

# Table of Contents

## Preface

<b>Solvothermal Synthesis and Luminescence Properties of <math>\text{Gd}_2\text{O}_2\text{S}:\text{RE}^{3+}</math> (<math>\text{RE}^{3+}=\text{Eu}^{3+}/\text{Tb}^{3+}</math>) Hollow Sphere</b>	
G.X. Xu, X.T. Sang, J.B. Lian, N.C. Wu and X. Zhang	1
<b>Preparation of Gold Nanowires by Photochemical Glucose Reduction</b>	
Z.J. Li, Y. Jiang, S.P. Feng, L.D. Sun and B. Zhou	11
<b>Influence of Ytterbium Doping on the Visible Light Photocatalytic Activity of Mixed Phase <math>\text{TiO}_2</math> Nanoparticles</b>	
F.C. Peng, Q. Lai, C.Y. Zhong, Y. Cui, X.J. Liao, Q.C. Liu and C.H. Xiao	18
<b>Bifurcation Mechanism of Carbon Nanotubes and its Application Prospects</b>	
X.X. Zhang, L.L. Zhang, S.Y. Wei and Z.W. Ding	26
<b>The Study on Sintering Capabilities of High Purity Metal Vanadium Powder</b>	
Y.H. Wang, Q. Liu, X.W. Bo, X.Y. Wang, C.D. Jiang and R. Tang	31
<b>Study on Heat Treatment of a Low Nickel Superalloy Used for Automotive Valves</b>	
Y. Mo, D.Z. Wang, H.D. Liu, L. Du, Y.L. Liu, H. Wan and G.P. Huang	37
<b>Optimum Design of Reactive Sputtering Parameters on the Mechanical Property of C-Doped <math>\text{TiO}_2</math> Photocatalytic Films: <math>\text{CO}_2</math> as Carbon Source</b>	
B. Wei, H.G. Li, H.T. Cao and F. Wen	41
<b>Preparation and Electrochemical Performance of <math>\text{Mn}_3\text{O}_4/\text{GR}</math> Composites Electrode Material in Supercapacitors</b>	
Y.L. Zhou, Z.B. Hu, L.M. Wu and J.H. Wu	50
<b>Numerical Simulation Study on Influence of Geometric Parameters of Spin-Coating Pallet on Wafer Deformation</b>	
T.X. Wu, J. Lu and Q. Wang	57
<b>Effects of Deposition Time on the Structure and Properties of AZO Thin Films Deposited on Quartz Glass by Magnetron Sputtering</b>	
J.K. Ba, Y. Zhang and X.J. Wang	63
<b>The Self-Cleaning Effect of Sol-Gel Preparation of Nano-Diamond and Nano-SiC Film was Compared</b>	
X.X. Zhang, H.S. Zhang, G.N. Du, S.Y. Wei, K.N. Zhang, L.L. Zhang, R. Fan, Y. Ma, L.X. Guo, S.J. Liu, N.N. Zhang and Y.F. Ma	68
<b>Preparation and Electrochemical Properties of <math>\text{Si}@C/\text{Graphite}</math> Composite as Anode for Lithium-Ion Batteries</b>	
Y. Wang, W. Ruan, R.H. Tang, F.M. Xiao, T. Sun and L. Huang	74
<b>Mechanism Analysis of Field Emission for Nano-Diamond Films on Stainless Steel Substrates</b>	
S.Y. Wei, S.J. Liu, X.X. Zhang and L.X. Guo	82
<b>Effect of Carbonate Substitution on the Biomineralization of Apatite Bulk and Coating</b>	
Q.X. Zhu and Q.Y. Nie	87
<b>Effect of Magnesium to Phosphorus Ratio on Properties of Magnesium Phosphate Cement</b>	
J.B. Wen, X.S. Tang, Z.F. Xu and Y.R. Zhu	94
<b>Co-Precipitation Synthesis and Photoluminescence Properties of <math>\text{K}_2\text{SiF}_6:\text{Mn}^{4+}</math> Red Phosphor for White Light Emitting Diodes</b>	
D. Wu, X.Y. Ye, L.S. Wang and Q.H. Zeng	101
<b>Influence of Pressure on Structural, Optical and Electronic Properties of As-ZnO</b>	
L.P. Xiao, Y.Q. Liu and L. Zeng	110
<b>Firs-Principles Investigation of the Electronic and Optical Properties of B-Doped ZnO under Pressure</b>	
L.P. Xiao and Y.Q. Liu	115
<b>Analysis of Plastic Properties of Fe-Based Coatings at Different Annealing Temperatures by Nanoindentation</b>	
Z. Yu, H.Y. Yang, Z.K. Song, S.X. Lin and H.Y. Li	121
<b>A New Approach for Calculating Cohesive Energy of Solid Neon Based on the First Principles</b>	
X.R. Zheng	128

<b>First-Principles Study on Crystal Configuration and Many-Body Cohesive Energy of Solid Argon</b> X.J. Fu	135
<b>Functionally Modified Zeolite Powders for Delivering Antibacterial Performance to Cellulosic Paper</b> L. Yuan and X.R. Qian	141
<b>Detection of <i>Escherichia coli</i> O157:H7 with Antibody Conjugated Amino-Functionalized Graphene Quantum Dots as Immunofluorescence Probes</b> X.Z. Yang, W.L. Feng, G. Chen, H.F. Guo and D.Y. Wang	151
<b>Study on the Preparation Technology and Regeneration Technology of Activated Carbon</b> Y. Ma, X.X. Zhang and R. Fan	159
<b>Visible Light-Assisted Soft-Chemistry Route to Silver Nanomaterials at Room Temperature</b> Y. Wu, X. Liu, Z. Huang, X.F. He, X. Yang and Q. Li	165
<b>Preparation for Graphene Coated Polyvinyl Alcohol Based Conductive Fiber Containing Silver Nanowires</b> C. Xiao, X.K. Xiong, J. Sun and L.X. Dai	171
<b>Ceramic Oxides from Liquid Explosive Reaction</b> H.S. Zhou, X.H. Xie, S.B. Yan and Z.Y. Li	176