free AB<sub>5</sub>-Type Hydrogen Storage Alloy</b>   | 2501 |
| Y.H. Zhang, G. Wang, X.P. Dong, S.H. Guo and X.L. Wang   |      |
| <b>High-Temperature Characteristics of Melt-Spun Hydrogen Storage Alloys</b>   | 2505 |
| R. Li, J. Wu, Y. Qi and S. Zhou  |      |
| <b>Property Changes of Some Hydrogen Storage Alloys upon Hydrogen Absorption-Desorption Cycling</b>  | 2509 |
| C. Park, S. Cho and J. Choi  |      |
| <b>Hydrogen Diffusion in Ti-Cr Hydrogen Absorption Alloys by Tritium Radioluminography</b>   | 2513 |
| H. Saitoh and H. Homma   |      |
| <b>Effects of Rare-Earth Content on the Properties of Co-Free Mm<sub>x</sub>Ml<sub>1-x</sub>(NiCuAlZn<sub>5</sub>)Hydrogen Storage Alloys</b>                          | 2517 |
| Y.J. Wang and H. Yuan  |      |
| <b>Synthesis and Crystal Structure of New Hydrides in Mg-RE Systems under High-Pressure (RE = La, Ce, Pr)</b>  | 2521 |
| Y. Goto, H. Kakuta, A. Kamegawa, H. Takamura and M. Okada  |      |
| <b>Centrifugal Casting Practice and Microstructure and Mechanical Properties of a 2205 Duplex Stainless Steel</b>  | 2527 |
| S.M. Lee, S. Yang, S.T. Kim, Y.S. Park and B.M. Moon   |      |
| <b>Determination of Die Design Rules for Semi-Solid Die Casting Process and Its Experimental Investigation</b>   | 2533 |
| C.G. Kang, P.K. Seo and B.M. Kim   |      |
| <b>Effect of Alloying Elements on the Strength and Casting Characteristics of High Strength Al-Zn-Mg-Cu Alloys</b>   | 2539 |
| K.T. Kim, J.M. Kim, K.D. Sung, J.H. Jun and W.J. Jung  |      |
| <b>Investigation of Protective Cover Gas Mixtures for Prevention of Melt Ignition during Magnesium Alloy Melting</b>   | 2543 |
| W. Ha, J. Lee and Y.J. Kim   |      |
| <b>Investment Casting of Near-Net Shape Gamma Titanium Aluminide Automotive Turbocharger Rotor</b>   | 2547 |
| M.G. Kim, S.Y. Sung, G.C. Lee, J.P. Park and Y.J. Kim  |      |

|  |      |
|--|------|
| <b>Investment Casting of Titanium Matrix Composites</b><br>S.Y. Sung, K.C. Park, M.G. Kim and Y.J. Kim   | 2551 |
| <b>Effects of Pouring Temperature on the Solidification Structure of INCONEL718 Investment Casting</b><br>S.H. Kang, K. Ogi, K. Anzai, H. Yokota, H. Honda, I. Takahashi, M. Sirai and S. Kiyoto           | 2555 |
| <b>Fiber Orientation Control and Evaluation of Characteristics of Short Fiber Reinforced Metal Matrix Composite Fabricated by Low-Pressure Infiltration Process</b><br>M. Mizumoto, H. Ezaki and A. Kagawa | 2559 |
| <b>Formation of Faceted 123 Crystals in Superconductive REBCO Oxide Fabricated by Infiltration-Growth Method</b><br>N. Mori, T. Hirao, R. Hirooka, K. Dateki and K. Ogi                                    | 2563 |
| <b>Solidification Behavior of Iron-Niobium and Iron-Carbon-Niobium Alloys</b><br>M. Kudoh, M. Tezuka and K. Matsuura   | 2567 |
| <b>A Model for Grain Growth in Semi-Solid Treatment of an Al-4Cu-Mg Alloy</b><br>H.T. Jiang and M.Q. Li  | 2571 |
| <b>Continuous Casting and Directional Solidification of Titanium Alloys with Cold Crucible</b><br>H.S. Ding, R.R. Chen, Y.L. Wang, H.Z. Fu, J.J. Guo, W.S. Bi and J. Jia                                   | 2575 |
| <b>Deformation Behavior of Semi-Solid Steels Fabricated by Electromagnetic Stirring</b><br>Y.L. Kang, R.B. Song, J.G. Li and A. Zhao   | 2579 |
| <b>Effects of Trace Ti on the Microstructure and Properties of Casting Mg-9Al Magnesium Alloy</b><br>G.Y. Yang, Q.T. Hao and W.Q. Jie  | 2583 |
| <b>Morphology of Primary Silicon and its Growth Mechanism in Hypereutectic Al-Si Alloys during Melt Overheating Treatment</b><br>R. Zhang, Z.L. Zhao, T.W. Huang and L. Liu                                | 2587 |
| <b>Effect of Filler Wire Composition on the Nd:YAG Laser Weldability of 6061 Aluminum Alloy</b><br>J.W. Yoon, Y.S. Lee, K.D. Lee and K.Y. Park   | 2591 |
| <b>Refining of Metallurgical-Grade Silicon by Thermal Plasma Arc Melting</b><br>S. Tsao and S.S. Lian  | 2595 |
| <b>Damping Behavior of the High Strength Aluminum Alloy Prepared by Rapid Solidification and Powder Metallurgy Process</b><br>H.T. Zhao, J. Yao, Y. Ma and H.B. Xu   | 2599 |
| <b>Crystallization of Spherical Single Crystal of Silicon from Undercooled Droplet under Containerless Processing</b><br>Z.Y. Jian, K. Kurabayashi and W.Q. Jie  | 2603 |
| <b>Directional Solidification of Undercooled Hypoeutectic Silver-Copper Alloy Melt</b><br>Y.Y. Lu, H.X. Zheng, F.Q. Xie and J.G. Li  | 2607 |
| <b>Microstructure Evolution of a Zn-4wt.% Cu Hyperperitectic Alloy under Laser Surface Remelting</b><br>W.D. Huang, Y.P. Su, M. Wang and X. Lin  | 2611 |
| <b>Research on Molten Pool Shape during Laser Rapid Forming through the Close-Range Continuous Photography</b><br>J. Chen, H. Yang, M. Wang, Y.P. Su and W.D. Huang  | 2615 |
| <b>Unidirectionally Solidified Al-Cu Eutectic Alloy under High Intensity Pulsed Magnetic Field</b><br>Z.L. Zhao, R. Zhang, L. Liu and A.A. Tseng   | 2619 |
| <b>The Microstructure and Mechanical Properties of Directionally Solidified NiAl-15Cr Alloy at Various Temperatures</b><br>G.Y. Zhang, J.T. Guo, L.Z. Zhou, G.S. Li and H.Q. Ye                            | 2623 |
| <b>Enhanced Growth Kinetics of Intermetallic Compounds between Bi-Containing Sn-3.5Ag Solders and Cu Substrate during Aging</b><br>S.T. Kim and J.Y. Huh   | 2627 |
| <b>Optimal Operational Conditions during Production of Lead-Calcium-Tin Anodes for Improve Their Mechanical Properties</b><br>C. Camurri, E. Araneda, A. Pagliero and J. Dille                             | 2631 |
| <b>Effect of Electrical Pulse Ageing on Microstructure and Properties of Cu-2.5Fe-0.03P-0.1Zn Copper Alloy</b><br>J.L. Huang, Q. Li, P. Liu and Q.M. Dong  | 2635 |

|   |      |
|---|------|
| <b>Influence of Sintering Temperature on Mechanical Properties of Ti-6Al-4V Compacts by Metal Injection Molding</b>   | 2639 |
| S.B. Guo, X.H. Qu and X.B. He   |      |
| <b>Interface Morphology and Solute Partition during Directional Solidification Process of Al-1.5Cu-3Zn Alloy</b>  | 2643 |
| F.Y. Chen and W.Q. Jie  |      |
| <b>Investigation on the Electromagnetic Contactless Shaping and Directional Solidification of Plates of Stainless Steel and Superalloy under Vacuum</b>               | 2647 |
| J. Shen, J.W. Yu, B.P. Lu, L. Liu and H.Z. Fu   |      |
| <b>Microstructural Evolution of Undercooled Ni-40wt%Pb Hypermonotectic Alloy</b>  | 2651 |
| H.X. Zheng, Y. Yu and J.G. Li   |      |
| <b>Electromigration Induced Metal Dissolution in Flip-Chip Solder Joints</b>  | 2655 |
| Y.H. Lin, C.M. Tsai, Y.C. Hu, Y.L. Lin, J.Y. Tsai and C.R. Kao  |      |
| <b>Effect of Material Properties on the Plastic Straining Capacity of Defective Welds</b>   | 2659 |
| W. De Waele   |      |
| <b>Fitness-for-Purpose Assessment of Misaligned Welds</b>   | 2663 |
| W. De Waele, R.M. Denys and A. Lefevre  |      |
| <b>A Bonding Map for Cu and Al Plates by Pressure Welding at Cold and Warm Temperatures</b>   | 2667 |
| K.-. Sim and Y.S. Lee   |      |
| <b>Numerical and Experimental Study of the Electromagnetic Continuous Casting of Silicon</b>  | 2671 |
| J.S. Shin, H.S. Kim, S.M. Lee and B.M. Moon   |      |
| <b>Electrochemical and Optical Characterization of the Corrosion Resistivity of Explosively Bonded Al-Cu Bimetal</b>  | 2675 |
| Y.-. Ha, J.H. Bae, T.-. Ha, H.G. Lee, D.-. Kim and B.I. Lee   |      |
| <b>Nitrogen Porosity in Nitrogen Bearing Austenitic Stainless Steel</b>   | 2679 |
| S.H. Yang and Z.H. Lee  |      |
| <b>Rheology and Foaming Characteristics of Melt for Metal Foam</b>  | 2683 |
| S.H. Park, B.Y. Hur and K. Song   |      |
| <b>Sound Absorption Properties of Fiber and Porous Materials</b>  | 2687 |
| B.Y. Hur, B.K. Park, D. Ha and Y.S. Um  |      |
| <b>Analysis of Negative Pressure in Solidifying Al-Si Alloy with Effect of Fluid Flow and Solid Deformation</b>   | 2691 |
| K. Ohsasa and T. Ohmi   |      |
| <b>Control of Solidified Structure by Using Electromagnetic Oscillation</b>   | 2695 |
| K. Iwai and S. Kento  |      |
| <b>Lining of Titanium Alloys with Hard Materials by Shot Peening</b>  | 2699 |
| Y. Harada, L. Wang, Y. Matsumoto and N. Matsuo  |      |
| <b>Solidification Interface Morphology in Narrow Channel during Unidirectional Solidification</b>   | 2703 |
| H. Miyahara and K. Ogi  |      |
| <b>Undercooled Melt Shaping of <math>\text{Al}_2\text{O}_3</math>-YAG Eutectic Composite by Melting the <math>\text{Al}_2\text{O}_3</math>-YAP Eutectic Structure</b> | 2709 |
| H. Yasuda, I. Ohnaka, A. Sugiyama, Y. Mizutani, T. Sakimura, A. Kawaguchi and Y. Waku   |      |
| <b>Numerical Analysis of Deformation and Damage in Copper Alloy Sheet</b>   | 2713 |
| Q.M. Dong, P. Liu, J.H. Su, H. Li and B.H. Tian   |      |
| <b>Physical Simulation and Metallurgical Evaluation of Heat-Affected Zone during Laser Welding of Ultrafine Grain Steel</b>   | 2717 |
| Q.F. Wang, C.J. Shang, R.D. Fu, Y.N. Wang and W. Chen   |      |
| <b>Prediction of Solid-Liquid Interface Stability and Dendritic Growth in Multi-Component Alloys with Calphad Method</b>  | 2721 |
| R.J. Zhang, Z. He and W.Q. Jie  |      |
| <b>Numerical Study of the Thermal-Solutal Convection and Grain Sedimentation during Globular Equiaxed Solidification</b>  | 2725 |
| M.H. Wu, A. Ludwig and J.L. Luo   |      |
| <b>Prediction of the Tolerable Defect Size for Strain Based Design</b>  | 2731 |
| W. De Waele, R.M. Denys and P. de Baets   |      |
| <b>The Interaction of Weld Defects under Plastic Collapse</b>   | 2735 |
| W. De Waele   |      |

