

Table of Contents

Committees

Asymmetric Rolling as Means of Texture and Ridging Control and Grain Refinement of Aluminum Alloy and Steel Sheets D.N. Lee	1
High Performance Materials Development in the 21st Century: Trends and Directions J.C. Williams	7
Toughness Assessment of a Variety of Materials: Similarities and Discrepancies T. Kobayashi	13
Modeling Precipitate Microstructure Evolution in Alloys with First-Principles Energetic Information V. Vaithianathan, C. Wolverton and L.Q. Chen	19
Processing and Alloy Development to Optimise the Properties and Cost-Effectiveness of Components Manufactured from TiAl-Based Alloys X.H. Wu, D. Hu and M.H. Loretto	25
Orientation Dependence of Dynamic Recrystallization Behavior of Al Single Crystals Y. Miura and K. Ihara	31
Recent Progress in Molecular Orbital Approach to Alloy Design M. Morinaga and H. Yukawa	37
Aerosol Deposition Method for Fabrication of Nano Crystal Ceramic Layer J. Akedo	43
Quantitative Analysis of Precipitation Behavior in Ferrite of V Added Microalloyed Steel H.C. Kang, S.H. Lee, D.H. Shin, K.J. Lee, S.J. Kim and K.S. Lee	49
Characterization of Friction Welding for IN713LC and AISI 4140 Steel J.T. Yeom, J.H. Park, J.W. Lee and N.K. Park	53
High Temperature Deformation Mechanism Maps of NiAl I.G. Lee and A.K. Ghosh	57
Metastable Two-Phase Field(A2+B2) in Co-Al-Fe and Co-Al Alloy Systems T. Kozakai, T. Shikama, T. Koyama and M. Doi	61
Fabrication of Magnesium Alloy (AZ31) Sheet by Extrusion J.W. Song, J.W. Han, M.S. Kim and S.K. Hwang	65
Development of Modified Embedded Atom Method for Alkali Metals X.Y. Yuan and K. Takahashi	69
Design and Fabrication of Bi-Convex Variable Focusing Lens Arrays Using Liquid Crystal for Integral Photography Y. Hwang and J.C. Kim	73
Characteristics of Electron Density Distributions in Metal Oxides M. Morinaga, M. Yoshino, A. Shimode, K. Okabayashi, H. Nakamatsu and R. Sekine	77
High Temperature Wear Properties of Multiphase Composite: The Role of Transfer Film S.J. Kim, S.J. Park, R.H. Basch, J.W. Fash and H. Jang	81
Properties Evaluation of Composites Including Cracked Ellipsoidal Inhomogeneity B.J. Lee, D.Y. Yoon and Y.T. Cho	85
Molecular Dynamics Simulation of Stress Induced Grain Boundary Migration during Nanoindentation Experiments J.H. Yoon, S.J. Kim and H. Jang	89
Influence of Biaxial Surface Stress on Mechanical Indenting Deformations Y.H. Lee, J.I. Jang and D.I. Kwon	93
Molecular Dynamics Analysis of Structure and Intrinsic Stress in Amorphous Silicon Carbide Film with Deposition Process Parameters J.Y. Kim, B.W. Lee, H.S. Nam and D.I. Kwon	97
Numerical Analysis on the Dissimilar Channel Angular Pressing by Multi-Pass Rolling H.J. Choi, B.B. Hwang, B.D. Ko, J.Y. Lim and D.H. Jang	101
A Study on the Process Design of Cold-Forged Automobile Parts H.J. Choi, B.B. Hwang, B.D. Ko, D.H. Jang and J.Y. Lim	105

Finite Element Method in Powdered Metal Compaction Processes B.D. Ko, D.H. Jang, H.J. Choi, J.Y. Lim and B.B. Hwang	109
Modification of the Recrystallization Texture by Means of Cross Rolling in Ferritic Stainless Steel Sheets J.H. Lee, S.H. Park and M.Y. Huh	113
Creep Analysis of Cr-Mo Steels Using a Dislocation Based Constitutive Modelling H.S. Kim, M.H. Seo, S.I. Hong, S.H. Kim and W.S. Ryu	117
Effects of Processing Variables on the Development of the Cube Texture in Ni Tapes Fabricated by the Cold Working of Ni Powder Compact Rods B.K. Ji, J.H. Lim, D.W. Lee, M.W. Kim, B.H. Jun, C.J. Kim and J.H. Joo	121
A New Control Algorithm for Impressed Current Cathodic Protection on the Underwater Hull J.S. Oh, M.H. Lee, J.D. Kim and J.Y. Lee	125
Study of Magnetic Annealing on Magnetostriction in Grain-Oriented 3.2 % Si Steels S.Y. Cha, I.B. Chudakov, J.S. Woo, J.K. Kim and Y.R. Cho	129
Effect of Heating Rate on Transient Liquid Phase Diffusion Bonding of Ni-Based Superalloy GTD-111 W.H. Choi, S.W. Kim, C.H. Lee and J.C. Jang	133
Notch Effects on Impact Tensile Properties in A6061-T6 Aluminum Alloy T. Masuda, H. Toda and T. Kobayashi	137
Ultrafine Grained Bulk 5083 Al Alloy Produced by Cryogenic Rolling Process W.J. Nam, Y.B. Lee and D.H. Shin	141
Aluminum Alloy Strips Casting Using an Unequal Diameter Twin Roll Caster R. Nakamura, K. Takahashi and M. Ikawa	145
Development of Light-Weight Al Scroll Compressor for Car Air Conditioner I.M. Park, I.D. Choi and Y.H. Park	149
Effect of Bubbling on the Primary Silicon in Hypereutectic Al-Si Alloy J.P. Choi, S.J. Lee, E.P. Yoon, W.Y. Yoon, M.H. Kim and K.H. Kim	153
Effect of Electromagnetic Force on the Silicon Size in Hypoeutectic Al-Si Alloy J.P. Choi, K.B. Kim and E.P. Yoon	157
Effect of Stacking Layer Number on Mechanical Properties of Accumulative Roll Bonding Processed Aluminum S.H. Lee, C.H. Lee and C.Y. Lim	161
Enhanced Modification Process of B.390 Casting Alloy by the Ca Content Control H.J. Kim, E.P. Yoon and T. Kobayashi	165
Microstructure Characterizations of Hypereutectic Al-Si Alloys with Different Undercooling Levels H.S. Kang, W.Y. Yoon, K.H. Kim, M.H. Kim and E.P. Yoon	169
Effect of Distribution Coefficient on Copper Purification by Zone Refining Process Y.O. Yoon, H.H. Jo, H. Cho, S.K. Kim and Y.J. Kim	173
Grain Refinement of Copper Alloys by Equal Channel Angular Pressing C.Y. Lim, J.H. Jung and S.Z. Han	177
Formability of Magnesium Alloy Sheets Manufactured by Semi-Solid Roll Strip Casting H. Watari, N. Koga, R. Paisarn and R. Nakamura	181
Transformation Behavior of a Ti-Ni-Cu-Fe Alloy T.H. Nam, T.Y. Kim, J.S. Kim and S.B. Kang	185
Prediction of Microstructure During High Temperature Forming of Ti-6Al-4V Alloy Y.H. Lee, T.J. Shin, J.T. Yeom, N.K. Park, S.S. Hong, I.O. Shim, S.M. Hwang and C.S. Lee	189
Dissimilar Joining of Nickel Aluminide Intermetallic Compound with Spheroidal Graphite Cast Iron by Using Combustion Synthesis T. Kimata, K. Uenishi, A. Ikenaga and K.F. Kobayashi	193
Surface Amorphization in Intermetallic Compounds by Shot Peening H. Nakayama, K. Tsuchiya, Y. Todaka, M. Umemoto, K. Morii and T. Shimizu	197
Combustion Synthesis Process of Ag Added Al₃Ti Intermetallic Compound Y. Miyazaki, K. Uenishi and K.F. Kobayashi	201
Morphology of Carbon Micro-Coils M. Fujii and S. Motojima	205

