

Ei 核心期刊, Scopus, CA, SA, P 收录期刊, 中国国际影响力优秀学术期刊

1957 年创刊

# 硅 酸 盐 学 报

总 398 期

Guisuanyan Xuebao

(无机非金属材料)

<http://www.gxyb.cbpt.cnki.net>

第 50 卷 第 5 期 2022 年 5 月, 月刊

## 目 次

### 研究论文

- LiAlSiO<sub>4</sub> 改性高电压 LiCoO<sub>2</sub> 正极材料的电化学性能 ..... 申 斌, 徐 星, 刘万民, 秦牡丹, 王伟刚 (1201)
- 表面活性剂对 NiMn<sub>2</sub>O<sub>4</sub> 电极材料形貌及超级电容性能的影响 ..... 李明伟, 杜梦蝶, 杨 芳, 董 伟, 杨绍斌 (1209)
- SnO<sub>2</sub>@C/还原氧化石墨烯的制备及其作为锂离子电池负极材料的性能  
..... 钱晨亮, 古飞蛟, 金双玲, 王晓瑞, 张 睿, 金鸣林 (1215)
- 含梯度阳极固体氧化物燃料电池热残余应力与失效概率分析 ..... 张 曦, 严资林, 周晔欣, 仲 政 (1223)
- 梯度孔隙阳极固体氧化物燃料电池的热应力 ..... 宋 明, 杜传胜, 王炳英, 马 帅, 蒋文春 (1233)
- 锶钴掺杂铁酸镧修饰的直接碳固体氧化物燃料电池银基阳极的催化性能  
..... 蔡位子, 童 鑫, 李玉芝, 吴伟创, 王海林 (1241)
- 中温固体氧化物燃料电池阴极材料 Bi<sub>1-x</sub>Ca<sub>x</sub>FeO<sub>3-δ</sub> 的制备及其性能  
..... 冯伟伟, 赵慧粉, 沈睦夷, 陈 涵, 郭露村 (1248)
- 磁控溅射制备 Cu<sub>2</sub>ZnSnS<sub>4</sub> 薄膜太阳电池 ..... 李新毓, 张道永, 李 祥, 李秋莲, 刘 信, 王书荣 (1257)
- 全固态 Z-Scheme 光催化剂 MoS<sub>2</sub>/RGO/Fe<sub>2</sub>O<sub>3</sub> 的构筑及性能  
..... 焦永欣, 王 姝, 殷佳楠, 孙 宇, 李 鑫, 刘玉普 (1263)
- 超疏水光催化聚二甲基硅氧烷/纳米 TiO<sub>2</sub> 自清洁涂层的制备和性能  
..... 刘瑞来, 丁晓红, 赵璿云, 胡家朋, 穆寄林, 付兴平 (1275)
- 二氧化钛对镁铝硅微晶玻璃析晶行为与性能的影响  
..... 余 炜, 梁新辉, 李书志, 高文凯, 张占蒙, 钟 波, 王 静, 韩建军 (1283)
- 非晶 Nb<sub>2</sub>O<sub>5</sub> 晶化中间态的微观结构及晶化动力学 ..... 申星梅, 朱宗建, 徐致远, 武杏荣, 曹发斌, 李辽沙 (1292)
- 高放废液硼硅酸盐玻璃固化体热学性质和化学稳定性的统计结构模拟 ..... 陈泽坤, 张丽艳 (1301)

中远红外超宽波段高反射一维光子晶体薄膜结构设计·····	汤道麟, 李享成, 陈平安, 朱颖丽, 朱伯铨 (1310)
SiO <sub>2</sub> 气凝胶增强碳泡沫复合材料的制备工艺及性能·····	王 斌, 罗晓宇, 赵益君, 周晓蕊, 朱晨静 (1316)
氩气热处理制备高热稳定性疏水 SiO <sub>2</sub> 气凝胶·····	李 治, 邓云猛, 王 洋, 杜 冰, 李 明, 刘 琼, 程旭东 (1325)
添加剂对地质聚合物固化 Se(VI)与 Cr(VI)的作用机制·····	田全志, SASAKI Keiko (1335)
甲基三甲氧基硅烷基 SiO <sub>2</sub> 气凝胶骨架尺寸调控及对有机液体的吸附特性 ·····	李 治, 吴丽玲, 黄思琪, 申 凯, 邓 曦, 刘 琼, 李 明 (1347)
蛭石对水中重金属离子的吸附性能·····	夏 银, 刘月迎, 王丽娟, 吕国诚, 刘 昊, 廖立兵 (1357)
胺化 Fe <sub>3</sub> O <sub>4</sub> @SiO <sub>2</sub> 纳米颗粒的制备及其对水溶液中 Cr(VI)的去除 ·····	万徐庆, 孙 涵, 王 磊, 王旭东, 汪婉莹, 裴 添 (1364)
离子热法合成 CHA 型分子筛膜及其脱盐应用·····	张慧智, 甘 来, 刘 妮, 黄欣悦, 胡 娜, 陈祥树 (1375)
碳源入射角对超薄四面体非晶碳膜结构和性能的影响·····	党 坤, 王 华, 陈维铅, 李玉宏, 许世鹏 (1385)
饱水水泥砂浆孔结构的低场磁共振测试分析·····	杨振丽, 周春圣 (1391)
基于数字图像方法的混掺纤维应变硬化水泥基复合材料力学性能及变形特征 ·····	郭伟娜, 鲍玖文, 张 鹏, 孙燕群, 马衍轩, 赵铁军 (1401)