|  |      |
|--|------|
| <b>Microwave and Millimeter-Wave Processing of Materials</b>   | 2739 |
| D. Lewis III, R.W. Bruce, A.W. Fliflet, L.K. Kurihara and R.L. Bruce   |      |
| <b>Slag Cleaning Processes: A Growing Concern</b>  | 2745 |
| C.M. Acuna and M. Sherrington  |      |
| <b>Effects of Casting Conditions on the Mold Filling Characteristics of Mg Alloy in the EPC Process</b>  | 2753 |
| K.H. Choe, G.S. Cho, K.W. Lee and A. Ikenaga   |      |
| <b>Microstructure Evolution in a Directional Solidification Process</b>  | 2757 |
| S. Liu and R. Trivedi  |      |
| <b>A New Approach to Calculate Liquid-Vapor Surface Energy Using Sessile Droplet Test</b>  | 2761 |
| C. Mázur Lauricella, X. Shang and S.D. Brandi  |      |
| <b>Weldability Approach to Duplex Stainless Steels Using Multicomponent Phase Diagrams</b>   | 2765 |
| A.J. Ramirez and S.D. Brandi   |      |
| <b>Effect of Sb on the Graphite Morphology and Mechanical Properties in Heavy Section Ductile Iron</b>   | 2769 |
| Z.H. Li and Y.X. Li  |      |
| <b>Spray Forming and Thermal Processing for High Performance Superalloys</b>   | 2773 |
| G.Q. Zhang, Z. Li, Z.W. Liu, Z.H. Zhang, Y. Zhang, H. Yuan, R.P. Yao, S. Xu, S.F. Tian and M.G. Yan  |      |
| <b>Recent New Development of Spray Formed Ultrahigh-Carbon Steels</b>  | 2779 |
| J.G. Zhang, G.M. Luo, X.J. Li, J. Wang, B. Yan, Y.J. Lin, H.S. Shi and H. Zhang  |      |
| <b>Research on Ultra-High Strength Al-11Zn-2.9Mg-1.7Cu Alloy Prepared by Spray Forming Process</b>   | 2785 |
| B.Q. Xiong, Y. Zhang, B.H. Zhu, H.W. Liu, Z.H. Zhang and L.K. Shi  |      |
| <b>Spray Forming of AZ91 Magnesium Alloys with and without Si Addition</b>   | 2789 |
| C.Y. Chen and C.Y.A. Tsao  |      |
| <b>Spray Forming of Homogeneous Bearing Steel of Minimized Distortion Potential</b>  | 2795 |
| C.S. Cui, U. Fritsching, A. Schulz, K. Bauckhage and P. Mayr   |      |
| <b>A Novel Spray Deposition Technology for the Preparation of Aluminum Alloy and Aluminum Alloy Matrix Composite Rings with Large Dimensions</b> | 2799 |
| Z.H. Chen, J. Teng, H.G. Yan and G. Chen   |      |
| <b>Numerical Heat Transfer Modelling in Spray Formed IN718 Billets</b>   | 2803 |
| Z. Shi, J.W. Mi and P.S. Grant   |      |
| <b>Modelling Shape Evolution and Heat Flow of Spray-Formed Ring Preforms</b>   | 2807 |
| J.W. Mi, Z. Shi and P.S. Grant   |      |
| <b>PID Control of Deposit Dimension during Spray Forming</b>   | 2811 |
| Y.D. Qu, C.S. Cui, S.B. Chen and Q.C. Li   |      |
| <b>The Flow Characteristic Study of Gas Spray Process in Baosteel Spray Forming Equipment</b>  | 2815 |
| J.F. Fan, Y. Zhang, S.B. Ren, Y.D. He, J.G. Zhang, D.S. Sun and H.R. Le  |      |
| <b>The Study of Statistical Model of Mass Liquid Drop during Metal Spray Forming Process</b>   | 2819 |
| Y. Zhang, J.F. Fan, Y.D. He, S.B. Ren, J.G. Zhang, D.S. Sun and H.R. Le  |      |
| <b>Influence of In-Flight Particle Characteristics on the Forming Quality</b>  | 2823 |
| J.C. Fang, W.J. Xu, Z.Y. Zhao and L. Wang  |      |
| <b>Microstructure and Mechanical Property of Al 5083 Alloy Produced by Spray Forming and Hot Extrusion</b>                                       | 2827 |
| W.Y. Kim, I.D. Yeo, T.Y. Ra and M.S. Kim   |      |
| <b>Influence of Aging Treatment on the Microstructure and Properties of Spray Formed CuNi15Sn8 Alloy</b>   | 2831 |
| H.S. Shi, J.F. Fan, J.G. Zhang, H.R. Le, Y. Peng, B.Z. Jin and X. Mi   |      |
| <b>Evolution of SiC Particle Distribution in Spray Codeposited SiCp/ 7075 Al Composites during Extrusion</b>                                     | 2835 |
| M. Zhan, Z.H. Chen, H.G. Yan and W. Xia  |      |
| <b>Superplastic Deformation Behavior of a Spray-Deposited Ultrahigh Carbon Steel</b>   | 2841 |
| X.J. Li, J.G. Zhang, H.S. Shi and J.S. Wu  |      |
| <b>Microstructures of Spray Formed Superalloy GH742</b>  | 2845 |
| Z. Li, G.Q. Zhang, S.F. Tian and M.G. Yan  |      |

|   |      |
|---|------|
| <b>Influences of Temperature on Creep Properties and Mechanisms of Spray Formed GH742 Superalloy</b>  | 2849 |
| Y. Zhang, G.Q. Zhang, Z. Li and S.F. Tian   |      |
| <b>Microstructures and Properties of Spray Formed CuCr25 Alloy</b>  | 2853 |
| Y. Zhang, H.W. Liu, B.H. Zhu, Y. Wei, B.Q. Xiong, L.K. Shi and J.S. Zhang   |      |
| <b>Research on Preparation of Al-Fe-V-Si Alloy Enhanced by In-Situ TiC Particles</b>  | 2857 |
| B.H. Zhu, Y. Zhang, B.Q. Xiong, H.W. Liu and L.K. Shi   |      |
| <b>High-Temperature Infiltration of Non-Metallic Articles Produced via Selective Laser Sintering</b>  | 2861 |
| D.L. Bourell, R.S. Evans and S.L. Barrows   |      |
| <b>Geometry and Heat Transfer Considerations in Rapid Manufacturing</b>   | 2867 |
| F. Kahlen and A. Kar  |      |
| <b>Comparative Analysis of Different Methods of Rapid Tooling</b>   | 2873 |
| C. Martin, J.V. Sasutil, M. Kouhkan, E. Lorea and R. Noorani  |      |
| <b>Transmission Electron Microscopy Study of Thermal Barrier Coatings Fabricated by Electron Beam-Physical Vapor Deposition</b>                                       | 2877 |
| T. Kato, K. Matsumoto, Y. Ishiwata, T. Hirayama, H. Matsubara, Y. Ikuhara and H. Saka   |      |
| <b>Novel Zirconia Composite Coatings Fabricated by Twin Hybrid Plasma Spraying</b>  | 2883 |
| H. Huang, K. Eguchi, M. Kambara and T. Yoshida  |      |
| <b>Effect of Thermal Spray Processing Techniques on the Microstructure and Properties of Ni-Based Amorphous Coatings</b>  | 2887 |
| S.M. Lee, B.M. Moon, E. Fleury, H.S. Ahn, D.H. Kim, W.T. Kim and D.J. Sordelet  |      |
| <b>A Feasibility Study on Advanced Methodology to Produce High-Performance Nano WC-Co Granule Feedstock for Thermal Spraying</b>                                      | 2891 |
| H.W. Jun, H.K. Seok, J.S. Kim and H.W. Lee  |      |
| <b>Solid-State Synthesis of Magnesium Silicide via Repeated Plastic Working and Spark Plasma Sintering</b>  | 2895 |
| H. Oginuma, K. Kondoh, T. Yamaguchi and E. Yuasa  |      |
| <b>Effect of a-CN<sub>x</sub> Coating on Tribological Properties of SiC Ceramic in Water</b>  | 2899 |
| F. Zhou, K. Kato and K. Adachi  |      |
| <b>Microstructural Observation of Diamond Like Carbon Film Prepared from C<sub>2</sub>H<sub>2</sub> / C<sub>5</sub>H<sub>6</sub>CH<sub>3</sub> Plasma Beam Source</b> | 2905 |
| L. Liu, A. Yamamoto, Y. Oka, M. Yatsuzuka and H. Tsubakino  |      |
| <b>Selection of Binder Materials for Salt Powder Lamination</b>   | 2909 |
| Y. Marutani, T. Kamitani and M. Tomita  |      |
| <b>An Experimental Study on Superplastic Behaviors of Magnesium Alloy Sheet</b>   | 2913 |
| Q.L. Jin and H. Wu  |      |
| <b>Blow Forming of Recycled 5083 Al Alloy and AZ31 Mg Alloy by Solid State Recycling</b>  | 2919 |
| Y. Chino, M. Mabuchi, T. Hoshika, J.S. Lee, K. Shimojima, H. Hosokawa, Y. Yamada and H. Iwasaki   |      |
| <b>Microstructure Evolution and Fracture Behavior in Superplastic Deformation of Hot-Rolled AZ31 Mg Alloy Sheet</b>   | 2923 |
| D.L. Yin, G.F. Wang and K.F. Zhang  |      |
| <b>High Temperature Deformation Behavior of AZ31 Mg Alloy</b>   | 2927 |
| B.H. Lee, K.S. Shin and C.S. Lee  |      |
| <b>Effect of State of Stress on the Cavitation Behavior of Al 5083 Superplastic Material</b>  | 2931 |
| N. Chandra, M.K. Khraisheh and P.N. Kalu  |      |
| <b>Superplastic Behavior of As-Equal Channel Angular Pressed 5083 Al and 5083 Al-0.2 Sc Alloys</b>  | 2937 |
| K.T. Park, C.S. Lee and D.H. Shin   |      |
| <b>Superplasticity and Deformation Mechanism of LD10 Aluminium Alloy</b>  | 2941 |
| H.Z. Guo, C. Duan, Z.K. Yao and W. Zhang  |      |
| <b>An Investigation of Cavity Growth Rate in Superplastic Al and Mg Alloys</b>  | 2945 |
| M. Mabuchi, Y. Chino and H. Iwasaki   |      |
| <b>Developing High Strain Rate Superplasticity in Aluminum Alloys</b>   | 2949 |
| C. Xu, M. Furukawa, Z. Horita and T.G. Langdon  |      |
| <b>Load Relaxation Behavior of Ultra-Fine Grained Ti-6Al-4V Alloy</b>   | 2955 |
| Y.G. Ko, J.H. Kim, C.S. Lee, D.H. Shin and S.L. Semiatin  |      |

