

Table of Contents

Processing, Properties and Possible Applications of PZT-Based Thin Films D. Czekaj	1
High Piezoelectric Property and Low Dielectric Constant PZN-PZT Ceramics D.X. Zhou, Y.H. Deng, S.P. Gong, B.W. Yan, Z.Q. Zhuang and K. Han	7
Molten Salts Synthesis of Relaxor Ferroelectrics PMN-PT Powders S.X. Zhao, Q. Li, F.B. Song, C.H. Li and D.Z. Shen	10
Effect of PbO-Based Glass Frit Additives on Physical and Electrical Properties of 0.125PMN-0.875PZT Piezoelectric Ceramics near the Morphotropic Phase Boundary C.H. Wang, J.J. Wang and C.L. Huang	14
Electrical Properties of (1-x)(0.8PMN-0.2PNN)-xPT Ceramics near the Morphotropic Phase Boundary G.Y. Zhou, J.S. Pan and X.W. Zhang	18
Effects of Rare Earth Gd Doping on Ferroelectric Properties of PbZr_{0.52}Ti_{0.48}O₃ Thin Films Prepared by Sol-Gel Methods Q. Sun, Y. Song and F.P. Wang	21
Textured Pb(Mg_{1/3}Nb_{2/3})O₃-PbTiO₃ Ceramics Prepared by Reactive Templated Grain Growth D. Liu, Y.K. Yan and H.P. Zhou	24
The Effect of Zn²⁺ Deficiency on Ordered Micro-Regions and Dielectric Properties of Pb(Zn_{1/3}Nb_{2/3})O₃-Based Relaxor Ceramics S.B. Qu, B.K. Wang, Z.Y. Liu, Z.B. Pei and Z. Xu	27
Structure and Electrical Properties of Pb(Ni_{1/3}Nb_{2/3})O₃-Pb(Zr/Ti)O₃ Relaxors J.S. Pan and X.W. Zhang	30
Pb(Mg_{1/3}Nb_{2/3})O₃-Pb(Ni_{1/3}Nb_{2/3})O₃-PbTiO₃ Crystals by Solid State Growth K.P. Chen, J.S. Pan and X.W. Zhang	33
Effect of Different Doping on the Structure and Field-Stability of PMNT Ceramics X.W. Wen, C.D. Feng, L.D. Chen and S.M. Huang	36
Structure and Electrical Properties of Rapid Thermally Annealed PZT Films Deposited through Sol-Gel Process L.S. Qiang, D.Y. Tang and M. Han	39
Dielectric Properties and Phase Transition of [110]-Oriented 0.68PMN-0.32PT Single Crystals Induced by Temperature and DC Electric Field Z.R. Li, J.J. Qian, G.Q. Zhang, Z.Z. Xi, Z. Xu and X. Yao	42
Preparation of Pb(Mg_{1/3}Nb_{2/3})O₃ Relaxor Ferroelectric by Sol-Gel Route W. Xia, L.H. Xu, H. Zhang and J.J. Song	46
Dielectric Properties of (Bi_{1/2}Na_{1/2})TiO₃-SrTiO₃ Ferroelectric Ceramics C. Liu, Y.F. Qu, F.L. Han, Y.L. Li and X.Y. Li	49
Dielectric Properties of Y³⁺-Doped Ba_{0.62}Sr_{0.38}TiO₃ Ceramics Y.L. Li, Y.F. Qu, F.L. Han, C. Liu and X.Y. Li	51
Piezoelectric and Dielectric Properties of (Bi_{0.5}Na_{0.5})TiO₃- (Bi_{0.5}K_{0.5})TiO₃-BaTiO₃ Lead-Free Piezoelectric Ceramics Z.W. Chen and Z.Y. Lu	54
Investigation of Field-Induced Piezoelectric Properties in Pb(Mg_{1/3}Nb_{2/3})O₃-PbTiO₃ Ceramics for Transducer Applications M.H. Lente, A.L. Zanin, D. Garcia, J.A. Eiras, L. Leija, A. Vera, H. Calas and E. Moreno	58
Low Temperature Sintering (Ba_{1-x}Sr_x)TiO₃ Ceramics by Using CuO-TiO₂ Mixture as Sintering Aid C.C. Chan, C.C. Su, C.C. Diao and C.F. Yang	62
Preparation of Plank-Like BaTiO₃ by Hydrothermal Soft Chemical Process from Layered Titanate Precursors L. Zhou, R. Yu, K. Zhu, J. Yao, X. Xing, D. Wang and X. Wu	66
Preferred Orientation Growth of Ba_{0.6}Sr_{0.4}TiO₃ Thin Films with Epitaxial MgO Buffer Layer on Si(100) Substrate X.F. Ma, S.B. Wang and Y. Zhang	69

Reliability of Ba(Zr_{0.1}Ti_{0.9})O₃ Ferroelectric Thin Films under Various Frequencies for Nonvolatile Memory Application	73
K.H. Chen, C.C. Cheng, Y.C. Chen and T.C. Chang	
Preparation and Characterization of Citrate Sol-Gel Derived Ba(Zr,Ti)O₃ Ceramics with Al₂O₃ Addition	76
J. Pei, Z.X. Yue, F. Zhao, Z.L. Gui and L.T. Li	
Effect of Deposition Parameters on Crystallization of RF Magnetron Sputtered BST Thin Films	79
T.J. Zhang, S.Z. Li, B.S. Zhang, W.H. Huang and R.K. Pan	
The Effect of Different Doping Methods of Sintering Aids on the Barium Titanate Based X7R Ceramics	83
C. Ma, X.H. Wang, R.Z. Chen, L.T. Li and Z.L. Gui	
Preparation of Ferroelectric BaTiO₃ Films by Electrophoretic Deposition Technique	87
Y.L. Ma, Y. Zhang and H.L. Zhu	
Preparation and Dielectric Properties of the Nb and Co Doped Barium Titanate by Sol-Gel Auto-Ignition Synthesis Process	91
W.F. Zhang, Q.Z. Yan, X.T. Su and C.C. Ge	
Fabrication of (Ba,Sr)TiO₃ Thin Films by Hydrothermal Crystallization of Sol-Gel Precursor	95
J.Y. Ma, H.Y. Miao, G.Q. Tan and Z.Q. Sun	
Dielectric Properties of HGRP BaTiO₃ Based X7R Materials	98
J.B. Guo, X.L. Liu, T. Yan and J.F. Chen	
Synthesis and Characteristics of Infrared-to-Visible Upconversion Nanoparticles through a Microemulsion System	101
T. Wang, Y.H. Wang, S.K. Shi, B. Li and J. Zhou	
Influence of Different Dopants on the Piezoelectric Properties of the Na_{1/2}Bi_{1/2}TiO₃-BaTiO₃-Lead-Free Ceramics	105
W. Zhao, H.P. Zhou, Y.K. Yan, D. Liu and S.S. Liu	
Tape Casting of Ba_{0.7}Sr_{0.3}TiO₃ for Tunable Microwave Devices	109
C. Ai, H. Xue and H.P. Zhou	
Electrophoretic Deposition Ba_{0.65}Sr_{0.35}TiO₃ Thick Films for Tunable Microwave Devices	111
H. Xue, C. Ai, W. Zhao and H.P. Zhou	
(Ca,Sr,Ba)TiO₃-Based Dielectrics Sintered in Reducing Atmosphere	114
Z.Y. Lu, J.Q. Wu and Z.W. Chen	
Electric and Damping Properties of PU Based IPNs-BaTiO₃ Nanocomposites	118
D.Y. Tang, Z. Jin and L.S. Qiang	
Texture Development in Na_{1/2}Bi_{1/2}TiO₃-BaTiO₃ Ceramics by Reactive-Templated Grain Growth	121
Y.K. Yan, H.P. Zhou, W. Zhao, D. Liu and S.S. Liu	
Effect of Sr/Ba Ratio on Dielectric Properties of BSTN Ceramics	125
Z.H. Zhou, X. Cheng, P.Y. Du, J. Chang, S.F. Huang, L.C. Lu and Z.M. Ye	
The Influence of Thin Film Thickness on the Characteristics of Bismuth Titanate Oxide	129
C.F. Yang, W.K. Chia, Y.C. Chen and C.M. Cheng	
Structure and Dielectric Properties of Homogeneous Sr_{m-3}Bi₄Ti_mO_{3m+3} (m = 3, 4, 5, and 6) Ceramics	133
W.S. Fang, P.Y. Du, W.J. Weng and G.R. Han	
The Influence of Precursor on the Microstructure and Characterization for Sr_{0.5}Ba_{0.5}Bi₄Ti₄O₁₅ Thin Films	136
D. Xie, W. Pan, T.L. Ren, L.T. Liu and Z.M. Dang	
Synthesis and Properties of (Bi_{0.5}Na_{0.5})TiO₃ Powders by Hydrothermal Method	140
J.J. Hao, X.H. Wang, S.Y. Lin and L.T. Li	
Fabrication and Properties of SrBi₂(Ta_{1-x}Nb_x)₂O₉ Ferroelectric Ceramics	143
W. Wang, K. Yu, H. Ke, H.J. Niu, D.C. Jia and Y. Zhou	
Study on Ferroelectric Properties of Nd-Doped Bi₄Ti₃O₁₂ Thin Films Prepared by Sol-Gel Method	146
Y.H. Sun, X.B. Liu, M. Chen, J. Liu, S. Chen and Z.M. Wan	
Electrical Characteristics and Microstructures of Gd-Doped Bi₄Ti₃O₁₂ Ceramics	149
X.B. Liu, Y.H. Sun, M. Chen, C.Q. Huang, J. Liu and Z.M. Wan	

Electrical Characteristics and Microstructures of Nd₂O₃-Doped Bi₄Ti₃O₁₂ Thin Films K.L. Su, Y.H. Sun, M. Chen, Z.M. Wan and Z.H. Hou	152
Dielectric Characterization and Microstructures of Pr₆O₁₁-Doped Bi₄Ti₃O₁₂ Thin Films M. Chen, Y.H. Sun, K.L. Su, J. Liu, S. Chen and Z.M. Wan	155
Dielectric Characteristics of Doped Strontium Titanate within Broad Temperature Range L.T. Li, T. Wang, X.H. Wang, J.C. Zhao and X. Li	158
Hydrothermal Preparation of Bismuth Titanate Nanopowders H.Y. Miao, M. Dong, G.Q. Tan, Y.P. Pu and Z.Q. Sun	161
Fabrication of Bi₃NbTiO₉ Thick Films by Air Flow Deposition J. Barrel and E. Stytsenko	165
The Crystalline, Dielectric and Pyroelectric Properties of (1-x)Pb(Sc_{0.5}Ta_{0.5})O₃-xPb(Zr_{0.52}Ti_{0.48})O₃ Relaxor Ferroelectric Ceramics D.J. Lan, Y. Chen, Q. Chen, Y.H. Jiang, D.Q. Xiao and J.G. Zhu	169
Epitaxial Growth and Electrical Characterization of PBZT Thin Films by RF Magnetron Sputtering Deposition H.Q. Fan, L.J. Liu, X.L. Chen, J. Zhang and W. Wang	173
Microstructure Characteristics in the BaTiO₃-La₂O₃-Nb₂O₅ Ternary System Y.H. Wang, T. Wang, S.K. Shi, J.H. Shen and J. Zhou	177
Ferroelectric Properties of Bi_{3.4}Y_{0.6}Ti₃O₁₂ Thin Films Prepared by a Modified Sol-Gel Process H.C. Liu and B. Wang	181
Phase Structure and Electrical Properties of Bi_{1/2}Na_{1/2}TiO₃-KNbO₃ Lead-Free Piezoelectric Ceramics W.Z. Lu, G.F. Fan, X.H. Wang and F. Liang	184
Sintering and Dielectric Properties of Excess Bi₂O₃ Doped BaBi₂Nb₂O₉ Ceramics H.H. Chung, C.F. Yang, Y.C. Chung and C.Y. Kung	188
Preparation of Bi-Layered SrBi₂Ta_{2-x}V_xO₉ Ceramics (0.1 ≤ x ≤ 0.4) C.C. Diao, C.F. Yang, C.C. Chan and C.Y. Kung	192
Microwave Dielectric Properties of Ca[(Li_{1/3}Nb_{2/3})_{0.95}Zr_{0.15}]O_{3+δ} Ceramics with Ba²⁺ Substitution at A-Site D.X. Zhou, G. Xiong, S.P. Gong, J. Zhao, M.Z. Hu and H. Li	196
Influence MnO₂ on the Properties of (Li_xNa_yK_{1-x-y})NbO₃ Ceramics Q. Chen, D.J. Lan, Y. Chen, D.M. Lin, X. Yue, D.Q. Xiao and J.G. Zhu	199
Preparation of Ferroelectric K_{0.5}Na_{0.5}NbO₃ Films by Sol-Gel Processing F.P. Lai, J.F. Li and W. Gong	203
Composition Range of Morphotropic Phase Boundary and Electrical Properties of NBT-BT System Y.J. Dai, J.S. Pan and X.W. Zhang	206
Effects of Processing Conditions on the Dielectric Properties of CaCu₃Ti₄O₁₂ Ceramics C.M. Wang, K.S. Kao, S.Y. Lin, Y.C. Chen and S.C. Weng	210
Preparation and Characterization of LiNbO₃ Thin Films Derived from Metal Carboxylate Gels J.P. Zhao, X.R. Liu and L.S. Qiang	213
Bridgman Growth of a Novel Piezoelectric Single-Crystal Material: Ca₃NbGa₃Si₂O₁₄ A.H. Wu, J.Y. Xu, J. Zhou, B.L. Lu, X.J. Wu, X.H. Li and G.X. Qian	217
Preparation and Properties of (La, Sr) MnO₃ Thin Films Prepared by Sol-Gel Method K. Jiang, X.Y. Bao and S.K. Gong	220
Na_{1-x}K_xNbO₃ (x=0.2~0.8) Lead-Free Piezoelectric Ceramics Prepared by Spark Plasma Sintering K. Wang, B.P. Zhang, J.F. Li and H.J. Liu	224
Effect of TiO₂ Nanopowders on the Sintering and Electric Properties of Lead Zirconate Titanate Ceramics G.H. Li, Z.L. Hong, L.X. Peng and M.Q. Wang	228
Stability of the Perovskite Structure in BSPT-Based Ferroelectric Ceramics Y. Chen, D.J. Lan, Q. Chen, D.Q. Xiao, X. Yue and J.G. Zhu	231
Properties of Ultrafine High Curie Temperature (1-x)BiScO₃-xPbTiO₃ Ferroelectric Ceramics W. Zhao, X.H. Wang, Z.L. Gui and L.T. Li	235

Preparation of Composite Ceramics of NiFe₂O₄/PZT by Sol-Gel Method and their Magnetoelectric Effect	
W.H. Gong, M. Li, Z. Shi, H.J. Deng and C.W. Nan	238
Investigation of High-Quality ZnO Film on Polycrystalline Diamond Wafer for Fabrication of High Frequency SAW Filter	
X.B. Wang, J.J. Chen, D.M. Li, F. Zeng and F. Pan	242
Preparation of BaTi₄O₉ - BaPr₂Ti₄O₁₂ Composite Powders via Ethylenediaminetetraacetic Acid Precursor	
Y. Song, F. Liu, Q. Sun, X.L. Huang and F.P. Wang	246
The Influence of La₂O₃ Additive on the Dielectric Properties of Ba_{0.6}Sr_{0.4}TiO₃-MgO Bulk Ceramics	
C.L. Xu and H.P. Zhou	249
Preparation of BaSm₂Ti₄O₁₂ Microwave Dielectric Ceramics via a Polyacrylamide Precursor	
X.L. Huang, F.P. Wang, Q. Sun and Y. Song	252
Phase Development and Microwave Dielectric Properties of Ba₄(Sm_{1-y}Nd_y)_{9.33}Ti₁₈O₅₄	
X.H. Yu, D.X. Zhou, S.P. Gong, J. Zhao and X.L. Zhang	255
Fabrication of Ba_{6-3x}(Sm_{0.2}Nd_{0.8})_{8+2x}Ti₁₈O₅₄(x=2/3) Ceramics by Solid State Reaction	
Y. Zheng, W. Lei, H.J. Bu and X.Z. Zhao	258
The Microwave Characteristics of Glass-Ba₂Ti₉O₂₀ Ceramics	
H.X. Lin, X.Y. Zhao, A.M. Yang, H.X. Li, W. Chen and L. Luo	262
Effects of Ta⁵⁺ Substitution on Structure Transition and Microwave Dielectric Properties of Zn(Nb_{1-x}Ta_x)₂O₆ Ceramics	
Y.C. Zhang, X.H. Yang, Z.X. Yue, F. Zhao and L.T. Li	265
Influence of Hydrothermal Conditions on ZST Powders for Microwave Ceramics	
D.Y. Bao and Z.X. Xiong	269
Dielectric Properties of Ba(Mg_{0.2/3}Zn_{0.8/3}Nb_{2/3})O₃ and Ba_{1-x}Sr_x(Mg_{0.2/3}Zn_{0.8/3}Nb_{2/3})O₃ Microwave Ceramics	
S.S. Cheng, J. Luo and Z.X. Xiong	272
Effects of CeO₂ Additive on Property of Ba_{0.6}Sr_{0.4}TiO₃-MgO Ceramics for Phase Shifter	
X.H. Wang, W.Z. Lu, G.F. Fan and D.X. Zhou	275
Effects of CuO and V₂O₅ Addition on Sintering Behavior and Microwave Dielectric Properties of (1-x)Ca₂P₂O_{7-x}TiO₂	
I.S. Cho, S.G. Kang, D.W. Kim and K.S. Hong	279
Structure and Dielectric Properties of Zn Doped PST Thin Films Prepared by Sol-Gel Method	
Z. Zheng, X.T. Li, G.R. Han, W.J. Weng and P.Y. Du	283
Microwave Dielectric Properties of (1-x)(Ca_{0.61}Nd_{0.26})TiO₃-x(Li_{0.5}Sm_{0.5})TiO₃	
W. Wang, Z.L. Tang and Z.T. Zhang	287
Temperature Compensated (1-x)(Na_{0.5}La_{0.5})TiO₃+xCeO₂ Microwave Dielectric Ceramics Incorporated with Copper Oxide	
M.Z. Hu, H.S. Gu, J. Qian, G. Xiong and J. Zhao	290
Preparation and Microwave Dielectric Properties of (1-x)Ca_{2/5}Sm_{2/5}TiO₃ -x Li_{1/2}Nd_{1/2}TiO₃ Ceramics	
G.H. Huang, Q.L. Xie, J.M. Xu, Y.S. Pan and D.X. Zhou	293
Effect of ZnO-V₂O₅ Co-Doping on Phase Stability and Microwave Dielectric Properties of ZnTiO₃ Ceramics	
J. Yan, Z.X. Yue, J. Wang, F. Zhao, Z.L. Gui and L.T. Li	297
Effect of V₂O₅ Addition on the Microwave Dielectric Properties of Ba(Mg_{1/3}Nb_{2/3})O₃ Ceramics	
L. Shan and W. Pan	301
Structure and Dielectric Properties of Citrate Sol-Gel Derived Microwave Ceramics in CaO-ZnO-TiO₂ System	
F. Zhao, Z.X. Yue, J. Pei, Z.L. Gui and L.T. Li	304
Microwave Dielectric Property of Porous Silicon Nitride Ceramics	
J.Q. Li, F. Luo, D.M. Zhu and W.C. Zhou	307
Preparation and Microwave Permittivity of SiC-AlN Solid Solution Powders	
X.K. Liu, W.C. Zhou, F. Luo and D.M. Zhu	310

