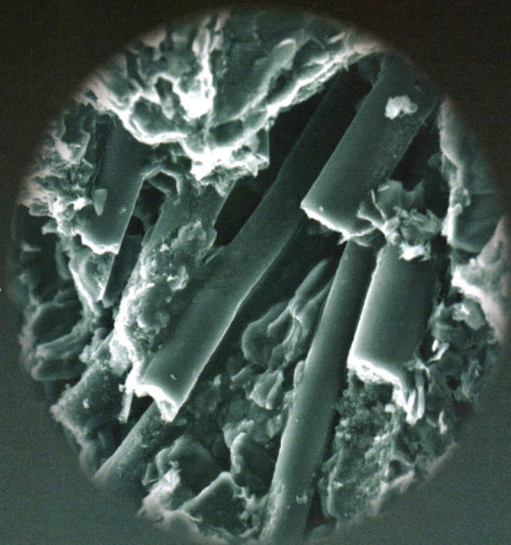




复合材料学报

Acta Materiae Compositae Sinica



2021. 10

北京航空航天大学 主办
中国复合材料学会



目 次

综 述

- 基于微结构的柔性压力传感器设计、制备及性能 金凡, 吕大伍, 张天成, 沈文锋, 李佳, 谭瑞琴 (3133)
- 纤维材料表面图案化构筑及应用研究进展 徐昭, 解晓雨, 沈浩, 郭颖, 杨丽丽, 葛邓腾 (3151)
- 基于金属有机框架的光子晶体制备与应用研究进展 柳浩, 赵嘉欣, 张耘箫, 金梦婷, 周岚, 刘国金 (3162)
- 低共熔溶剂体系下木质纤维素的功能化改性及应用研究进展 马若腾, 张庆, 张莉莉, 王志国 (3171)
- MOFs 及衍生复合材料在锂硫电池中的设计应用 杜玺, 尹雷雷, 张文隽, 苏坤梅, 李振环 (3184)

树脂基复合材料

- 导电分子印迹膜化学修饰电极的制备及其对胭脂红的电化学检测 姜涛, 邱海燕, 王肖元, 盛程曦, 居家奇 (3200)
- 定向重组竹纤维素纤维/酚醛树脂复合材料的制备及其性能
..... 李泽, 何文, 强瀚, 王瑞, 郭志豪, 郭飞宇, 曹济舟, 芦梦婷 (3209)
- 拟薄水铝石改性环氧树脂复合材料的制备与性能 刘国隆, 周宏, 张宏达, 葛静 (3218)
- 季铵盐接枝聚脲微球的制备及抗菌活性 柯丽颖, 邝伟聪, 熊永强, 邓穗平, 卿鹏, 谭绍早 (3226)
- 共价功能化石墨烯超疏水防腐复合涂层材料的制备 刘刚, 欧宝立, 赵欣欣, 彭彩茹, 汪雨微 (3236)
- 表面改性自金属化技术制备表面导电热固性聚酰亚胺复合材料
..... 张嘉阳, 倪洪江, 龚明, 李军, 张代军, 陈祥宝 (3247)
- 基于套管屈曲约束的拉挤型 GFRP 管轴压性能 李峰, 李达, 朱锐杰 (3255)
- 热模压预成型工艺参数对复合材料帽型长桁质量的影响
..... 李哲夫, 谈源, 张俭, 岳广全, 刘卫平, 孙宝忠 (3270)
- 磷杂菲三氮唑双基化合物高效阻燃环氧树脂 王鹏, 刘家豪 (3281)
- CFRP@GFRP 混杂复合材料杆体在水浸泡环境下的性能演化 李承高, 郭瑞, 王俊琦, 黄涵鑫, 咸贵军 (3290)
- 大厚度复合材料曲面典型构件的工艺优化 马彦旭, 王继辉, 倪爱清, 杨斌, 彭运松 (3302)
- CFRP 感应加热线圈中心区域温度场 付天宇, 许家忠, 赵辉, 刘美军 (3314)
- 基于频率变化预测玻璃纤维增强树脂复合材料层合板的剩余疲劳寿命
..... 廖兴升, 梁智洪, 傅继阳, 江剑, 王财政, 张芝芳 (3323)
- 一种预测复合材料棘轮行为的循环塑性-损伤模型 成磊, 肖毅, 王杰, 薛元德 (3338)
- 汽车内饰用秸秆纤维/聚丙烯复合材料流变本构方程的建立 曾雄, 孟正华, 郭巍, 王金坤, 廖龙凤 (3351)
- 典型螺栓连接 CFRP 薄壁 C 型柱轴压失效行为: 试验及数值模拟 解江, 宋山山, 牟浩蕾, 刘冰, 冯振宇 (3361)