|   |      |
|---|------|
| <b>Superplasticity and Fracture Morphologies during Superplastic Deformation of a Commercial TC6 Titanium Alloy</b>                           | 2961 |
| M.Q. Li, A.M. Xiong and Z.Q. Zhang  |      |
| <b>Deformation Behavior of Ti-6Al-4V and Ti-6.85Al-1.6V Alloy with a Globular Microstructure</b>  | 2965 |
| J.H. Kim, S.L. Semiatin and C.S. Lee  |      |
| <b>A Study on Mechanical Behavior and Microstructural Evolution in the Superplastic Deformation of Ti75 Alloy</b>                             | 2969 |
| C.L. Li, H. Ding, Y.Q. Zhao and L. Zhou   |      |
| <b>Superplastic Extrusion of Al<sub>2</sub>O<sub>3</sub>-YTZ Nanocomposite and Its Deformation Mechanism</b>                                  | 2973 |
| G.Q. Chen and K.F. Zhang  |      |
| <b>High Strain-Rate Superplastic Flow in ZrO<sub>2</sub>-30vol% Spinel Composite</b>  | 2977 |
| K. Morita, K. Hiraga, B.N. Kim and Y. Sakka   |      |
| <b>Crystallization during Superplastic Deformation in a Zr<sub>65</sub>Al<sub>10</sub>Ni<sub>10</sub>Cu<sub>15</sub> Glass Metallic Alloy</b> | 2981 |
| W.J. Kim, H.S. Kim and H.G. Jeong   |      |
| <b>Superplasticity and Sinter-Forging of Fine-Grained Si<sub>3</sub>N<sub>4</sub>-Si<sub>2</sub>N<sub>2</sub>O Composite</b>                  | 2987 |
| J.T. Luo, K.F. Zhang, G.F. Wang and W.B. Han  |      |
| <b>Superplastic Behavior and Cavitation for WC-Co Cemented Carbides</b>   | 2991 |
| H. Hosokawa, K. Shimojima, M. Kawakami, S. Sano, O. Terada and M. Mabuchi   |      |
| <b>Microstructural Evolution and Deformation Mechanisms for Superplasticity of NiAl Intermetallic</b>   | 2995 |
| J.T. Guo, R. Chen, X.H. Du, G.S. Li and L.Z. Zhou   |      |
| <b>The Effects of Free Space in Mould Cavity on Sandglass Extrusion</b>   | 2999 |
| W.L. Lu, Y. Wang and J.T. Hai   |      |
| <b>The Influence of Deformation Condition on Microstructure and Properties of GH4169 Alloy</b>  | 3003 |
| Y.W. Wang, L.Y. Yang, W. You and B.Z. Bai   |      |
| <b>On the Low Strain Rate Regime of Structural Superplasticity - an Internal Variable Approach</b>  | 3007 |
| W.K. Bang, J.E. Park, Y.N. Kwon, C.S. Lee and Y.W. Chang  |      |
| <b>Threshold Stress for Super Plastic Flow in Spatially Extended Crystalline Systems</b>  | 3013 |
| J.D. Muñoz-Andrade  |      |
| <b>Influence of Stress State on Superplastic Deformation Behavior in a Zn-Al Eutectoid Alloy</b>  | 3017 |
| S. Nakano, Y. Motohashi and G. Itoh   |      |
| <b>Application of Superplastic Flow to Manufacturing of Microcellular Aluminum Foams</b>  | 3021 |
| S. Kamimura, K. Kitazono, E. Sato and K. Kurabayashi  |      |
| <b>Superplastic Forming of Aluminum Alloy Car Body Panels</b>   | 3025 |
| Z.P. Zeng, Y.S. Zhang, Y. Zhou and Q.L. Jin   |      |
| <b>Superplasticity and Crystallographic Orientation Distribution in Friction Stir Processed Sheet of an Al-Mg-Mn Alloy</b>                    | 3029 |
| Y. Takayama, T. Nagai, T. Shibayanagi, H. Kato and H. Watanabe  |      |
| <b>Superplastic Deformation and Microstructure Evolution of Friction Stir Weld of 1420 Al-Li Alloy</b>  | 3033 |
| H.P. Guo, X.Q. Han, W. Wu and Z.Q. Li   |      |
| <b>Application of Superplastic Forming and Diffusion Bonding in the Aerospace Industry</b>  | 3037 |
| Z.Q. Li and H.P. Guo  |      |
| <b>Correlation between the Microstructure and Forces Generated during Friction Stir Processing of AA5052</b>                                  | 3043 |
| M.K. Khraisheh, B.M. Darras, P.N. Kalu, M. Adams-Hughes and N. Chandra  |      |
| <b>Research and Application of Superplastic Forming Titanium Alloys for Commercial Aircraft Parts</b>   | 3047 |
| B. Gershon and I. Eldror  |      |
| <b>A Study on Gas Pressure for Superplastic Forming of Titanium Alloy Bellows</b>   | 3051 |
| G. Wang, J. Chen and X.Y. Ruan  |      |
| <b>Application to Seismic Dampers in High-Strain-Rate Superplastic Zn-Al Alloy</b>  | 3055 |
| A. Kushibe, K. Makii, L.F. Chiang, T. Tanaka, M. Kohzu and K. Higashi   |      |
| <b>A Study on Material Flow in Combined Extrusion Process</b>   | 3061 |
| J.H. Ok, B.B. Hwang, H.J. Choi, B.S. Ham and S.K. Hwang   |      |

|   |      |
|---|------|
| <b>Application of Processing Method Enlarging a Partial Diameter to Shaft Parts of Practical Size</b>   |      |
| K. Mori, N. Okabe, X. Zhu and T. Iura   | 3065 |
| <b>Material Flow Characteristics on the Forward and Backward Solid Extrusion Process</b>  |      |
| S.H. Kim, T.K. Ryu, H.J. Choi, H.S. Koo and B.B. Hwang  | 3071 |
| <b>Towards the First-Principles Investigation of Ordering Dynamics</b>  |      |
| T. Mohri, M. Ohno and Y. Chen   | 3075 |
| <b>A Modeling Study of Cyclical Phase Transformations</b>   |      |
| J.K. Lee  | 3081 |
| <b>Defect Properties in GaN: Ab Initio and Empirical Potential Calculations</b>   |      |
| F. Gao, E.J. Bylaska and W.J. Weber   | 3087 |
| <b>Point Defects and Re in L1<sub>2</sub> Ni<sub>3</sub>Al: Atomic Studies</b>  |      |
| X.L. Shu, Y.H. Wang, H.Q. Deng, Y. Zhang, S.H. Deng, C.Y. Wang and B.W. Zhang   | 3091 |
| <b>First-Principles Calculations of Titanium Dopants in Alumina</b>   |      |
| K. Matsunaga, T. Mizoguchi, A. Nakamura, T. Yamamoto and Y. Ikuhara   | 3095 |
| <b>Alloy Design Based on Molecular Orbital Method</b>   |      |
| M. Morinaga, Y. Murata and H. Yukawa  | 3099 |
| <b>Density Functional Calculations on Electronic and Magnetic Properties of Fe-Pt Systems</b>   |      |
| Y.S. Gu, J. He, Z. Ji, X.Y. Zhan, Y. Zhang and C. Zhou  | 3103 |
| <b>Effect of Alloying Elements on the Electronic Structure of NiAl</b>  |      |
| F. Yang and D.L. Zhao   | 3107 |
| <b>Stability and Structures of Constitutional Defects in Nonstoichiometric Intermetallic Compounds by First-Principles Calculations</b>   |      |
| M. Mizuno, H. Araki and Y. Shirai   | 3111 |
| <b>Atomic-Scale Computer Simulation of Mixture Precipitation Mechanism for Ni<sub>75</sub>Al<sub>x</sub>V<sub>25-x</sub> Alloy</b>  |      |
| Y.H. Zhao, D.Y. Ju and H. Hou   | 3115 |
| <b>Theoretical and Experimental Ti-K NEXAFS of Various Ti-Oxides</b>  |      |
| T. Mizoguchi, M. Sakurai, A. Nakamura, T. Sasaki, Y. Sato, K. Matsunaga, T. Yamamoto and Y. Ikuhara   | 3119 |
| <b>Alloying Effect on the Electronic Structure of LaNi<sub>5</sub>-Based Hydrogen Storage Alloys</b>  |      |
| Y.F. Lin, D. Zhao and X.L. Wang   | 3123 |
| <b>Theoretical Investigation of Fe-Based Phase Equilibria from the First-Principles</b>   |      |
| Y. Chen, S. Iwata and T. Mohri  | 3127 |
| <b>Electron Structure and Interface Energy of GP Zone in Al-Zn Alloy</b>  |      |
| Y.J. Gao and Y. Han   | 3131 |
| <b>Modeling of Dendritic Structure during Solidification Process Based on Cellular Automaton Model</b>  |      |
| Q.Y. Xu, B.C. Liu and Z.J. Liang  | 3137 |
| <b>Modeling of Columnar-to-Equiaxed Transition in Solidified Al-Si Alloys</b>   |      |
| X. Yao, H. Wang, B. He and X. Zhou  | 3141 |
| <b>Thermo-Calc Program Interface and Their Applications - Direct Insertion of Thermodynamic and Kinetic Data into Modelling of Materials Processing, Structure and Property</b> |      |
| Q. Chen, A. Engström, L. Höglund, H. Strandlund and B. Sundman  | 3145 |
| <b>Monte Carlo Simulation of Cube-Texture Evolution during Grain Growth of High-Purity Nickel</b>   |      |
| A. Godfrey, Y.B. Zhang, F. Lin, M.A. Miodownik and Q. Liu   | 3149 |
| <b>Simulation and Determination of the Goss Texture in Grain-Oriented Silicon Steel</b>   |      |
| L. Chen and W.M. Mao  | 3153 |
| <b>Bainitic Transformation Model in Low Alloy Carbon Steels Considering the Effect of Reaction Constant in JMA Equation</b>   |      |
| S.H. Uhm, J.N. Moon, C.H. Lee, J.H. Yoon and B.S. Lee   | 3157 |
| <b>Monte Carlo Simulation of Configurational Anisotropy of Magnetic Cluster</b>   |      |
| Z.G. Huang, Q. Feng, Y.S. Li, F.M. Zhang and Y.W. Du  | 3161 |
| <b>Reorientation Phase and Striped Domain Patterns of Thin Films</b>  |      |
| Q. Feng, Q.Y. Ye, Z.Z. Wen, L.Q. Jiang, Z.G. Huang, F.M. Zhang and Y.W. Du  | 3165 |