Properties of Silicon Nitride Using Cordierite as Sintering Additives M. Jiang, F. Hou and T.X. Xu	313
Research on Sintering Dynamics and Microwave Dielectric Properties of Bi and Mn Doped Lead-Based Ceramics J. Zhao, S.P. Gong, G. Xiong and X.H. Yu	316
A Piezoelectric Actuator for Transporting Living Cells S.M. Yuan, Q. Liu, Z.T. Chen, C. Zhuang and F. Wang	320
Organic-Inorganic Nanocomposite Electrodes for Dielectric Elastomer Actuator C.H. Kim, H.D. Jung, J.O. Lee and N.J. Jo	323
Electro-Mechanical Coupling Performances of a Piezoelectric Bimorph S.Z. Yan, F.X. Zhang and S.Z. Wen	327
Mechanical Properties of Piezoelectric Stack Actuators under Electro-Mechanical Loading S.Z. Yan, K. Zheng and J. Xun	331
Analysis of Dynamic Response for Piezoelectric Vibration Converter by Finite Element Simulation X.C. Chu, R.B. Yan, W. Gong and L.T. Li	335
A Novel Cylinder Driving Ultrasonic Motor Y.G. Li and Z.L. Chen	338
Actuative Properties of CP Actuator Consisting of Polypyrrole Film and Solid Polymer Electrolyte H.R. Kang, H.D. Jung, J.O. Lee and N.J. Jo	341
Resonant Modes of Piezoelectric Disc Structure and their Application in Micro Ultrasonic Motors L. Ma, X.C. Chu, L.T. Li and S.M. Yuan	345
Dynamic Properties of Fine-Scale 1-3 PZT/Epoxy Piezoelectric Composites Y.H. Zhen and J.F. Li	348
A-Site Cationic Size Disorder Effects in $\text{La}_{0.55}\text{Ca}_{0.45}\text{MnO}_3$ K.F. Wang, X.P. Liu, Q.C. Li, Y. Wang, L.F. Wang, S. Dong, H. Yu and J.M. Liu	351
Electric Fatigue of PZT Piezoelectric Ceramics under Bias and Unipolar Pulse Cycling Field W.Q. Wang, Z.X. Yue, J.Q. Zhao and L.T. Li	356
Bipolar Electric Fatigue in Ferroelectric Nb-Doped PZST Ceramics L.J. Zhou, G. Rixecker and F. Aldinger	359
Propagation and Deflection of Electric-Field-Induced Microcracks in $0.69\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3\text{-}0.31\text{PbTiO}_3$ Ferroelectric Single Crystals Y. Zhang and Z. Xu	363
Degradation of Lead Zirconate Titanate Piezoelectric Ceramics Induced by Water and AC Voltages W. Xiang, W.P. Chen, W.C. You, H.L.W. Chan and L.T. Li	367
Degradation Aging of BaTiO_3 Microwave Ceramic Capacitors for EMI Applications at High-Voltage Z.X. Xiong, Z.G. Su and H. Qiu	371
The Interfacial Characteristics of $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ Films Deposited by Radio Frequency Magnetron Sputtering J.X. Liao, C.R. Yang, J.H. Zhang, H. Chen, C.L. Fu and W.J. Leng	374
Dielectric and Magnetic Properties of $\text{BaTiO}_3/\text{NiFe}_2\text{O}_4$ Composites J.H. Shen, J. Zhou, X.M. Cui and Y.H. Wang	377
Dielectric Properties of $\text{Pb}(\text{Zr,Ti})\text{O}_3$ Heterolayered Thick Films Fabricated by Screen-Printing Method S.G. Lee, Y.J. Shim, C.J. Kim, W.T. Bae, K.H. Hwang, Y.H. Lee and J.K. Chung	381
Fabrication and Electrical Conductivity of a YSZ-NiCr Cermet G.Q. Shao, J. Li, Y. Li, X.L. Duan, X.L. Shi and W.F. Zhang	384
Preparation and SEM of Ni/Ce-YSZ Anode Materials J.T. Ma, X.P. Lin and B.Q. Zhang	387
Proton Conductivity of Amorphous Hydrated Zirconia-Yttria Solid Solutions G. Dell'Agli, G. Mascolo, M.C. Mascolo, C. Pagliuca, P. Perna and U. Scotti Di Uccio	391
Synthesis and Characterization of (Gd, Y)-Doped Ceria Electrolytes for Solid Oxide Fuel Cell Z.H. Liu, X.F. Guan and H.P. Zhou	395

Preparation and Properties of $\text{Ce}_{0.9}\text{Sm}_{0.1}\text{O}_{1.95}$ as the Electrolytes of IT-SOFC L.H. Xu, Y.X. Xu, C. Wang and T.M. Wang	398
Nitrate-Citrate Combustion Synthesis and Properties of $\text{Ce}_{1-x}\text{Gd}_x\text{O}_{2-x/2}$ Solid Solutions C. Peng and Z. Zhang	401
Structural and Morphological Transformation of NaX Zeolite Crystals at High Temperature Y.M. Kim and I.J. Kim	405
A Study on $\text{SrCe}_{0.9}\text{Y}_{0.1}\text{O}_{3-\alpha}$ Synthesized by Solid State Reaction and the Liquid Citrate Method J. Feng, J.H. Gu, Y. Zhang and W.S. Yang	409
High Performance Low Temperature Ceramic Fuel Cell with Zinc Doped Ceria-Carbonates Composite Electrolyte J.B. Huang, L.Z. Yang and Z.Q. Mao	413
Limiting Current Oxygen Sensors with LSF as Dense Diffusion Barrier L. Wang, F.S. Li, H.Z. Zhou, H. Xia, M. Yang and L.F. Li	417
Structure and Ionic Conductivity of $\text{Ln}_2\text{Zr}_2\text{O}_7$-Type Rare Earth Zirconates R. Zhang, Q. Xu, W. Pan, C.L. Wan, L.H. Qi and H.Z. Miao	420
Electrical Conductivity of Mixed Conductors $(\text{YO}_{1.5})_x-(\text{CeO}_2)_y-(\text{ZrO}_2)_{1-x-y}$ X.Y. Zhou, Z. Fan, Z.L. Tang and Z.T. Zhang	424
Novel Catalytic Electrodes for High Performance Solid Oxide Fuel Cells Operated at Intermediate Temperatures B. Zhu, X.R. Liu, Y. Cheng and M.L. Zhang	428
Fabrication of YSZ/Ni Composites by Gelcasting Z.Z. Yi, W. Liu and J.T. Ma	434
Microstructure and Electrical Conductivity of Ni-YSZ Cermets Prepared by Combustion Synthesis Method T.S. Lin, D.C. Jia and K.N. Sun	437
NiO-SDC Powder for Solid Oxide Fuel Cell Anode Applications by Buffer Solution Method J.G. Cheng, L.P. Deng, E.T. Xiong and P. Shi	440
Preparation and Characterization of $\text{Sm}_{1-x}\text{Sr}_x\text{CoO}_3$ Ceramics by the Gelcasting Process J.G. Cheng, P. Shi, H.H. Zhong and B.M. Wang	444
Preparation and Electrical Properties of Interconnect Material Made by Substituting Mixed Rare Earth Oxides (Sm_2O_3, Gd_2O_3, Eu_2O_3 and CeO_2) for La_2O_3 in La H.H. Zhong, J.G. Cheng, X.Q. Liu and G.Y. Meng	448
On the Sealing Materials for SOFC M.F. Han, Z.L. Wang and Y.Q. Wang	452
Investigation on Structure and Electrochemical Properties of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ for Lithium Ion Batteries X.J. Shi, Y.P. Zheng, F.Y. Kang, X.L. Li and W.C. Shen	455
Electrochemical Performance of Al_2O_3-Coated $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$ Cathode Materials for Li-Ion Batteries J.G. Li, X.M. He, R.S. Zhao, C.R. Wan and S.C. Zhang	459
Synthesis and Electrochemical Properties of a $\text{LiNi}_{0.7}\text{Co}_{0.3}\text{O}_{1.9}\text{Cl}_{0.1}$ Cathode Material for Lithium-Ion Battery X.L. Li, F.Y. Kang, Y.P. Zheng, X.J. Shi and W.C. Shen	463
Improvement of the Electrochemical Performance of LiFePO_4 Cathode Composite Material Using a In Situ Pyrolysis Carbon Synthesis Procedure S.H. Luo, Z.L. Tang, J.B. Lu, J.R. Li and Z.T. Zhang	466
Preparation and Electrochemical Characterization of Mn/Pb Composite Oxides for Supercapacitors Z. Zhang, Y.Q. Lai, J. Li and Y.X. Liu	470
Design and Preparation of Nano-Electrodes for Dye-Sensitized Solar Cell H. Lin, N. Wang, X.Z. Yang and J.B. Li	474
Preparation of Spherical Spinel LiMn_2O_4 Cathode Material for Lithium Ion Batteries W.H. Pu, X.M. He, G.Y. Zhang, C.Y. Jiang, C.R. Wan and S.C. Zhang	477
Ultra Stable Sealing Glass for Intermediate Temperature Solid Oxide Fuel Cells Q. Zhu, L. Peng, W. Huang and Z. Xie	481

Preparation of SDC Interlayer and Influence on Performances of Anode Supported Solid Oxide Fuel Cells	
W.T. Bao, J.F. Gao and G.Y. Meng	486
Fuel Cell Studies Using the CeO₂-La₂O₃ Based Electrolytes	
B. Zhu, X.R. Liu and J.C. Sun	490
Novel AC-MO-CSC Anode for Direct Methanol Low Temperature Ceramic Fuel Cells	
B. Feng, C.Y. Wang and B. Zhu	494
Manufacturing Processes of Solid Oxide Fuel Cell Components	
X.F. Jiang, M.F. Han and S.P. Peng	498
Electrochemical Performance of AA Size MCMB/LiCoO₂ Lithium-Ion Battery Using Three-Electrode Cell	
F. Lian, Z.B. Yu, S.W. Zhong, L.H. Xu and Q.G. Liu	502
LiNiO₂ Thin Films Fabricated by Diffusion of Li on Ni Tapes	
C.J. Kim, I.S. Ahn, K.K. Cho, S.G. Lee and J.K. Chung	505
Improvement of Electrochemical Properties of LiFePO₄/Carbon Composite Doped by Al³⁺ Ions	
J.B. Lu, Z.L. Tang, S.H. Luo and Z.T. Zhang	509
Spinel Li₄Ti₅O₁₂/C Composites as Potential Anode Materials of Lithium Batteries	
J.R. Li, Z.L. Tang, S.H. Luo, J.B. Lu and Z.T. Zhang	513
Al₂O₃ Coating of Spherical LiNi_{0.8}Co_{0.2}O₂ for Li-Ion Batteries	
X.M. He, W.H. Pu, F.H. Zhao, J.R. Ying, C.Y. Jiang, C.R. Wan and S.C. Zhang	517
Fine Lithium Iron(II) Phospho-Olivine Prepared by Different Methods	
H.G. Sun, H. Liu, W. Liu and Y.L. Luan	521
Fine-Particle Lithium Iron Phospho-Olivine Synthesized by a Novel Modified Solid-State Reaction	
R. Yang, X.P. Song, X.F. Pang, M.S. Zhao and F. Wang	524
The Effect of Silicate Layers on Electrochemical Properties in Nanocomposite Solid Polymer Electrolytes	
S.K. Jeong and N.J. Jo	526
Low Temperature Electrolyte for Li-Ion Batteries	
X.M. He, W.H. Pu, J.L. Han, Y.M. Yu, C.Y. Jiang, J. Chen and C.R. Wan	530
Poly(Acrylonitrile-Methyl Methacrylate) Based Microporous Gel Electrolyte for Li-Ion Battery	
W.H. Pu, X.M. He, L. Wang, C.Y. Jiang, C.R. Wan and S.C. Zhang	533
Novel-SiO₂-Doped Proton Exchange Membrane for Self-Humidifying Fuel Cell	
C. Wang, N.F. Wan, Z.Q. Mao and J.M. Xu	537
Nano Sulfur Composite for Li/S Polymer Secondary Batteries	
X.M. He, W.H. Pu, J.J. Li, C.Y. Jiang, C.R. Wan and S.C. Zhang	541
Optical Property of Spark Plasma Sintered Translucent AlN Ceramics	
Y. Xiong, Z.Y. Fu and H. Wang	545
Modification of Optical Waveguide Material PMMA with Nano-Silicon by Sol-Gel Approach	
J. Wang, M. Tang, F. Zhang, Z.X. Xiong and J.H. Zhou	549
Synthesis and Second-Order Optical Nonlinearity of Inorganic-Organic Hybrid Films Bearing Y-Type NLO Active Chromophore	
X.N. Mei, H.Y. Lin, Y.J. Cui, P. Lv and G.D. Qian	552
Optical Properties of Nanocrystalline Ag Doped Silica Inverse Opals	
M. Fu, J. Zhou, B. Li, Q.F. Xiao, Y.H. Wang and L.T. Li	555
Large Nonlinear Optical Property of SrBi₂Nb₂O₉ Thin Films Prepared by RF Magnetron Sputtering	
K.S. Chen, H.S. Gu, L. Xu and Z.X. Chen	558
Up-Conversion Luminescence in Thulium Doped Barium Titanate Inverted Opal	
J. Cao, J. Zhou, B. Li, M. Fu and R.L. Zong	561
Dependence of Electrical and Optical Properties of the Al Doped ZnO for Transparent Conductors Deposited by rf-Magnetron Sputtering on the O₂/Ar Gas Flow Ratio	
C.M. Lee, K.B. Yim and C.M. Kim	564
Crystallinity and Photoluminescence Properties of ZnO Films on Zn Buffer Layers Deposited by rf Magnetron Sputtering	
C.M. Lee, A. Park, Y.J. Cho, H.W. Kim and J.G. Lee	567

Fabrication, Properties and Theoretical Simulation of Multi-Layer Ceramic Structure Meta-Materials	
B. Du, J. Zhou, L.F. Hao and B. Li	571
Influence of Coumarin Dyes on the Laser Performance of Pyrromethene and Perylene Dyes Co-Doped into ORMOSILs	
H. Rong, C.F. Ye, Y. Yang, G.D. Qian, Z.Y. Wang and M.Q. Wang	574
Growth and Characterization of Zinc Oxide Films by Pulsed Laser Deposition for Ultraviolet Detection	
X.M. Li, J.L. Zhao, J.M. Bian and W.D. Yu	577
Enhancement of the Quality of the ZnO Thin Films by Optimizing the Process Parameters of High-Temperature RF Magnetron Sputtering	
C.M. Lee, C.M. Kim, S.J. Kim and Y.K. Park	581
Preparation and Characterization of ZnO Thin Film Doped with Eu via Sol-Gel Method	
D.Q. Xue, J.Y. Zhang, H.B. Feng and T.M. Wang	585
Zinc Oxide Thin Films with Reduced Native Compensative Defects Grown by Ultrasonic Spray Pyrolysis at Atmosphere	
J.L. Zhao, X.M. Li, J.M. Bian, W.D. Yu and C.Y. Zhang	589
Synthesis and Characterization of $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$ Film Derived by Sol-Gel Processing	
C. Yang, J.Y. Zhang, H.B. Feng, W.C. Hao and T.M. Wang	593
Luminescence Properties of $\text{MO-Re}_2\text{O}_3\text{-B}_2\text{O}_3:\text{Eu}^{3+}$ (M= Mg, Sr; Re=Y, Gd) under VUV Excitation	
D. Zhou, D.W. He, Z.Y. Liang and T. Hou	597
Preparation and Properties of Ti, Eu Co-Doped $\text{Y}_2\text{O}_2\text{S:0.06Ti,0.08Eu}$ Phosphor with Red Long Afterglow	
Q.P. Huang, Z.L. Hong, P.Y. Zhang and X.P. Fan	600
Luminescence Reducing Mechanism of Cd Doped $\text{Y}_2\text{O}_2\text{S:Ti,Cd}$ Long Afterglow Phosphor	
P.Y. Zhang, Z.L. Hong, X.P. Fan and M.Q. Wang	604
Modification of Ce-Doped YAG Phosphor with Flux and Ion Substitution	
C.X. Song, Y.N. Wu and Z.X. Xiong	607
Synthesis of Green-Emitting Phosphor $\text{Y}_3\text{Al}_5\text{O}_{12}$: Tb, Ce, Gd by Sol-Gel Method	
L.M. Dong, Z.D. Han, Z. Wu and X.Y. Zhang	610
Study on the Synthesis of Long Afterglow Nano-Phosphors $\text{SrAl}_2\text{O}_4:\text{Eu,Dy}$ by Microemulsion Method	
B. Wang, C.C. Zhou and Z.Y. Lu	613
Preparation of a New Red Long Afterglow Phosphor Strontium Aluminate Composition	
P. Zhang, M.X. Xu, J.W. Zhao, Y.X. Qin and Y.W. Lv	616
Luminescence Properties of Spherical Phosphors $\text{SrSiO}_3:\text{Eu}^{3+}$	
X.M. Han, J. Lin, M. Yu, C.K. Lin, X.W. Qi, Z.Y. Yu and X.Q. Wang	619
Luminescence Properties of $\text{M}_2\text{MgSi}_2\text{O}_7$: Re (M = Ba, Sr, Ca) (Re = Eu^{2+}, Ce^{3+}, Tb^{3+})	
D.W. He, Y.N. Shi, T. Hou and D. Zhou	622
Luminescent Properties of $\text{Sr}_2\text{B}_5\text{O}_9\text{Cl}$ Phosphor Doped with Eu	
N. Su, Z.L. Tang and Z.T. Zhang	625
Synthesis and Luminescent Properties of Ce^{3+}-Activated SrGa_2O_4 and $\text{Sr}(\text{Ga-Al})_2\text{O}_4$	
B. Qiao, Z.L. Tang, Z.T. Zhang and L. Chen	629
Microstructural and Micromorphological Studies on ZnSe Single Crystals Using AFM/FE-SEM/RO-XRD	
H.Y. Li, W.Q. Jie, X.Q. Wang and K.W. Xu	633
Ga_2O_3 Films Grown on Sapphire by the Thermal Evaporation of GaN Powders	
H.W. Kim and J.H. Myung	637
Synthesis of Ultrafine $\text{Lu}_2\text{Hf}_2\text{O}_7/\text{Tb}$ Phosphor by Solution Combustion Process	
Y.K. Liao, D.Y. Jiang, Y.P. Xu and J.L. Shi	640
White Anodic Coatings on Aluminum Alloy with Low Ratio of Solar Absorptance to Infrared Emittance	
W. Qin, B. Cui, X.H. Wu and Z.H. Jiang	643
Near-Infrared Luminescence and Energy Transfer Characteristics of $\text{Dy}^{3+}\text{-Tm}^{3+}$ Co-Doped Selenide Glasses	
Z.Y. Yang, L. Luo and W. Chen	647
Effects of Glass Frits on the Properties of Luminescent Ceramics	
J.P. Yan, Z.L. Tang, S.H. Luo and Z.T. Zhang	651