基于 ABAQUS 二次开发的球形破片侵彻 UHMWPE 软质防弹衣数值模拟
..... 罗小豪, 温焱珂, 闫文敏, 曹岩枫, 董方栋 (3373)

金属基与陶瓷基复合材料

双屏蔽 (B₄C-W)/6061Al 层状复合板设计与性能 连俊杰, 刘润爱, 陈洪胜, 王文先, 杨涛, 郑凡林 (3387)

微/纳 B₄C 增强 6061Al 复合材料微观结构及力学性能 刘瑞峰, 王文先, 赵威 (3394)

Li-Ni 共掺尖晶石型 LiMn₂O₄ 单晶多面体材料的制备及电化学性能
..... 李萌, 刘红雷, 郭俊明, 向明武, 刘晓芳, 白红丽, 白玮 (3402)

二氧化钒-1,4-双(苯并噁唑-2-基)萘复合薄膜及其热致变色和发光性能
..... 秦成远, 高迎, 王程, 聂永, 徐慧妍, 李良, 苗金玲, 蒋绪川 (3412)

SiC-BN 层状陶瓷复合材料叠层方式优化设计 曾翔龙, 宗郑, 邓琼, 王波, 李玉龙, 张程煜 (3424)

考虑氧化损伤的陶瓷基复合材料弹性模量多尺度预测模型 李锦涛, 王波, 杨扬, 张程煜 (3432)

其他

D 型 Fmoc-苯丙氨酸/透明质酸复合双网络水凝胶的制备及应用
..... 付成, 刘敏, 鲁望婷, 袁发浒, 李雯慧, 邓云 (3443)

基于碳纤维的新型自支撑电极制备方法 谢海生, 吴芮, 刘俊逸, 胡贝利, 任俊, 顾在春, 武建勋 (3454)

CFRP 筋-高强钢筋/高强混凝土柱的抗震性能 王作虎, 罗义康, 刘杜, 杨菊 (3463)

聚丙烯纤维对混凝土损伤渗透特性的影响 段明翰, 覃源, 许增光, 马伟丽 (3474)

GFRP 筋与自密实混凝土黏结性能的试验研究 吴丽丽, 王慧, 杨畅涵, 王云飞, 杨璐 (3484)

超高性能混凝土在环境温度变化下的力学性能试验研究 过震文, 刘小方, 段昕智, 吕计委, 王飞, 阙黎黎 (3495)

水热法制备高反射率 TiO₂ 壳层中空玻璃微球 杨威, 周广伟, 王琨, 程珏, 张军营 (3504)

硅化镁还原 CO₂ 一步原位合成 Si/C 复合负极 石永刚, 张志勇, 陈彬, 宋文龙, 梁初, 黄辉 (3512)

FRP 筋/珊瑚混凝土柱轴心受压承载力 陈爽, 梁淑嘉, 关纪文 (3519)

高温后聚丙烯纤维增强水泥基复合材料导热的多尺度方法 姚秀鹏, 韩阳, 沈雷, 朱德, 曹茂森 (3531)

Kevlar 纤维增强复合材料激光-铣削组合加工试验及可行性分析 苏飞, 李纯杰, 李文毅, 郑雷 (3543)

基于二维连续小波变换与数据融合技术的逆有限元法-伪激励法结构损伤识别方法
..... 徐浩, 沙刚刚, 李腾腾, 李建乐, 武湛君 (3554)