|   |      |
|---|------|
| <b>Effect of Austenite Grain Size on Martensitic Transformation of a Low Alloy Steel</b>  | 3169 |
| S.J. Lee and Y.K. Lee   |      |
| <b>Grain Growth Simulation Based on Potts Model with Different Parameters</b>   | 3173 |
| X. Qin and G.Q. Liu   |      |
| <b>FE Simulation of Grain Size during the Isothermal Forging of a TC6 Titanium Alloy Disc</b>   | 3177 |
| A.M. Xiong, W.C. Huang, S.H. Chen and M.Q. Li   |      |
| <b>Study for Step Instabilities Induced by ES Barrier</b>   | 3181 |
| J.Y. Kim, D.H. Yeon, P.R. Cha and J.K. Yoon   |      |
| <b>Modelling of Solid-State Diffusion Bonding with a Real Rough Surface</b>   | 3185 |
| G.Q. Wu, Z. Huang and H.Y. Li   |      |
| <b>The Ground States of the FCC Alloy Films</b>   | 3189 |
| Y.L. Xu, J. Ni and S. Iwata   |      |
| <b>Suppression of Anomalous Interface Effects by Localization of Solute Redistribution in Thin Interface Phase-Field Modeling of Solidification</b> | 3197 |
| W.T. Kim and S.G. Kim   |      |
| <b>Numerical Simulation on the Solidification of ZA27 Alloy by a Two-Phase Flow Model</b>   | 3203 |
| Z.L. Zhang, L.S. Yang and F. Ni   |      |
| <b>Study on Effect of Technical Parameter on Fluid Flow and Solidification in Steel Strip Roll-Casting Process</b>                                  | 3207 |
| J.W. Yang, Y.P. Du and B. Sun   |      |
| <b>Mathematical Simulation of Different Argon Blowing Style in Ladle Furnace</b>  | 3211 |
| S.B. Ren, J.F. Fan, Z.Z. Huang, Y.S. Chen and Y.D. He   |      |
| <b>Simulation Study of Thermal Buoyance Influence on Flow Characteristic in Single Outlet Tundish</b>   | 3215 |
| J.F. Fan, Y.X. Chen, S.B. Ren, Z.Z. Huang and M. Zhu  |      |
| <b>An Eulerian Finite Element Analysis for the Steady State Rolling Process</b>   | 3219 |
| Y.S. Lee  |      |
| <b>Analysis of Alligatoring Behavior during Roll Pressing of DRI Powder with Flat Roller and Indentation-Type Roller</b>                            | 3223 |
| S.H. Joo, H.J. Chang, W.H. Bang, H.N. Han and K.H. Oh   |      |
| <b>Analytic Model for Non-Steady State Heat Transfer of Powder Pressing Roller</b>  | 3227 |
| H.J. Chang, H.N. Han, M.W. Moon, K.H. Lee and K.H. Oh   |      |
| <b>A Numerical Analysis on the Dissimilar Channel Angular Pressing Process by Rolling</b>   | 3231 |
| M.Y. Huh, H.J. Choi, J.H. Ok, B.B. Hwang and B.C. Kang  |      |
| <b>Cold Rolling Technique for Eliminating Cutting Process in Manufacturing Precise Product Using Non-Heat-Treated Micro Alloys</b>                  | 3235 |
| S.G. Choi, D.J. Yoon, G.A. Lee, H.W. Lee and K.H. Na  |      |
| <b>Rigid-Plastic Finite Element Analysis Applied Frictional Contact Problem in the Composite Rod Extrusion Process</b>                              | 3239 |
| S.H. Jo, S.K. Hwang, H.J. Choi, B.B. Hwang and B.D. Ko  |      |
| <b>An Analysis for the Shaft Fitting Process to Inner Raceway of a Ball Bearing</b>   | 3243 |
| H.S. Koo, B.D. Ko, D.H. Jang, J.M. Seo and B.B. Hwang   |      |
| <b>Forming Technology for Cold Forging Processes of Ball Stud Using Non-Heat-Treated Cold Forging Materials</b>                                     | 3247 |
| G.A. Lee, S.G. Choi, D.J. Yoon, H.W. Lee and K.H. Na  |      |
| <b>A Numerical Analysis of Powdered Metal Compaction Processes for Two-Level Flanged Solid Cylindrical Components</b>                               | 3251 |
| J.Y. Lim, J.M. Seo and B.B. Hwang   |      |
| <b>An Analysis of the Riveting Process as 2-D Frictional Contact Problem</b>  | 3255 |
| D.H. Jang, B.B. Hwang, S.K. Hwang, K.H. Min and H.J. Choi   |      |
| <b>A Macro-Homogenous and Micro-Heterogeneous Model for Self-Propagating High Temperature Synthesis (SHS)</b>                                       | 3259 |
| J.Y. Zhang, Z.Y. Fu, W.M. Wang and Q.J. Zhang   |      |
| <b>Numerical Simulation of Distortion Control by Static Thermal Tensioning in Welding of Thin Aluminum Alloy Plates</b>                             | 3263 |
| S.Q. Guo, W.L. Xu, H. Yuan, W.H. Gu and X.T. Tian   |      |
| <b>A Study on the Manufacturing Process Sequence of Power Assisted Steering Part</b>  | 3267 |
| B.B. Hwang, B.S. Ham, K.H. Min, H.J. Choi and J.Y. Lim  |      |

|   |      |
|---|------|
| <b>A Design of Manufacturing Processes for Valve-Spring Retainer Component</b><br>B.D. Ko, H.J. Choi, B.B. Hwang, S.H. Kim and S.K. Hwang   | 3271 |
| <b>Optimum Design of a Pilger Mill Process for Wire Forming Using CAD/CAE</b><br>H.J. Park, S.S. Kim, S.M. Lee, T.H. Choi, H.W. Lee, S.J. Lim, E.Z. Kim, K.H. Na and C.S. Han                 | 3275 |
| <b>Numerical Simulation of Tube-Bending Process with Internal Pressure for Titanium Alloy Tube</b><br>X. Huang, Y.S. Zeng, Z.Q. Li and X.H. Zhang   | 3279 |
| <b>Optimization of Tube Hydroforming Process by Using Fuzzy Expert System</b><br>K.S. Park, B.J. Kim and Y.H. Moon  | 3283 |
| <b>Finite Element Simulation and Experimental Research on the Internal Rolling Connection for Titanium Alloy Tubes</b><br>Y.S. Zeng   | 3287 |
| <b>Molecular Dynamics Simulation of Compressive Mechanical Behavior of Nanocrystalline Fe</b><br>S.F. Xiao and Y.H. Wang  | 3291 |
| <b>Tension-Compression Asymmetry in Plasticity Modeling of a Single Crystal Superalloy Using a "Unit Cell" Approach</b><br>Y.S. Choi, T.A. Parthasarathy, D.M. Dimiduk and M.D. Uchic         | 3295 |
| <b>Finite Element Analysis for the Transverse Mechanical Behavior of Fiber-Reinforced Three-Phase Metal-Matrix Composites</b><br>M. Zhang, W.L. Zhang and M.Y. Gu                             | 3299 |
| <b>Three-Dimensional Finite Element Modeling for Biomaterial Selection and Shape Design of the Nucleus Prosthesis</b><br>Q.J. Huang, G.Q. Liu, Y. Li, J.J. Gao, Z.Q. Gu, Y.Z. Ma and H.B. Xue | 3303 |
| <b>The Effects of the Heating Conditions on the Hydro-Formability of the Aluminum Alloys at High Temperatures</b><br>B.J. Kim, S.M. Son, K.S. Park and Y.H. Moon                              | 3307 |
| <b>Fuzzy Modeling of Mechanical Properties of Cobalt-Free Maraging Steel</b><br>Y. Jiang, Z.D. Yin, P.C. Kang and Y. Liu  | 3311 |
| <b>Fuzzy Modeling of the Magnetostrictive Hysteresis for TbDyFe Actuator</b><br>J.Q. Mao, H.S. Ding, H.B. Xu, C.B. Jiang and H. Zhang   | 3315 |
| <b>Simulation of Structural Parameters and Superconducting Transition Temperature of MgB<sub>2</sub> under Pressure</b><br>Y. Shao, X. Zhang and F.L. Tang                                    | 3319 |
| <b>The Prediction of Failure Pressure of Gas Pipeline with Multi Corroded Region</b><br>Y.K. Lee, Y.P. Kim, M.W. Moon, W.H. Bang, K.H. Oh and W.S. Kim  | 3323 |
| <b>Evaluation of Wagner Interaction Parameter in Fe-Mn-Si-Nb-Ti-V-C System</b><br>S.H. Lee, K.S. Lee and K.J. Lee   | 3327 |
| <b>Aging Properties Prediction of the Lead Frame Cu-Cr-Sn-Zn Alloy via Neural Network</b><br>H. Li, J.H. Su, Q.M. Dong, P. Liu and F.Z. Ren   | 3331 |
| <b>Bounds of the Thermal Conductivity in Discontinuously Reinforced Metal-Matrix Composites</b><br>F. Alhama, D. Alcaraz and S. Gómez-Lopera  | 3335 |
| <b>Thermo-Calc and DICTRA Enhance Materials Design and Processing</b><br>P. Shi, A. Engström, L. Höglund, B. Sundman and J. Ågren   | 3339 |
| <b>Dissociated Domain Boundaries Attached to Meta-Dislocations in a Structurally Complicated Alloy Phase <math>\xi'</math>-Al-Pd-Mn</b><br>T. He, W. Sun and Z. Zhang                         | 3347 |
| <b>Nano Atom Clusters and Their Long-Range Quasiperiodic Arrangements in Al-Ni-Ru Decagonal Quasicrystal</b><br>W. Sun, Z. Zhang and K. Hirage  | 3351 |
| <b>Corrosion of Al-Cu-Fe-Cr Quasicrystalline Coating</b><br>Y.W. Kang, C. Zhou, S.K. Gong and H.B. Xu   | 3355 |
| <b>Synthesis and Mechanical Properties of Conventionally Cast Icosahedral Particle-Reinforced Al-Mn(-Cu)-Be-Si Alloys</b><br>E. Fleury, H.J. Chang, D.H. Kim, D.H. Kim and W.T. Kim           | 3359 |
| <b>The Electronic Characteristics of IrSi Thin Films</b><br>X.Y. Ma   | 3363 |
| <b>Synthesis and Properties of GaN Nanostructures</b><br>H. Ma, C.S. Xue, Y.G. Yang, H.Z. Zhang, J. Ma, J.Q. Liu, H. Xiao and F.J. Zong   | 3367 |