Strong Near-Infrared Luminescence from NiSi₂-Passivated Silicon Nanocrystals Embedded in SiO_x Films	
Y. He, K. Ma, L. Bi, J.Y. Feng and Q.L. Wu	655
Annealing Environment Effect on the Nanocrystalline Silicon Related Photoluminescence in Silicon Rich Alumina Films	
L. Bi, Y. He, K. Ma and J.Y. Feng	658
On the Multilayered Chip-Type PTC Elements Prepared by Roll-Forming Process	
H. Liu, S.P. Gong and D.X. Zhou	661
Liquid Desiccant Drying Method for Gelcasting PTC Ceramics Based on BaTiO₃	
S.P. Gong, C. Huang, D.X. Zhou and Z.P. Zheng	665
Microwave Synthesis of BaTiO₃ from BaCO₃ and TiO₂	
Y.Y. Liu and W. Pan	669
Relations between the Morphology of ZnO Powders and the Electrical Performance of ZnO Varistors	
W. Mielcarek, S. Bernik and K. Prociów	672
Equivalent Model of Modified Bismuth Oxides Described by Fractional Derivatives	
T. Janiczek, D. Nowak, W. Mielcarek and K. Prociów	676
Microstructure and Electrical Properties of ZnO-Pr₆O₁₁-Dy₂O₃-Based Varistor Ceramics Doped with La₂O₃	
J.N. Cai, Y.H. Lin, R.J. Zhao, C.W. Nan and J.L. He	680
Preparation and Acetone Sensitive Characteristics of Pure and Cu²⁺-Doped LaFeO₃ Semiconductor Thin Films	
Z. Zhang, H.M. Ji, Y.F. Gu, X.D. Chen and D.Y. Yu	684
Synthesis of La-Mn Substituted M-Type Ba Hexaferrites by Sol-Gel Method	
Z.D. Han, L.M. Dong, Z. Wu, L.W. Shan and X.Y. Zhang	688
Ferromagnetic Properties of Ni_{0.2}Cu_{0.2}Zn_{0.6}Fe₂O₄-PZT Composites	
X.W. Qi, Z.Y. Yu, M.Y. Li, J. Zhou and Z.X. Yue	692
A New Low-Temperature Sintering Method for NiCuZn Ferrite	
P. Bian and D.Y. Ju	695
An Investigation on the Optimum Conditions for Preparation of Pure Mn-Mg-Zn Ferrite Powder	
S.A. Seyyed Ebrahimi and Z. Pishgahi Fard	699
Optimization of the Effective Parameters on the Synthesis of the Mn-Zn Ferrite Powder with a High Saturation Magnetization Using Different Iranian Routs of Iron Oxide	
S.A. Seyyed Ebrahimi, H. Sepehri Amin, Y. Hormozan and P. Tabibzadeh	703
Effect of Phase Formation on Magnetism of Sol-Gel Derived PbTiO₃/(Ni, Pb) Ferrite Composite Powders	
Y.L. Dong, P.Y. Du, W.J. Weng and G.R. Han	706
Complex Impedance Spectroscopy of Bi-Substituted Yttrium Iron Garnet (YIG)	
H.J. Zhao, J. Zhou, Z.L. Gui and L.T. Li	709
Application of Rare Earth Permanent Magnet on Magnetic Abrasive Machining	
Y. Chen and D.Y. Ju	712
Growth and Characterization of BaZrO₃ Buffer Layer for Textured YBCO Thin Films Growth on MgO (001) Substrate	
J.K. Chung, W.J. Kim, S.G. Lee and C.J. Kim	715
The Stability Range of Lead Oxide Compounds in Bi-System High Temperature Superconducting Materials	
M.Y. Li, X.W. Qi, Z.Y. Yu and Z.H. Han	719
Synthesis of MgB₂ from Anhydrous B₂O₃ by Ball Milling Method and Determination of Superconductivity Properties	
M. Gürü, Y. Akyüz and S. Tekeli	723
CeO₂ Buffer with (200) Preferential Orientation on R-Cut Sapphire by a Solution Deposition Technique	
Y.H. Xue, C.S. Deng, Q.F. Li, D.S. Ai and X.M. Dai	726
Preparation of BaRuO₃ and BaIrO₃ Films by Laser Ablation	
H. Masumoto, A. Ito, Y. Kaneko and T. Goto	730
Effects of Different Antimony Dopants on ZnO-V₂O₅ Based Varistor Ceramics	
M. Zhao, W.M. Wang, X. Liu and C.S. Tian	735

Fabrication of High Performance Multilayer ZnO Varistors with Chemically Synthesized Doped Zinc Oxide Powder	
L.Y. Wang, C.X. Lu and G.Y. Tang	739
Effect of V₂O₅ Additive on the Microstructure and Electrical Properties of Mn-Co-NiO NTC Thermistor	
W.M. Wang, X. Liu, M. Zhao and C.S. Tian	743
Modification of Thick-Film Conductors Used in IP Technology for Reduction of Warpage during Co-Firing of LTCC (Low Temperature Co-Fired Ceramic) Modules	
H. Birol, T. Maeder and P. Ryser	746
Morphologies and Microstructures of Antimony-Doped Tin Oxide Films Derived by Sol-Gel Dip-Coating Processing	
D.L. Zhang, Z.B. Deng, L.Y. Chen and J.B. Zhang	750
The Optical and Electrical Properties of Antimony-Doped Tin Oxide Transparent Conducting Thin Films Prepared by Sol-Gel Dip-Coating Technique	
D.L. Zhang, Z.B. Deng, J.B. Zhang and L.Y. Chen	754
Improved Electrodeposition of CuIn_{1-x}Ga_xSe₂ Films	
F. Long, J.J. Li, T. Gu and Z.G. Zou	758
Study of In₂O₃ Thin Films Prepared on TiN Substrates Using a Triethylindium and Oxygen Mixture	
H.W. Kim and J.H. Myung	760
Resistivity-Temperature Properties of La(Ti_xMn_{1-x})O₃ Ceramics	
W.B. Ma, Y.X. Hao, Y.F. Qu and T.X. Xu	763
Control of Shrinkage Behavior and Thermal Expansion Coefficient in BaTiO₃-Added Ni Electrodes	
S.H. Park, J.H. Kang, S.S. Lee, Y. Jung and U.Y. Paik	765
Fabrication of Heater Element in Release System	
Y.Z. Zhao, J. Zhang and H.P. Zhou	769
A Novel Ceramic Pressure Sensor	
Y. Wan and P. Wan	772
Effect of Treatment Process on the Structure and Properties of Sr_{0.48}Ba_{0.24}Ca_{0.28}TiO₃-Based Varistor Ceramics	
Y.X. Xu, Z.L. Tang, Z.T. Zhang and L.H. Xu	775
Microstructure and Properties of Ni_{0.5}Zn_{0.5}Fe₂O₄-BaTiO₃ Ceramic	
J.Q. Huang, P.Y. Du, G.R. Han and W.J. Weng	779
Dielectric Properties of LTCC System of Al₂O₃ and Borosilicate Glass	
Y. Liu, Y. Wang and J.S. Ma	783
Fabrication of BN-AlN-TiB₂ Compound Conductive Ceramics by Self-Propagating High Temperature Synthesis and Hot Isostatic Pressing	
L.J. Zhou, Y.T. Zheng and S.Y. Du	786
Effect of Raw Materials on the Thermal Conductivity and Microstructure of Aluminum Nitride	
Z.P. Liu, H.Y. Zheng, J.L. Zhang and Z.G. Jin	790
SrTiO₃ Based Dual-Functional Ceramics with Nano-Additives	
H.M. Ji, X.C. Liu, Y. Lv, C.X. Li and X.D. Chen	793
Dielectric Properties of Boron Nitride-Aluminium Nitride Composites Prepared by Spark Plasma Sintering	
B. Chen and W. Pan	796
Preparation and Properties of Ni-Si-O Thin Film Prepared by Sol-Gel Method	
R.J. Zhao, Y.H. Lin, J.N. Cai, C.W. Nan and D. Xie	799
Na-Site Doping of NaCo₂O₄ Thermoelectric Materials	
Y. Li, L.H. Zhang, S.L. Wang, G.Y. Xu and M.F. Jiang	802
Preparation and High Temperature Thermoelectric Properties of [Ca₂(Co_{0.65}Cu_{0.35})₂O₄]_{0.624}CoO₂ Compound	
X.Y. Li, Y. Yu, D.L. Wang and L.D. Chen	805
Large Thermoelectric Response of Ti-Containing Perovskite Oxides	
H. Ohta, S. Ohta and K. Koumoto	809
Progress in Researches on the Layered Cobalt Oxides for Thermoelectric Devices	
H.Q. Liu, Y. Song and F.P. Wang	814

Modulated Structure of $\text{Bi}_{1.8}\text{Sr}_{2.0}\text{Rh}_{1.6}\text{O}_x$ K. Yubuta, S. Okada, Y. Miyazaki, I. Terasaki and T. Kajitani	818
Preparation and Properties of Zinc Oxide and Titanium Oxide Ultra-Fine Composite Particles for Attenuation of Ultraviolet Radiation J. Ran, P. Zhang, W.Z. Yang, D.L. Zhou, H. Liu and Z. Li	822
Static and Dynamic Characteristics of Thermoelectric Ceramics T. Kajitani, Y. Miyazaki, Y. Ono, S. Begum and K. Yubuta	826
Synthesis and Thermal Properties of Nanoscale Skutterudite via Cross-Coprecipitation Y. Chu, X.F. Tang, L. Wan and Q.J. Zhang	831
Microstructure and Thermoelectric Properties of CoSb_3 Synthesized by MA-SPS Method W.S. Liu, B.P. Zhang, J.F. Li and H. Wang	834
Synthesis and Lattice Thermal Conductivity of Double Atoms Filling p-Type $\text{Ca}_m\text{Ce}_n\text{Fe}_x\text{Co}_{4-x}\text{Sb}_{12}$ Compounds H. Li, X.F. Tang, T.X. Liu, C. Song and Q.J. Zhang	838
High Temperature Thermoelectric Property of Sr-Filled Skutterudite $\text{Sr}_y\text{Co}_4\text{Sb}_{12}$ X.Y. Zhao, X. Shi, L.D. Chen, S.Q. Bai, W.B. Zhang and X.F. Tang	842
Influence of Extrusion Temperature on the Thermoelectric Properties of p-Type Ag Added $(\text{Bi}_{0.25}\text{Sb}_{0.75})_2\text{Te}_3$ Alloys Prepared by MA-PDS W.K. Min, C.H. Lee, Y.H. Park and I.M. Park	846
Preparation of $\text{Ag}_x\text{Pb}_m\text{SbTe}_{2+m}$-Based Thermoelectric Materials by MA-SPS Method and Evaluation of their Thermoelectric Properties H. Wang, J.F. Li and W.S. Liu	850
Thermoelectric Properties of $\text{Ag}_{1-x}\text{Pb}_m\text{SbTe}_{2+m}$ Compounds Y.G. Yan, X.F. Tang, H.J. Liu, L.L. Yin and Q.J. Zhang	854
High Temperature Thermoelectric Properties of $\text{AgPb}_{18+x}\text{SbTe}_{20}$ W.B. Zhang, L.D. Chen and X.Y. Li	857
Annealing Effects on Powder Metallurgy Based $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ Materials for Thermoelectric Applications Y. Gelbstein, Z. Dashevsky, R. Kreizman, Y. George, M. Gelbstein and M.P. Dariel	860
Thermoelectric Properties of Bismuth Telluride Based Materials Prepared by Powder Metallurgy Processing W. Ren, X.Q. Liu, X.L. Wang and H.Y. Jiang	864
Electrical Properties of P-Type Thermoelectric $\text{Ag}_x\text{Bi}_{0.5}\text{Sb}_{1.5-x}\text{Te}_3$ ($x=0.05\sim 0.4$) Alloys Prepared by Spark Plasma Sintering J.L. Cui, Y.L. Yuan, B. Hu and W. Yang	868
Template Synthesis of Bismuth Porous Films and Networked X-Shape Nanowires Y. Deng, C.W. Cui and L. Guo	871
The Influence of Oxygen on the Electrical Properties of Bulk and Thin Films of PbTe Semiconductors R. Kreizman, N. Traistman, M. Shaked, Z. Dashevsky and M.P. Dariel	875
Structural Evolution of Nb/NbC Multilayer Coatings I. Dahan and M.P. Dariel	879
Heat to Electricity Conversion Efficiency Measurement for Thermoelectric Unicouple Q.H. Wang, J.Z. Zhang, L.L. Zhang and Z.S. Wang	883
High-Efficiency Thermoelectric Air-Conditioner T.M. Wang, J.Z. Zhang and H.K. Ma	888
Novel High-Intensity Thermoelectric Generator and its Application on Hybrid Electric Vehicle Z. Zhang, J.H. Wu and G.S. Si	892
Preparation and Characterization of Sr, Ba Filled Type-I Ge Clathrate Single Crystals K.F. Cai, L.C. Zhang and Q. Lei	896
Thermoelectric Properties and Mechanism on Porous Silicon Wafer G.Y. Xu	900
Structural and Optical Ceramics: Yesterday, Today, and Tomorrow G.C. Wei	905
On the Progress of Combustion Synthesis of Si_3N_4 Ceramic: From Laboratory Research to Industrial Production J.T. Li, Y. Yang and H.B. Jin	911

Fabrication and Characteristics of Al₂O₃/Cu Composite Particles by MA & PCS F.X. Wang, G.S. Gai and C.C. Jia	916
Preparation of Submicron Silica Powders from Sodium Silicate Using Ultrasonic Energy S.G. Lee, Y.S. Jang, S.S. Park, B.Y. Moon, B.S. Kang and H.C. Park	920
Preparation of Mullite Powder by Aluminum Sulfate and Silica in Molten Sodium Sulfate B.Q. Zhu, X.D. Li, R. Hao and H.Z. Wang	924
Preparation of Ultrafine β-Sialon Powder by Citrate Sol-Gel and Carbothermal Reduction Nitridation H.J. Zhang, H.T. Zhang, J.Q. Miao, Z.L. Wang, Q.L. Jia and X.L. Jia	927
Preparation of (Ca+M) (M=Mg, Yb, Sr) Co-Doped α-SiAlON Powders by Combustion Synthesis G.H. Liu, K.X. Chen, H.P. Zhou, K.G. Ren, C. Pereira and J.M.F. Ferreira	930
Preparation of Sialon Using Fly Ash with High Content of Al₂O₃ Z.H. Huang, X.H. Tang, Y.G. Liu and M.H. Fang	933
Combustion Synthesis of Magnesium Silicon Nitride Powders in the Mg-Si-N System F. Wang, W.P. Shen, L. Bai and C.C. Ge	935
SiC Platelets Synthesized by Powder-Heating Technique Y.Q. Meng, Z.M. Bai, C.H. Dai and B.B. Zhang	939
Synthesis of Sialon-Mullite Composites Using Fly Ash by Carbon-Thermal Reduction Nitridation Z.J. Qian, Z.H. Huang, L.B. Liao and Y.G. Liu	942
Carbothermal Preparation of Ultra-Fine TiB₂ Powders Using Solution-Derived Precursors via Sol-Gel Method Y.J. Yan, Z.R. Huang, S.M. Dong and D.L. Jiang	944
Large-Scale Fabrication of Ti₃AlC₂ Powder with High-Purity C.A. Wang, C.Q. Peng, Y. Song and Y. Huang	948
Study of Ti₃Si_{1.2-x}Al_xC₂ (x = 0~1.2) Solid Solution via X-Ray Diffraction C.W. Li, H.X. Zhai, Y. Ding, Y. Zhou, S.B. Li and Z.L. Zhang	952
Mechanically Activated Low-Temperature Synthesis of Ti₂SnC S.B. Li, H.X. Zhai, G.P. Bei and Y. Zhou	955
Fabrication and Mechanical Properties of High-Pure Ti₃SiC₂ Bulk Materials Directly by Hot-Pressing its Powder Y. Song, C.A. Wang, C.Q. Peng and Y. Huang	958
Surface Coating of Anhydrite Powders with CaCO₃ Nano-Particles Prepared in Ca(OH)₂-H₂O-CO₂ System W. Liu, G.S. Gai, Q. Xie and Y.F. Yang	961
Tribochemical Effects of MoSi₂ Powder in Ball Milling Q. Zhou, Q. Ma, S.J. Zang, J.J. Liu and C.X. Wang	965
Preparation and Characterization of Ca_{0.8}Sr_{0.2}ZrO₃ Powders Prepared by Soft Chemical Route J.X. Lei, X.L. Liu, T. Yan and J.F. Chen	968
Synthesis of Mixed Conducting Oxides SrFeCo_{0.5}O_y Powder by Citrate Method Z.J. Xu, R.Q. Chu, S.C. Cui and J.S. Zhang	971
A New Homogeneous Precipitation Route to Ammonium Aluminum Carbonate Hydroxide S.H. Bai, W. Pan and C.L. Wan	974
A Novel 3D Patterning Technique for Forming Advanced Ceramics D.Z. Wang, M.J. Edirisinghe and S.N. Jayasinghe	977
Application of Acetate Starch to Colloidal In Situ Consolidation Molding Process of Alumina Ceramic X.X. Li, L. Chen, J.D. Ye, L. Li and Y.R. Huang	980
Rheological Behavior of Alumina Aqueous Suspension for Extrusion Gelation Freeform Fabrication Z.Y. Yu, X.W. Qi, Y. Huang, C.A. Wang and S.X. Ouyang	984
Rheological Properties of Boron Nitride-Silica Composite Suspensions L.Z. Zhou and D.C. Jia	988
Effect of Various Dispersants on the Gel-Casting of Silicon Nitride L.P. Qian, F. Hou and T.X. Xu	991