期刊基本参数: CN 11-1801/TB*1984*m*A4*430*zh*P*¥60.00*700*40*2021-10

编辑:李博涵

审校:吴红丽 万玉敏

CONTENTS

Reviews

- Design, fabrication and performance of flexible pressure sensors based on microstructures
 JIN Fan, LV Dawu, ZHANG Tiancheng, SHEN Wenfeng, LI Jia, TAN Ruiqin (3133)
- Research progress in construction and applications of surface patterned fibers
 XU Zhao, XIE Xiaoyu, SHEN Hao, GUO Ying, YANG Lili, GE Dengteng (3151)
- Research progress in the preparation and application of photonic crystals based on metal-organic framework
 LIU Hao, ZHAO Jiabin, ZHANG Yunxiao, JIN Mengting, ZHOU Lan, LIU Guojin (3162)
- Research advances on functional modification of lignocellulose under deep eutectic solvents and their applications
 MA Ruoteng, ZHANG Qing, ZHANG Lili, WANG Zhiguo (3171)
- Design and application of MOFs and derived composite materials in lithium-sulfur batteries
 DU Xi, YIN Leilei, ZHANG Wenjun, SU Kunmei, LI Zhenhuan (3184)

Resin Matrix Composite

- Preparation of conductive molecularly imprinted membrane chemically modified electrode and electrochemical detection of Ponceau
 4R
 JIANG Tao, QIU Haiyan, WANG Xiaoyuan, SHENG Chengxi, JU Jiaqi (3200)
- Preparation and properties of directionally reconstituted bamboo cellulose fiber/phenolic resin composites
 LI Ze, HE Wen, QIANG Han, WANG Rui, GUO Zhihao, GUO Feiyu, CAO Jizhou, LU Mengting (3209)
- Preparation and properties of boehmite modified epoxy resin composites
 LIU Guolong, ZHOU Hong, ZHANG Hongda, GE Jing (3218)
- Antibacterial activity and preparation of quaternary ammonium grafted polyphosphazene microspheres
 KE Liying, KUANG Weicong, XIONG Yongqiang, DENG Suiping, QING Peng, TAN Shaozao (3226)
- Preparation of covalently functionalized graphene superhydrophobic anticorrosive composite coating materials
 LIU Gang, OU Baoli, ZHAO Xinxin, PENG Cairu, WANG Yuwei (3236)
- Preparation of surface conductive thermosetting polyimide composites by surface modification self-metallization process
 ZHANG Jiayang, NI Hongjiang, GONG Ming, LI Jun, ZHANG Daijun, CHEN Xiangbao (3247)
- Axial compression performance of pultruded GFRP tube based on casing buckling restraint
 LI Feng, LI Da, ZHU Ruijie (3255)
- Effects of hot stamp forming process parameters on quality of the hat-shaped structure preforms of composites
 LI Zhefu, TAN Yuan, ZHANG Jian, YUE Guangquan, LIU Weipin, SUN Baozhong (3270)
- Highly efficient flame-retardant epoxy resin with a novel compound containing phosphaphenanthrene and triazole groups
 WANG Peng, LIU Jiahao (3281)
- Property evolution of CFRP@GFRP hybrid composite rod exposed in the distilled water
 LI Chenggao, GUO Rui, WANG Junqi, HUANG Hanxin, XIAN Guijun (3290)
- Process optimization of typical composite cambered components with large thickness
 MA Yanxu, WANG Jihui, NI Aiqing, YANG Bin, PENG Yunsong (3302)
- Temperature field in the central area of CFRP induction heating coil
 FU Tianyu, XU Jiazhong, ZHAO Hui, LIU Meijun (3314)
- Prediction of remaining fatigue life of glass fiber reinforced polymer laminates based on frequency change
 LIAO Xingsheng, LIANG Zhihong, FU Jiyang, JIANG Jian, WANG Caizheng, ZHANG Zhifang (3323)
- A cyclic plasticity-damage model for predicting ratcheting behavior of composite materials
 CHENG Lei, XIAO Yi, WANG Jie, XUE Yuande (3338)
- Establishment of rheological constitutive equation for straw fiber/ polypropylene composites using in automotive interior
 ZENG Xiong, MENG Zhenghua, GUO Wei, WANG Jinkun, LIAO Longfeng (3351)