|   |      |
|---|------|
| <b>Upper-Bound Velocity Limit for Free-Jet Melt Spinning</b>  | 3371 |
| H. Meco and R.E. Napolitano   |      |
| <b>MOCVD Growth and Annealing of Gallium Oxide Thin Film and Its Structural Characterization</b>  | 3377 |
| H.W. Kim and N.H. Kim   |      |
| <b>Formation and Optimization of Cu-Based Cu-Zr-Al Bulk Metallic Glasses</b>  | 3381 |
| Q. Wang, J.B. Qiang, Y.M. Wang, J.H. Xia, X.F. Zhang and C. Dong  |      |
| <b>Crystallization Kinetics of Zr<sub>65</sub>Ni<sub>25</sub>Ti<sub>10</sub> Metallic Glass Alloy</b>   | 3385 |
| X. Liu, X. Hui and G.L. Chen  |      |
| <b>Influence of Nb on the Interface Structure of Tungsten Fiber Reinforced Zr-Based Bulk Metallic Glass Composites</b>                                  | 3389 |
| M.L. Wang, X. Hui and G.L. Chen   |      |
| <b>Investigation of the Bulk Nd<sub>60-x</sub>Dy<sub>x</sub>Fe<sub>30</sub>Al<sub>10</sub> (x=0, 2, 5) Amorphous Alloys</b>                             | 3393 |
| H. Xu, X.H. Tan, N. Qi, Q. Wang and Y. Dong   |      |
| <b>Fabrication of Fe-Based Glassy Cores with High Saturation Magnetization and Good Soft Magnetic Properties by Spark Plasma Sintering</b>              | 3397 |
| B.L. Shen, H. Kimura and A. Inoue   |      |
| <b>Scanning Anomalous Small-Angle Scattering as a Tool to Examine Welded Bulk Glass</b>   | 3401 |
| I. Murase, R. Kurosaki, H. Okuda, S. Ochiai, Y. Yokoyama, A. Inoue and K. Inoue   |      |
| <b>Glass-Forming Ability and Mechanical Properties of Fe-Ni-Zr-Si-B Bulk Glassy Alloys</b>  | 3405 |
| K.A. Lee, J. Namkung and M.C. Kim   |      |
| <b>Enhancement of Plasticity in Ti-Based Bulk Metallic Glass</b>  | 3409 |
| H.J. Chang, W.T. Kim and D.H. Kim   |      |
| <b>Effect of Alloy Composition on the Glass Forming Ability in Ca-Mg-Zn Alloy System</b>  | 3415 |
| E.S. Park, W.T. Kim and D.H. Kim  |      |
| <b>Synthesis of Cu-Based Bulk Metallic Glass Matrix Composites by Warm Processing of Gas Atomized Powders</b>   | 3419 |
| J.K. Lee, H.J. Kim, M. Yamasaki, Y. Kawamura and J.C. Bae   |      |
| <b>Hole Punching onto the Zr<sub>65</sub>Al<sub>10</sub>Ni<sub>10</sub>Cu<sub>15</sub> BMG Sheet Fabricated by Squeeze Casting</b>                      | 3423 |
| H.G. Jeong, W.J. Kim, J.C. Bae, D.J. Yoon, S.G. Choi and K.H. Na  |      |
| <b>Development of Ni-Nb-Ta Metallic Glass Particle Reinforced Al Based Matrix Composites</b>  | 3427 |
| M.H. Lee, J.H. Kim, J.S. Park, W.T. Kim and D.H. Kim  |      |
| <b>Ti-Based Bulk Metallic Glass with High Cold Workability at Room Temperature</b>  | 3431 |
| J.M. Park, J.S. Park, J.H. Kim, M.H. Lee, W.T. Kim and D.H. Kim   |      |
| <b>Development of Ni-Zr-Nb-Al-M(=Ta,Ti,Y) Metallic Glass</b>  | 3435 |
| J.H. Na, K.H. Han, W.T. Kim and D.H. Kim  |      |
| <b>Wear Properties of Bulk Amorphous Zr<sub>41.2</sub>Ti<sub>13.8</sub>Cu<sub>12.5</sub>Ni<sub>10</sub>Be<sub>22.5</sub> Alloys for Crystallization</b> | 3439 |
| B.J. Lee, D.H. Song, K.M. Cho, I.M. Park, K.H. Kim, S.Y. Yoon and Y.R. Cho  |      |
| <b>Cu-Zr-Ti Bulk Metallic Glass Composites Produced by Mechanical Alloying and Vacuum Hot-Pressing</b>  | 3443 |
| C.C. Wang, C.K. Lin, Y.L. Lin, J.S. Chen, R.R. Jen and P.Y. Lee   |      |
| <b>Glass Forming Ability in Amorphous Ti<sub>50</sub>Cu<sub>35-x</sub>Ni<sub>15</sub>Sn<sub>x</sub> Alloys Prepared by Mechanical Alloying</b>          | 3451 |
| C.K. Lin, C.C. Hsu, R.R. Jeng, Y.L. Lin, C.H. Yeh and P.Y. Lee  |      |
| <b>Grain Growth and Mechanical Properties of Nanograined Bulk Fe-25Ni Alloy</b>   | 3459 |
| H.B. Wang, X.Y. Wang, J.H. Zhang and T.Y. Hsu   |      |
| <b>Nucleation Barrier for the Precipitation in Nanosized Al-4wt%Cu Alloy</b>  | 3463 |
| S.Q. Xu, Z.H. Guo and T.Y. Hsu  |      |
| <b>Formation of Fe<sub>86</sub>Zr<sub>5.5</sub>Nb<sub>5.5</sub>B<sub>3</sub> Nanocrystalline Bulk Alloy under High Pressure</b>                         | 3467 |
| B. Lu, D.Q. Yi, B. Yan, J.L. Yin, Y. Liu, H.Q. Liu, B.L. Wu and X.L. Chen   |      |
| <b>Effects of Constraint and Strain Path on Evolution of Ultrafine Grained Microstructure by Multi-Axial Alternative Forging</b>                        | 3471 |
| M. Noda, K. Funami and Y. Suwahara  |      |
| <b>Femtosecond Laser Driven Shock Quenching of the Nanocrystalline High-Pressure Phase of Iron</b>  | 3475 |
| T. Sano, H. Mori, O. Sakata, E. Ohmura, I. Miyamoto, A. Hirose and K.F. Kobayashi   |      |

|   |      |
|---|------|
| <b>Etching Mask Effect of the Nanoscratched Borosilicate Surface and Its Application to Maskless Pattern Fabrication</b>                  | 3479 |
| S.W. Youn and C.G. Kang   |      |
| <b>Textures and Grain Growth in Nanocrystalline Fe-Ni Alloys</b>  | 3483 |
| J.H. Seo, J.K. Kim, T.H. Yim and Y.B. Park  |      |
| <b>Softening Phenomenon during Compression Test in Nanograined Aluminum Alloys</b>  | 3489 |
| S.H. Ko, J.M. Jang and W.S. Lee   |      |
| <b>Fabrication and Property of Amorphous/Nano Crystalline Al<sub>84</sub>Ni<sub>10</sub>Ce<sub>6</sub> Bulk Alloy by a Powder Forging</b> | 3493 |
| S.J. Noh, T.K. Jung and M.S. Kim  |      |
| <b>Mechanical Properties of SPD (Severe Plastic Deformation) Processed Copper</b>   | 3497 |
| S.Z. Han, C.Y. Lim, C.J. Kim and S.S. Kim   |      |
| <b>On Structural Stability of Nanostructured Aluminium</b>  | 3501 |
| E.J. Van Der Kolff, M. Berkahn, R. Wuhrer and W.Y. Yeung  |      |
| <b>Structure Changes in Stainless Steels Used in Nuclear Reactors and Turbo Generators after Minor Low Cycle Fatigue Deformation</b>      | 3505 |
| T. Eterashvili, T. Dzigrashvili and M. Vardosanidze   |      |
| <b>A New Method for Bulk-Quantity Synthesis of Patterned Well-Aligned ZnO Nanowire Arrays</b>   | 3509 |
| X.Y. Xu, H.Z. Zhang, Q. Zhao, Y.F. Chen, J. Xu and D.P. Yu  |      |
| <b>Large-Scale Synthesis of In<sub>2</sub>O<sub>3</sub> Nanowires and Their Characterization</b>  | 3513 |
| F.H. Zeng and X. Zhang  |      |
| <b>Low Temperature Synthesis of PbTiO<sub>3</sub> Nanoparticles</b>   | 3517 |
| Y.J. Sun, S. Tian and X.B. Li   |      |
| <b>Synthesis and Investigation of Micro-Tribological Behavior of WS<sub>2</sub> Nanotube</b>  | 3521 |
| C.S. Li, K.H. Yan, Z. Fan, X.P. Shen, K.M. Chen, T.S. Jiang, Y.Q. Hua, J.N. Ding and J.C. Yang  |      |
| <b>Raman Scattering and Photoluminescence Studies of Zn<sub>1-x</sub>Mn<sub>x</sub>O Nanowires via Vapor Phase Growth</b>                 | 3525 |
| Y.Q. Chang, Y.Z. Chen, D.P. Yu, Z.L. Fang, G.H. Li and F.H. Yang  |      |
| <b>Synthesis and Characteristic of Cuprous Oxide Nano-Whiskers with Photocatalytic Activity under Visible Light</b>                       | 3531 |
| Y. Yu, W.Y. Huang, F.P. Du and L. Ma  |      |
| <b>Synthesis and Characterization of ZnO Nanowires Using a Simple PVD Approach without Catalysts</b>                                      | 3535 |
| L.S. Wang, X. Zhang and F.H. Zeng   |      |
| <b>X-Ray Diffraction and Raman Scattering Study of Sr<sub>1-x</sub>Bi<sub>2+y</sub>Ta<sub>2</sub>O<sub>9</sub> Nanoparticles</b>          | 3539 |
| Y. Zhou, H. Ke, D.C. Jia, W. Wang and J.C. Rao  |      |
| <b>Preparation of Size Controllable MgO Nanoparticles via Reverse Microemulsion Method</b>  | 3543 |
| D.Y. Han, H.Y. Yang and C.B. Shen   |      |
| <b>Characterization of Fe Based Nanopowders Synthesized by Gas Phase Synthesis</b>  | 3547 |
| C.J. Choi, J.C. Kim, J.H. Yu and B.K. Kim   |      |
| <b>Mechanism on Growth of Carbon Nanotubes Using CO-H<sub>2</sub> Gas Mixture</b>   | 3551 |
| U.C. Chung and W.S. Chung   |      |
| <b>Cu Oxide Nanoparticle Formation: Effects of Curing Time</b>  | 3555 |
| M.S. Song, C.S. Yoon and Y.H. Kim   |      |
| <b>Effect of H<sub>2</sub> Gas on Carbon Nanotubes Synthesis</b>  | 3559 |
| U.C. Chung, D.B. Lee, Y.U. Jeong, M.J. Ha and W.S. Chung  |      |
| <b>Quasicrystal Formation in the System Zr<sub>75-x</sub>Ti<sub>x</sub>Cu<sub>25-y</sub>Ni<sub>y</sub></b>                                | 3563 |
| J.L. Soubeyroux and J.M. Pelletier  |      |
| <b>Mechano-Synthesis and Characterization of Fe-Co Based Nanocrystalline Magnetic Materials</b>   | 3567 |
| M. Mujahid, S.H. Sim and J. Zhu   |      |
| <b>Preparation and Microwave Permittivity of Nano-Sized Si/C/N Powder</b>   | 3571 |
| X.K. Liu, W.C. Zhou, F. Luo and D.M. Zhu  |      |
| <b>Synthesis of Bamboo-Shaped Gallium Nitride Nanorods</b>  | 3575 |
| Z.Z. Dong, H. Gao, C.S. Xue, Z.H. Dong and J.T. He  |      |