Effect of SiC Powder Characteristic on the Rheological Properties of Feedstock S.B. Ren, X.B. He, B. Ye and X.H. Qu	994
Simulation of Ceramic Injection Molding for Zirconia Optical Ferrule M.M. Zhang and B. Lin	997
Superplastic Deformation of Nano-Sized α-Sialon Ceramics X. Xu, T. Nishimura, N. Hirotsaki, R.J. Xie, Y. Yamamoto and H. Tanaka	1001
Forming of Large Thin Walled Fused Silica Shapes by Gelcasting S.H. Wang, W.L. Cui, X.F. Yang and X.D. Yuan	1005
Study on Processing Parameters of Ceramic Injection Moulding X.G. Yu, Y.B. Zuo, Y. Gong, Z.P. Xie, L.Y. Liu, J.L. Yang, J.B. Li, Y. Huang and L. Wang	1009
A New Dewaxing Method and its Effect on the Properties of Low-Pressure Injection Molded Ceramics Y. Wu, W.J. Si and H.Z. Miao	1012
Injection Molding of Zirconia Ceramics Using Water-Soluble Binder Y. Gao, K.M. Huang, Z.K. Fan and Z.P. Xie	1017
The Influences of Solid Loading and Molding Variables on Alumina Injection Molding X.J. Liu, Z.Z. Yi, K.M. Huang, Z.P. Xie and Y. Huang	1021
On the Defects in Injection-Moulded Technical Ceramics X.G. Yu, L.Y. Liu, Y.B. Zuo, Z.P. Xie, B.L. Wu, J.L. Yang, J.B. Li, Y. Huang, L. Wang and Y. Gong	1025
Effects of Different Debinding Atmosphere on the Properties of Powder Injection Molded AlN Ceramics X.L. Du, M.L. Qin, I.S. Humail, P.Z. Feng and X.H. Qu	1028
Near-Net Shaping of Microwave Ceramics by Gel-Casting with Carrageenan W. Liu, Y.X. Wang and Z.X. Xiong	1031
Extrusion Forming of Cordierite Honeycomb with Hexagonal Open Cells D.H. Yoon and D.W. Shin	1035
Preparation of PZT Slurry with High Solids Loading and Low Viscosity for Gelcasting D.X. Zhou, B.W. Yan, S.L. Jiang and Y.H. Deng	1038
Magnetic Alignments of Ba-Ferrite Particles in Suspension J.L. Li, S. Sano, J.T. Xiong, F.S. Zhang and Z.P. Wang	1042
Synthesis of Fine Grain Ti_3SiC_2 by Spark Plasma Sintering with Additive of Aluminum R.B. Han, W. Pan, M.H. Fang, S.L. Shi and L.H. Qi	1046
Fabrication of TiAl Intermetallic by Spark Plasma Sintering H.T. Wu, Y.L. Yue, W.B. Wu and H.Y. Yin	1050
Spark Plasma Sintering of CBN-WC-10Co Composites X.L. Shi, G.Q. Shao, X.L. Duan and R.Z. Yuan	1053
Preparation of Porous Alumina Ceramics by Spark Plasma Sintering W.S. Cho, Y.C. Yoo, C.M. Whang, N.H. Cho, W.S. Hwang, J.G. Kim and Y.J. Kwon	1056
Comparison of Spark Plasma Sintering and Hot Pressing of MgAlON Q. Huang, H.X. Zhang, Y. Huang, H.F. Li and Z.J. Wan	1060
Liquid Phase Sintering of α-Si_3N_4 by Spark Plasma Sintering F.Q. Yan, F. Chen, Q. Shen and L.M. Zhang	1062
Effect of Aluminum on Fabrication of Ti_3SiC_2 by Mechanical Alloying and Spark Plasma Sintering S.Z. Jin, B.Y. Liang, J.F. Li and L. Li	1065
Liquid Phase Sintering Behavior of Amorphous Nano-Sized Silicon Nitride Powders H.B. Li, J.T. Luo and K.F. Zhang	1069
Microwave Sintering of Alumina-Silicon Carbide Nanocomposites K. Ahmad, W. Pan and W.J. Si	1072
Fabrication and Characterization of Porous TiB_2 Ceramic with Three-Dimensional Interconnected Skeleton C.Q. Hong, J.C. Han, X.H. Zhang and H.X. Zhang	1076
Synthesis of a Novel B_3CN_3 Compound by Pyrolysis of Precursor J. Yang, T. Qiu and C.Y. Shen	1080
The Effect of Diluent on Combustion Synthesis of Si_3N_4-SiC-TiN Ceramics with Small Diameter X.J. Zhang, Y.T. Zheng and J.C. Han	1084

Preparation of Porous Si₃N₄ Based Ceramics by Combustion Synthesis W.K. Li, J.H. Xiang and B.L. Zhang	1087
Low Temperature Fabrication and Characterization of Porous SiC Ceramics Using Polycarbosilane as Binder Q.S. Ma and X.D. Yu	1090
Processing and Characterization of Carbothermal Reduction and Nitridation from Kaolinite-Polyacrylamide Intercalation Compound L.J. Wang, D.Q. Wu, X.L. Xie, W.F. Zhu and L. Gao	1093
Fabrication of Reticulated Porous Ceramics with Controlled Structure by Centrifuging Process X.P. Pu, D.F. Zhang and X.J. Liu	1096
Preparation of Porous Ceramic Support with Inorganic Filtration Membrane L. Liang, J.B. Li, X.Z. Yang, H. Lin, M.S. He and G.F. Guo	1099
Preparation of Porous Wollastonite Ceramics for Filtration M.S. He, J.B. Li, B.W. Li, H. Lin, X.Z. Yang, L. Liang and G.F. Guo	1102
Fabrication of Porous Silicon Nitride with High Porosity S.Y. Shan, J.F. Yang, J.Q. Gao, W.H. Zhang, Z.H. Jin, R. Janßen and T. Ohji	1105
Properties and Application of Oriented Porous SiC as Transpiration Cooling Materials J. Tang, Y.F. Chen, J.G. Sun, H. Wang, H.L. Liu and Q.C. Fan	1109
Fabrication of Porous Cellular SiC Ceramics from Wood by Embedding in Si/SiO₂ Powder Mixture J.S. Ha, B.G. Lim, G.H. Doh and I.A. Kang	1113
Study of Affecting Factors on Porosity in Gel-Casting Foam Q.F. Xiao, X.S. Ning and M. Fu	1117
Preparation and Characterization of ZrO₂ Microspheres by Internal Gelation Process H.L. Zhu, Y.L. Ma and Y. Zhang	1121
Preparation and Microstructure of Bauxite Ceramic Microsphere X.S. Cheng, L.K. Zeng, X.Y. Li, W.Y. Sheng, A.Z. Shui, Z.H. Liu, Y.Y. Zhang, Y. Wang and Y.Z. Wang	1124
Homogeneity of Aqueous Al₂O₃/3Y-TZP Feedstock by Plastic Kneading M.T. Weng and W.C.J. Wei	1127
Effects of Adding Form of Additives on the Structure and Properties of High-Purity Alumina Ceramics Q. Ren, X.L. Wu and X.M. He	1130
Preparation and Properties of Al₂O₃-Mullite-SiC Nano-Composite by Slip Casting in a High Magnetic Field and Reaction Sintering S. Saito, Y. Sakka, T. Suzuki and T. Nakata	1133
Preparation of Zirconia-Toughened Alumina Ceramics through the Dispersal Basic Carbonate Precursors J.Q. Wang, Q.H. Yu, S.H. Zheng and Z. Wang	1137
Structural Characterization, Crosslinking and Pyrolysis Investigation of Carbosilane Oligomers H.F. Hu, Q.K. Wang, G.J. Qi, Z.H. Chen and X.B. He	1141
RB-SiC Ceramics Derived from the Phenol Resin Added with Starch P. Cheng, G.J. Qiao, D.C. Li, J.Q. Gao, H.J. Wang and Z.H. Jin	1144
TiC/Ti Composite Layers Fabricated by Laser Surface Alloying J.B. Zhang, D. Fan, J.J. Dai and Y.N. Sun	1148
Fabrication of Lightweight SiC Space Mirror Y.F. Chen, H. Wang, J. Tang, H.L. Liu, S.G. Chen and Q.S. Fan	1151
Advanced Engineering Ceramics for Semiconductor Package Technology H.S. Kim, M.Y. Seo and I.J. Kim	1155
Ultra-High Temperature Ceramics (UHTCs) via Reactive Sintering G.J. Zhang, W.W. Wu, Y.M. Kan and P.L. Wang	1159
Effects of Rapid Heat Treatment on Microstructure and Mechanical Properties of Ti₂AlC/TiAl Composite Y.L. Yue, H.T. Wu, W.B. Wu and H.Y. Yin	1164
Microstructure and Properties of Carbon-Ceramic Composite Prepared by Hot-Pressing Sintering Y.J. Qiao, H.X. Zhang, X.H. Zhang and C.Q. Hong	1168

Microstructural Evolution and Mechanical Properties in Yb₂O₃-Fluxed Silicon Nitride Ceramics	
G.F. Guo, X.Z. Yang, J.B. Li, H. Lin, L. Liang, M.S. He and X.G. Tong	1172
Processing and Properties of Highly Textured Si₃N₄ Materials	
M. Belmonte, P. Miranzo and M.I. Osendi	1175
A Comparison Study on Microstructure and Mechanical Properties of Si₃N₄ Ceramic Prepared from MACS Powders	
K.G. Ren, K.X. Chen, H.B. Jin, X.S. Ning and H.P. Zhou	1179
Microstructure of Different Rare-Earth-Doped α-Sialon Ceramics	
C.F. Liu, F. Ye, Y. Zhou, Q.C. Meng and Y.L. Wang	1182
The Influence of Sintering Process on the Microstructure of Submicron Alumina Fabricated by Gelcasting	
L.H. Qi, J. Shen and W. Pan	1185
Low Temperature Degradation of Yttria Stabilized Zirconia	
Z.L. Lu, D.Y. Jiang, L. Hu, G.Q. Zhu, Q. Li and C. Zhang	1188
Effect of Al₂O₃ on the Phase Stability of Y-Ce-TZP/Al₂O₃ Composites at Low Temperature	
X.P. Lin, J.T. Ma, B.Q. Zhang and Q. Lin	1190
Microstructure and Phase Composition of (Ce, Mg)-PSZ Ceramics	
Z.P. Shen, S. Cai and Z. Dong	1194
Microstructure and Mechanical Properties of Ce-Y-TZP Ceramic Composites for Ceramic Plunger and Ball Valve	
B.Q. Zhang, X.P. Lin and J.T. Ma	1197
Effect of HIP on the Properties and Microstructure of Transparent Polycrystalline Spinel	
M.Y. Lei, C.X. Huang and J.L. Sun	1200
Processing of Zinc-Based MgAl₂O₄ Composite and Effect of Fly Ash Addition	
M. Gürü, M. Korçak, S. Tekeli and A. Güral	1203
A Study on Toughening and Strengthening of Mg-Al Spinel Transparent Ceramics	
C.B. Huang, T.C. Lu, L.B. Lin, M.Y. Lei and C.X. Huang	1207
Study on the Properties of Alumina Ceramics after Implanted by Titanium Ions with MEVVA Sources	
F. Shi, H.Z. Miao, Z.J. Peng and W.Z. Li	1211
Microstructures and Mechanical Properties of Nano-Composite Ti(C,N)-Based Cermets	
W.J. Liu, Y. Zheng and W.H. Xiong	1214
Preparation of Amorphous Si-B-C-N Powders and Nano-Sized Ceramics	
Z.H. Yang, Y. Zhou, D.C. Jia, C.Q. Yu, Q.C. Meng and J.H. Ouyang	1218
Synthesis and Properties of Ternary Carbide Ti₃AlC₂ Ceramics	
Y. Zhou, H.X. Zhai, L.Q. Gao, M.X. Ai, Z.Y. Huang, S.B. Li, Z.L. Zhang and C.W. Li	1221
Preparation of ZnSe by CVD with the Solid Starting Materials	
Z.Y. Fang, W. Pan, H.F. Zhu, L.Q. Zhang and M.H. Fang	1225
Novel Visible-Band Transparent Ceramic Laser Material Mn:MgAl₂O₄	
T.C. Lu, X.J. Wang, B.X. Cheng, Q. Hu and S.B. Dun	1229
Synthesis, Characterization of Perhydropolysilazane and its Application in the Preparation of 3D SiO₂/Si₃N₄ Composites	
G.J. Qi, C.R. Zhang, H.F. Hu, F. Cao and S.Q. Wang	1233
Influence of Pressure on the Crystallization in SiO₂/SiO₂ Composites	
C.M. Xu, S.W. Wang, X.X. Huang and J.K. Guo	1236
Ablated Transformation and Dielectric of SiO₂/SiO₂ Nanocomposites Dipped with Silicon Resin	
M.S. Cao, H.B. Jin, J.G. Li, L. Zhang, Q. Xu, X. Li and L.T. Xiong	1239
Preparation and Property Study of 3D C_f/Si-Ti-C-O Composites Fabricated with Polytitanocarbosilane by PIP Process	
Q.K. Wang, H.F. Hu, W.W. Zheng, Q.S. Ma and Z.H. Chen	1242
Mechanical Properties of C/SiC Composites via Precursor Pyrolysis with Pretreated Carbon Fiber	
S. Wang, Z.H. Chen, F. Li and H.F. Hu	1245
Microstructure of C_f/SiC Composite with Precursor of Hexamethyldisilazane by Chemical Vapor Infiltration	
M. Yuan, Z.R. Huang, S.M. Dong and D.L. Jiang	1248

Processing and Properties of 2D C_f/Si-O-C Composites Using Silicone Resin K. Jian, Z.H. Chen, Q.S. Ma and H.F. Hu	1251
Fabrication and Mechanical Properties of SiC_f/SiC Composites via Polycarbosilane Pyrolysis Y.F. Wang, Q.S. Ma, J.Y. Mu and J. Wang	1254
Fabrication of SiC/SiC Composites Using both Chopped Fiber and a Hybrid Reinforcement of Chopped and Continuous Fibers Q. Feng, S.M. Dong, Y.S. Ding, Q. Zhou and A. Kohyama	1257
Transient Liquid Phase Bonding of 2D Fiber Reinforced Carbon-Carbon Composites J.T. Xiong, J.L. Li, F.S. Zhang and Z.P. Wang	1260
Effect of the Formation of SiC Whisker on the Properties of Al₂O₃-ZrO₂-C Materials H.Z. Gu, R.D. Shao, W.J. Zhang, H.Z. Wang, K.B. Yang and S.Z. Yu	1263
Dielectric and Mechanical Properties of Unidirectional SiC Fiber-Reinforced Aluminum Phosphates Composite X.P. Wang and S. Tian	1266
Microstructure of Pyrolytic Carbon Matrix in Carbon/Carbon Composites after Graphitization W.C. Sun, H. Li, S.Y. Zhang and Y. Huang	1270
Tensile Behavior of Aluminum Matrix Composites Reinforced by Aluminum Borate Whiskers and Magnetic Ceramic Particles G. Li, L. Wang and W.D. Fei	1274
CNTs/Si₃N₄ Composites Fabricated by Reaction Bonded Processing Z.Y. Huang, X.J. Liu, X.W. Sun and L.P. Huang	1277
Phase Evolution of Aluminum-Chromium-Phosphate Binders during Heat-Treatment C. Zou, D.H. Zhang, Y. Li, W.J. Weng, K. Cheng, C.L. Song, G.L. Zhao, P.Y. Du, G. Shen, J.X. Wang and G.R. Han	1280
Effect of PCS Pyrolysis Process on C Fiber in C_f/SiC Composite Y.Z. Zhu, M. Yuan, Z.R. Huang, S.M. Dong and D.L. Jiang	1284
Effect of Oxygen on the Mechanical Properties of Polymer-Derived Si-Al-C-O Fibers C.M. Zheng, X.D. Li, Y.X. Yu, D.F. Zhao and F. Cao	1287
Effect of Heat Treatment on the Microstructure and Mechanical Properties of Cf/SiC Composites X.G. Zhou, C.C. Zhou, C.R. Zhang, Y.B. Cao and S.Q. Zou	1291
Silicon Carbide Whiskers Synthesized by Double-Heating Technique R. Zhao, C.H. Dai, Y. Cui and Z.W. Song	1294
Composition, Structure and Properties of Low Oxygen Content SiC Fibers D.X. Yang, Y.C. Song, X.H. Mao and W. Li	1297
SAXS Characterization of Nanochannels in Polymer-Derived SiC Fibers Z.Y. Chu, R.A. He, X.D. Li, H.F. Cheng and J. Wang	1301
Effect of Catalyst on the Preparation of Silicon Carbide Whiskers from Silica and Carbon M.W. Xie, L.H. Qi and Q. Xu	1304
Synthesis of the Fiber Coating by FP-CVI Process Q. Zhou, S.M. Dong, X.Y. Zhang, Y.S. Ding, Z.R. Huang and D.L. Jiang	1307
Microstructural Characterization of In Situ TiB Whiskers in Ti MMCs Fabricated by SPS H.B. Feng, D.C. Jia, Y. Zhou and Q.C. Meng	1310
Preparation and Morphology of Mullite Whiskers by Sol-Gel Method Z.F. Wang, C.T. Du, X.T. Wang and B.G. Zhang	1313
The Preparation of Fibrous MCM-41 Using Microwave Heating S.S. Park, J.H. Park, J.H. Park, S.S. Hong, H.C. Park and G.D. Lee	1316
Influence of Fabricated Process on Mechanical Properties of Porous SiC-Particle/Si₃N₄ Composites H.J. Wang, W. Zhang, Y. Bai, G.J. Qiao, J.Q. Gao and Z.H. Jin	1320
Effect of Second Sintering on Intragranular Structure and Mechanical Properties of 10vol%Al₂O₃/3Y-TZP Composites X.H. Li, R.L. Men, G.W. Suo and Z.F. Yang	1324
Synthesis of Aluminum Titanate Solid Solution by Solid State Reaction of Fine Commercial Al₂O₃, TiO₂ and MgO Powders G. Xu, C.J. Tu, W.J. Weng, P.Y. Du, G. Shen and G.R. Han	1327