Synthesis of Porous Mullite by Vapor Phase Reaction B.R. Cho and J.B. Kang	209
Self-Propagating High-Temperature Synthesis of Aluminum Nitride and its Characterization J.R. Lee, I. Lee, D.J. Kim, Y.K. Ahn and H.S. Chung	213
Fabrication of Activated Carbon Fibers from Stabilized PAN-Based Fibers by KOH Y.J. Lee, J.H. Kim, J.S. Kim, D.B. Lee, J.C. Lee, Y.J. Chung and Y.S. Lim	217
Role of Unstable Chemical Species (Non-Graphitic Carbon and Flowing NH₃ Gas) on the Equilibrium Point of the Reaction Product (Carbide, Carbo-Nitride or Nitride) N. Shohoji	221
Sinter-Bonding of Polycrystalline Silicon-Nitride Using Source Powder of Superplastic Ceramics as Insert Material Y. Motohashi, K. Waseda and K. Kitahora	225
Processing Technique for Wear Resistance Parts Using Ultra Fine Particles Reinforced Si₃N₄ K. Osumi, H. Kita, T. Iizuka and T. Hirai	229
Preparation and Characterization of Porous Si-Coated SiC Fiber Media J.S. Yu, B.S. Lee, S.C. Choi, J.H. Oh and J.C. Lee	233
Abnormal Crystal Growth in the Sintered (Bi_{0.2}Sb_{0.8})₂Te₃ Alloys Induced by Silver Addition H.J. Yoo, Y.H. Park and I.M. Park	237
Efflorescence and Leaching Behavior of Metal Ions for EAF Dust-Clay Based Bricks J.H. Kim, K.G. Lee, Y. Kim and S.K. Kang	241
Production Mechanism of Superfine Powders by Jet Mill Y.C. Yang, C.J. Liu and G.K. Li	245
Synthesis and Evaluations of Microstructure Properties on Al-(50, 60, 70 mass%)Si Systems by Mechanical Alloying J.I. Lee, T.W. Hong, I.H. Kim, S.C. Ur, Y.G. Lee and S.L. Ryu	249
Nanocomposite Formation in the Fe₂O₃-M (M=Al, Ti, Zn, Cu) Systems by Mechanical Alloying C.H. Lee, S.H. Lee, S.Y. Chun, S.J. Lee and Y.S. Kwon	253
Mechanical Alloying Effect of Hematite and Graphite C.H. Lee, S.H. Lee, S.Y. Chun, S.J. Lee and J.S. Kim	257
Sintering Distortion of Barrier Ribs Formed via Capillary Molding T. Chang, S.H. Yoon and Y.S. Kim	261
Effect of CoO Doping on the Sintering Ability and Mechanical Properties of Y-TZP T. Onda, H. Yamauchi and M. Hayakawa	265
Serration Phenomenon in High Purity Chromium Y. Harada, M. Ohmori and L. Wang	269
Synthesis of CuInSe₂ and CuInGaSe₂ Nanoparticles by Solvothermal Route K.H. Kim, Y.G. Chun, B.O. Park and K.H. Yoon	273
Recovery of Lithium from Seawater Using Nano-Manganese Oxide Adsorbents Prepared by Gel Process K.S. Chung, J.C. Lee, E.J. Kim, K.C. Lee, Y.S. Kim and K. Ooi	277
Resistance Sintering of Copper-Graphite Powder Mixture under Pressure S. Maki, Y. Harada and K. Mori	281
Fabrication of Thin Film Using Nanosized Indium Tin Oxide (ITO) Powder and Its Degradation Characteristics Y.N. Kim, J.H. Park, H.G. Shin, J.K. Song and H.S. Lee	285
Photocatalysis for Oxidation of Phenol and Reduction of Inorganic Pollutants by Nanocrystalline TiO₂-ZrO₂ Powders J. Han, S.M. Choi, I.H. Oh, F. Saito and B.T. Lee	289
Fabrication of Al₂O₃-ZrO₂ (3Y-TZP) Composites with Graded Structures by Centrifugal Slip Casting Method X.D. Li, L. Wang, T. Onda, T. Akao and M. Hayakawa	293
Fabrication and Properties of TiB₂ Reinforced Cu Composites by Electromagnetic Stirring T.K. Jung, S.C. Lim, H.C. Kwon and M.S. Kim	297
Fabrication of BN/Al(-Mg) Metal Matrix Composite (MMC) by Pressureless Infiltration Technique W.G. Jung and H. Kwon	301

Tensile Properties and Fracture Behavior of SiCp/AC4CH Composite at Loading Velocities of up to 10m/s	
L. Wang, T. Kobayashi and C.M. Liu	305
Preparation of W-C-B Composites by Reactive Resistance-Heated Hot Pressing	
S. Sugiyama and H. Taimatsu	309
Measurement and Analysis of Plasma Arc Cutting Acoustic Signal	
W. Xue, K. Kusumoto and K. Nezu	313
Fabrication of Copper Clad Aluminum Wire (CCAW) by Indirect Extrusion and Drawing	
H.C. Kwon, T.K. Jung, S.C. Lim and M.S. Kim	317
Microstructural Effects of Electromagnetic Stirring Strength and Casting Speed in Continuous Casting of Al Alloy	
D.Y. Lee, K.B. Kim, H.I. Lee and D.H. Kim	321
Barrier Ribs of PDP by Injection Molding	
H.N. Choi and Y.S. Kim	325
Analysis of Waste Heat Recovery to Steel Scrap Preheating in an Enclosure Vessel	
T. Wang, M. Kawakami, K. Mori and S.H. Shahidan	329
Up-Grade Recycle by Consolidating Aluminum Cutting Chip under Severe Plastic Deformation	
H. Toda and T. Kobayashi	333
Low-Cycle Fatigue Fracture Behavior of Superalloy GH4586 at Elevated Temperature	
L. Wang, T. Cui, J.Y. Lü, H.C. Yang and G.P. Zhao	337
Effects of Deformation on Surface Modification by Nitrogen Ion-Implantation	
A. Yamamoto, H. Tsubakino, M. Ando, L. Liu, M. Terasawa and T. Mitamura	341
Improvement of Inner Surface for Machine Parts by Shot Peening	
Y. Harada, S. Maki, K. Mori and L. Wang	345
Oxidation Behaviour of Nickel-Based Alloys Containing High Re Contents Comparable to the Third Generation Nickel-Based Superalloys	
Y. Murata, M. Morinaga and R. Hashizume	349
Plasma Etching for Fabricating the Concave-Type DRAM Capacitors	
H.W. Kim	353
Vertical Etching of Ru Electrodes Using the O₂/Cl₂ System	
H.W. Kim	357
Dry Oxidation Behavior of Epitaxial Si_{0.7}Ge_{0.3} Films	
H.B. Kang, J.K. Choi, J.W. Lee and C.W. Yang	361
Crystal Growth of Aluminum Magnesium Borides from Al-Mg-B Ternary System Solutions and Properties of the Crystals	
S. Okada, K. Kudou, T. Mori, T. Shishido, I. Higashi, N. Kamegashira, K. Nakajima and T. Lundström	365
Corrosion Characteristics of Surface-Modified DET Magnesium Powders	
W.S. Chung, W.Y. Yoon and K.J. Kim	369
Plasma Characteristics of Supersonic Nitrogen/Hydrogen-Mixture and Ammonia Plasma Jets and Nitrided Material Properties	
H. Tahara, Y. Ando and T. Yoshikawa	373
Electrodeposition of Bi₂Te₃ for Nanowire Application	
Y.H. Lee, K.Y. Lee, J.S. Bae, J.H. Lee, J.Y. Byun, D.B. Hyun and T.S. Oh	377
Fabrication of Si Nitride Coating onto Metal Substrate by Reactive RF Plasma Spraying	
M. Yamada, M. Fukumoto and T. Yasui	381
Characteristics of the Compound Layer on the SCM 435 Steel Produced by Plasma Nitrocarburizing	
I.S. Lee	385
Material Spraying Using Electromagnetically Accelerated Plasma Jet	
H. Tahara	389
Electrochemical Kinetics Study of Electroless Copper Plating for Electronics Application	
D.G. Kim, J.S. Bae, J.H. Lee, Y.D. Kim and Y.M. Ahn	393
Property of Laser Welded Bake-Hardening Steel in Tailored Blanks for Automobile	
F. Matsui, M. Shibao, N. Yoshida, K. Shibata, H. Sakamoto, H. Sakurai, A. Hirose and K.F. Kobayashi	397