|  |      |
|--|------|
| <b>Rapid Synthesis of Zinc Oxide and Lead Oxide Nanorods by One-Step Solid-State Reaction Methods at Ambient Conditions</b>      | 3579 |
| Y. Cao, L. Liu, D. Jia and D.Q. Xiao   |      |
| <b>The Field Emission Properties of Sub-Micrometer Diamond Tube Arrays Fabricated by Focused Ion Beam Pattern</b>                | 3583 |
| C.Z. Gu, A.Z. Jin, Z.L. Wang and J.J. Li   |      |
| <b>Field Electron Emission from Carbon Nanotube Films on Diamond Films</b>   | 3587 |
| K.J. Liao, W.L. Wang, Y.T. Wang, J.W. Lu and X.L. Sun  |      |
| <b>The Comparison Study of Field Emission Characteristics from (002)-Oriented AlN and W Tip</b>                                  | 3591 |
| S.L. Yue, C.Y. Zhi and C.Z. Gu   |      |
| <b>Preparation and Field Emission Characteristics of CN<sub>x</sub> Nanotubes Thin Film</b>                                      | 3595 |
| L. Zhang, H.Z. Ma, X.X. Li, N. Yao and B.L. Zhang  |      |
| <b>Preparation of Diamond Film Coatings on Multi-Spectrum ZnS</b>  | 3599 |
| F.X. Lu, Y.M. Tong, X.H. Gao, W.Z. Tang, C.M. Li and G.C. Chen   |      |
| <b>The Fabrication and Performance of CVD Diamond-Based X-Ray Detectors</b>  | 3605 |
| S.G. Wang, P.J. Sellin, Q. Zhang, F.X. Lu, W.Z. Tang and A. Lohstroh   |      |
| <b>Fabrication of Structure-Designed Free-Standing Diamond Film</b>  | 3611 |
| Y.L. Zhou, G.C. Chen, G. Chen, C.M. Li, Y.M. Tong and F.X. Lu  |      |
| <b>Analysis of Interface between Free-Standing Diamond Films and Mo Substrates</b>   | 3615 |
| H.Q. Li, C.M. Li, G.C. Chen, F.X. Lu and Y.M. Tong   |      |
| <b>The Thermal Annealing Effect on the Residual Stress and Mechanical Property in the Compressive Stressed DLC Film</b>          | 3619 |
| H.W. Choi, M.W. Moon, T.Y. Kim, K.R. Lee and K.H. Oh   |      |
| <b>Low Stress Tetrahedral Amorphous Carbon Films Prepared by Filtered Vacuum Arc Deposition</b>                                  | 3623 |
| X. Zhang, H.X. Zhang, X.Y. Wu and T.H. Zhang   |      |
| <b>Influence of Film Thickness on Intrinsic Growth Stress and Raman Evaluation of Tetrahedral Amorphous Carbon Films</b>         | 3627 |
| J.Q. Zhu, J.C. Han, S.H. Meng, X.D. He, M. Tan and W. Gao  |      |
| <b>Microstructures and Properties of the DLC Films Prepared by PLD Process Using High Power High Frequency 308 nm Laser Beam</b> | 3631 |
| H.Y. Peng, L.X. Zhao, Z.S. Jin, B.L. Chen, B. Zhang, C. Zhou, M.H. Zhang and X. Yang   |      |
| <b>Improvement of Adhesion of Cubic Boron Nitride Films: Effect of Interlayer and Deposition Parameters</b>                      | 3635 |
| Q. He, C.M. Li, F.X. Lu, L. Pilione and R.F. Messier   |      |
| <b>Evolution of Stress-Induced Surface Damage and Stress-Relaxation of Electroplated Cu Films at Elevated Temperatures</b>       | 3641 |
| S.J. Hwang, J. Koike and Y.C. Joo  |      |
| <b>Microscopic Investigation of Strain Localization and Fatigue Damage in Thin Cu Films</b>                                      | 3647 |
| G.P. Zhang, C.A. Volkert, R. Schwaiger and O. Kraft  |      |
| <b>Phase Separation into Nano-Crystalline Nitrides in Ternary Ti-Si-N System via N Implantation</b>                              | 3651 |
| S. Muraishi and T. Aizawa  |      |
| <b>TiC/a-C Nanocomposite Coatings for Low Friction and Wear Resistance</b>   | 3655 |
| Y.T. Pei, D. Galvan and J.T.M. de Hosson   |      |
| <b>The Evaluation of Adhesion Energy in Thin Compressively Stressed Film by Using Delamination Buckle and Freehang Buckle</b>    | 3661 |
| K.H. Oh, M.W. Moon and K.R. Lee  |      |
| <b>Computer Simulations on Mechanical Properties of Molecular Deposition Film</b>  | 3665 |
| H.Q. Lan, D. Li and S.W. Zhang   |      |
| <b>Stress Induced Anisotropic Diffusion during Plasma-Assisted Nitriding of a Ni-Based Alloy</b>                                 | 3669 |
| H. He, J.X. Zou, C. Dong, T. Czerwiec and H. Michel  |      |
| <b>Numerical Simulation and Experimental Evidence for Surface Modification by High Current Pulsed Electron Beam</b>              | 3673 |
| Y. Qin, C. Dong, X.G. Wang, S.Z. Hao, J.X. Zou, A.M. Wu and Y. Liu   |      |
| <b>A Novel Efficient Blue Organic Light Emitting Structure</b>   | 3677 |
| W.L. Jiang, Y. Duan, Y. Zhao, J. Hou and S.Y. Liu  |      |

|  |      |
|--|------|
| <b>Effects of Annealing on the Structure and Photoluminescence of Amorphous SiC:Tb Films Deposited on Porous Silicon</b>   | 3681 |
| D.Y. Xu, Y.P. Liu, Z.Y. Chen, Z.W. He, X.Q. Liu and Y.Y. Wang  |      |
| <b>Infrared Transmission Performance of Gallium Phosphide Thin Films Deposited by RF Magnetron Sputtering</b>  | 3685 |
| Y.P. Li and Z.T. Liu   |      |
| <b>Laser Induced Preparation of Flexible Cold Cathode and Its Electron Emission Properties</b>   | 3689 |
| H.Z. Ma, L. Zhang, J.J. Zhang, Y.H. Du, N. Yao and B.L. Zhang  |      |
| <b>Microstructure and Optical Properties of (Zr<sub>0.8</sub>, Sn<sub>0.2</sub>)TiO<sub>4</sub> Thin Films Grown on Si(100) Substrates by a Sol-Gel Process</b>      | 3693 |
| W.X. Cheng, A.L. Ding and P.S. Qiu   |      |
| <b>Optical and Electrical Properties of Transparent Conductive ITO Thin Films under Proton Radiation with 100 keV</b>  | 3697 |
| Q. Wei, S.Y. He, J.C. Liu and D.Z. Yang  |      |
| <b>Photoluminescence of SnO<sub>2</sub> Films Prepared by APCVD</b>  | 3701 |
| F. Ji, J. Ma, Y.H. Wang, H. Ma, X. Yu and F.J. Zong  |      |
| <b>Photoinduced Changes in Sn-Doped Sol-Gel Silica Glass Films</b>   | 3705 |
| A. Li, H. Xing, C. Zhou, J. Shen, L. Zhang, W. Zheng and Y. Zhang  |      |
| <b>Optical Properties of Silica Films Prepared on Sapphire</b>   | 3709 |
| L.P. Feng and Z.T. Liu   |      |
| <b>The Morphology and Optical Characterizations of AlGaN/GaN Based on Al<sub>2</sub>O<sub>3</sub> Prepared by MOCVD</b>  | 3713 |
| M.C. Li, L.C. Zhao and H.M. Li   |      |
| <b>The Temperature Dependence of In Desorption during InN Growth and Annealing</b>   | 3717 |
| Z.X. Bi, R. Zhang, Z.L. Xie, X.Q. Xiu, Y.D. Ye, B. Liu, S.L. Gu, Y. Shi and Y.D. Zheng   |      |
| <b>Analysis of Optical Properties and Structure for CdS Films</b>  | 3721 |
| W.L. Wang, K.J. Liao, J. Zhang, P. Yu and G.B. Liu   |      |
| <b>Effect of Annealing Temperature on Characteristics of Ni<sub>76</sub>Fe<sub>24</sub> Films Deposited on SiO<sub>2</sub>/Si(100) by DC Magnetron Co-Sputtering</b> | 3725 |
| X.B. Chen, H. Qiu, H. Qian, P. Wu, F.P. Wang, L. Pan and Y. Tian   |      |
| <b>Granular Structure and Magnetic Properties of FePt/C Films</b>  | 3729 |
| C.M. Zhen, X.X. Zhai, C. Pan and X. Nie  |      |
| <b>Magnetic-Transport and Microstructure of FeNi-Cu Nanogranular Films</b>   | 3733 |
| C.Z. Wang, Z.H. Guo, Y.H. Rong and T.Y. Hsu  |      |
| <b>Microstructural and Magnetic Properties of C/Co/C Pseudo-Sandwich Granular Films by Facing Sputtering</b>   | 3737 |
| S.Z. Feng, H. Sun, H. Yu, F. Gao, C. Pan, H.J. Zhou, X. Nie and Y. Sun   |      |
| <b>TbFe<sub>2</sub>/<math>\alpha</math>-Fe Nanocrystalline Exchange Coupling Magnetostrictive Films</b>  | 3741 |
| W.L. Zhang, H.C. Jiang, B. Peng, W.X. Zhang and S.Q. Yang  |      |
| <b>Numerical Calculation of Kerr Spectra for Magnetic Multilayered and Granular Films</b>  | 3745 |
| Z.G. Huang, Y. Lin, Y.M. Yang, F.M. Zhang and Y.W. Du  |      |
| <b>Preparation of Oriented Fe<sub>2</sub>O<sub>3</sub> Film on Glass/Si Substrate by Atmospheric MOCVD</b>   | 3749 |
| J. Cheng and Y. Zhang  |      |
| <b>Studies on the Heterostructure of Fe Film on Si Substrate</b>   | 3753 |
| Y.F. Ge, R. Zhang, X.Q. Xiu, Z.L. Xie, S.L. Gu, Y. Shi and Y.D. Zheng  |      |
| <b>The Influences of Depositing Angles on TbFe Film Magnetic and Magnetostrictive Characteristics</b>  | 3757 |
| H.C. Jiang, W.L. Zhang, B. Peng, W.X. Zhang and S.Q. Yang  |      |
| <b>Transport Properties in YBa<sub>2</sub>Cu<sub>4</sub>O<sub>8</sub>/La<sub>0.67</sub>Ca<sub>0.33</sub>MnO<sub>3</sub> Multilayers</b>                              | 3761 |
| K. Zhao, L. Zhang, B.L. Liang, C. Wu, J.F. Feng and H.K. Wong  |      |
| <b>Microstructural Evolution of MgB<sub>2</sub> Layers Prepared by Post Annealing of Evaporated Boron and Co-Evaporated MgB<sub>x</sub> (x = 1.1~4.3) Films</b>      | 3765 |
| K.B. Kim, H.M. Kim, S. Yim, S.H. Moon and Y.W. Kim   |      |
| <b>Synthesis of Surface Acoustic Wave Filter with Al/ZnO Thin Film Deposited on Silicon Wafer</b>  | 3771 |
| F. Pan, J.J. Chen, F. Zeng, Y. Gao and D.M. Li   |      |
| <b>Microstructure and Electronic Properties of Al/Zr/LiNbO<sub>3</sub> Multilayers</b>   | 3775 |
| D.M. Li, F. Pan, X.B. Wang, J.B. Niu and M. Liu  |      |