Preparation of LiTaO₃ Ceramic Powders Y.G. Liu, Z.H. Huang and M.H. Fang	1331
Effect of Aluminium Sol on Microstructure and Properties of Corundum-Mullite Ceramic B.J. Cheng, X.Z. Guo, L. Li and D.Y. Li	1333
Fabrication of Al₂O₃-SiC-Mullite Composites from Fly Ash L. Yang, Z.H. Huang, L.B. Liao and M.H. Fang	1337
Preparation of TiB₂ Nanoparticles Reinforced Cu-Matrix Composite by Direct Combustion Synthesis Q. Xu, X.H. Zhang, J.C. Han and X.D. He	1339
Preparation of Warm Compacted and Sintered WC/Carbon Steel Composite and its Wear-Resistance X.L. Cheng, Y.M. Gao, J.D. Xing, J. Yang and C.G. Bao	1342
The Preparation and Properties of Si₃N₄-Filled Epoxy Resin Composites for Electronic Packaging R.L. Fu, K.X. Chen, J. Tang, Y. Shen and H. He	1346
Preparation and Properties of β-Si₃N₄/Epoxy Matrix Composite J. Tang, K.X. Chen and C.S. Fu	1350
Manufacturing of Polymer Matrix Composite Material Using Marble Dust and Fly Ash M. Gürü, S. Tekeli and E. Akin	1353
Performance Analysis and Experimental Verification for FBG Sensors Applied for Smart Structure X.Y. Chen and L. Fang	1357
Multilayer SiC/Si Composites Derived from Papers G.B. Yang, Y.J. Liu, G.J. Qiao and Z.H. Jin	1361
An Investigation of the Reaction Hot-Pressing Synthesis of MoSi₂/Ti₃SiC₂/Al Composites J.Y. Zhang, Z.Y. Fu and W.M. Wang	1364
Reaction Path and Microstructures of Ti₃SiC₂/SiC Composite by Spark Plasma Sintering J.F. Zhang, L.J. Wang, W. Jiang and L.D. Chen	1368
Interformational Exfoliation of Ti₃Al₂ Induced by Cu M.X. Ai, H.X. Zhai and Z.Y. Tang	1371
The Reaction between Ti₃AlC₂ and Cu in the Synthesis Process of Cu/Ti₃AlC₂ Composites C.Q. Peng, C.A. Wang, Y. Song and Y. Huang	1374
High Performance Composite of Silicon Carbide/ Bismaleimide H.F. Zheng, Z.H. Li and Y.M. Zhu	1377
In Situ Formation of TiC Reinforced Intermetallic-Matrix Composite Layers Produced by Laser Cladding D. Fan, J.B. Zhang, Y.N. Sun, J.J. Dai and R. Fu	1380
Effect of Ti₃SiC₂ Content on Mechanical Properties of Ti₅Si₃-TiC-Ti₃SiC₂ Composites C. Qin, L.J. Wang, S.Q. Bai, W. Jiang and L.D. Chen	1383
Slip Casting of Green Compact of SiAlON Multiphase Ceramics from River Sand B. Xu, L.H. Xu, K. Cheng and Y. Yao	1386
Steel-Bonded Cemented Carbide GT35 by In Situ Reduction of Natural Ilmenite Y. Wu, C.Q. Yin, Z.G. Zou, X.M. Li, Y.F. Shen and L. Zhou	1390
Unusual Microstructures and Strength Characteristics of Cu/Ti₃AlC₂ Cermets H.X. Zhai, M.X. Ai, Z.Y. Huang, Y. Zhou, S.B. Li and Z.L. Zhang	1394
Reaction Synthesis of TiAl-Al₂O₃ Composite J.F. Zhu, J.Q. Gao and F. Wang	1397
Synthesis and Structure of Sol-Gel Derived PST/Bi₂Ti₂O₇ Composite Thin Films Y.L. Zhao, P.Y. Du, W.J. Weng and G.R. Han	1400
Preparation and Characterization of Copper-Coated Alumina Powders G. Zhao and Z.M. Shi	1403
Manufacture and Microstructures of Fe-Cr-C Hypereutectic In Situ Composites X.H. Zhi, J.D. Xing, Y.M. Gao, X.J. Wu and X.L. Cheng	1406
Microstructure and Mechanical Properties of Heat-Resistant Silicon Carbide Ceramics Y.W. Kim, Y.S. Chun, S.H. Lee, J.Y. Park, T. Nishimura, M. Mitomo and W.S. Ryu	1409
Defect and its Influence on Mechanical Property of Titanium Diboride-Copper Matrix Composite L. Xu, J.C. Han and X.H. Zhang	1414

Mechanical Properties of Al₂TiO₅ Ceramics C.H. Chen and H. Awaji	1417
High Temperature Creep Strength of Si₃N₄-Y₂Si₂O₇ Ceramics by Stress Relaxation Based on a New Interpretation Model Z.L. Hong, H. Yoshida and T. Sakuma	1420
Mechanical Properties and Microstructure of Al₂O₃-TiC Composite by Hot-Pressing S.L. Shi and L.Z. Zhang	1424
Preparation and Properties of BN-SiO₂ Composite Ceramics H.Z. Zhai, H.N. Cai, X.Z. Yang, J.B. Li, G.F. Guo and C. Cao	1426
Spark Plasma Sintered ZrO₂(Y₂O₃)-Al₂O₃-SrSO₄ Self-Lubricating Nanocomposites for High Temperature Tribological Applications J.H. Ouyang, T. Murakami, S. Sasaki, Y. Zhou, D.C. Jia and Y.M. Wang	1429
Effect of Y₂O₃ on Properties of Al/Ti₃SiC₂ Composite Z.L. Zhang, H.X. Zhai, Y. Zhou, Z.Y. Huang and M.X. Ai	1433
A New Ti₃AlC₂/Cu Cermet Exhibiting Excellent Tribological Properties Z.Y. Huang, H.X. Zhai and M.X. Ai	1436
Effect of Micro-Pores after Sintering on Wear Behavior of Zirconium Silicate Composite Microbeads X.Q. Xi, J.L. Yang, X.Y. Zhang and X. Ouyang	1439
Fabrication of TiC Particles Reinforced Hadfield Steel Matrix Composite and its Wear-Resistance X.L. Cheng, Y.M. Gao, J.D. Xing, M. Tan, G.S. Zhang and X.H. Zhi	1442
Plating Copper on Al₂O₃ Powder in Ceramal C.H. Li	1445
A Study on the Grinding Performance of Y-TZP/Al₂O₃ Ceramics T.L. Yu, Z.F. Yang, J.Y. Li and W.R. Huo	1448
Precision Machining of Si₃N₄ Refrigerator Friction Couple Based on FEA X.L. Tian, X.J. Tang, Z.X. Hu and A.B. Yu	1451
Grinding of TZP/Al₂O₃ Composite with Vitrified CBN Wheels Z.H. Li, Y.H. Zhang, B. Han and Y.M. Zhu	1455
High Speed Lapping of SiC Ceramic Material with Fixed Abrasive X.H. Yang, Y.M. Zhang and J.C. Han	1458
Micro Groove Machining Characteristics of Si₃N₄-hBN Composites M.W. Cho, D.W. Kim, W.S. Cho, D.S. Park and J. Lee	1461
Wear Characteristics of Twist Drills in Machining Fluorophlogopite L.J. Ma, A.B. Yu and Z.M. Mei	1465
Surface Behaviors of ELID Ground Engineering Ceramics J.Y. Shen, W.M. Lin, H. Ohmori and X.P. Xu	1469
In-Process Electrolytic Dressing Lapping (IEDL) of Al₂O₃-BN Machinable Ceramics E.S. Lee, Y.J. Chun, J.Y. Jang, M.W. Cho, W.S. Cho and J.H. Lee	1473
Fabrication of SiCN MEMS by UV Lithography of Polysilazane H.T. Wang, Z.P. Xie, W.Y. Yang, G.Q. Liu and L.N. An	1477
Thermodynamic Properties of Gangue H.J. Li, H.H. Sun, X.J. Xiao and X.C. Tie	1481
Properties of Sol-Gel Bonding Castables F. Cao, S.G. Long, X.R. Wu and R. Telle	1484
Fabrication and Characterization of Mullite Whisker-Reinforced Porous Refractory M.J. Zhang, H.Z. Wang, H.Z. Gu and A. Huang	1488
Colloidal Processing of Alumina-Carbon Ceramic Refractories L.H. Xu, F. Lian, L. Chen, Y.P. Di, M. Liu, W. Xia, B. Xu and Y. Yao	1491
Densification of Unfired Alumina Refractories by the In Situ Spinel Formation during Application J.H. Yang, S.H. Youn, J.J. Kim, K.H. Hwang, S.G. Lee, B.S. Jun, S.Y. Yoon, J.K. Lee and H. Kim	1495
Preparation and High Temperature Performance of β-Sialon Bonded Corundum Multiphase Material W.M. Sui, S.J. Luan and R.R. Song	1498

Fabrication of Fe-Al Intermetallic/TiC-Al₂O₃ Ceramic Composites from Ilmenite by Reaction Sintering	1501
Z.G. Zou, C.Q. Yin, Y. Wu and X.M. Li	
Preparation of Nanoporous Super Thermal Insulation Material Compounded with Xonotlite-SiO₂-Aerogel and Characterization of the Pore Structure	1505
J.X. Cao, Y. Zhang and L.K. Zeng	
Synthesis and Properties of Silica Aerogel by Using Acid Silica Sol and TEOS as Silicon Sources	1509
F. He, H.L. Zhao, X.H. Qu, W.H. Qiu and W.J. Wu	
Thermal Shock Resistance and Ablation Behavior of TiB₂-Cu-Ni Composite via Combustion Synthesis	1513
Z. Yong, X.H. Zhang and Q. Xu	
A Novel Approach to Prepare Ni-Coated TiB₂ Cermet	1517
Z. Fang, Z.Y. Fu, H. Wang, W.M. Wang and Q.J. Zhang	
Microstructure and Properties of (Ti,W)(C,N)/(Ni,Mo) Cermets after a Heat-Treatment at High Nitrogen Pressure	1521
L.Y. Zheng, W.H. Xiong, F.Y. Zhou and X.H. Zhang	
Effect of Cr₂C₃ Addition on Microstructure and Mechanical Properties of Ti(CN)-Based Cermets	1524
X.J. Ni, L.H. Qi and W. Pan	
Residual Stress Field of Ellipsoidal Ceramic Particles Ni-Base Alloy Composite Coating	1527
X.Q. Liu, J. Zheng, Z.J. Yao and B.F. Li	
FEM Analysis on Thermal Stress of Desulphurization Injection Lance	1531
J.Q. Qi, Y. Huang, S.X. Ouyang, N. Li, J. Li and C.A. Wang	
Investigation on the Porous Biomaterial for Bone Reconstruction with Addition of Bio-Mimetic Nano-Sized Inorganic Particles	1534
H.D. Zheng, Y.J. Wang, C.R. Yang, X.F. Chen and N.R. Zhao	
Inhibitory Effect of Synthetic Nano-Hydroxyapatite on Dental Caries	1538
K.L. Lu, X.C. Meng, J.X. Zhang, X.Y. Li and M.L. Zhou	
Apatite Formation on the Surface of Dense HA/TCP in Animals' Serums	1542
C.L. Deng, Y.J. Wang, Y. Wu, Y.D. Qin, H.S. Fan, J.Y. Chen and X.D. Zhang	
In Vitro Degradation of β-TCP/PLLA Scaffolds with Different Proportions of β-TCP	1545
L. Luo, G.F. Yin, Y. Zhang, Y.D. Yao, W.Z. Yang and Y.H. Wang	
Application of Multilayer Collagen/HA Scaffold in Cartilage Tissue Engineering	1549
G. Wu, Y.J. Wang, H.D. Lu, X.F. Chen, J.D. Ye, C.Y. Ning and N.R. Zhao	
AFM Study on the Surface Dissolution of Hydroxyapatite	1553
D.S. Seo, H. Kim and J.K. Lee	
Solution Behavior of CaO-MgO-SiO₂ System Bio-Soluble Refractory Ceramic Fibers	1556
X.T. Wang, C.Z. Luo and B.G. Zhang	
The Interface Reaction between an Ag⁺-Doped TiO₂ Film and Stainless Steel Substrate	1559
X.G. Ding, J.W. Gao, Q.H. Shen, J.X. Liu and L. Li	
Preparation of Antibacterial Ceramics with Silver-Carrying Nano-Hydroxyapatite	1563
B.H. Su and Z.X. Xiong	
Effect of Reaction Conditions on Pore Configuration and Mechanical Property for Porous Hydroxyapatite Prepared by Polymer Sponge Method	1567
S.H. Min, H.H. Jin, B.S. Jun, I.M. Park, H.C. Park and S.Y. Yoon	
Factors Affecting the Pore Size in Porous Hydroxyapatite Produced by Stir-Froth-Polymerization Method	1571
J. Zhang, X.S. Ning, Q.F. Xiao, L. Yang, K.X. Chen and H.P. Zhou	
Biomimetic Fabrication and Characterization of BG/COL/HCA Scaffolds for Bone Tissue Engineering	1574
X.F. Chen, Y.J. Wang, C.R. Yang and N.R. Zhao	
FCVA-Synthesized Tetrahedral Amorphous Carbon Films for Biomedical Applications	1577
C.L. Zheng, W.B. Yang and X. Chang	
A Study on Biomineralization Behavior of Silk Fibroin Film	1581
Y. Zhao, J. Chen, R.R. Nie, X. Deng, G. He, L. Niu, C.X. Wang and Z.Q. Chen	
MicroCT Aided Scaffold Design and Preparation	1584
X.G. Wang, J.M. Tian, Z.P. Guo, C.Z. Zhang, C. Wang and L.M. Dong	

Mechanical Properties of Machinable Zirconia Dental Composites W.X. Li, H. Zhao, Y. Song, B. Su and F.P. Wang	1587
Microstructure and Crystallization Behavior of Glasses in the $\text{ZrO}_2\text{-ZnO-Al}_2\text{O}_3\text{-SiO}_2$ System X.D. Li, J.M. Tian, C. Wang, L.M. Dong and Q.F. Zan	1590
Low-Temperature Sintering of 3Y-TZP/Glass Composites as All-Ceramic Dental Materials Z.Q. Sun, H.Y. Miao, G.Q. Tan and A. Xia	1593
Structure and In Vitro Bioactivity of Si Enriched Hydroxyapatite/TiO_2 Coatings on Pure Titanium by Micro-Arc Oxidation R.R. Nie, F. Zhu, L.R. Shen, Z.Q. Chen, X.Y. Li, X. Deng, G. He, Y. Zhao and Z.H. Liang	1596
Microstructure Analysis of a Composite System Composed of Zirconia/Alumina Composites and Vita Alpha Coating-Glass for Dental Applications B. Zhang, J.H. Chen, J.Q. Gao and G.J. Qiao	1599
Effect of Surface Roughness on Matching Properties between Ceramic Framework and Coating-Glass for Dental Applications J.H. Chen, B. Zhang, Z.H. Jin, J.Q. Gao and S.J. Zhao	1603
Effect of CNTs on Property of Calcium Phosphate Cement P. Zhao, K.N. Sun, T.R. Zhao and X.H. Ren	1606
Preparation of Unsintering Calcium Phosphate Macroporous Materials with Hydroxyapatite Nanowhisker In Situ Growth Z.Y. Xiao, S. Cai and X.Z. Yu	1609
Porous Hydroxyapatite Bioceramics Prepared by Polymeric Sponge Impregnation Process Y. Lv, M.Q. Li, H.S. Yang and X.J. Li	1612
Self-Setting Biphasic Porous Calcium Phosphate Cement J. Pan, J.M. Tian, L.M. Dong, C. Wang and Q.F. Zan	1615
Characterization of Porous Calcium Phosphate Bioceramics Modified by Porosifier L. Gou, S.Q. Cheng, J.G. Ran and B.H. Su	1618
Effects of Setting Liquid on α-Calcium Phosphate-Tetracalcium Phosphate Bone Cement X. Li, D.A. Yang and L.Z. Di	1622
In Vivo Behavior of Injectable Fast-Setting Calcium Phosphate Cement L.M. Dong, C. Wang, R. Liu, J.M. Tian and Q.F. Zan	1625
Improvement of Anti-Washout Performance of Calcium Phosphate Cement Using Modified Starch L. Chen, H. Xiang, X.X. Li, J.D. Ye, X.P. Wang and L. Li	1628
Electrochemically Assisted Co-Precipitation of Electrically Conducting Polymer with Calcium Phosphate Coatings on Ti Alloys C. Ma, L.J. Qu, M.Q. Li, S.Q. Yang and J.P. Wang	1632
Degradation Behavior of Calcium Sulfate/β-Tricalcium Phosphate Composites in Tris Z. Yang, D.A. Yang and H. Zhao	1635
Exploring the Osteoinductivity of Calcium Phosphate Ceramics/PLA or Collagen Composites J.F. Yao, C.Y. Bao, R. Sun, Y.Z. Zhang, L.Y. Sun, G.M. Ou and C.D. Xiong	1638
Preparation of β-TCP/HAP Composite Bioceramics T.J. Liu, D.A. Yang and L.Z. Di	1642
Preparation and Characterization of Biodegradable β-TCP-Based Composite Microspheres as Bone Tissue Engineering Scaffolds Q.F. Zan, C. Wang, L.M. Dong, R. Liu and J.M. Tian	1646
Degradation Behavior of $\beta\text{-Ca}_3(\text{PO}_4)_2/\beta\text{-Ca}_2\text{P}_2\text{O}_7$ Bioceramics Y.Y. Li, D.A. Yang and H. Zhao	1650
Physicochemical and Mechanical Properties of Composite of Chitosan Microspheres/Calcium Phosphate Cement R. Liu, L.M. Dong, Q.F. Zan, C. Wang and J.M. Tian	1654
Rheological Properties of an Injectable Calcium Phosphate Bone Cement and their Relationship with the Phase Evolution J.D. Ye, X.P. Wang and Y.J. Wang	1658
Repairing the Dog's Femoral Defect with the Autologous Osteoblast Integrated the Nano-Calcium Phosphate/Zirconia Scaffold G.H. Xu, X.J. Ye, W. Yuan, S. Cai, J.G. Shi and J.R. Xiao	1662