## 综合评述

类水滑石拓扑转变材料在光、电能源催化中的应用·····	段 驰, 李振华, 施 润, 张铁锐 (1410)
面向人工生态循环系统的气凝胶材料研究进展 ·····	李华鑫, 乐 弦, 肖 洲, 余显波, 孙丰垒, 薛 潮, 向军辉 (1422)
高效太阳电池及其阵列技术的空间应用研究进展·····	王 凯, 王训春, 钱 斌, 马聚沙, 陆剑峰 (1436)
Ti <sub>3</sub> C <sub>2</sub> MXene 柔性应力/应变传感器的制备及应用研究进展·····	袁文凤, 王军凯, 夏启勋, 周爱国 (1447)

# JOURNAL OF THE CHINESE CERAMIC SOCIETY

## Guisuanyan Xuebao

(Inorganic and Non-metallic Materials)

Total No. 398

<http://www.gxyb.cbpt.cnki.net>

May, 2022

## Vol. 50, No. 5, Monthly

### CONTENTS

#### Research Articles

Electrochemical Performance of LiAlSiO<sub>4</sub> Modified High Voltage LiCoO<sub>2</sub> Cathode Materials

.....SHEN Bin, XU Xing, LIU Wanmin, QIN Mulan, WANG Weigang (1201)

Effect of Surfactant on Morphology and Supercapacitor Properties of NiMn<sub>2</sub>O<sub>4</sub> Electrode Material

.....LI Mingwei, DU Mengdie, YANG Fang, DONG Wei, YANG Shaobin (1209)

Preparation of SnO<sub>2</sub>@C/ Reduced Graphene Oxide Nanocomposite as Anode Materials for Lithium-Ion Battery

.....QIAN Chenliang, GU Feijiao, JIN Shuangling, WANG Xiaorui, ZHANG Rui, JIN Minglin (1215)

Residual Thermal Stress and Failure Probability Analysis of Solid Oxide Fuel Cell with Gradient Anode

.....ZHANG Xi, YAN Zilin, ZHOU Yexin, ZHONG Zheng (1223)

Thermal Stress of Solid Oxide Fuel Cell with Gradient Porosity Anode

.....SONG Ming, DU Chuansheng, WANG Bingying, MA Shuai, JIANG Wenchun (1233)

Catalytic Performance of Strontium Cobalt Doped Lanthanum Ferrite Modified Silver Anode for Direct Carbon Solid Oxide

Fuel Cell .....CAI Weizi, TONG Xin, LI Yuzhi, WU Weichuang, WANG Hailin (1241)

Preparation and Properties of Bi<sub>1-x</sub>Ca<sub>x</sub>FeO<sub>3-δ</sub> Cathode Materials for Intermediate-Temperature Solid Oxide Fuel Cell

.....FENG Weiwei, ZHAO Huifen, SHEN Muiyi, CHEN Han, GUO Lucun (1248)

Preparation of Cu<sub>2</sub>ZnSnS<sub>4</sub> Thin Films Solar Cells Based on Magnetron Sputtering

.....LI Xinyu, ZHANG Daoyong, LI Xiang, LI Qiulian, LIU Xin, WANG Shurong (1257)

Construction and Properties of All-Solid-State Z-Scheme MoS<sub>2</sub>/RGO/Fe<sub>2</sub>O<sub>3</sub> Composites

.....JIAO Yongxin, WANG Shu, YIN Jianan, SUN Yu, LI Xin, LIU Yupu (1263)

Preparation and Property of Superhydrophobic and Photocatalytic Polydimethylsilane/Nano-TiO<sub>2</sub> Self-Cleaning Coating