Reaction between Sn-In Solder and Under Bump Metallurgy J.H. Choi, B.Y. Jung, S.W. Jun, Y. Kim and T.S. Oh	401
A Study on Interfacial Reaction between Electroless Plated Ni-P/Au UBM and Sn-Bi Eutectic Solder Using AEM J.K. Choi, H.B. Kang, J.W. Lee, S.B. Jung and C.W. Yang	405
Characteristics of CO₂ Laser Welded 800MPa Grade TRIP Steel T.K. Han, K.H. Kim, B.I. Kim, C.Y. Kang, I.S. Woo and J.B. Lee	409
Explosive Welding of Thin Plates Using Underwater Shock Wave for Surface Modification Y. Ujimoto, K. Hokamoto and J.S. Lee	413
Welding of AZ31B Magnesium Alloy by YAG Laser/ TIG Arc Hybrid Welding Process T. Kim, J.C. Kim, Y. Hasegawa and Y. Suga	417
Observation of Metal Flow Phenomenon of Lap Joints during Friction Stir Welding T. Shinoda and J. Suzuki	421
Topics on Recent Friction Stir Welding Developments in Japan T. Shinoda	425
Spectroscopic Analysis of Plasma Induced in Laser Welding of Aluminum Alloys J.D. Kim, J.S. Oh, M.H. Lee and Y.S. Kim	429
Welding of Aluminum and Steel by Friction Stir Diffusion Process T. Yasui, Y. Shimoda, M. Tsubaki and M. Fukumoto	433
Friction Welding of A 6061 Aluminum Alloy and S45C Carbon Steel T. Shinoda and S. Kawata	437
Cu-Based Metallic Glass Matrix Composites with High Ductility Y.C. Kim, D.H. Kim and J.C. Lee	441
Scanning Electron Microscopy Observations of Fractal Pattern Formation in Al/Ge Bilayer Films Y. Miura, M. Doi, T. Moritani, M. Takagi, T. Imura and Y. Masuo	445
Fabrication of CdS Thin Film Pattern by CBD Method Using the Self-Assembled Monolayer S.-. Jung, D.K. Jeong, J.Y. Kim and W.G. Jung	449
Dependence of Titanium Deposition upon Its Ionic State in Molten Salt T. Takenaka, M. Kawakami and N. Suda	453
Deposition of Copper Thin Films on Titanium Nitride Layer Prepared by Flow Modulation CVD Technology N.I. Cho, M.C. Kim, K.H. Rim, H.J. Chang, K. Jun and Y. Shimogaki	457
Development of Ultra Fine Crystalline Diamond Film and Some Applications Y. Murakami, H. Liu and H. Hanyu	461
Microstructure and Chemical Properties of c-BN Films Prepared by ME-ARE Y.S. Song, Y.M. Nam, K.H. Lee and D.Y. Lee	465
Preparation and Characterization of IZO Transparent Conducting Films by the Sol-Gel Method C.H. Kim, J.H. Lee and B.O. Park	469
Effect of UV Illumination on Deposition of Low-k Si-O-C(-H) Films by PECVD H.J. Lee, C.S. Yang and C.K. Choi	473
Ferroelectric Characteristics of Sr_xBi_{2.4}Ta₂O₉ Thin Films and Electrical Properties of the Pt/Sr_xBi_{2.4}Ta₂O₉/TiO₂/Si Structure J.H. Choi and T.S. Oh	477
Observation of Crystallization Behavior in ITO Thin Films Prepared by RF-Magnetron Sputtering with and without External Heating J.O. Park, J.H. Lee, J.J. Kim and S. Cho	481
Hydrogen-Induced Degradation and Passivation of Ferroelectric SrBi₂Ta₂O₉ Thin Films by Au Top Electrode H.S. Choi, H.J. Sung, S.G. Seo, Y.M. Jang, C.S. Son and I.H. Choi	485
Oriented Growth of ZnO Thin Films on SiC Buffered Si(001) Substrates by Pulsed Laser Deposition C.J. Yoo, Y.A. Shim, J.H. Moon, S.S. Kim, B.T. Lee and J.H. Kim	489
Epitaxial Growth of Mn-Doped ZnO Thin Films on Al₂O₃ (0001) V. Vaithianathan, J.H. Je, B.T. Lee and S.S. Kim	493