Bone Formation in Non-Osseous Tissues of Biphasic HA/β-TCP Bioceramics Sintered by Different Ways	
J.G. Ran, L. Gou, B.H. Su, F.H. Wang, L.W. Sun and J.G. Ji	1666
Hydroxyapatite Coatings Deposited on Titanium Substrate by Pulsed Laser Deposition	
F. Liu, Y. Song, F.P. Wang, K. Igarashi and T. Shimizu	1670
Preparation of Bioactive β-Tricalcium Phosphate Scaffold with Bone-Like Structure	
W. Xu, J.M. Tian, C. Wang, L.M. Dong and Q.F. Zan	1673
TEM Analysis on Bio-Functional Gradient Hydroxyapatite/ZrO_2 Coatings	
C.Y. Ning, Y.J. Wang, X.F. Chen, J.D. Ye, G. Wu and N.R. Zhao	1676
Improvement of Biocompatibility and Osteointegration of Zirconia Implants by Means of Bioactive Glass Coating: An Experimental Study in Animal	
D.W. Yang, J.W. Zhu and W.G. Wu	1679
Bioactive Ceramics - New Processing Technologies for Immobilization of Microorganisms for Filtration and Bioreactor Applications	
D. Koch, C. Soltmann and G. Grathwohl	1683
Preparation of Biphasic Calcium Phosphate Porous Ceramics Prepared from Fine Powders with Different Particle Size and its Dissolution Behavior in Simulated Body Fluid	
Y. Zhang, Y. Yokogawa and T. Kameyama	1688
Apatite Forming on the Surface of Apatite-Wollastonite/β-Tricalcium Phosphate Bioactive Ceramic	
B. Xiao, W.Z. Yang, D.L. Zhou, G.F. Yin and H.Q. Chen	1692
Simulation In Vitro of Subsonic Flame Sprayed Titanium/Biological Glass Composite Coating	
M.Q. Li, S. Yang, J.P. Wang, S.Q. Yang and G.L. Yang	1696
Biomimetic Synthesis of PEC-HA Composite Analogous to Bone	
Q.L. Li, Z.Q. Chen, B.W. Darvell, Q. Zeng, G. Li, G.M. Ou and M.Y. Wu	1699
Development of Ultrafine Fibrous Hydroxyapatite/Polymer Scaffold by Electrospinning	
X. Deng, G. He, Y.M. Liao, Y.Y. Yao, Z.Q. Chen, G. Li, Y. Zhao, R.R. Nie, Z.H. Liang, Y.L. Qu and K. Tian	1703
Experimental Study of Biomimetic Mineralization on the Surface of Piezoelectric Pulp-Cap Film	
Y. Man, Y.L. Qu, P. Wang, Z.Q. Chen, P. Gong, M. Zhang, J.G. Zhu, Q. Chen, K. Tian, Y.M. Ye, L. Niu, X. Deng and R.R. Nie	1707
Bisphosphonate Pamidronate Modifying Hydroxyapatite Bioceramics for Hard Tissue Repair	
E. Luo, J. Hu, J.H. Li, G. He, S.C. Wei and J. Cui	1711
Microstructure and In Vitro Bioactivities of HA/Ti Composites Prepared by Hot Isostatic Pressing	
H. Ke, Y. Zhou, D.C. Jia and C.Q. Ning	1715
Improvement in the Sensitivity of the Response of Diamond Thin Films to X-Ray	
X.M. Liao, J.G. Ran, L. Gou, J. Zhang, B.H. Su and J.L. Lin	1718
Microstructure of Ceramic Layer in Composite Pipe Made by SHS-Gravitational Process	
T. Lin, F.G. Cui, S. Yin and Z.M. Guo	1722
Microstructure and Properties of In Situ Synthesis of TiC Particle Reinforced Composite Coating by Induction Cladding	
Z.T. Wang and Y.D. Wang	1725
Adhesion of Diamond Film to Co- Deficient Cemented Tungsten Carbide Substrate	
H.L. Li, L. Gou and J.G. Ran	1728
Wear Behavior of Plasma Sprayed Ni-WC Composite Coatings	
C.G. Bao, Y.M. Gao, J.D. Xing and G.S. Zhang	1731
Microstructure and Dry Sliding Tribological Behavior of Microarc Oxidation Coating Formed on Ti6Al4V against Steel	
Y.M. Wang, T.Q. Lei, D.C. Jia, Y. Zhou and J.H. Ouyang	1734
Preparation of DLC Scratch-Resistant Coating on PC Glass Lenses	
B.H. Su, Z.B. He, J.G. Ran, L. Gou, F.H. Wang and B.Y. Su	1737
Micro-Tribological Behavior of Boron Carbide Self-Mated Pairs	
F. Wu, S.M. Xu, S.Z. Chen, L.Y. Li, G. Xu and L.S. Wang	1740

Frictional Performance of Brake Pads against Al Metal Matrix Composites with Different Sizes of SiC Particles S.Y. Zhang and F.P. Wang	1743
Effects of Pre-Oxide Layer Thickness on Thermal Cyclic Behavior of Thermal Barrier Coatings D.B. Zhang, S.K. Gong and H.B. Xu	1746
Cyclic Oxidation Behavior of Thermal Barrier Coatings in Environments Containing Water Vapor C.L. Wang, C. Zhou, S.K. Gong and H.B. Xu	1750
Design and Properties of Fire-Proof Coating for Tunnels Y.D. Yao, G.F. Yin, X.W. Cheng and X.L. Gou	1753
Influence of Infiltration Additives on the Phase, Microstructure and Oxidation Resistance of SiC Coating for Graphite Materials J.F. Huang, F. Deng, L.Y. Cao, J.P. Wu and H.J. Luo	1756
Thermal Cycling Behavior of Lanthanum-Cerium Oxide Thermal Barrier Coatings Prepared by Air Plasma Spraying W. Ma, Y. Ma, S.K. Gong, H.B. Xu and X.Q. Cao	1759
A Promising $\text{Sm}_{1.9}\text{Ca}_{0.1}\text{Zr}_2\text{O}_{6.95}$ Ceramic for Thermal Barrier Coatings Q. Xu, W. Pan, C.L. Wan, L.H. Qi and H.Z. Miao	1762
Low Thermal Conductivity Ceramics for Thermal Barrier Coatings Y.X. Qin, J.D. Wang, W. Pan, C.L. Wan and Z.X. Qu	1764
Fabrication and Isothermal Oxidation Behavior of the Co-Deposited EB-PVD (NiAl + YSZ) Coating S.K. Gong, H.F. Li, H. A, K. Jiang and L.D. Sun	1767
A Comparative Study of Two-Layer NiAl Bond Coat TBC and its Failure Mechanism H.F. Li, Z.H. Zhou, H. A, K. Jiang and S.K. Gong	1770
Thermophysical Properties of Samarium-Cerium Oxide for Thermal Barrier Coatings Application C.L. Wan, W. Pan, Z.X. Qu and Y.X. Qin	1773
A Comparison of the Surface Properties of DLC and Nanocrystalline Diamond C.M. Lee and K.H. Kim	1776
Influence of Impurities on the High-Temperature Water-Vapour Corrosion of Environmental Barrier Rare-Earth Silicates N. Maier, K.G. Nickel and G. Rixecker	1780
Analysis of Heat Transfer and Thermal Stress in Thermal and Environmental Barrier Coatings J.S. Xiao, C.X. Liu, W.H. Zhao and W.B. Fu	1784
Investigation of YSZ Thin Films on Silicon Wafer and NiO/YSZ Deposited by Ion Beam Sputtering Deposition (IBSD) Y.J. Chen and W.C.J. Wei	1788
Influence of Agglomerate Size on the Properties of Al_2O_3-Al_2Cu_3 Multiphase Ceramic Coatings H.P. Cui, J. Yan, S.G. Du and X.K. Du	1791
Effect of Heat Treatment on Coloration of Ag Doped TiO_2-SiO_2 Films W.Y. Bi, L. Wang, X.G. Yu, X.D. Zhang, H.Q. Bao and H.F. Zhao	1793
Photo-Hydrophilicity and Photo-Catalysis of TiO_2-SiO_2 Coating on Ceramics H.H. Cai, Z.K. Luo, X. Liang, H.Y. Li, R. Li, X.D. Xu and J.H. Liu	1796
AFM Investigation of Nano Particle Incorporated Sb Doped SnO_2 Films L. Wang, W.Y. Bi, X.D. Zhang, X.G. Yu, H.Q. Bao and H.F. Zhao	1799
Development and Characterization of Nano-TiO_2/HA Composite Bioceramic Coating on Titanium Surface G. He, X. Deng, Y.K. Cen, X.Y. Li, E. Luo, R.R. Nie, Y. Zhao, Z.H. Liang and Z.Q. Chen	1802
Interface Biomechanical Properties between Femora and Bioactive Ceramic Coatings Prostheses during the Initial Implant Stage L.D. Tang, W.M. Zhao, L.Y. Tian and B.Z. Li	1806
Two-Steps Digital Image Correlation and Application to Studies of Micromechanics Behavior of Coating Interface J.L. Chen, Q.Y. Liu, Y.W. Qin and X.H. Ji	1810

Adsorption of Human Serum Proteins on Carbonaceous Materials B.G. Li, Y.Q. Kang, G.F. Yin and C.Q. Zheng	1814
Thermal Shock Experiment and Simulation of Ceramic/Metal Gradient Thermal Barrier Coating J.S. Xiao, K. Liu, W.H. Zhao and W.B. Fu	1818
Mechanisms and Kinetics of Silica-Rich Binary Na₂O-SiO₂ Glass Corrosion in 100°C Water at pH=7 K.G. Nickel and S. Merkel	1823
Effect of Heat Treatment on the DC Conductivity and Activity Energy of Li₂O-Fe₂O₃-P₂O₅ Glasses J.Y. Pan and J.H. Gong	1827
Crystallization of a SiO₂-MgO-Al₂O₃-K₂O-Fe₂O₃-F Glass Q.B. Tian, Y. Wang, X.T. Yue, Y.S. Yin and S.H. Fan	1829
Making Fluorophlogopite Ceramics through Ceramic Processing M.Q. Li	1833
Preparation of Decorative Building Glass-Ceramics by Using Cracked-Glass Panel as Precursor J. Zhou and Y.X. Wang	1836
Sintering and Crystallization of Glass-Ceramics for Optical Fiber Ferrule Y.M. Zhu, X.W. Wu and Z.H. Li	1840
Manufacture Process of Light Calcium Carbonate from Limestone Q. Wang, M.F. Han and J.W. Wang	1843
Upconversion Emission of Infrared Excited Er³⁺-Doped Transparent Glass Ceramics Containing CaF₂ Nano-Crystals D.Q. Chen, Y.S. Wang and Y.L. Yu	1846
Structuration and Fabrication of Sensors Based on LTCC (Low Temperature Co-Fired Ceramic) Technology H. Birol, T. Maeder, C. Jacq, G. Corradini, M. Boers, S. Straessler and P. Ryser	1849
Fabrication of Ba-Ti-B-Si-O Glass-Ceramics for LTCC X.M. Cui, J. Zhou, B. Li, J.H. Shen and Y.H. Wang	1853
Crystallization of Cordierite-Based Glass-Ceramics Adding with Fe₂O₃-TiO₂ S.M. Wang, K.M. Liang, L.F. Mei and F. Zhou	1856
The Influence of Li⁺ on the Sintering of Cordierite Glass Ceramic H.F. Wang and H.P. Zhou	1859
Composition and Properties of the LZS Glass-Ceramics Used as Anodic Bonding Material H. Li, J.S. Cheng, X. Cao and T.H. Wang	1862
Preparation of SiO₂-TiO₂ Films of High Photo-Catalytic Activity in the Electric Field Heating-Treatment F. Zhou, H.C. Zhang and K.M. Liang	1865
Sintering AlN Ceramics Below 1500°C with MgO-CaO-Al₂O₃-SiO₂ Glass Addition C.F. Yang, C.M. Cheng, H.H. Chung and C.C. Chan	1868
Synthesis of Glass Ceramic from Goldmine Tailings R.P. Wu, Y.G. Chen, Y.Y. Gu and T.R. Zhang	1872
Method for Estimating the Critical Cooling Rate for Glass Formation from Isothermal TTT Data D.M. Zhu, W.C. Zhou, C.S. Ray and D.E. Day	1874
Effect of Phenolic Resin on the Basic Properties of Woodceramics and Biomorphic SiC Ceramics G.Y. Hou, J.M. Qian, H.J. Wang and Z.H. Jin	1878
Manufacturing Process of Activated Magnesia from Bittern and Dolomite Q.Y. Wang, M.F. Han and J.H. Xue	1882
Activated Alumina Adsorbent Developed from Waste Aluminum Sludge Y. Yu and Y.Z. Ruan	1886
A New Method for Effective Utilization of Melted Solid Waste N. Wang, G.C. Zhu, Y.H. Zhao and H.H. Sun	1889
Development of Glass Ceramic by Sintering and Crystallization of Glass from Phosphorus Slag Q. Lin, J.X. Cao, C.B. Fu and Y. Zhang	1892

Sialite Technology and Cycle Economy H.H. Sun, Y. Li, N. Wang and Y.H. Zhao	1895
Preparation and Characterization of Porous Cordierite Ceramics from Coal Fly Ash X.B. Zhang, J. Xu, X.J. Ren, X.Q. Liu and G.Y. Meng	1898
Photo-Catalytic Properties of Ceramic Coating of TiO₂ H.Y. Li, Z.K. Luo, H.H. Cai, J.H. Liu, P.X. Zhang, X. Liang and X.Z. Ren	1901
Microporous Ceramics Made by Silicon Carbide Whiskers C.H. Dai, R. Zhao, L. Shui and B.B. Zhang	1904
Clay Minerals as a Feasible Additive to Stabilize Cadmium in Contaminated Soils Z.Q. Hu, X.H. Yang and Y.C. Zhang	1906
Preparation and Photocatalytic Performance of Ag-Doped Titanium Dioxide Whiskers X.J. Jiang, Y.H. Ling, H.Y. Li and X.D. Bai	1910
A Novel Hydroxyapatite Carrier for Enrichment of Hydrocarbon Degradation Bacteria L. Yang, Z.Y. Zhang, X.S. Ning and G.H. Li	1914
Practice of Simulation to Formation of Rock Theory X.P. Feng, H.H. Sun and X.M. Liu	1918
Effect of Deposition Conditions on TiO₂ Thin Film on Silica Glass Fibers by Liquid Phase Deposition S. Li, J.C. Liu, C.L. Cui and L.B. Liu	1921
Effects of Boron-Doped on Photocatalysis and Hydrophilicity of TiO₂ Film H. Li, G.L. Zhao, G. Xu and G.R. Han	1924
Preparation of Sialon from Solid Wastes by Colloidal Process Y. Yao, L.H. Xu and J. Qiu	1927
Oxidation Resistance of Mild Steels Coated with Ce⁴⁺-Modified TiO₂ Nanofilms Z.M. Shi, W.G. Yu, G.J. Ji and H. Zhou	1930
Hierarchically Nanostructured Porous Functional Ceramics A. Vantomme, A. Léonard, Z.Y. Yuan and B.L. Su	1933
Preparation and Photocatalytic Property of Platinum-Modified TiO₂ Ceramic Film Using Different Compound Techniques Y.L. Jiang, H.L. Liu, Z.H. Jiang, Z.P. Yao, R.H. Cui and G.D. Hao	1939
Preparation and Photocatalytic Properties of Nanosized La³⁺ and Co²⁺ Co-Doped TiO₂ by Microemulsions W.L. Liu, D.L. Lu, C.C. Ge, J.H. Chen and Z.P. He	1943
Preparation of Rare-Earth Element Doped Titanium Oxide Thin Films and Photocatalysis Properties X.L. Jia, Y. Wang, R.S. Xin, Q.L. Jia and H.J. Zhang	1946
Influence of La³⁺ Ions on the Photo-Catalytic Activity of TiO₂ Films Prepared by Micro-Plasma Oxidation Method X.H. Wu, W. Qin, X.B. Ding and Z.H. Jiang	1949
Dispersion and Electrophoretic Deposition of Titania Particles S.H. Zhang, B. Xie and F.Y. Li	1953
Photo-Catalytic Activity of Fe³⁺/Sn⁴⁺ Co-Doped Titanium Dioxide Nano-Crystalline Thin Films for Methyl Orange Degradation Y.P. Di, W.L. Zhang, L.H. Xu, C.A. Wang and R.B. Shi	1956
Preparation of TiO₂/SiO₂/(γ-Fe₂O₃-SiO₂) Magnetic Photocatalyst S.W. Wang, S.M. Xu, S.Z. Chen and J.M. Xu	1960
Preparation of N-Doped TiO₂ Photocatalytic Paint and its Sterilization Performance under Visible-Light Irradiation X.N. Zhang, W.B. Cao, Y.H. Li and F.Y. Ran	1964
Factors Influencing the Photocatalytic Efficiency in the Experimental for the TiO₂ Powder Slurry Systems K.W. Kim, M.H. Lee, D.H. Yoon and D.W. Shin	1968
Photocatalytic Degradation of Methylene Blue Aqueous Solution under Visible Light Irradiation by Using N-Doped Titanium Dioxide Y.H. Li, W.B. Cao, F.Y. Ran and X.N. Zhang	1972
Growth of TiO₂ Thin Film on Glass Substrate by Air-Opened MOCVD L.N. Li, J.H. Gu and Y. Zhang	1976