.....LIU Ruilai, DING Xiaohong, ZHAO Jinyun, HU Jiapeng, MU Jilin, FU Xingping (1275)

Effect of Titanium Dioxide on Crystallization Behavior and Properties of MgO–Al<sub>2</sub>O<sub>3</sub>–SiO<sub>2</sub> Glass–Ceramics

.....YU Wei, LIANG Xinhui, LI Shuzhi, GAO Wenkai, ZHANG Zhanmeng, ZHONG Bo, WANG Jing, HAN Jianjun (1283)

Microstructure and Kinetics of Intermediate Crystallization State of Amorphous Nb<sub>2</sub>O<sub>5</sub>

.....SHEN Xingmei, ZHU Zongjian, XU Zhiyuan, WU Xingrong, CAO Fabin, LI Liaosha (1292)

Statistical Structure Modeling for Thermal Properties and Chemical Stability of Borosilicate Glass Wasteforms with High Level

Radioactive Waste .....CHEN Zekun, ZHANG Liyan (1301)

Design of One-Dimensional Photonic Crystal Film Structure with High Reflection in Ultra-Wide Range of Mid-/Far-Infrared

Band .....TANG Daolin, LI Xiangcheng, CHEN Ping'an, ZHU Yingli, ZHU Boquan (1310)

Preparation and Properties of Silica Aerogels Reinforced Carbon Foam Composites

.....WANG Bin, LUO Xiaoyu, ZHAO Yijun, ZHOU Xiaorui, ZHU Chenjing (1316)

Preparation of Hydrophobic Silica Aerogel with High Thermal Stability by Argon Atmosphere Heat Treatment

.....LI Zhi, DENG Yunmeng, WANG Yang, DU Bing, LI Ming, LIU Qiong, CHENG Xudong (1325)

Effect of Additives on Immobilization of Se(VI) and Cr(VI) in Geopolymer

.....TIAN Quanzhi, SASAKI Keiko (1335)

Methyltrimethoxysilane Based Silica Aerogels with Controllable Skeleton Size and Their Adsorption Characteristics for

Organic Liquids .....LI Zhi, WU Liling, HUANG Siqi, SHEN Kai, DENG Xi, LIU Qiong, LI Ming (1347)

Adsorption Properties of Heavy Metal Ions in Water by Vermiculite

.....XIA Yin, LIU Yueying, WANG Lijuan, LYU Guocheng, LIU Hao, LIAO Libing (1357)

Preparation of Amine-Functionalized  $\text{Fe}_3\text{O}_4@\text{SiO}_2$  Nanoparticles for Removal of Cr(VI) from Aqueous Solution

.....WAN Xuqing, SUN Han, WANG Lei, WANG Xudong, WANG Wanying, PEI Tian (1364)

Ionothermal Synthesis of CHA-Type Zeolite Membrane for Desalination

.....ZHANG Huizhi, GAN Lai, LIU Ni, HUANG Xinyue, HU Na, CHEN Xiangshu (1375)

Effect of Carbon Source Incident Angle on Structure and Properties of Ultrathin Tetrahedral Amorphous Carbon Films

.....DANG Kun, WANG Hua, CHEN Weiqian, LI Yuhong, XU Shipeng (1385)

Pore Structure of Water-Saturated Cement Mortars by Low-Field Nuclear Magnetic Resonance

.....YANG Zhenli, ZHOU Chunsheng (1391)

Mechanical Properties and Deformation Characteristics of Hybrid Fiber Strain Hardening Cementitious Composites Based on

Digital Image Method .....GUO Weina, BAO Jiuwen, ZHANG Peng, SUN Yanqun, MA Yanxuan, ZHAO Tiejun (1401)

**Review**

Applications of Layered Double Hydroxides Topological Transformation Materials in Energy Photocatalysis and Electrocatalysis

.....DUAN Chi, LI Zhenhua, SHI Run, ZHANG Tierui (1410)

Recent Advances on Aerogels Used for Artificial Ecological Cycle System

.....LI Huaxin, YUE Xian, XIAO Zhou, YU Xianbo, SUN Fenglei, XUE Chao, XIANG Junhui (1422)

Recent Development on Space Application for High-Efficiency Solar Cells and Array Technology

.....WANG Kai, WANG Xunchun, QIAN Bin, MA Jusha, LU Jianfeng (1436)

Research Progress on Preparation and Application of Flexible Stress/Strain Sensors Based on Two-Dimensional  $\text{Ti}_3\text{C}_2$  MXene

.....YUAN Wenfeng, WANG Junkai, XIA Qixun, ZHOU Aiguo (1447)