Characteristics of ZrO₂/Al₂O₃ Bilayer Film for Gate Dielectric Applications Deposited by Atomic Layer Deposition Method	
Y.D. Kim, J.H. Lee, J.H. Koo, H.J. Chang and H.T. Jeon	497
Effect of Binders on the Magnetic Behavior of P/M Processed FeSiBCuNb Alloy	
H.J. Kim, Y.S. Song, W.W. Park and K.Y. Sohn	501
Axial Pressing Method Using Pulse Magnetizing Field for the Preparation of Nd-Fe-B Sintered Magnets	
D.H. Kim, A.S. Kim, S.M. Kim and T.S. Jang	505
Effect of Growth Condition on the Electrical and Magnetic Properties of Sputtered ZnCo₂O₄ Films	
H.J. Kim, I.C. Song, J.H. Sim, H.J. Kim, D.J. Kim, Y.E. Ihm and W.K. Choo	509
Alternating Magnetic Field Crystallization of Amorphous Si Films	
K.H. Kang, S.J. Lee, S.E. Nam and H.J. Kim	513
Effects of Pre-Strain and Aging Treatment on the Mechanical Properties of 1.0wt.%Cu Containing Hot Rolled Steel Sheet	
I.G. Kim, Y.D. Kim and I.B. Kim	517
Coarsening Kinetics of B2 Precipitate Particles in an Elastically Constrained Fe-Al-Co Alloy	
T. Maebashi, M. Doi and T. Kozakai	521
Microstructural Change of Cementite in Carbon Steels by Deformation	
Y. Todaka, M. Umemoto and K. Tsuchiya	525
TEM Observations of the Precipitation of A2 Particles in D0₃ Precipitates in Fe-Si-V Alloy System	
M. Doi, D. Sakai, T. Koyama, T. Kozakai and T. Moritani	529
Effects of Heat Treatment and Alloying of Spheroidal Graphite Cast Iron on Corrosion Resistance in Aqueous Environment	
M. Aoyama, K. Tahashi and K. Matsuno	533
Characteristics of Material Degradation for Thermal Aged X20CrMoV12 1 Steel	
Y.K. Chung, J.J. Park, X. Zhang and I.M. Park	537
Mechanical Behavior of As-Cast and High Temperature Exposed Ni-Base Superalloy B1900	
I.S. Kim, B.G. Choi, S.M. Seo and C.Y. Jo	541
Investigation on γ-Channel Widening during Uniaxial Creep Test of a Ni-Base Single Crystal Superalloy	
T. Jin, L.R. Liu, N.R. Zhao, Z. Wang, X.F. Sun, H.R. Guan and Z.Q. Hu	545
Tensile Deformation Behavior of M963 Cast Nickel-Base Superalloy	
X.F. Sun, F.S. Yin, H.R. Guan and Z.Q. Hu	549
Effect of Melt Treatment on the Microstructure and Creep-Rupture Behavior of M963 Cast Nickel-Base Superalloy	
H.R. Guan, F.S. Yin, X.F. Sun and Z.Q. Hu	553
Tensile Deformation Behavior of M963 Cast Nickel-Base Superalloy	
X.F. Sun, F.S. Yin, H.R. Guan and Z.Q. Hu	557
Low Cycle Fatigue and Fracture Behavior of Nickel-Base Superalloy CM247LC at 760°C	
S.M. Seo, I.S. Kim and C.Y. Jo	561
Texture of Electrodeposited Ni Films	
I.S. Kim, D.Y. Sung, B.H. Park and M.G. Lee	565
Ultrasonic Nondestructive Evaluation of the Creep Damaged IN738LC Superalloy	
J.W. Byeon, J.H. Song and S.I. Kwun	569
Mechanical Property of Single Phase Co-Ni-Cr-Mo Based Superalloy Produced by Cold Working and Recrystallization Heat Treatment	
J.K. Sung, G. Hong, W.Y. Kim, M.S. Kim, S.K. Hwang and A. Chiba	573
Critical Strain for the Initiation of Dynamic Recrystallization in a Ni-Fe Base Alloy	
Y.S. Na, Y.M. Rhyim, J.Y. Lee and J.H. Lee	577
Thermomechanical Behavior of Al-Mg-Si Alloys at the Elevated Temperature	
Y.N. Kwon, Y.S. Lee and J.H. Lee	581
Effects of Silicon and Chromium on the SCC Properties of Al-Zn-Mg-Cu Cast Alloy	
I.B. Kim, K.N. Kim, K.H. Kim and I.G. Kim	585
Tensile Deformation and Fracture Behavior of a Commercial Al Alloy with Nano-Sized Grains	
S.Y. Chang, S.H. Seo, S.H. Lee, C.S. Kang, S.K. Hong and D.H. Shin	589

In-Situ Orientation Rotation Behavior Study during Tensile Deformation of Aluminum Single Crystal and Polycrystal	593
J.H. Han, D.I. Kim, K.K. Jee and K.H. Oh	
Dry Sliding Wear Characteristics of Severely Deformed 6061 Aluminum and AZ61 Magnesium Alloys	597
Y.S. Kim, J.S. Ha and W.J. Kim	
Effect of PWHT on Behaviors of Precipitates and Hardness Distribution of 6061 Al Alloy Joints by Friction Stir Welding Method	601
W.B. Lee, H.S. Jang, Y.M. Yeon and S.B. Jung	
Rapid Grain Growth of Hot Extruded Al-Zn-Mg-Cu-(Sc) Alloy during Heat Treatment	605
D.W. Suh, S.Y. Lee, J.Y. Kang and K.H. Oh	
Spray Casting of Al-25Si Alloy and Hot Deformation Behavior	609
W.J. Park, T.K. Ha, S.H. Ahn and Y.W. Chang	
Ultra Grain Refinement and High Strengthening of Al Based MMC by Accumulative Roll Bonding Process	613
S.H. Lee, C.H. Lee and S.Y. Chang	
Effects of Silicon and Chromium on the Fatigue Properties of Al-Zn-Mg-Cu Cast Alloy	617
I.B. Kim, Y.S. Park, K.H. Kim and I.G. Kim	
Thermal Properties and Fracture Behavior of Compositionally Graded Al-SiC_p Composites	621
K.M. Cho, I.D. Choi and I.M. Park	
Microstructural Evolution and Mechanical Properties of Ultrafine Grained Commercially Pure 1100 Aluminum Alloy Processed by Accumulative Roll-Bonding (ARB)	625
Y.S. Kim, T.O. Lee and D.H. Shin	
Wear Behavior of Graphite-Dispersed Al-Sn-Si Alloys	629
M. Tagami, A. Sugafuji, Y. Yabumoto, K. Ohguchi and A. Muto	
A Study on Tactile Friction and Wear - Frictional Wears Characteristics of Human Fingers on Various Soft Materials	633
Y. Oda, J. Sugishita, H. Usami and T. Hattori	
Model for the Protective Oxidation of Mg-Ca Alloys Containing Be at Elevated Temperature	637
Y.B. Huang, B.S. You, B.H. Choi, W.W. Park, I.S. Chung and S.K. Suh	
Effect of Sb Addition on the Creep Property of AZ31 Alloy	641
S.G. Tian, K.Y. Sohn and K.H. Kim	
Tensile Deformation Characteristics of Commercial Mg Alloys Processed by Equal Channel Angular Pressing	645
S.Y. Chang, S.W. Lee, J.C. Kim, Y.S. Kim and D.H. Shin	
Precipitation Behavior of Mg-Y-Nd-Zr Alloy	649
I.B. Kim, J.Y. Hong, B.G. Hong and K.H. Kim	
Mechanical and Fracture Behaviors of (Al₂O₃+SiC_p)/AZ91 Hybrid Mg Matrix Composite	653
I.M. Park, I.D. Choi and K.M. Cho	
Damping and Mechanical Properties of (Graphite + 9Al₂O₃·2B₂O₃)/Mg Metal Matrix Composites	657
I.D. Choi, D.M. Kim, K.M. Cho and I.M. Park	
Measurement and Analysis of Sound Absorption of Porous Magnesium	661
Z.K. Xie, T. Ikeda, Y. Okuda and H. Nakajima	
Dislocation Plasticity and Complementary Deformation Mechanisms in Polycrystalline Mg Alloys	665
J. Koike	
Grain Refinement on AZ31 Magnesium Alloy by Highly Strained and Annealed Method	669
A. Yamamoto, M. Kakishiro, M. Ikeda and H. Tsubakino	
Anelastic Properties of Polycrystalline Copper	673
C.S. Kang and S.K. Hong	
Microstructure and Mechanical Properties of DBC on Sputter Deposited Copper on Alumina Substrate	677
C.H. Lee, Y.S. Lee, D.C. Cho and C.H. Lee	
Characteristics of the Electroless-Deposited Cu Film as Interconnect on a TaN Diffusion Barrier	681
J.S. Kim	

