

## 第 42 卷 第 11 期 2023 年 11 月

### 目 次

#### · 水泥混凝土 ·

大掺量矿物掺合料混凝土碳化行为研究进展 ..... 李茂森,王 露,王 军,李 曦,徐芬莲,刘数华(3787)

基于分子动力学的氧化石墨烯对 PVA 纤维-CSH 界面影响机理研究  
..... 臧 芸,王 攀,王慕涵,王鑫鹏,侯东帅,赵铁军(3799)

磨细石灰石粉-水泥流变性能及水化机理研究 ..... 邓国庆,屠林春,赵文昊,李 炜(3807)

高性价比混杂纤维工程水泥基复合材料的力学性能研究 ..... 张品乐,朱昊天,胡 静,曾靖渊,陶 忠(3816)

钢-PVA 混杂纤维水泥基复合材料抗压力学性能及经济性研究  
..... 张品乐,曾靖渊,胡 静,朱昊天,陶 忠(3827)

SAP 对高性能工程水泥基复合材料性能的影响 ..... 姜爱国,杨维斌,蔡 杰(3836)

ALC 板专用砂浆早期抗剪黏结性能试验与数值模拟研究 ..... 欧阳德光,朱利平,郭 旭,静 行(3843)

桥梁无缝伸缩缝用改性聚氨酯研发及足尺试验研究  
..... 李 岩,李 文,张华建,韩乐冰,仝 腾,李小波,袁思奇(3853)

振捣作用下新拌混凝土流变性和气泡结构研究 ..... 金 阳,潘俊锋,仲 亮,韩咏书,周光照,高小建(3866)

长期浸泡作用下风积沙混凝土微观特性研究 ..... 朱遂军,汪金满,王想想,杨强斌,李根峰,杨效田(3878)

钢纤维增强混凝土细观压缩断裂模拟与性能分析 ..... 陶雪君,罗健林,樊康鑫,陈 杰,朱 敏,高乙博(3884)

高温后钢纤维自密实混凝土动、静态力学性能研究 ..... 朱 明,官能平,穆朝民,蔡天宇,章 雨(3895)

新型自密实透水混凝土抗堵塞性能及堵塞模型 ..... 是华荣,薛 璐,朱平华,史志浩,王新杰,刘 铭(3906)

基于 Stacking 模型融合的高性能混凝土强度预测方法  
..... 胡以婵,梁 铭,谢灿荣,解威威,翁贻令,池 浩,彭 浩,罗雪霜(3914)

ECC 路面面层的生命周期评价和成本分析 ..... 熊晓立,杨政险,罗盛洋,林佳福,董世林(3927)

不同拉压应力水平对混凝土超声波波速的影响 ..... 负建洲,陈顺超,董春彦,聂良鹏,袁胜涛(3937)

#### · 资源综合利用 ·

贝壳的吸附性能及其在水泥基材料中的应用进展 ..... 王冬丽,辛 瑞,赵庆新,吴东辉,潘慧敏,袁丽丽(3945)

矿渣-硫铝酸盐水泥的环境影响及碳减排效应分析 ..... 潘志强,李 晨,蒋正武(3955)

水泥-矿渣基早强固化剂制备及固化土宏微观性能研究 ..... 厉帅康,俞 峰,陈 鑫,余 静(3964)

中和渣地质聚合物的制备与性能表征 ..... 赖 金,罗 琦,王文耀,黄文昊,刘峰岳,庄荣传,汪峻峰(3978)