|  |      |
|--|------|
| <b>Finite Element Analysis of Nano/Micro Pattern Fabrication by Nanoscratch Process</b>  | 3779 |
| C.G. Kang, S.W. Youn and J.W. Lee  |      |
| <b>The Growth of GaN Films on Si Substrates by HVPE</b>  | 3783 |
| H. Yu, L. Chen, R. Zhang, X.Q. Xiu, Z.L. Xie, Y.D. Ye, S.L. Gu, B. Shen, Y. Shi and Y.D. Zheng   |      |
| <b>Nano-Structures and Properties of Zinc Nitride Prepared by Nitridation Technique</b>  | 3787 |
| F.J. Zong, H. Ma, C.S. Xue, H.Z. Zhuang, X.J. Zhang, H. Xiao, J. Ma and F. Ji  |      |
| <b>Laser Doping and Recrystallization for Amorphous Silicon Films by Plasma-Enhanced Chemical Vapor Deposition</b>                       | 3791 |
| D.S. Wuu, S.Y. Lien, J.H. Wang, H. Mao, I. Hsieh, B. Wu and P.C. Yao   |      |
| <b>Effect of Pt Interlayer on Thermal Stability of NiSi Films</b>  | 3795 |
| Y. He, J.Y. Feng and Q.L. Wu   |      |
| <b>Electric-Pulse-Induced Reversible Resistance Change Effect and Its Fatigue Behavior in Manganite Perovskite Films</b>                 | 3799 |
| Q. Wang, R. Dong, L.D. Chen, T.L. Chen and X.M. Li   |      |
| <b>High-Quality Semiconductor Carbon-Doped <math>\beta</math>-FeSi<sub>2</sub> Film Synthesized by MEVVA Ion Implantation</b>            | 3803 |
| X.N. Li, C. Dong and L. Xu   |      |
| <b>Surface Morphology, Structure and Transport Property of Na<sub>x</sub>CoO<sub>2</sub> Thin Films Grown by Pulsed Laser Deposition</b> | 3807 |
| X.P. Zhang, Y.S. Xiao, H. Zhou, B.T. Xie, C.X. Yang and Y.G. Zhao  |      |
| <b>Monolayer Formation of Colloidal Nanoparticles on Various Substrates by Single and Multiple Dip-Coating Process</b>                   | 3811 |
| T.S. Yoon, J.H. Oh, S.H. Park, V. Kim, C. Kwon and K.B. Kim  |      |
| <b>Evaluation of Nano-Size Defects of Chromium Layers by Small Angle Neutron Scattering</b>  | 3815 |
| Y. Choi, M.Y. Choi, Y.S. Hahn, M. Kim and S.C. Kwon  |      |
| <b>Effects of Heat Treatment on Microstructure of Sputter Deposited TiNiPd Film on Si Wafer</b>  | 3819 |
| S.Q. Qian and J.S. Wu  |      |
| <b>Characterization of Chromium-Carbon Layer Fabricated by Electrodeposition in Trivalent Chromium Bath</b>                              | 3823 |
| M. Kim, S.U. Park, D.Y. Kim, S.C. Kwon and Y. Choi   |      |
| <b>Microstructure, Phase Sequence and Superelasticity in Highly Oriented MBE-Grown NiTiCu Shape Memory Thin Films</b>                    | 3827 |
| R. Hassdorf, J. Feydt, S. Thienhaus, M. Boese, L. Buorn, N. Conté and M. Moske   |      |
| <b>Optimization of a Concasting Technology via a Dynamic Solidification Model of a Slab Caster</b>                                       | 3831 |
| J. Stetina, F. Kavička, J. Dobrovská, L. Camek and M. Masarik  |      |
| <b>Modification of Electroless Nickel-Plating Coatings with Sol-Gel Film</b>   | 3835 |
| H.C. Liu, L. Zhu and Y.B. Du   |      |
| <b>Study of Microwave-Absorbing Property of Nanometer Multi-Layer</b>  | 3839 |
| Y.F. Bi, T. Ye and P.Y. Liu  |      |
| <b>Nanoparticles and Films Formed by Pulsed Laser Irradiation on the CeO<sub>2</sub> Target in the Liquid</b>                            | 3843 |
| J. Chen, J. Yang and J.S. Lian   |      |
| <b>The Evaluation of Elastic Modulus at Grain Boundaries for Polycrystalline Materials</b>   | 3847 |
| L. Zheng, Q. Deng and T.D. Xu  |      |
| <b>The Influence of La on the Corrosion Resistance of Hot-Dip Aluminized Steel</b>   | 3851 |
| J.b. Wen, W. Zhang, X.Y. Li and Q.A. Li  |      |
| <b>The Investigation of Microstructure of Pt/Ti Explosive Clad Interface</b>   | 3855 |
| S.Z. Wei, Y. Li and J.H. Zhu   |      |
| <b>Atomic and Electronic Structures of Cu/Sapphire Interfaces by HRTEM and EELS Analyses</b>   | 3859 |
| T. Sasaki, T. Mizoguchi, K. Matsunaga, S. Tanaka, T. Yamamoto, M. Kohyama and Y. Ikuhara   |      |
| <b>Effect of Grain Boundary Character Distribution on Stress Corrosion Cracking Behavior in Austenitic Stainless Steels</b>              | 3863 |
| R. Ishibashi, T. Horiuchi, J. Kuniya, M. Yamamoto, S. Tsukawa, H. Kokawa, T. Watanabe and T. Shoji                                       |      |

|   |      |
|---|------|
| <b>Current-Voltage Characteristic and Grain Boundary Structure in Undoped and Pr and Co Doped ZnO Bicrystals</b>  | 3867 |
| Y. Sato, F. Oba, M. Yodogawa, T. Yamamoto and Y. Ikuhara  |      |
| <b>Distribution of Plane Matching Boundaries for Different Types and Sharpness of Textures</b>  | 3871 |
| K. Kawahara, K. Ibaraki, S. Tsurekawa and T. Watanabe   |      |
| <b>In Situ HREM Studies of Grain Boundary Formation during Solidification of B-Doped Silicon</b>  | 3875 |
| H. Fukushima, I. Kuchiwaki and T. Hirabayashi   |      |
| <b>Spreading Dynamics of Tin, Bismuth and Some Lead-Free Solders over Copper Substrate</b>  | 3879 |
| X. Shang, C. Mážur Lauricella and S.D. Brandi   |      |
| <b>Structure and Properties of Ti-Al Intermetallic Layers Produced on Titanium Alloys by a Duplex Treatment</b>   | 3883 |
| T. Wierzchoń, H. Garbacz and M. Ossowski  |      |
| <b>The Use of Trimethylaluminum for Producing Surface Layers by the PACVD Method</b>  | 3887 |
| J.R. Sobiecki, R. Sitek and T. Wierzchoń  |      |
| <b>Control of Boundary Structure and Grain Growth for Microstructural Design</b>  | 3891 |
| S.Y. Choi and S.J.L. Kang   |      |
| <b>Hydrophilic Properties of TiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> Composite Thin Films</b>   | 3897 |
| Q.J. Liu, J. Zhang, Z. Zhu, Y. Jin and Q.H. Wang  |      |
| <b>Properties of DLC Films Produced by Pulsed Laser Induced Arc Deposition</b>  | 3901 |
| N. Jiang, T.M. Shao and D.R. Chen   |      |
| <b>Process of Film Formation By Anodizing AZ91D Magnesium Alloy</b>   | 3905 |
| J.G. Qian, D. Li and F. Zhang   |      |
| <b>Study of Electronic Structure In Ni<sub>3</sub>Fe/Al<sub>2</sub>O<sub>3</sub>/Ni<sub>3</sub>Fe Magnetic Tunnel Junction with Various Ferromagnetic Layer Thicknesses</b> | 3909 |
| Y. Zhou, X.F. Bi, J.X. Shang and H.B. Xu  |      |
| <b>Development of Wear Resistant Zirconium Oxide Thin Films on Stainless Steel Substrates</b>   | 3915 |
| I.K. Then, M. Mujahid and B. Zhang  |      |
| <b>A Control of the Nanopore Regularity in Alumina Layer</b>  | 3919 |
| H.J. Oh, J.H. Lee, Y. Jeong, S.J. Suh and C.-. Chi  |      |
| <b>Annealing Effects on the Structural Properties of Gold Films on Si by the RF Magnetron Sputtering</b>  | 3923 |
| K.C. Lee, N.H. Kim, B.H. O and H.W. Kim   |      |
| <b>Microstructural and Mechanical Properties of TiC, TiB<sub>2</sub> and VC with Low Carbon Steel Surface Alloy Fabricated by High Energy Electron Beam Irradiation</b>     | 3927 |
| K.S. Shin, J.H. Yoo, S.H. Lee, K. Kaneko and Y. Tomokiyo  |      |
| <b>Effect of Colloidal Silica Addition and Pre-Coating on the Microstructure Change of Cathode Copper Electrodeposited Film</b>   | 3931 |
| S.B. Lee, Y.K. Kim and B.I. Kim   |      |
| <b>The Evaluation of the Elastic Property in Nano-Scaled Thin Compressive Film on Patterned Substrates</b>  | 3935 |
| M.W. Moon, T.Y. Kim, K.R. Lee and K.H. Oh   |      |
| <b>A New Low Alloy High Speed Power Hack Saw Blades</b>   | 3939 |
| Y. Gao, J.Y. Xu, Y.P. Liu, Z.Y. He and Z. Xu  |      |
| <b>An Experimental Study on 3D Forming of Sheet Metal Using Plasma Arc</b>  | 3943 |
| W.J. Xu, J.C. Fang, F. Liu and G.B. Pang  |      |
| <b>Mechanism of Enhanced Wear-Resistance of the Ti-Mo Modification Layer</b>  | 3947 |
| L. Qin, Y.M. Qin, X.P. Liu, B. Tang and Z. Xu   |      |
| <b>Mechanical and Tribological Properties of Ti6Al4V Hardened by Double Glow Plasma Hydrogen-Free Carbonitriding</b>  | 3951 |
| G.H. Zhang, Z.Y. He, J.D. Pan, P.Z. Zhang and Z. Xu   |      |
| <b>Plasma Surface Alloying W-Mo Low-Alloy HSS</b>   | 3955 |
| J.Y. Xu, Y.P. Liu, Y. Gao and Z. Xu   |      |
| <b>Surface Treatment of Materials with High Current Pulsed Electron Beam</b>  | 3959 |
| S.Z. Hao, B. Gao, A.M. Wu, J.X. Zou, Y. Qin, C. Dong and Q.F. Guan  |      |
| <b>Surface Modification of Superfine Aluminum Oxide Powders</b>   | 3963 |
| H.P. Cui, J. Yan and J.Z. Liu   |      |

|  |      |
|--|------|
| <b>Improving the Microwave Absorbing Property of Fiber Reinforced/Resin by Surface Modification of Fiber through Ion Implantation</b>                              | 3967 |
| Y.F. Bi, Y. Tao and P.Y. Liu   |      |
| <b>The Influence of NiCrAlY Coatings Prepared by LPPS and EB-PVD on the Damping Properties of 1Cr18Ni9Ti Alloy</b>   | 3971 |
| L.M. Yu, Y. Ma, C. Zhou and H.B. Xu  |      |
| <b>Failure Mechanism of D-Gun Sprayed Thermal Barrier Coatings Subjected to Thermal Shock Cycling</b>  | 3977 |
| P.L. Ke, Q.M. Wang, M.H. Guo, J. Gong, C. Sun and Y.C. Zhou  |      |
| <b>High Quality Ceramic Coatings Sprayed by High Efficiency Hypersonic Plasma Spraying Gun</b>   | 3981 |
| S. Zhu, B.S. Xu and J.K. Yao   |      |
| <b>Influence of Service Temperature on Grain Growth and Thermal Diffusivity of Nanostructured Thermal Barrier Coating</b>  | 3985 |
| C. Zhou, N. Wang, S.K. Gong and H.B. Xu  |      |
| <b>The Influence of Impulse Electroless Plating on Amorphous Ni-P Alloys in Structure and Hot Stability</b>  | 3989 |
| Y.P. Liu, Y.M. Zhang, Y. Gao and Z. Xu   |      |
| <b>FEM Simulation Study on Relationship of Interfacial Morphology and Residual Stress in TBCs</b>  | 3993 |
| L.Q. Chen, S.K. Gong and H.B. Xu   |      |
| <b>Characterization and Evaluation of EB-PVD Thermal Barrier Coatings by Impedance Spectroscopy</b>  | 3997 |
| C.X. Zhang, F.S. Liu, S.K. Gong and H.B. Xu  |      |
| <b>Magnetron Co-Sputtering of Nanostructured Chromium Aluminium Nitride Coatings</b>   | 4001 |
| R. Wuhrer and W.Y. Yeung   |      |
| <b>Effect of Solution Chemistry and Electroplating Conditions on the Deposition Rate and Wear Resistance of Eco-Friendly Trivalent Chromium Layers</b>             | 4005 |
| M.Y. Choi, Y. Choi, J.I. Choe, M. Kim and S.C. Kwon  |      |
| <b>Effect of Chromium Addition on the Corrosion Behavior of WC Cermet Coatings in Strong Acid Environment</b>  | 4009 |
| J.E. Cho, S.Y. Hwang and K.Y. Kim  |      |
| <b>Structural and Magnetic Properties of Exchange Spring Type FePt/Fe Multilayers</b>  | 4013 |
| Y.S. Gu, X.Y. Zhan, J. He, Y. Zhang, Z. Ji and C. Zhou   |      |
| <b>Transparent Barrier Coatings on Flexible Polyethersulfone Substrates for Moisture-Resistant Applications</b>  | 4017 |
| D.S. Wuu, W.C. Lo, C.C. Chiang, H.B. Lin, L.S. Chang, R.H. Horng, C.L. Huang and Y.J. Gao  |      |
| <b>Correlation Exchange Length in Nanocrystalline Soft Magnetic Materials Characterized by Electron Holography</b>   | 4021 |
| Y. Gao and D. Shindo   |      |
| <b>A Simple Method of the Electric/Magnetic Field Observation by a Conventional Transmission Electron Microscope</b>   | 4029 |
| K. Sasaki and H. Saka  |      |
| <b>Crystallization under 1 MeV Electron Beam Irradiation of Nanometer-Sized W-Dendrites Fabricated on Alumina Substrates with Electron-Beam-Induced Deposition</b> | 4035 |
| M.H. Song, K. Mitsuishi and K. Furuya  |      |
| <b>Effect of Hydrogen on Dislocation Behavior in Ni-Cr Alloys</b>  | 4039 |
| K. Miyata  |      |
| <b>HVEM Study of Crack Tip Dislocations in Silicon Crystals</b>  | 4043 |
| K. Higashida, M. Tanaka and R. Onodera   |      |
| <b>Microstructures after Processing by Aging and ECAP for Al-Mg<sub>2</sub>Si Alloys Containing Excess Si or Mg</b>  | 4047 |
| K. Fujita, T. Fujita, K. Oh-ishi, K. Kaneko, Z. Horita and T.G. Langdon  |      |
| <b>Synthesis of Perovskite-Type LaMnO<sub>3</sub> under Hydrothermal Conditions</b>  | 4051 |
| C.H. Feng, Q.S. Li, C.M. Liu, Y. Deng and L. Guo   |      |
| <b>On the Stability of Defects and Grain Size in Ultrafine-Grained Copper during Cyclic Deformation and Subsequent Ageing at Room Temperature</b>                  | 4055 |
| C.X. Huang, S.C. Wang, S.D. Wu, C.B. Jiang, G.Y. Li and S.X. Li  |      |