Microstructures and Electrical Conductivity of Cu-Ca Alloys for High Efficiency Induction Motors K.Y. Sohn, D.W. Suh and S.Y. Lee	685
Tensile Properties of Cast and Hot Isostatic Pressurized Ti-6Al-4Fe-xSi Alloys E.H. Kim, H.W. Jeong, S.E. Kim, Y.T. Hyun, Y.T. Lee and J.W. Yoon	689
Fatigue and Contact Damage of Layered Machinable Ti_3SiC_2 Ceramics Z.G. Wang, H. Zhang, Q.S. Zang, Z.F. Zhang and Z.M. Sun	693
Effect of Annealing on the Microstructures and Mechanical Properties of $\text{Mo}_3\text{Si-Mo}_5\text{Si}_3$ Eutectic H.B. Yang, W. Li, A.D. Shan and J.S. Wu	697
Direct Growth of SiC Nanorods on Si Using APCVD and Single Precursors D. Rho, J.S. Kim, D.J. Byun, J.W. Yang, J.G. Jhin and N. Kim	701
In-Situ Fabrication and Microstructure of Alumina-Zirconia Layered Rolling Bearing in Aqueous System J.E. Lee, J.W. Kim, Y. Jung, B.H. Koo and H.S. Lee	705
Strength and Toughness of Graphite Materials for Solid Rocket Motor S. Nambu and M. Enoki	709
Energetics of Native Defects in Al_2O_3 and SiO_2 M. Yoshino, Y. Shinzato and M. Morinaga	713
Dynamic Damage Behavior during Cooling Process of Ceramic Coatings S. Nishinoiri, K. Nozawa and M. Enoki	717
Characteristics of Fine WO_3 Prepared by Emulsion Evaporation Methods J.G. Ahn, D.J. Kim, C.H. Shin and M.S. Lee	721
Synthetic Processes via Complex Precursors of Rare Earth Manganites with the Perovskite and its Related Structures A. Shimono, H. Sato, K. Kawada-Wada, Y. Ito and N. Kamegashira	725
Application of $\text{La}_2\text{O}_3\text{-B}_2\text{O}_3\text{-TiO}_2$ Glass-Ceramic for Low Temperature Co-Fired Ceramic (LTCC) Materials B.H. Jung, S.J. Hwang and H.S. Kim	729
Determination of Diffusion Kinetic Parameters and Potential Barrier Height at the Grain Boundary of the Semiconducting SrTiO_3 Ceramics M.B. Park and N.H. Cho	733
Structure and Dissolution Properties of Phosphate Glasses for Glass Fertilizer Y.S. Lee and W.H. Kang	737
Phase Behavior of $\text{La}_{1-x}\text{MnO}_{3-1.5x}$ with Trivalent Manganese Ion M. Kobayashi, H. Sato and N. Kamegashira	741
Photoluminescence Properties of Ba-Substituted $\text{SrAl}_2\text{O}_4\text{:Eu}$ Phosphor W.S. Park, S.J. Kim and J.S. Kim	745
On Impact Characteristic Evaluation in CF/Epoxy Composites under Falling-Weight Impact Loadings I.Y. Yang, K.H. Im and J.W. Park	749
Effect of Mo Addition on Microstructure and Properties of Nb/Nb_5Si_3 In-Situ Composite W. Li, H.B. Yang, A.D. Shan and J.S. Wu	753
On Ultrasonic Characteristics in Carbon/Phenolic Matrix Composite Materials J.K. Sim, K.H. Im, D.K. Hsu, J.H. Kim, H. Lee, J.J. Hwang and K. Bak	757
Residual Stress Distribution in Graded PSZ/Inconel Composite Deposited by Particle Collision D.W. Seo	761
Thermal Expansion Behavior of the Multiphase Composite System C.S. Park, H.S. Hong, M.H. Kim and C.M. Lee	765
Microwave Behavior of $\alpha\text{-Fe/Fe}_3\text{B/Y}_2\text{O}_3$ and $\varepsilon\text{-Fe}_3\text{N/Y}_2\text{O}_3$ Resin Composites in GHz Range K. Machida, J.R. Liu and M. Itoh	769
Effect of Electric Current and Sliding Speed on Wear Rate of Metallized Carbon Strip Sliding against Copper Trolley H.J. Kim, J.K. Lee, E.Y. Jeong, J.C. Bae and M.Y. Huh	773
Evaluation of Solid Lubricant Coatings for Low Friction and Wear Resistance Using the Atmospheric Plasma Spray C.M. Han, H.S. Choi, C.H. Lee, H.J. Kim and S.Y. Hwang	777

Relationships between Textures and Surface Roughness, Frictional Behavior, Erosion and Corrosion Properties of TiN Films	
H.D. Kim, I.S. Kim, D.Y. Sung, M.G. Lee, S. Dost and H.W. King	781
An Investigation on the Strength-Porosity Relation in Sintered 17-4 PH STS Produced by Powder Injection Molding	
H.J. Sung, T.K. Ha, S.H. Ahn and Y.W. Chang	785
Rapid Tooling for Injection Moulding Process	
P. Lours, H.V. Bui, A. Nafi, O. Mercier and G. Bernhart	789
Gas Analysis in Spark Plasma Sintering of Hydroxyapatite	
N. Yamaguchi, H. Tanaka and O. Ohashi	793
Synthesis of CNTs/Metal/Al₂O₃ Nanocomposite Powders by Chemical Vapor Deposition	
C.D. Park, H.J. Jeon, H.J. Wang, Y.H. Choa, S.T. Oh, K.M. Kang and S.G. Kang	797
Breakage Mechanism of Al₂O₃ Layer on Nano Al Powder by Magnetic Pulsed Dynamic Compaction	
G.H. Lee, C.K. Rhee, W.W. Kim and V. Ivanov	801
Phase Relation and Room Temperature Mechanical Property of Cr₂Zr Based Laves Phase	
W.Y. Kim, I.D. Yeo, M.S. Kim and T. Takasugi	805
Thermal Stability and Mechanical Properties of Nanocrystalline L1₂ Al₃Hf and (Al+12.5 at.%Zn)₃Hf Prepared by MA and SPS	
C.W. Kang, H.S. Jang and S.J. Kim	809
High Temperature Oxidation of Ti39.4Al10V Alloy	
D.B. Lee and Y.D. Jang	813
High Temperature Oxidation Mechanism of TiAl-W-Si Alloys	
D.B. Lee and S.W. Woo	817
Oxidation of (Al+12.5%Cu)₃Zr Intermetallics Synthesized by Mechanical Alloying	
D.B. Lee, Y.D. Jang and S.J. Kim	821
Oxidation of (Al+8%Mn)₃Ti Intermetallics Synthesized by Mechanical Alloying	
Y.D. Jang, S.J. Kim and D.B. Lee	825
High Temperature Deformation Behavior of a Ti-45.5Al-2Cr-4Nb-0.4B Intermetallic Compound	
T.K. Ha and J.Y. Jung	829
Work Hardening and Flow Softening of γ-TiAl Containing Ni	
J.H. Zhang, K. Xia, E. Strom, Z.Y. Zhong and C.H. Li	833
Deformation Behaviors of Nb Doped Gamma Titanium Aluminides	
K. Hashimoto and R. Matsumoto	837
Yield Stress Anomalous Behavior in β-CuZn Alloy	
K.A. Lee, Y.W. Chang and C.S. Lee	841
Tensile Properties of MoSi₂ at Elevated Temperatures	
A.D. Shan, J.S. Wu, H. Hashimoto and Y.H. Park	845
Fatigue and Contact Damage of Layered Machinable Ti₃SiC₂ Ceramics	
Z.G. Wang, H. Zhang, Q.S. Zang, Z.F. Zhang and Z.M. Sun	849
Effects of Material Properties on Elastic Characteristics of Cold Forged Part	
Y.S. Lee, J.H. Lee, Y.N. Kwon and T. Ishikawa	853
Elastoplastic Line Contact in Cylindrical Indentation	
H. Muto and M. Sakai	857
Ductile-Brittle Transition Behaviors with Two Striker Geometries in the Instrumented Charpy Impact Test	
S. Morita and T. Kobayashi	861
Effect of β-Stabilizing Transition Elements on Elastic Modulus of Ti-M Systems	
H.W. Jeong, Y.S. Kim, S.E. Kim, Y.T. Hyun, Y.T. Lee and J.K. Park	865
Thermal Fatigue Behavior of the Surface Treated Hot Die Steel Depending on Test Temperature	
Y.M. Rhyim, K.T. Youn, W.D. Yoo, Y.S. Na and J.H. Lee	869
Formation of Shear Texture and Ultra-Fine Grains during Equal Angular Channel Rolling and Subsequent Annealing in AA 3003 Sheet	
M.Y. Huh, J.P. Lee, J.C. Lee, J.W. Park and Y.H. Chung	873
Correlation between Microstructure and J-R Fracture Resistance of AISI Type 347 Weld	
J.H. Yoon, J. Park, S.D. Park, B.S. Lee and E.P. Yoon	877