铁尾砂泡沫混凝土抗冻融性能及可靠性分析 .....	朱利平,杜晓丽,邹天明(3988)
矿渣-电石渣地质聚合物的性能及作用机制 .....	安 赛,王宝民,陈文秀,王晓军(3996)
固废复合材料灌浆料复合试验设计、力学性能及微观结构分析 .....	张会芳,龚琳洋,任娅娜,黄建国,寇 斌,颜政伟,张占超,刘伟杰,魏文博(4006)
工业固废粉末对自密实高性能混凝土性能的影响 .....	何 翔,乔险涛,喻 鹏,周佳乐,牛建东(4017)
复合转晶剂对建筑石膏性能的影响 .....	郝建英,王升昌,陈佳宁,田 博(4027)
脱硫石膏-废水泥碳化再生砌块的力学性能及机理 .....	刘明帝,秦 吉,董 晨,朱 颖(4035)
再生砂粉混凝土抗压强度与细观损伤研究 .....	马 泉,肖建庄,田 丰,晏文品,宋 敏,付 杰,杨 超,曹 雪(4042)
混合型再生砂粉对水泥稳定碎石抗冻和干缩性能的影响 .....	谢祥兵,司马笑情,张艺林,王凯威,蒋冰洋,刘晨晨,李广慧(4051)
玄武岩橡胶混凝土基本力学性能及受压应力-应变曲线 .....	姜天华,莫定聪,万聪聪,卢旭刚,李素珠(4063)
灰渣-凝灰岩地质聚合物力学性能研究 .....	吴建勋,蒋 健,杨永浩,孔 宇,詹欣源,罗志浩,陈 亮(4072)
原位聚合包覆 SiO <sub>2</sub> 纳米纤维棉的制备及重金属吸附性能 .....	郭 勤,张凯钧,陈自娇,苗瑾超,李雪梅,马 信,肖宇航(4082)
<b>· 陶 瓷 ·</b>	
氧化铝纤维增强氧化铝基复合材料研究进展 .....	孙敬伟,王洪磊,周新贵(4092)
形貌可控金粉的制备及其对 LTCC 导体浆料性能的影响 .....	那 华,海 韵,韩 滨,郭恩霞,吕金玉,徐 博,祖成奎(4113)
粉煤灰基多孔陶瓷的制备及吸附性能研究 .....	白利忠,王超男,程 俊,赵梓彤,耿佳旺,李雪峰(4122)
<b>· 玻 璃 ·</b>	
红外梯度折射率 GeS <sub>2</sub> -In <sub>2</sub> S <sub>3</sub> -CsCl 硫系微晶玻璃制备与性能研究 .....	刘虹君,李成康,周港杰,陈津津,林常规(4131)
氧化锌对微晶玻璃结构与性能的影响以及重金属锌的固化机制 .....	李念哲,张宇轩,崔秀涛,欧阳顺利(4136)
化学钢化玻璃的激光焊接及其机械强度 .....	曾新昌,丁原杰,刘传亮,陈 凌,叶 舒(4146)
基于可视化知识图谱的微晶玻璃研究态势分析 .....	高档妮,郭宏伟,王 毅,白 贇,高依博(4154)
<b>· 新型功能材料 ·</b>	
二氧化硅纤维基隔热材料研究进展 .....	吴一凡,王兴涛,孙金峰,孟永强,万红敬(4167)
S 空位与 Tc 掺杂单层 MoS <sub>2</sub> 的电子结构和磁学性质模拟 .....	付斯年,朱瑞华(4178)
<b>· 简 讯 ·</b>	
第五届全国固废处理与生态材料学术与技术交流会在南京圆满召开 .....	(4177)

# BULLETIN OF THE CHINESE CERAMIC SOCIETY

Vol. 42 No. 11 November 2023 (Series No. 326)