|  |      |
|--|------|
| <b>A New Scheme for the Exit-Wave Reconstruction from a Small Set of Focus Series of HREM Images</b>   | 4059 |
| F. Lin, Q. Chen and L.M. Peng  |      |
| <b>Study of Bonding of Grain Boundaries in Steels Using EELS</b>   | 4063 |
| X. Zhang, L. Zhang, J.J. Qi and Y. Ma  |      |
| <b>Surface Cleaning Effects of Silicon Substrates by ECR Hydrogen Plasma on Subsequent Homoepitaxial Growth</b>                                  | 4067 |
| H.W. Kim   |      |
| <b>Observations of Carbon Nanotube Field Emission Failure in the Transmission Electron Microscope</b>  | 4071 |
| M.S. Wang, J.Y. Wang, C.H. Jin, Q. Chen and L.M. Peng  |      |
| <b>Electron Holography Characterization of Potential Barrier in a Spin Valve Structure with Nano-Oxide Layers</b>                                | 4077 |
| Y.G. Wang  |      |
| <b>Wetting and Contact Properties Studied Using the Nanoprobe System</b>   | 4081 |
| Q. Chen, S. Wang and L.M. Peng   |      |
| <b>Spatially Resolved Core Level Spectroscopy of Nanotubes</b>   | 4085 |
| Y.K. Sun and J. Yuan   |      |
| <b>Niobium Doped Potassium Titanate Nanowires and Nanobelts</b>  | 4089 |
| B.L. Wang, Q. Chen and Y.F. Hu   |      |
| <b>Synthesis and Optical Properties of Metal Nanoparticles Embedded in Porous Anodic Alumina Oxide</b>   | 4093 |
| R.L. Zong, J. Zhou, S.K. Shi and L.T. Li   |      |
| <b>Direct Tensile Tests of Individual WS<sub>2</sub> Nanotubes</b>   | 4097 |
| I. Kaplan-Ashiri, S.R. Cohen, K. Gartsman, R. Rosentsveig, V. Ivanovskaya, T. Heine, G. Seifert, H.D. Wagner and R. Tenne                        |      |
| <b>Influence of Baushinger Effect on Yield Strength after Pipe Forming</b>   | 4103 |
| S.S. Yun and Y.W. Chang  |      |
| <b>Effect of Inhomogeneity of Carbide Precipitation on Nanohardness Distribution for Martensitic Steels</b>                                      | 4109 |
| J.X. Li, T. Ohmura, F.G. Wei and K. Tsuzaki  |      |
| <b>Evaluation of Grain Boundary Effect on the Strength of Fe-C Martensitic Steels through Nanoindentation Technique</b>                          | 4113 |
| T. Ohmura and K. Tsuzaki   |      |
| <b>Ultrasonic Evaluation of Cyclically Deformed Microstructures of Cu and Cu-35Zn Alloy</b>  | 4117 |
| C.S. Kim and S.I. Kwun   |      |
| <b>Effects of Hydrogen on Tensile Properties of SA508 Cl.3 Reactor Pressure Vessel Steel at High Temperature</b>                                 | 4121 |
| H.C. Cho and I.S. Kim  |      |
| <b>Effects of Microstructure on the Fatigue Resistance of Steel Tire Cords</b>   | 4125 |
| Y.S. Yang, S.Y. Park, H.J. Jun, C.G. Park, S.H. Lim and D.Y. Ban   |      |
| <b>Water Vapor Oxidation Behavior under High-Temperature and Pressure Conditions of the Nitrided Alloys for Steam Turbine Valve System Parts</b> | 4129 |
| J.H. Yoon, I.S. Kim, H.S. Kim, I.C. Hur, K.S. Son, J.H. Lee and H.S. Kim   |      |
| <b>High-Temperature Wear Properties of the Nitrided Alloys for Steam Turbine Valve System Parts</b>  | 4133 |
| I.S. Kim, H.S. Kim, I.C. Hur, K.S. Son, J.H. Lee, J.H. Yoon and H.S. Kim   |      |
| <b>Effect of Heat Treatment Conditions on Tube Hydroformability</b>  | 4137 |
| K.S. Park, B.J. Kim and Y.H. Moon  |      |
| <b>Inspection of Creep Defects and Degraded Zone Using Ultrasound</b>  | 4141 |
| B.S. Lim, C.S. Jeong, S.Y. Bae, S.H. Ryu, J.T. Kim and Y.T. Keum   |      |
| <b>Fatigue Microcrack Plastic Zone Size Determination</b>  | 4145 |
| T. Eterashvili and M. Vardosanidze   |      |
| <b>Microdiffraction Study of Polycrystalline Copper during Uniaxial Tension Deformation Using a Synchrotron X-Ray Source</b>                     | 4149 |
| H.D. Joo, J.S. Kim, C.W. Bark, J.Y. Kim, Y.M. Koo and N. Tamura  |      |
| <b>Characteristics of Photocatalytic Titania Fabricated by Anodization</b>   | 4153 |
| J.H. Lee, H.J. Oh, Y. Jeong, Y.J. Lee, J.S. Kim and C.-. Chi   |      |

|   |      |
|---|------|
| <b>The Effect of the Graphitizing Heat Treatment and Boron Content on Boron Distribution in High Carbon Steel</b>                                 | 4157 |
| K.D. Woo, S.W. Kim and D.K. Kim   |      |
| <b>Application of Monte Carlo Simulation Method to the Nano-Scale Characterization by Scanning Electron Microscopy</b>                            | 4161 |
| Z.J. Ding, H.M. Li and X. Sun   |      |
| <b>A Comparative Study on Preparation of TiO<sub>2</sub> Pellets as Photocatalysts Based on Different Precursors</b>                              | 4165 |
| Y.G. Luo, L. Zou and E. Hu  |      |
| <b>The Forming Characteristics of Simultaneous Radial-Forward Extrusion Processes</b>   | 4171 |
| S.K. Hwang, D.H. Jang, B.D. Ko and B.B. Hwang   |      |
| <b>Formation of Single Crystal Nanowires of GaN on the Si Substrates</b>  | 4175 |
| C.S. Xue, Z.H. Dong, H.Z. Zhuang, H. Gao, Y. Liu and Y.X. Wu  |      |
| <b>Flux Growth and Dielectric Properties of Relaxor-Based Pb(In<sub>1/2</sub>Nb<sub>1/2</sub>)O<sub>3</sub>-PbTiO<sub>3</sub> Single Crystals</b> | 4179 |
| H.Q. Fan  |      |
| <b>The Orientation Characterization of Single Crystal Superconductor Film with 2-Dimensional X-Ray Diffraction</b>                                | 4183 |
| Q.L. Rao, Q.H. Lu, X. Yao and J. Hu   |      |
| <b>Wear Mechanism of Nano-Structured Surface Layer under High Impact Energy</b>   | 4187 |
| Q. Cen, Y.H. Xu, L. Fang and J.H. Zhu   |      |
| <b>Fracture Behavior of a Shape Memory Alloy at High Loading Velocity and High Temperature</b>  | 4191 |
| L. Wang, T. Kobayashi, Y. Harada and K. Tsuchiya  |      |
| <b>A Process Sequence Design of Multi-Step Cold Extrusion Process for Hollow Parts</b>  | 4195 |
| J.H. Shim, J.H. Ok, H.J. Choi, H.S. Koo and B.B. Hwang  |      |
| <b>Characterization of Submicron Mechanical Properties of Al-Alloy Foam Using Nanoindentation Technique</b>                                       | 4199 |
| A.K. Kim, M.A. Hasan, H.J. Lee and S.S. Cho   |      |
| <b>Deformation Characteristics in Radially Extruded Tubular Parts</b>   | 4203 |
| H.J. Choi, S.H. Kim and B.B. Hwang  |      |
| <b>Corrosion Behavior of 316L Stainless Steel in Supercritical Water Environment</b>  | 4207 |
| J.H. Yoon, K.S. Son, H.S. Kim, B. Mitton, R.M. Latanision, Y.R. Yoo and Y.S. Kim  |      |
| <b>Effect of Creep Holding Time on the Fatigue Behavior in P92 Steel Weldment at High Temperature</b>   | 4211 |
| B.J. Kim and B.S. Lim   |      |
| <b>Experimental Analysis for the Tubular Hydroformability of Aluminum Alloys at Elevated Temperatures</b>   | 4215 |
| B.J. Kim, K.S. Park, J.S. Ryu and Y.H. Moon   |      |
| <b>Finite Element Analysis of the Compaction Processes for Hollow Three-Level (Class IV) Components</b>   | 4219 |
| B.S. Ham, B.B. Hwang and D.H. Jang  |      |
| <b>High Pressure Wear Characteristics of Alloyed Ductile Cast Iron - Effect of Cu, Mn, Si and Mo</b>  | 4223 |
| W.H. Bang, C.S. Kang, J.H. Park and K.H. Oh   |      |
| <b>Influence of Thermal Treatment on the Caustic SCC of Super Austenitic Stainless Steel</b>  | 4227 |
| Y.R. Yoo, H.Y. Chang, Y.B. Park, Y.S. Park, T.J. Chung and Y.S. Kim   |      |
| <b>Oxide Growth Mechanism and Oxidation Resistance in Mechanically Alloyed Ni-20Cr-20Fe-5Nb-1Y<sub>2</sub>O<sub>3</sub> Alloy</b>                 | 4231 |
| I.H. Kim and S.I. Kwun  |      |
| <b>Structure Centric Education in Materials Engineering</b>   | 4235 |
| G.S. Upadhyaya and E. Fellow  |      |
| <b>Nano-Structured Thin Films: A Lorentz Transmission Electron Microscopy and Electron Holography Study</b>                                       | 4241 |
| J.T.M. de Hosson and H.A. De Raedt  |      |
| <b>Segregation Effects on the Metal-Carbide Interface</b>   | 4251 |
| L.M. Liu, S.Q. Wang and H.Q. Ye   |      |

**Well-Ordered Self-Assembly Growth of Strain-Modulated SrTiO<sub>3</sub> Thin Films: Templates for Complex Oxide Quantum Wires**

Y.R. Li, J.L. Li, Y. Zhang, X.W. Deng, F. Yang and W.D. Fei

4255

**A Simplified Model for Velocity and Temperature Evolution of Alloy Droplets in Centrifugal Atomisation and Spray Deposition**

Y.Y. Zhao

4261