Effect of Temperature on Strength and Residual Stress Distribution in Silicon Nitride to 304 Stainless Steel Brazed Joints D.W. Seo, H.C. Yoon, J.Y. Lee and J.K. Lim	881
High Temperature Background Characterization of Internal Friction for Fine-Grained Nickel/Zirconia Composite C.S. Kang and S.K. Hong	885
Interfacial Morphology of Duplex Stainless Steel Joints Brazed with Ni-Cr-Si-B Filler Metal H.K. Lee, C.Y. Kang, C.S. Woo, S.H. Kim and D.U. Kim	889
Growth Kinetics of IMC Formed between Sn-3.5Ag-0.75Cu BGA Solder and Electroless Ni-P/Cu Substrate by Solid-State Isothermal Aging J.W. Yoon, C.B. Lee and S.B. Jung	893
Influence of Shear Speed on the Shear Force of Eutectic Sn-Pb and Pb-Free BGA Solder Joints J.W. Kim, J.W. Yoon and S.B. Jung	897
Effect of Argon Ion Bombardment on Diffusion Bonded Joint of Various Metals A. Wang, O. Ohashi and N. Yamaguchi	901
Effect of Oxygen Content on Thermoelectric Properties of Sintered Bi-Te Based Compounds D.C. Cho, C.H. Lim, D.M. Lee, S.Y. Shin and C.H. Lee	905
Thermoelectric Properties of the Pseudogap Fe₂VAl System Y. Nishino	909
Electrical Properties of G4-48azo Dendrimer Containing Azobenzene Functional Groups S.B. Jung, K.S. Yang, S.Y. Yoo, C.K. Kim, B.J. Lee and Y.S. Kwon	913
Thermoelectric Properties of Undoped CoSb₃ I.H. Kim, G.S. Choi, M.G. Han, J.S. Kim, J.I. Lee, S.C. Ur, T.W. Hong, Y.G. Lee and S.L. Ryu	917
Comparison of Pd/Ge/Ti/Pt and Pd/Si/Ti/Pt Ohmic Contacts to N-Type InGaAs for AlGaAs/GaAs HBTs I.H. Kim	921
Relationship between Splat Morphology and Property of Plasma Sprayed Alumina Coatings S. Oki	925
Characteristics of Ni-Ti-Zr-Si-Sn Bulk Amorphous HVOF Coating S.Y. Lee, H.S. Choi, C.H. Lee and Y.J. Kim	929
Isothermal Crystallization of Zr₅₅Al₁₀Ni₅Cu₃₀ Bulk Amorphous Alloy Near the Glass Transition Temperature Z.Q. Hu, Q.S. Zhang, H. Zhang, B.Z. Ding and Z.M. Rao	933
Deformation Behavior of Ni-Based Metallic Glass Matrix Composites Reinforced by Brass Short-Fibers Synthesized by Warm Extrusion of Powders D.H. Bae, M.H. Lee and D.H. Kim	937
Crystallization Behaviors of the Bulk Amorphous Alloy Ni₆₀Zr₂₅Al₈Y₇ W.B. Kim, B.J. Ye and S. Yi	941
New Cu-Based Bulk Metallic Glasses with High Strength of 2000 MPa S.Y. Shin, J.H. Kim, D.M. Lee, J.K. Lee, H.J. Kim, H.G. Jeong and J.C. Bae	945
Structural and Optical Features of Si-Rich SiO₂ Films Prepared by Magnetron Sputter Techniques S.W. Kim, N.H. Cho and S. Im	949
White Light Emitting Diodes of GaN-Based Sr₂SiO₄:Eu and the Luminescent Properties J.K. Park, C.H. Kim, K.J. Choi, H.D. Park and S.Y. Choi	953
Annealing Temperature Effect of PbZr_{0.4}Ti_{0.6}O₃ Film on La_{1/2}Sr_{1/2}CoO₃ Bottom Electrode J.H. Kim, K.S. Koh and W.K. Choo	957
Optical and Microstructural Properties of TiO₂, Al₂O₃ and SiO₂ Single Layers Deposited by Plasma Assisted E-Beam Evaporation S.K. Hong, J.Y. Moon, W.K. Kee and S.Y. Chang	961
Heat Capacities of Ln₂MnNiO₆ (Ln = Rare Earth) H. Sato, K. Ochi and N. Kamegashira	965
Structural Analysis of a Complex Oxide Eu₂Mn_{2/3}Nb_{4/3}O₇ with a Pyrochlore-Related Structure G. Chen, H. Nakano, H. Sato and N. Kamegashira	969