## CONTENTS

### • Cement and Concrete •

- Research Progress on Carbonation Behavior of Concrete with Large Volume of Mineral Admixture  
..... *LI Maosen, WANG Lu, WANG Jun, LI Xi, XU Fenlian, LIU Shuhua*(3787)
- Influence Mechanism of Graphite Oxide on PVA Fiber-CSH Interface Based on Molecular Dynamics  
..... *ZANG Yun, WANG Pan, WANG Muhan, WANG Xinpeng, HOU Dongshuai, ZHAO Tiejun*(3799)
- Rheological Properties and Hydration Mechanism of Finely Ground Limestone Powder-Cement  
..... *DENG Guoqing, TU Linchun, ZHAO Wenhao, LI Wei*(3807)
- Mechanical Properties of High Cost Performance Hybrid Fiber Engineered Cementitious Composites  
..... *ZHANG Pinle, ZHU Haotian, HU Jing, ZENG Jingyuan, TAO Zhong*(3816)
- Compressive Mechanical Properties and Economic Performance of Steel-PVA Hybrid Fiber Cement-Based Composites  
..... *ZHANG Pinle, ZENG Jingyuan, HU Jing, ZHU Haotian, TAO Zhong*(3827)
- Effect of SAP on Properties of High Performance Engineered Cementitious Composites  
..... *JIANG Aiguo, YANG Weibin, CAI Jie*(3836)
- Experimental and Numerical Simulation Study on Early-Age Shear Bond Performance of Special Mortar for ALC Panel  
..... *OUYANG Deguang, ZHU Liping, GUO Xu, JING Hang*(3843)
- Development and Full-Scale Tests of Modified Polyurethane-Based Seamless Expansion Joints for Bridge  
..... *LI Yan, LI Wen, ZHANG Huajian, HAN Lebing, TONG Teng, LI Xiaobo, YUAN Siqi*(3853)
- Rheology and Air Void Structure of Fresh Concrete under Vibration  
..... *JIN Yang, PAN Junzheng, ZHONG Liang, HAN Yongshu, ZHOU Guangzhao, GAO Xiaojian*(3866)
- Microscopic Characteristics of Aeolian Sand Concrete under Long Term Immersion  
..... *ZHU Suijun, WANG Jinman, WANG Xiangxiang, YANG Qiangbin, LI Genfeng, YANG Xiaotian*(3878)
- Meso-Compressive Fracture Simulation and Performance Analysis of Steel Fiber Reinforced Concrete  
..... *TAO Xuejun, LUO Jianlin, FAN Kangxin, CHEN Jie, ZHU Min, GAO Yibo*(3884)
- Dynamic and Static Mechanical Properties of Steel Fiber Reinforced Self-Compacting Concrete after Exposed to High Temperature  
..... *ZHU Ming, GONG Nengping, MU Chaomin, CAI Tianyu, ZHANG Yu*(3895)
- Anti-Clogging Performance and Clogging Model of New Self-Compacting Pervious Concrete  
..... *SHI Huarong, XUE Lu, ZHU Pinghua, SHI Zhihao, WANG Xinjie, LIU Ming*(3906)
- Strength Prediction Method of High Performance Concrete Based on Stacking Model Fusion  
..... *HU Yichan, LIANG Ming, XIE Canrong, XIE Weiwei, WENG Yiling, CHI Hao, PENG Hao, LUO Xueshuang*(3914)
- Life Cycle Assessment and Cost Analysis of ECC Pavement Overlay  
..... *XIONG Xiaoli, YANG Zhengxian, LUO Shengyang, LIN Jiafu, DONG Shilin*(3927)
- Influences of Different Tensile and Compressive Stress Levels on Ultrasonic Wave Velocity of Concrete  
..... *YUN Jianzhou, CHEN Shunchao, DONG Chunyan, NIE Liangpeng, YUAN Shengtao*(3937)

### • Solid Waste and Eco-Materials •

- Adsorption Performance of Seashell and Its Application Progress in Cement-Based Materials  
..... *WANG Dongli, XIN Rui, ZHAO Qingxin, WU Donghui, PAN Huimin, YUAN Lili*(3945)
- Environmental Impact of Slag-Calcium Sulfoaluminate Cement and Analysis on Its CO<sub>2</sub> Mitigation Effect  
..... *PAN Zhiqiang, LI Chen, JIANG Zhengwu*(3955)
- Preparation of Cement-Slag Based Early Strength Curing Agent and Macro and Micro Properties of Solidified Soil  
..... *LI Shuai kang, YU Feng, CHEN Xin, YU Jing*(3964)
- Preparation and Properties Characterization of Neutralization Slag Based Geopolymers  
..... *LAI Jin, LUO Qi, WANG Wenyao, HUANG Wenhao, LIU Fengyue, ZHUANG Rongchuan, WANG Junfeng*(3978)