Preparation of WO_x-TiO₂ and the Photocatalytic Activity under Visible Irradiation H.Y. Song, H.F. Jiang, X.Q. Liu, Y.Z. Jiang and G.Y. Meng	1979
Photocatalytic Degradation of Methyl Orange on ZnO in Aqueous X.Y. Li, L.K. Zeng, P.A. Liu, H. Wang and A.Z. Shui	1983
Photocatalytic Properties of Nanocrystalline Tin Oxide Synthesized by Using Molten Boric Acid as a Flux L.Y. Li, S.Z. Chen, S.M. Xu and G. Xu	1986
Effects of Heat Treatment Temperature on the Photocatalytic Properties of TiO₂ Prepared by Melt-Phase Separation Process W.L. Zhang, Y.L. Wu, Y.N. Zhao, X.L. Zhang and H.M. Li	1989
Effect of CeO₂ Supports on CO Oxidation Activity of Pd-Cu Catalyst Y.J. Zhang, J.C. Zhang, S.L. Tan and X.Y. Tan	1992
Synthesis and Catalytic Activity Studies of V/K/Ca and V/Ks/Ce Based Catalysts for Diesel Soot Oxidation Y.H. Zhang and J.Z. Xue	1995
Preparation of Nanosized Ca-Zn Ferrite Particles by a Sol-Gel Method and its Magnetic Properties X. Xiao, C. Qian and Z.Q. He	1999
Synthesis of Bi_{4-x}Yb_xTi₃O₁₂ Nanopowders by a Modified Sol-Gel Process X.Q. Chen, Q. Sun and H.C. Liu	2002
Synthesis of Ce_{0.8}Gd_{0.05}Y_{0.15}O_{1.9} Nanopowders X.F. Guan, Z.H. Liu and H.P. Zhou	2005
Nano-Scaled Anatase Phase Titanium Oxide Converted from Ammonium Oxotrifluorotitanate Prepared by Aqueous Solution of Ammonium Hexafluorotitanate and Boric Acid M.K. Lee, T.H. Shih and C.M. Shih	2008
Effect of Low Frequency and Power Ultrasonic Treatment on the Surface Adsorbed Organics and Visible Light Photocatalysis Activity of Nanosized TiO₂ Photocatalyst Z.L. Hong, F.R. Zhao, P.S. Tang and M.Q. Wang	2012
Effect of Drying Methods on Photocatalytic Activity of Nanosized Titanium Dioxide Q.L. Chen, J.Q. Wu and J.G. Wang	2015
Preparation of Nanosize Anatase TiO₂ Powders by Hydrothermal Synthesis F.Y. Ran, W.B. Cao, Y.H. Li and X.N. Zhang	2017
Synthesis of VO₂ Nanocrystalline via Hydrothermal Method M. Luo, J.Q. Gao, X. Zhang, D. Ouyang, J.F. Yang and J.F. Zhu	2021
Synthesis of LaMnO₃ via a Mechanochemical Activated Process H. Wu, Q.M. Xu, Q. Li, C. Zhang and D.Y. Jiang	2024
Synthesis and Characterization of Regular Hexagonal NiCo₂O₄ Nanosheets J. Yang, J.B. Li, H. Lin, X.Z. Yang, N. Wang and X.G. Tong	2027
Preparation and Characterization of CdSe Synthesized from Non-Aqueous Media S.H. Kim, Y.B. Lee, S.C. Cho, Y.M. Rhyim, J.C. Kim, Y.S. Kim, I.B. Kim and Y.D. Kim	2030
Preparation and Characterization of CdSe Nanoparticles Prepared by Using Ultrasonic Irradiation M.S. Sung, Y.B. Lee, Y.S. Kim, Y.M. Rhyim, J.C. Kim, I.B. Kim and Y.D. Kim	2034
Synthesis of Hollow Sphere CdSe from CdCl₂ Aqueous Solution Containing Ethylenediamine M.H. Choi, Y.B. Lee, I.B. Kim, Y.S. Kim, Y.M. Rhyim, J.C. Kim and Y.D. Kim	2037
Preparation and Characterization of Gallium-Doped Zinc Oxide Nanopowders with High Electrical Conductivity S.F. Du, J. Liu and Y.F. Chen	2041
Preparation of Conductive Composite Particles by Impact Coating Process X.Y. Hao, G.S. Gai, Y.F. Yang, Y.H. Zhang and C.W. Nan	2044
The Preparation of Alumina Nanopowders from Solution Derived Precipitates through Polymer Gel Method J.K. Kim, S.Y. Yoon, H.C. Park, H.Y. Park, G.S. Seo and S.S. Park	2047
Preparation of Nanoscale High-Purity α-Alumina Powders X.L. Wu, Q. Ren and X.M. He	2051

Effect of Phase of YAG Powder Synthesized by Co-Precipitation on Transparent Ceramic Sintering	
W. Guo, T.C. Lu and S.H. Tong	2054
A Novel Preparation Route of YAG:Ce via Polymer Gel Precursor	
C. Zhang, Q. Li and D.Y. Jiang	2058
A Novel Non-Aqueous Solvent Chemical Process to Synthesize Nano-ZrO₂	
Q. Li, D.Y. Jiang, Y.J. Fan and C. Zhang	2060
Preparation of Pottery from Shale	
X.L. Tang, M.F. Han and Q. Wang	2062
Effect of Novel Bivalent Mineralizers on the Synthesis of Nano-Sized Y₂O₃ Doped ZrO₂ Powder by Hydrothermal Method	
X.Y. Gu, X. Li, Q. Liu, J.X. Chen and Y.M. Li	2065
Coloring Mechanism of Pr-CeO₂ Nano-Crystalline Red Lanthanide Pigments Prepared by Low-Temperature Combustion Synthesis	
Z.F. Zhu, Y. Zhou and R.L. Wang	2068
Preparation and Thermal Decomposition Mechanism of Zn²⁺-Doped Mg,Al-Hydrotalcite Nanocrystalline	
Q.L. Ren and Q. Luo	2071
Photoluminescence and Structural Properties of Si Nanoparticles Embedded in SiO₂ Matrix by Reactive RF Magnetron Sputtering	
K. Ma and J.Y. Feng	2074
Preparation and Synthetic Mechanism of Silicon Carbide Nanometer Whiskers	
Q.Y. Li, Z.W. Song, R. Zhao, W.H. Xue and Y.J. Qiao	2077
Synthesizing Nano-Scale Titanium Nitride Powders by Solvothermal and Carbothermal Methods	
G.Q. Tan, H.J. Ren, H.Y. Miao, M. Dong and A. Xia	2079
Preparation and Some Properties of Ni-TiN and Ni-TiC Nanocomposite Particles by DC Arc-Plasma	
H. Okuyama, S. Ohno and Y. Sakka	2082
Synthesis of WC Nanosized Powder by the Plasma Arc Discharge Process	
S.S. Lee, D.W. Joo, Y. Jung and C.J. Choi	2086
Preparation and Property of Self-Dispersed Nanometer γ-AlOOH	
H.D. Liao, B.L. Wu, L.M. Zhang, D.H. Liao and H.X. Wang	2089
Influence of Ultrasonic Irradiation Power on the Synthesis Kinetics of Nano-Hydroxyapatite Prepared by a Wet Chemical Process	
L.Y. Cao, C.B. Zhang and J.F. Huang	2092
Effects of Acidic Amino Acids on Hydroxyapatite Morphology	
W.M. Gao, C.X. Ruan and Y.F. Chen	2096
Surface Nano-Particle Coating of Fly Ash	
Y.F. Yang, G.S. Gai, X.Y. Hao and Q.R. Chen	2100
Microstructure and Mechanical Properties of Silica Xerogels Doped with SiC Whisker and Short Carbon Fiber	
L.L. Yang, J.P. Zhao and Y. Li	2104
Preparation of Nanocrystalline Nickel Powders by Chemical Reduction in Nonaqueous Media	
J.U. Im, S.Y. Jun, S.S. Hong, G.D. Lee, K.H. Kim, H.C. Park and S.S. Park	2107
Preparation and Characterization of Nano-Sized Ni Powders inside a Nonionic Polymer Network	
T.W. Kim, D.H. Kim, S.S. Park, K.H. Kim, H.C. Park and S.Y. Yoon	2111
Preparation of Nano-Ag Particles and Antibacterial Dope Loaded Silver	
J. Yin, Y. Zhang, G.F. Yin and P. Zhang	2115
Effect of Dispersant on the Particle Size Distribution of Cu Powders Prepared by Wet-Reduction Process	
Y.Y. Kim, Y.M. Park, H.Y. Park, H.C. Park and S.Y. Yoon	2118
Growth of Oxide Nanorod, Nanotube and Nanocable Arrays through Template-Based Sol Electrophoretic Deposition	
H.M. Shang, Y. Wang and G.Z. Cao	2122
One-Dimensional Oxide Nanomaterials through Rheological Self-Assembling	
W. Chen, L.Q. Mai, Y.Y. Qi, W. Jin, T. Hu, W.L. Guo, Y. Dai and E.D. Gu	2128

Synthesis and Electrochemical Properties of V₂O₅ Nanostructures Y. Wang and G.Z. Cao	2134
Catalyst-Assisted Pyrolysis of Polymeric Precursors: A New Method to Synthesize Low-Dimensional Nanomaterials W.Y. Yang, Z.P. Xie, H.T. Wang, G.Q. Liu, H.Z. Miao and L.N. An	2138
Corrosion Resistance Properties of Carbon Nanotube Reinforced Electroless Composite Coating G.G. Zhao, H.J. Zhang, Z.T. Wang and Y.C. Zhang	2142
Self-Assembled Monolayer of Silver Nanorods for Surface-Enhanced Raman Scattering Y. Yang and M. Nogami	2146
Synthesis and Characterization of La₂(MoO₄)₃ Microcrystals via Hydrothermal Microemulsion Y.P. Xu, D.Y. Jiang, Y.K. Liao and J.L. Shi	2149
Synthesis of Yttrium Oxide Hydroxide Nitrate Nanorods by Hydrothermal Method L.X. Peng, Z.L. Hong, G.H. Li and M.Q. Wang	2151
Preparation of PPy Nanowires and its Amperometric Response to Nitrate X.L. Zhang, J.X. Wang, Z. Wang and S.C. Wang	2154
Structural and Optical Properties of Lead Titanate Nanowires Synthesized by Hydrothermal Method Y.M. Hu, H.S. Gu, J. You, K.H. Zheng and J. Wang	2157
SnO₂ Nanowires with Branched Structures Synthesized by Thermal Evaporation of Sn Powders H.W. Kim and S.H. Shim	2160
Synthesis of Sulfide Nanowire Arrays through Template-Assisted Electrodeposition L. Sun, R.L. Zong, S.K. Shi and J. Zhou	2163
Synthesis and Characterization of Boron Carbide Nanobelts X.Q. An, H.Z. Zhai, C. Cao and H.S. Zhu	2166
Large-Scale Fabrication of ZnO Hexagonal Rods Arrays by a Simple Chemical Solution Method Y. Du, W.C. Hao, J.Y. Zhang and T.M. Wang	2169
Luminescent Properties of Aluminum Doped Zinc Oxide Nanofibers Prepared by Electrospinning D.D. Lin, W. Pan and H. Wu	2173
Influence of pH on the Morphology of Yttrium Oxide Hydroxide Nitrate Nanocrystal Z.L. Hong, H. Guo, L.X. Peng and M.Q. Wang	2176
Fabrication of LaNiO₃ Chain-Like Ceramics from Nanocable Precursors Y. Deng, J. Li, L. Guo and Q.L. Yang	2179
Preparation and Characterization of Cerium Hydrate Fiber J.M. Sung, S.E. Lin and W.C.J. Wei	2182
Preparation of a Novel Carbon Nano-Material Studded Iron Granules from Needle Coke by Arc Method X.F. Zhao, Y.X. Sun, T.J. Sun and J. Qiu	2186
Synthesis and Characterization of Refluxed Sols and TiO₂ Thin Films Using TiOSO₄ L. Ge, M.X. Xu, H.B. Fang and M. Sun	2189
Preparation of TiO₂ Nanocrystalline Films by Electrophoretic Deposition and their Application in Dye-Sensitized Solar Cells N. Wang, H. Lin, J.B. Li, X.Z. Yang, L.Z. Zhang and Y. Dou	2193
Dye-Sensitized Nanocrystalline TiO₂ Ceramic Film and its Photoelectricity Property S. Wang, W. Qin, X.H. Wu, Z.H. Jiang, Y. Guo and Z.Y. Xie	2196
In Situ Template Synthesis of TiO₂ Nanotube Array Films W.F. Jiang, Y.H. Ling, S.J. Hao, H.Y. Li, X.D. Bai and D.Q. Cang	2200
Anticorrosion Behaviours of the TiO₂ / WO₃ Composite Photoelectrodes for 304 Stainless Steel H.Y. Li, Y.H. Ling, B. Jiang, W.F. Jiang, Z.H. Guo and X.D. Bai	2203
Hydrothermal Conversion Deposition of ZnFe₂O₄ Doped TiO₂ Thin Films and their Photovoltaic Response Z.H. Guo, Y.H. Ling, W.F. Jiang, H.Y. Li and X.D. Bai	2207

The Photo-Induced Cathodal Protection of 304SS with Graded Bandgap Ferrite/TiO₂ Nanostructures	
Y.H. Ling, Z.H. Guo, H.Y. Li, W.F. Jiang and X.D. Bai	2211
Microstructure and Resistivity of Iridium Oxide Thin Films by Pulsed Laser Deposition Technique	
L.M. Zhang, Y.S. Gong, C.B. Wang and Q. Shen	2215
Effects of Nanosized Iron Oxide with Different Morphology on Nanomechanical Properties of Nanocomposite Coating	
Q. Wang, M. Jang and Y.F. Chen	2218
Transparent and Compact Zinc Oxide Thin Films via Two-Step Electrodeposition from Aqueous Solution	
F. Peng, X.M. Li and X.D. Gao	2221
Microstructure and Mechanical Properties of Cr-C-N, Cr-Si-N and Cr-Si-C-N Coatings by a Hybrid Coating System	
C.S. Jang, Y.R. Cho, M.C. Kang, W.S. Chung and K.H. Kim	2224
Structure and Optical Properties of Si Films Deposited by Inductively Coupled Plasma CVD at Room Temperature	
X.Q. Wang, D.Y. He and J.S. Li	2228
Microstructure Control and Phase Structure Study of Porous Alumina Membrane	
Y.M. Tian, M.X. Xu, X.Z. Liu, L. Ge and P. Zhang	2232
Fabrication and Characterization of the Multilayer Film Containing Polyoxometalate with Pendant Support-Ligand	
H.Y. Ma, J. Peng, F.P. Wang and B.X. Dong	2235
Surface Morphology of Thin Film Deposited on Rotating Substrate by EB-PVD	
Y.C. Shan, X.D. He, M.W. Li and Y. Li	2238
Nanocomposites – Toughened Ceramics	
H. Awaji, T. Matsunaga and S.M. Choi	2242
Multifunctional BN/Si₃N₄ and TiN/Si₃N₄ Nanocomposites Prepared by In Situ Nitridation Method	
L. Gao, X.H. Jin, J.G. Li, T. Kusunose and K. Niihara	2247
Microstructure and Mechanical Properties of SiC-Al₂O₃ Nanocomposite Prepared by Surface Modified SiC Nanopowders	
L.T. Yan, W.J. Si, L.Y. Liu, Y.P. Zheng and C.A. Dai	2251
Preparation and Properties of Al₂O₃ Particle Dispersed 3Y-TZP Nanoceramics Doped with TiO₂	
B.J. Chen and Z.Q. Zeng	2254
Microstructures and Multi-Toughening of ZrO₂ Nano-Micron Fibers Self-Toughening Al₂O₃ Ceramics from In Situ Growth in the Melts Produced by Combustion Synthesis	
L. Zhang, Z.M. Zhao, J. Zheng, H.B. Bai and J. Wu	2257
Microstructures and Properties of Al₂O₃/ZrO₂ Composite Ceramics from In Situ Growth in the Melts Produced by Combustion Synthesis	
Z.M. Zhao, L. Zhang, H.B. Bai, J. Zheng and J. Wu	2260
From Kaolins (with Addition of Al₂O₃) to Mullite Composite Nanocrystals: Experiments and Analysis	
N.C. Chen and D. Chen	2264
Spectroscopic Study of Rod-Like Mesoporous ZnO-SiO₂ Composites	
C.X. Zhao, W. Chen, Q. Liu and L.Q. Mai	2267
Role of Amorphous Silicon Carbide in Microstructure and Mechanical Properties of nc-TiC/a-SiC Nanocomposite Coatings Prepared by PECVD	
J.T. Ok, C.Y. Kang, S.S. Park, P.K. Song and K.H. Kim	2271
Preparation and Characterization of CdSe/SiO₂ Nanocomposites by Sol Gel Method and In Situ Growth	
Y.X. Peng and M.Q. Wang	2275
Properties of Nano-Hybrid Sol-Gel Materials Synthesized from Colloidal Silica-Silane Containing Epoxy Silane	
M.K. Na, D.P. Kang, H.Y. Park, M.S. Ahn and I.H. Myung	2278
Preparation and Structural Characterization of SiO₂-ZrO₂ Aerogels	
X.D. He, H.X. Zhang, Y. Li, C.Q. Hong and J.P. Zhao	2282