Effects of External Electrode and Heat Treatment on Stress Anisotropy and Residual Stress in BaTiO₃-Based Ni-MLCCs	
D.H. Park, Y. Jung, U.Y. Paik, J.W. Kim and J.Y. Yu	973
Characteristics of ZnO Thin Film by Atomic Layer Deposition for Film Bulk Acoustic Resonator	
S.G. Kim, S.B. Jung, J.H. Oh, H.J. Kim and Y.H. Shin	977
Holographic Recording in Congruent LiNbO₃ Co-Doped with Tb and Fe	
H.K. Shin, S.G. Lee and M.K. Lee	981
Characteristic Investigations of Stoichiometric LiNbO₃ Single Crystal Fiber Co-Doped with Tb and Mn	
S.M. Lee, J.W. Shur, T.I. Shin, W.S. Yang, G.Y. Kim, S.W. Baek and D.H. Yoon	985
Electrical/Optical Properties of Thin Transparent Oxide Films Deposited Using DC Magnetron Sputtering	
B.S. So, S.M. Kim, Y.S. Pyo, Y.H. Kim and J. Hwang	989
Characteristics of SnO₂ Thin Films Deposited by RF Magnetron Sputtering	
H.W. Ryu, Y.J. Park, H.S. Noh and J.S. Park	993
Properties of Tin Oxide Films Prepared by MOCVD	
G.P. Choi, Y.J. Park, W.S. Noh and J.S. Park	997
Electrical and Optical Characterization of Indium Tin Oxide (ITO) Films for Low Resistance Transparent Electrode	
D.H. Yoo and M.W. Shin	1001
Characteristics of HfO₂ Dielectric Layer Grown by MOMBE	
J.H. Hong and J.M. Myoung	1005
Structural, Optical and Electrical Properties of ZnO Films by Sol-Gel Method	
C.Z. Lu, J.Y. Cho, H.J. Chang, S.W. Joo and Y.S. Wang	1009
Antireflection Layer Coatings on the Si Solar Cell Using SiO₂ and Si₃N₄	
G.K. Chang	1013
Nanostructural and PL Features of nc-Si:H Thin Films Prepared by PECVD Techniques	
J.-. Shi, N.H. Cho and S. Im	1017
Preparation and Characterization of Organic Light Emitting Devices Using QD Dopant	
J.Y. Cho and H.J. Chang	1021
XPS Analysis and Atomic Force Microscopy Observation of Micro-Liquids Adsorbed on Pure Iron and Copper Surfaces	
R.G. Wang, M. Kido and F. Suzumura	1025
Microstructures and Magnetic Property of Bulk and Thin Film Co₂MnGe Heusler Compound	
K. Tsuchiya, T. Washio, T. Hashimoto, K. Miyataka and M. Umemoto	1029
Fabrication of SiO₂-Coated Magnetic Nanoparticles for Applications to Protein Separation and Purification	
S.H. Yun, C.W. Lee, J.S. Lee, C.W. Seo and E.K. Lee	1033
Shock Consolidation of Sm-Fe-N Magnetic Powders and Magnetic Properties	
A. Chiba, K. Ooyabu, Y. Morizono, T. Maeda, S. Sugimoto, T. Kozuka, E. Kakimoto, K. Kawahara and T. Watanabe	1037
Magnetotransport in Ferromagnetic (Ga,Mn)N Epitaxial Films	
M.H. Ham, M.C. Jeong, W.Y. Lee, J.M. Myoung, J.M. Lee, J.Y. Chang and S.H. Han	1041
Synthesis and Crystal Structure of Hexagonal DyMnO₃	
N. Kamegashira, H. Sato and S. Ashizuka	1045
Influence of Annealing Temperature on Magnetic Properties in Co-Based Amorphous Ribbons	
L. Jin, Y.W. Rheem, C.G. Kim, D.S. Sun, C.O. Kim and S.C. Yu	1049
Structure Dependent Oxidation of Al Thin Films for MTJ Tunnel Barrier	
Y.W. Lee, S.M. Yoon, J.J. Lim, Y. Hu, C.G. Kim and C.O. Kim	1053
Properties of Nd-Fe-B Magnetic Powder Prepared by Reduction-Diffusion Process Using a Spray-Dried Precursor	
T.S. Jang, D.H. Lee, C.J. Choi and B.K. Kim	1057
Magnetotransport Properties in Semimetallic Bismuth Thin Films	
K.I. Lee, M.H. Jeun, J.M. Lee, J.Y. Chang, S.H. Han, J.G. Ha and W.Y. Lee	1061
Origin of Thermal Stability of IrMn Based Specular Spin Valve Type GMR Multilayer	
S.Y. Yoon, D.H. Lee, K.H. Jeong, D.H. Yoon and S.J. Suh	1065

Planar Hall Effect of GaMnAs K.H. Kim, K.J. Lee, D.J. Kim, H.J. Kim and Y.E. Ihm	1069
Measurements of Magnetic Compton Profiles of Amorphous Fe-Tb Thin Films Using Circularly Polarized X-Rays C.W. Kim, Y. Tanaka, Y. Sakurai and S. Nanao	1073
Effect of Zr-Substitution on the Magnetic Property of a YIG Ferrite S.J. Yang, S.D. Kim and J.S. Kim	1077
Magnetotransport Properties in a Lateral Spin-Injection Device with a Ferromagnetic/Si/Ferromagnetic Junction W.J. Hwang, H.J. Lee, K.I. Lee, J.M. Lee, J.Y. Chang, S.H. Han, Y.K. Kim, W.Y. Lee and M.W. Shin	1081
New Manufacturing Process of Nickel-Free Austenitic Stainless Steel with Nitrogen Absorption Treatment D. Kuroda, T. Hanawa, T. Hibarui, S. Kuroda, M. Kobayashi and T. Kobayashi	1085
Mechanical Properties of Binary Ti-Ta Alloys for Biomedical Applications Y.L. Zhou, M. Niinomi and T. Akahori	1089
Transformation Behavior and Shape Memory Characteristics of Ti-45Ni-5Cu(at%) Alloy Ribbons Fabricated by Melt Spinning T.H. Nam, J.H. Lee, T.Y. Kim and Y.W. Kim	1093
Porous TiNi Biomaterial Produced by Self-Propagating High-Temperature Synthesis: Pore Structure, Mechanical Property and Application J.S. Kim, S.G. Yang, J.H. Kang, S.B. Kang, K.S. Yoon and Y.S. Kwon	1097
Densification and Mechanical Property of Nanostructured NiAl Produced by Mechanical-Alloying and Spark-Plasma Sintering J.S. Kim, S.-. Jung, Y.D. Kim, C.H. Lee and Y.S. Kwon	1101
Mechanochemical Synthesis of Nano-Sized CeO₂ and its Application for CMP Slurry G.J. Lim, J.H. Lee, J.S. Kim, H.W. Lee and S.H. Hyun	1105
Manufacturing of Cu-15.0Zn-8.1Al Shape Memory Alloy Using Spark Plasma Sintering N.J. Park, S.J. Lee, I.S. Lee, K.S. Cho and S.J. Kim	1109
Microstructure of Cu-TiB₂ Nanocomposite during Spark Plasma Sintering Y.S. Kwon, J.S. Kim, J.J. Park, H.T. Kim and D.V. Dudina	1113
Photocatalytic Activity of SiO₂-TiO₂ Nanoparticles Prepared by Sol-Hydrothermal Process C.M. Whang, Y.K. Kim, J.G. Kim, W.I. Lee and Y. Kim	1117
Apatite Formation on PDMS-Modified SiO₂-CaO-P₂O₅ Hybrids Prepared with Different P₂O₅ Content by Sol-Gel Method D.W. Seo, J.G. Kim, Y.H. Kim and C.M. Whang	1121
Effect of Heating Rate on Sintered Microstructure of W-Cu Nanocomposite Powder Produced Using W-CuO Mixture D.G. Kim, G.S. Kim, J.C. Kim, S.T. Oh and Y.D. Kim	1125
Study of Phase Transformation of Nano Al₂O₃ Compacts Derived by Hydrolysis and Subsequent Thermal Sintering of Al Powders Y.R. Uhm, G.H. Lee, J.H. Park, W.W. Kim and C.K. Rhee	1129
Quenching of Growth of Zinc Oxide Nanoparticles by Adsorption of Organic Stabilizers D.U. Seo, C.Z. Lu, H.J. Chang and S.W. Joo	1133
Synthesis of Nano Metal Powder by Electrochemical Reduction of Metal Oxides K.J. Lee and J.S. Lee	1137
Sintering Behavior of the Powder Injection Molded Nanocrystalline Fe-50wt%Ni H.Y. Nam, S.K. Kwon, Y.S. Kang and J.S. Lee	1141
Synthesis of ZnO Nanoparticles Embedded in a Polymeric Matrix; Effect of Curing Temperature H.J. Jeon, Y. Chung, S.Y. Kim, C.S. Yoon and Y.H. Kim	1145
Formation of Nanocrystalline Structure in Steels by Air Blast Shot Peening and Particle Impact Processing Y. Todaka, M. Umemoto, Y. Watanabe and K. Tsuchiya	1149
Threshold-Varying Method of Stationary Wavelet Denoising for Ultrasonic Speckle Reduction C.S. Park, Y.S. Lee and S.J. Kim	1153
Synthesis and Properties of Silica-Modified Polybenzoxazine T. Agag and T. Takeichi	1157