- Freeze-Thaw Resistance and Reliability Analysis of Iron Tailings Sand Foam Concrete  
 ..... ZHU Liping, DU Xiaoli, ZOU Tianmin(3988)
- Performance and Action Mechanism of Slag-Carbide Slag Based Geopolymer  
 ..... AN Sai, WANG Baomin, CHEN Wenxiu, WANG Xiaojun(3996)
- Composite Experiments Design, Mechanical Properties and Microstructure Analysis of Solid Waste Composite Grouting Material ..... ZHANG Huifang, GONG Linyang, REN Yana, HUANG Jianguo, KOU Bin, YAN Zhengwei, ZHANG Zhanchao, LIU Weijie, WEI Wenbo(4006)
- Effects of Industrial Solid Waste Powders on Performance of High-Performance Self-Compacting Concrete  
 ..... HE Xiang, QIAO Xiantao, YU Peng, ZHOU Jiale, NIU Jiandong(4017)
- Effects of Composite Crystal Modifiers on Properties of Calcined Gypsum  
 ..... HAO Jianying, WANG Shengchang, CHEN Jianing, TIAN Bo(4027)
- Mechanical Properties and Mechanism of Desulphurized Gypsum-Waste Cement Carbonized Recycled Block  
 ..... LIU Mingdi, QIN Ji, DONG Chen, ZHU Ying(4035)
- Compressive Strength and Microscopic Damage of Recycled Sand/Powder Concrete  
 ..... MA Quan, XIAO Jianzhuang, TIAN Feng, YAN Wenpin, SONG Min, FU Jie, YANG Chao, CAO Xue(4042)
- Effect of Mixed Recycled Sand Powder on Frost Resistance and Dry Shrinkage of Cement-Stabilized Aggregates  
 ..... XIE Xiangbing, SIMA Xiaoqing, ZHANG Yilin, WANG Kaiwei, JIANG Bingyang, LIU Chenchen, LI Guanghui(4051)
- Basic Mechanical Properties and Compressive Stress-Strain Curves of Basalt Rubber Concrete  
 ..... JIANG Tianhua, MO Dingcong, WAN Congcong, LU Xugang, LI Suzhu(4063)
- Mechanical Property of Bottom Ash-Tuff Based Geopolymer  
 ..... WU Jianxun, JIANG Jian, YANG Yonghao, KONG Yu, ZHAN Xinyuan, LUO Zhihao, CHEN Liang(4072)
- Preparation and Heavy Metal Adsorption Properties of SiO<sub>2</sub> Nanofiber Cotton By in situ Polymerization Coating  
 ..... GUO Qin, ZHANG Kaijun, CHEN Zijiao, MIAO Jinchao, LI Xuemei, MA Xin, XIAO Yuhang(4082)
- **Ceramics** •
- Research Progress of Al<sub>2</sub>O<sub>3</sub> Fiber Reinforced Al<sub>2</sub>O<sub>3</sub> Matrix Composites  
 ..... SUN Jingwei, WANG Honglei, ZHOU Xingui(4092)
- Preparation of Morphology-Controlled Gold Powder and Its Influence on Properties of Conductor Paste for LTCC  
 ..... NA Hua, HAI Yun, HAN Bin, GUO Enxia, LYU Jinyu, XU Bo, ZU Chengkui(4113)
- Preparation and Adsorption Performance of Fly Ash Based Porous Ceramics  
 ..... BAI Lizhong, WANG Chaonan, CHENG Jun, ZHAO Zitong, GENG Jiawang, LI Xuefeng(4122)
- **Glass** •
- Fabrication and Properties of Infrared Gradient Refractive Index GeS<sub>2</sub>-In<sub>2</sub>S<sub>3</sub>-CsCl Chalcogenide Glass-Ceramics  
 ..... LIU Hongjun, LI Chengkang, ZHOU Gangjie, CHEN Jinjin, LIN Changgui(4131)
- Influence of Zinc Oxide on Structure and Properties of Glass-Ceramics and Solidification Mechanism of Heavy Metal Zinc  
 ..... LI Nianzhe, ZHANG Yuxuan, CUI Xiutao, OUYANG Shunli(4136)
- Laser Welding of Chemically Tempered Glass and Its Mechanical Strength  
 ..... ZENG Xinchang, DING Yuanjie, LIU Chuanliang, CHEN Ling, YE Shu(4146)
- Research Situation Analysis of Glass Ceramics Based on Visual Knowledge Graph  
 ..... GAO Dangni, GUO Hongwei, WANG Yi, BAI Yun, GAO Yibo(4154)
- **New Functional Materials** •
- Research Progress on Silica Fiber-Based Thermal Insulation Materials  
 ..... WU Yifan, WANG Xingtao, SUN Jinfeng, MENG Yongqiang, WAN Hongjing(4167)
- Simulation of Electronic Structure and Magnetism Properties of S Vacancy and Tc-Doped Monolayer MoS<sub>2</sub>  
 ..... FU Sinian, ZHU Ruihua(4178)