Synthesis and Structural Characterization of SiO₂-Al₂O₃ Xerogels F. He, X.D. He and Y. Li	2286
Influence of Binder Additives on the Sintering of Nano-3Y-TZP X.X. Liu, Z.Q. Zeng and B.J. Chen	2290
Sintering Behavior of Pure and Nb-Doped BaTiO₃ Powder Prepared by High-Gravity Reactive Precipitation X.H. Wang, X.L. Liu, T. Yan and J.F. Chen	2293
Preparation of MgAl₂O₄ Transparent Nano-Ceramics and their Light Transmission Properties J.Q. Qi, T.C. Lu, X.H. Chang, M.Y. Lei and C.X. Huang	2296
Processing and Properties of Nanocrystalline Tetragonal Zirconia M. Trunec and K. Maca	2300
Analysis of the Surface Adsorbed Organics of Nanosized TiO₂ Photocatalyst with High Visible-Light Photocatalysis Activity by Ultrasonic Treatment under Water and Ethanol Solution G.Q. Chen and Z.L. Hong	2304
Low-Temperature Synthesis and Micro-Morphology Observation of Transparent MgAl₂O₄ Nano-Ceramics X.H. Chang, T.C. Lu, J.Q. Qi and X.J. Luo	2308
Evaluation of a Shoe Cushioning System Using Shock Absorber by Biomechanics M.B. Young	2312
Phase Transformation Behavior of ZrO₂-TiO₂ Thin Films in Electric Field L.F. Mei, K.M. Liang, S.M. Wang and F. Zhou	2316
Phase-Transformation Kinetics of TiO₂ in TiO₂/(O'+β')-Sialon Multi-Phase Ceramics J. Yang, X.X. Xue, L.M. Pan, M. Wang and T. Qiu	2318
Effect of Er³⁺ Doping on Crystallization of PbF₂-SiO₂ Based Bulk Xerogels L.H. Zhou, W.Q. Luo and Y.S. Wang	2322
Phase Evolutions of High Energy Ball Milled Ni-66.7at% Si G.S. Ji, Q. Ma, T.M. Guo, Q. Zhou, J.G. Jia and X.D. Chen	2325
Thermal Expansion Behavior of Solid Solution Y_{1.9}R_{0.1}Mo₄O₁₅ (R = Sm, Nd, Dy) H. Wang, J. Peng, Y. Cheng, M. Wu, Z. Hu, Z. Yu and D. Chen	2328
Thermal Expansion Coefficients of Sm₂Zr₂O₇ Doped with MgO Z.X. Qu, W. Pan, C.L. Wan and Y.X. Qin	2331
Improved Stability of Mn-Doped WO₃ Varistor via Doping Cr₂O₃ J.H. Liu, Y. Zhao, X.T. Zhu and Y. Wang	2334
Effect of the Addition of Ti³⁺ into TiO₂ Film on the Performance of Dye Sensitized Solar Cells J.H. Xiang, Z. Zhang, F.S. Zhang, S. Kaneko, M. Okuya and H.P. Zhang	2337
Reaction Process of Al-TiO₂-C-Ti-Fe Multiphase System during Combustion Synthesis S.H. Meng, X.H. Zhang and W.F. Zhang	2340
Sintering Behavior of Fe-Si Composite Powder by DPR Technique Q. Shen, Y. Zhou, J.G. Li, W.J. Yuan and L.M. Zhang	2344
Reaction Process of Al_{2(1-x)}Mg_xTi_{1+x}O₅ Composite Powder by Chemical Co-Precipitation and Subsequent Sintering S.Y. Shen, R. Yang, Q. Shen, C.B. Wang and L.M. Zhang	2347
Preparation and Investigation of TiO₂ Sol Containing Nanometer Anatase Crystalline Grains J.W. Gao, Q.H. Shen, M. Fang, P. Wang and L. Li	2350
Pressure Sensitivity of SiC/Cu Composites Prepared by SPS R. Zhang, H.L. Wang, L. Xin and H.L. Xu	2353
Sintering Kinetic of Fine α-Alumina Powder with ZrO₂ Impurity C.C. Lin and W.C.J. Wei	2357
On the Grain Size Distribution of MnO Doped ZnO Ceramics S.A. Li, D.N. Liu and J.H. Gong	2361
Effect of Sintering Process on Microstructure of Al₂O₃/LiTaO₃ Composite Ceramics Y.F. Zhang, Y. Zhou, D.C. Jia and Q.C. Meng	2363
Kinetics Model for the Initial Stage of Spark Plasma Sintering M.H. Fang, W. Pan, S.L. Shi and Z.Y. Fang	2366

Study on the Critical Time and Diffusion Coefficient in Grain-Boundary Segregation of Phosphorus E.B. Liu, Q.F. Li and H.B. Chen	2369
Fabrication of Highly Microstructure Controlled Ceramics by Novel Colloidal Processing Y. Sakka, T. Uchikoshi and T. Suzuki	2372
Shrinkages during from Liquid to Solid in Colloidal Forming J.L. Yang, X.Q. Xi and Y. Huang	2378
Suspension Characteristics and Rheological Properties of Aqueous Alumina/Zirconia Freeze Casting Slurries S.W. Lyu, Y.M. Park, T.Y. Yang, S.C. Ryu, R. Stevens and H.C. Park	2382
The Stability of TZP-YSZ Binary Suspensions P.Y. Li, G.J. Li and R.M. Ren	2385
Silicon Nitride Ceramic Prepared by Colloidal Process M. Liu, L.H. Xu, Y.B. Bi, H. Zhang and Z. Fu	2388
Mechanical Properties of Filler Metal in Si_3N_4/Austenitic Stainless Steel/Si_3N_4 Joints as Measured by Nanoindentation and its Relationship to the Interfacial Strength D. Cáceres, R. Polanco, P. Miranzo and M.I. Osendi	2391
Joining of SiC Ceramic by High Temperature Brazing Using Ni-Cr-SiC Powders as Filler S.J. Li, Y.W. Mao and Y.H. He	2394
Joining of SiC Ceramic by Hot Pressing Reaction Joining Process Using Ni-51Cr Powders as Filler Y.W. Mao, S.J. Li and Y. Zhang	2398
Fractal Dimension of $\text{Al}(\text{OH})_3$ Particle and Fractal Simulation of Boundary Micro-Topography G.S. Gai, J.P. Li, Z.S. Zheng, X.Y. Hao and Y.F. Yang	2402
Evaluating Mechanical Properties of Ceramics by Relative Methods Y.W. Bao, X.X. Bu, Y.C. Zhou and L.Z. Liu	2406
The Compressive Strength of Ceramic Microbeads X.Y. Zhang and J.L. Yang	2411
Spherical Indentation on Glass-Coated Al_2TiO_5-Mullite Composites K.S. Lee, S.H. Park and I.J. Kim	2414
Indentation Fracture Toughness and Hardness of Solid Oxide Fuel Cell Electrolyte Material S. Tekeli and M. Gürtü	2418
Description of the Nanoindentation Unloading Behavior of Brittle Ceramics with a Modified Surface Z.H. Li, J.H. Gong, Z.J. Peng and H.Z. Miao	2422
Cyclic Fatigue of Alumina Ceramics as Evaluated by Modified Small Punch Tests Z. Xiong, W. Jiang, L.J. Wang and Y. Shi	2426
Dynamic Fatigue of Y-TZP Ceramics at the Room Temperature C.G. Li, W.J. Si and W.F. Zhang	2429
Cracking Stress of Nano-Fibers Composite Ceramics X.H. Ni, Z.J. Yao, X.Q. Liu and J.Y. Wang	2432
Experimental Study of Micro Displacement Field of Microstate of Crack Tips of Ceramics Plasticized with Zirconia and Stabilized by Yttrium Oxide – Application of Digital Image Correlation Method Based on Analysis by Scanning Electron Microscope Y. Fu, X.H. Ji and Y.W. Qin	2436
Lower and Upper Bounds of Mechanical and Thermal Properties of Ceramic/Metal Composites J.S. Xiao, Z.G. Zhan, W.H. Zhao and W.B. Fu	2440
Fracture Enhancement of Mixed Mode I-II Transformation Toughened Ceramics Y.T. Liu, X.Q. Liu, X.H. Ni and S.Q. Zhang	2444
Crack Healing, Reopening and Thermal Expansion Behavior of Al_2TiO_5 Ceramics at High Temperature I.J. Kim, K.S. Lee and C.G. Aneziris	2448
Corrosion Resistance of the Ceramic Coating Formed by Micro-Plasma Arc Oxidation on AZ91D Alloy S.H. Li and F.C. Wang	2451

Influences of Duty Ratio on Structure and Corrosion Resistance of Ceramic Coatings on Ti-6Al-4V by Micro-Plasma Oxidation H.Q. Ben, Z.P. Yao and Z.H. Jiang	2454
Preparation and Wet Erosive Wear Characteristics of Porous Al₂O₃ Ceramics X.P. Liang, A. Neville, X.H. Wang and S.B. Xin	2458
Erosive Wear Performance and Mechanism of Engineering Ceramic Materials J. Liu, L.H. Qi, H.Y. Xu and X.W. Luo	2462
Erosion Wear Characteristics and Mechanism of Si₃N₄ Ceramics: Effect of Impact Angle C.G. Bao, W. Pan, H.Z. Miao and L.H. Qi	2465
Effect of Testing Parameters on Wear Properties of Alumina Strengthen 3Y-TZP Ceramics S.H. Zhao, S.B. Xin, X.H. Wang and X.P. Liang	2468
Dry Friction Behaviour of Reaction-Bonded Silicon Carbide at High Temperature Z.L. Lu, Y.X. Zhou, M. Zhang and Q.W. Huang	2472
Wear Mechanism of Ceramic Microbeads as Grinding Media M. Yue, J.L. Yang and X.Q. Xi	2475
Oxidation Behavior and Mechanical Property of Si₃N₄ Ceramics with Rare Earth Oxide Addition X.G. Tong, J.B. Li, H. Lin, X.Z. Yang and J. Yang	2478
Influences of Calcination Ambiences on Phase Composition and High Temperature Oxidation Resistance Property of Ceramic Coatings on Ti-6Al-4V Alloy by Micro-Plasma Oxidation G.D. Hao, Z.H. Jiang, Z.P. Yao, H.Z. Xian and Y.L. Jiang	2481
Geometric Design of Cycloidal Drives with Ceramic Ball Meshing Elements J.J. Zhou, J.X. Hu and M. Huang	2484
Design of Ceramic Composite Based on the Impact Resistance and its Machining Application C.H. Xu and H.Y. Wang	2487
Parallel Simulation of Ceramic Grain Growth on the Platform of MPI G.L. Ji, Y.P. Yang, Y. Lin and Z.X. Xiong	2490
Quantitative Evaluation for New Bone Growth of Bone Repairing Biomaterial Based on Color Image Segmentation Y.H. Hua, T.F. Wang, D.L. Zhou, D.Y. Li, J.L. Lin and C.Q. Zheng	2493
Application of Improved BP Neural Network in the Preparation Processing of the SrTiO₃ Nanocrystalline Q. Luo and Q.L. Ren	2497
Finite Element Method for Thermal Analysis and Ablative Calculation of Heat Protection Materials Z.P. Li, Y.F. Ding, F.W. Zhang and Y. Zhang	2501
Lifetime Control and Prediction of ZrO₂/CePO₄ Composites H.Y. Du, X.J. Ou, J. Han and Y.L. Wang	2505
First-Principles Study of Nonmetal-Doped Titanium Oxides X. Gao, J.X. Shang and Y. Zhang	2507
First Principle Study on Electronic Structure of Nanocrystalline BaTiO₃ Ceramics X.Y. Deng, L.T. Li, X.H. Wang and Z.L. Gui	2510
A Method to Evaluate the Elastic Properties of Ceramics-Enhanced Composites Undertaking Interfacial Delamination H.J. Chang and S.W. Zhan	2513
First-Principles Calculations on Crystal Structure and Thermodynamic Properties of Ceramics Y. Zhang, X. Gao, J.X. Shang and X.P. Han	2517
Adsorption of the Au Atom on Si(001) Surface W.W. Ju and T.W. Li	2521
Area-Perimeter Relation of the Grains in Stabilized Cubic Zirconia Y. Wan, J.H. Gong and Y. Li	2524
Effective Stiffness of Nano and Transformation Composite Ceramics X.B. Lu, X.Q. Liu, X.H. Ni and S.Q. Zhang	2528
Lamdboidal Layup of Aragonite Sheets in Conch Shell B. Chen, X.H. Peng and X.Y. Wu	2532

Serial Simulation of Ceramic Grain Growth Based on Ternary-Tree Structure and Space Partition	
G.L. Ji, Y. Lin, Y.P. Yang and Z.X. Xiong	2536
Electronic Structure Study of Ni/Al₂O₃/Ni from First-Principles	
J.X. Shang and M.Q. Guo	2540
Assessment of the Surface Morphology of Diamond Film Based on Fractal	
J.L. Lin, J.G. Ran, T.F. Wang, L. Gou, Y.H. Hua and X.M. Liao	2543
Effects of Ceramic Fillers on Light Reflectance and Arc Resistance of PTFE for Circuit Breaker	
H.Y. Park, D.P. Kang, H.W. Lee, S.S. Park and S.Y. Yoon	2546
Preparation of Yellow Color Pearlescent Pigments of CeO₂-Mica	
S.W. Zhong, Q. Zhang, S.J. Zhang, D.Q. Han and J.Z. Kuang	2549
Study of Carbonizing Processes for Sintered Dolomite	
J.H. Xue, M.F. Han and Q.Y. Wang	2552
Preliminary Analysis of the Citations to Articles Published in Two Academic Journals	
R. Zhou and H. Wang	2556
Grain Characteristics of Nanocrystalline ZrO₂ Powders	
H.Y. Yin and M.F. Han	2558
Analysis of Capacity to Make Profits in Chinese Listed Ceramic Companies	
R.H. Hua	2562
Structural Micro-Layered Ceramics with Surfaces under Tension and Compression with Increasing Apparent Fracture Toughness	
J. Kübler, G. Blugan, H. Jelitto, G.A. Schneider and R. Dobedoe	2564
Research on Morphology and Phase Structure of Al/Cu Interfaces Formed by Explosive Cladding	
Y. Li, S.Z. Wei and R. Long	2569
Fabrication of Layered Ti₃SiC₂/α-SiAlON Material	
T.W. Lin, W.B. Cao, J.T. Li and C.C. Ge	2572
Microstructure and Optical Characterization of Au/SiO₂ Nano-Composite Multilayer Films	
Y. Zhang, B.P. Zhang, L.S. Jiao, X.Y. Li, H. Masumoto and T. Goto	2575
ZrO₂-Ni Functional Gradient Bonding Interlayer	
R. Polanco, P. Miranzo and M.I. Osendi	2579
Microstructure and Mechanical Properties of Freeze Cast Alumina/Silicon Carbide Layered Composites	
T.Y. Yang, S.W. Lyu, Y.M. Park, S.Y. Yoon, R. Stevens and H.C. Park	2583
Mechanical and Electrical Properties of Boron-Oxygen-Nitrogen Film as Buffer Layer	
G.C. Chen, B. Li, Y.M. Tong, F.X. Lu and J.H. Boo	2586
Characteristics of Surfactant-Zirconium Phosphate Composites with Expanded Interlayer Separation	
S.K. Shi, R.L. Zong, Y. Liu, Y.H. Wang and J. Zhou	2589
Resistance of the Transitional Region of Laser-Clad Coating on Electrolytic Low Titanium Aluminium Alloys to Multiple Impact Loading	
W.Y. Wang, J.P. Xie, A.H. Wang, W. Li and Z.X. Liu	2592
Development of Functionally Structured Materials: Ceramic Photonic Crystals and Fractals	
Y. Miyamoto, S. Kiriara, K. Hino, H. Kanaoka, M.W. Takeda and K. Honda	2595
Functionally Graded Thermoelectric Materials	
C.C. Ge, X.F. Wu and G.Y. Xu	2600
Microstructure and Properties of WC_p Reinforced Ferrous Gradient Composites	
Y.P. Song, X.M. Mao, Q.M. Dong, L.D. Tang, Z.Y. Ouyang and H.Y. Liang	2605
Functionally Graded Piezoelectric Ceramics for Ultrasonic Transducers	
D.R. Jin, Z.Y. Meng, W.B. Wu and B. Qin	2609
Preparation of Functionally Graded Cu/AlN/Cu Electrode Materials for Thermoelectric Devices	
H.Q. Zhang and J.F. Li	2613
A New Silver-Based Graded Composite as Electrical Contact Material	
L. Wang, Y. Zhao, X.T. Zhu and Y. Wang	2616

Bending Behavior of Functionally Graded Piezoelectric Laminated Actuators under Electric Fields Y. Shindo and F. Narita	2619
Thermal Shock Behavior of Nano-Structured Functionally Graded Thermal Barrier Coatings Deposited by Supersonic Plasma Spray Z.H. Han, H.J. Wang, S.K. Zhou and B.S. Xu	2624
Numerical Simulation Method of Heat-Resistant Heterogeneous Graded Ceramics Structure on Vehicle Y. Li	2628
Experimental Study and Modeling of a Differential SMA Spring Actuator X.J. Liu, S.Z. Yan, F. Xu and S.Z. Wen	2631
Microstructure and Dielectric Properties of LiTiNiO Thin Films Y. Dong, B.P. Zhang, Y.R. Zhang and J.F. Li	2635
Effect of Ti Content on Microstructure and Dielectric Properties of Li and Ti Co-Doped NiO Thin Films Y.R. Zhang, B.P. Zhang, Y. Dong and J.F. Li	2639
Fabrication and Characterization of Ceramic/Metal Gradient Thermal Barrier Coating J.S. Xiao, C.Z. Hu, W.H. Zhao and W.B. Fu	2643
Microstructure and Corrosion Behaviour of Ni/Al-Al₂O₃ Gradient Ceramic Coatings on Q235 Steel M.H. Fang, Y.G. Liu and Z.H. Huang	2647
Macro-Residual Stress in 304 Stainless Steel Coated with ZrO₂-CeO₂ Thin Films by Sol-Gel Process X.G. Yu, L.Y. Liu, Y.B. Zuo, L.J. Wang, H.W. Ma, W.Y. Bi, H.F. Zhao, L. Wang, F. Long and W.W. Luo	2649
XPS Studies on Composite ZrO₂-CeO₂ Thin Films Deposited on Metal Substrate by Sol-Gel X.G. Yu, L.Y. Liu, Y. Gong, H.W. Ma, W.Y. Bi, H.F. Zhao, L. Wang, W.W. Luo and Y.B. Zuo	2652
Preparation of Copper Particles Coated with Amorphous Titania S.G. Du, J. Yan, H.P. Cui and X.J. Liu	2655
Interfacial Cracks Control of Y-TZP/Stainless Steel FGM Fabricated by Slip Casting X. He, J.C. Liu, R.L. Men and X.X. Zhang	2658
Surface Aluminizing and Internal Oxidation of Cu-Al-Y Alloy X.H. Chen, Y. Li, B.H. Tian, Y. Zhang, J.H. Su and P. Liu	2661