Preparation of Monodispersed and Nano-Sized Spherical SiO₂ Particles by Emulsion Method	
J.H. Baek, Y.S. Kang, S.Y. Yoon and H.C. Park	1161
Fabrication of Oxide/Semiconducting Coaxial Nanotubular Materials Using Atomic Layer Deposition	
D.K. Jeong, N.H. Park, S.-. Jung, W.G. Jung, H. Shin, J.G. Lee and J.Y. Kim	1165
Synthesis of Ultra-Fine Iron-Oxide Nano-Particles in a Diffusion Flame with Electro-Spraying Assistance	
K.H. Ahn, J.H. Ahn, K.-. Jeon and Y.H. Choa	1169
Characteristics of Fe₂O₃/SiO₂ Nano-Composites Particles Prepared by a Diffusion Flame with Premixed Precursor	
K.H. Ahn, J.H. Ahn, K.-. Jeon and Y.H. Choa	1173
Microstructural Evolution on Dissolution of Commercial Calcium Phosphate Ceramics	
D.S. Seo, H. Kim and J.K. Lee	1177
Properties of Catalytic Filter for the Hot Gas Cleaning	
J.S. Lee, K.H. Shin, M.C. Shin, D.H. Cho and H.S. Lee	1181
Comparison of III- Nitride Nanotubes: Atomistic Simulations	
J.W. Kang and H.J. Hwang	1185
Application of Water-Based Alumina Tapes Prepared Using PVP Binder for All-Ceramic Dental Crowns	
S.Y. Choi, I.S. Park, D.Y. Lee, J.S. Han and D.J. Kim	1189
Correlation between Thermal Expansion Coefficients of La₂O₃-Al₂O₃-SiO₂ Glasses and Strength of the Glass Infiltrated Alumina for all Ceramic Crown	
J. Jang, B.S. Kim, H.K. Kim and D.Y. Lee	1193
Characterization of High Temperature Oxidation Properties of Silicon Carbide Nanofibers	
D.B. Lee, S.J. Park, Y.S. Lim and J.C. Lee	1197
Magnetorheological Characterization of Polymer-Iron Composite Suspensions	
M.S. Cho and H.J. Choi	1201
Effects of Layered Silicate on Nanoscopic Internal Structure and Morphology in Polymer Blend	
S.T. Lim and H.J. Choi	1205
Ultrasonic Characterization of Degradation of Aging Epoxy Coating	
N.Y. Kim and H.S. Nah	1209
Fabrication of Al₂O₃/5 vol% Cu Nanocomposites Using Various Powder Mixtures and Its Properties	
S.T. Oh, Y.H. Choa and Y.D. Kim	1213
Effect of Sintering Atmosphere on the Microstructure of Hot-Pressed Al₂O₃/Cu Nanocomposites	
S.T. Oh and K.M. Kang	1217
Effect of Bioactive Grade Surface on In Vivo Behavior and Mechanical Stability in Titanium Based Implant Surface-Modified by Plasma Spray Coating and Chemical Treatments	
B.H. Lee, Y.D. Kim and K.H. Lee	1221
Anisotropic Deformation Behavior of the Oriented Nanostructure of a Semicrystalline Terblock Copolymer with Multi-Scale Orderings	
Y.J. Park and C.M. Park	1225
Cu Nanowire Structures Inside Carbon Nanotubes	
W.Y. Choi, J.W. Kang and H.J. Hwang	1229
Durability in Antimicrobial Effects of Silver Doped Hydroxyapatite Depending on the Synthesis Route	
K.S. Oh, S.H. Park and Y.K. Jeong	1233
Comparison of Metal-Oxide Nanoparticle Formation in the Cu and Sn Thin Films by the Reaction with Polyimide	
H.P. Park, Y. Chung, C.S. Yoon, S.S. Jo and Y.H. Kim	1237
Fabrication of Micro PCR Chip and DNA Amplification	
Y.K. Lee, Y.S. Yoon, D.H. Lee and J.S. Kim	1241
Prediction of the Structural Performances of ZnO Nanowires Grown on GaAs (001) Substrates by Metalorganic Chemical Vapour Deposition (MOCVD)	
W. Lee, H.G. Sohn and J.M. Myoung	1245

A Study on Anodic TiO₂ Photocatalyst for Water Purification H.J. Oh, J.H. Lee, Y. Jeong, S.J. Suh and C.-. Chi	1249
Fabrication Parameters for Highly Ordered Nano-Pore Arrays in Alumina Template C.-. Chi, Y. Jeong, S.S. Kim, C.S. Park and H.J. Oh	1253
Photocatalytic Ecomaterials H.D. Shin, H.K. Joo, J.H. Park and C.H. Lee	1257
Hydrophilicity and Bactericidal Effects of TiO₂ Thin Films Prepared by RF Sputtering Y.S. Song, S.H. Kim, B.Y. Kim and D.Y. Lee	1261
Fatigue Performance of Low Rigidity Titanium Alloy for Biomedical Applications T. Akahori, M. Niinomi, H. Fukui and A. Suzuki	1265
Effects of Alloying Elements on Elastic Modulus of Ti-Nb-Ta-Zr System Alloy for Biomedical Applications N. Sakaguchi, N. Mitsuo, T. Akahori, T. Saito and T. Furuta	1269
Effect of Tin Addition on Phase Constitution and Heat Treatment Behavior in Ti-40Ta-Sn Alloys M. Ikeda, S. Komatsu, Y. Nakamura and Y. Kobayashi	1273
Wear and Bioconductivity Characteristics of Oxidized Ti-29Nb-13Ta-4.6Zr S.J. Li, R. Yang, M. Niinomi, Y.L. Hao and Y.Y. Cui	1277
Microstructure at/around Interface between Plasma-Sprayed Hydroxyapatite and Ti Alloy S. Kobayashi, K. Kitashita, K. Nakai and N. Kuwano	1281
Reciprocal Tribocontact of Biomedical Alloys H. Fukui, W. Yang, S. Tsuruta, K. Kaikawa, M. Touyama and M. Niinomi	1285
Synthesis of Apatite Ceramics with Preferential Crystal Orientation T. Nakano, W. Fujitani and Y. Umakoshi	1289
Nanostructured WC-Co Coatings from Different Feedstock Powders K.H. Baik, J.H. Jang and S.Y. Hwang	1293
Surface Modification and Characterization of Perovskite-Type Mixed Ionic-Electronic Conductors S.W. Lee, T.H. Shin, K.S. Lee, I.S. Han, D.W. Seo, K.S. Hong and S.K. Woo	1297
Oxidation of Thermal Sprayed Metallic Materials during Flying in Air and the Coating Structures K. Murakami, N. Fujita, S. Adachi, H. Nakajima and H. Miyake	1301
Cold Spray Process ~ Overview and Application Trends ~ K. Sakaki	1305
Flattening Problem of Thermal Sprayed Particles M. Fukumoto, Y. Tanaka and E. Nishioka	1309
Composition Design and Ageing of Ni-Mn-Ga Alloys X.J. Jin, Z.M. Peng, S.M. Allen, R.C. O'Handley and T.Y. Hsu	1313
Clinical Application of TiNi Shape Memory Alloy Bone Fastener S.B. Kang, K.S. Yoon, T.H. Nam and J.S. Kim	1317
Property of TiNi Shape Memory Foils Produced by Ultrafine Laminates Method K. Tsuchiya, D. Tomus, M. Umemoto, M. Sasaki and T. Ohmori	1321
Thermodynamic Analysis of Thermoelastic Martensitic Transformations Y. Liu	1325