Axial compression failure behavior of typical bolted CFRP thin-walled C-channels: Experimental and numerical simulation	XIE Jiang, SONG Shanshan, MOU Haolei, LIU Bing, FENG Zhenyu (3361)
Numerical simulation of spherical fragment penetrating UHMWPE soft body armor based on ABAQUS	LUO Xiaohao, WEN Yaoke, YAN Wenmin, CAO Yanfeng, DONG Fangdong (3373)
Design and properties of double shielding (B ₄ C-W)/6061Al laminated composite board	LIAN Junjie, LIU Run'ai, CHEN Hongsheng, WANG Wenxian, YANG Tao, ZHENG Fanlin (3387)

Metal and Ceramic Matrix Composite

Microstructure and mechanical properties of micro/nano B ₄ C particle reinforced 6061Al matrix composites	LIU Ruifeng, WANG Wenxian, ZHAO Wei (3394)
Preparation and electrochemical properties of Li-Ni co-doping spinel LiMn ₂ O ₄ single crystal polyhedron material	LI Meng, LIU Honglei, GUO Junming, XIANG Mingwu, LIU Xiaofang, BAI Hongli, BAI Wei (3402)
Vanadium dioxide-1, 4-bis(benzoxazol-2-yl)naphthalene composite films and their thermochromic and photoluminescent property	QIN Chengyuan, GAO Ying, WANG Cheng, NIE Yong, XU Huiyan, LI Liang, MIAO Jinling, JIANG Xuchuan (3412)
Optimum design of SiC-BN laminated ceramic composites	ZENG Xianglong, ZONG Zheng, DENG Qiong, WANG Bo, LI Yulong, ZHANG Chengyu (3424)
A multi-scale prediction model of elastic modulus for ceramic matrix composites considering oxidation damage	LI Jintao, WANG Bo, YANG Yang, ZHANG Chengyu (3432)

Others

Preparation and application of Fmoc-Dphenylalanine/hyaluronic acid composite double-network hydrogel	FU Cheng, LIU Min, LU Wangting, YUAN Fahu, LI Wenhui, DENG Yun (3443)
Preparation method of a new self-supporting electrode based on carbon fiber	XIE Haisheng, WU Rui, LIU Junyi, HU Beili, REN Jun, GU Zaichun, WU Jianxun (3454)
Seismic behavior of high-strength concrete columns reinforced with CFRP tendons and high-strength steels	WANG Zuohu, LUO Yikang, LIU Du, YANG Ju (3463)
Effect of polypropylene fiber on the damage and permeability of concrete	DUAN Minghan, QIN Yuan, XU Zengguang, MA Weili (3474)
Experimental study on bond properties between GFRP bars and self compacting concrete	WU Lili, WANG Hui, YANG Changhan, WANG Yunfei, YANG Lu (3484)
Experiment study on mechanical properties of ultra-high performance concrete under ambient temperature change	GUO Zhenwen, LIU Xiaofang, DUAN Xinzhi, LV Jiwei, WANG Fei, KAN Lili (3495)
Preparation of TiO ₂ shelled hollow glass microspheres with high reflectivity by hydrothermal method	YANG Wei, ZHOU Guangwei, WANG Kun, CHENG Jue, ZHANG Junying (3504)
In-situ synthesis of Si/C composites anode by one-step reduction of CO ₂ with magnesium silicide	SHI Yonggang, ZHANG Zhiyong, CHEN Bin, SONG Wenlong, LIANG Chu, HUANG Hui (3512)
Compression behavior of FRP bars/coral concrete columns under axial compression loading	CHEN Shuang, LIANG Shujia, GUAN Jiwen (3519)
Multi-scale method for thermal conductivity of polypropylene fiber reinforced cementitious composites after high temperature	YAO Xiupeng, HAN Yang, SHEN Lei, ZHU De, CAO Maosen (3531)
Research on the feasibility and machining experiment of the laser-milling combination	
machining for Kevlar fiber reinforced composite	SU Fei, LI Chunjie, LI Wenyi, ZHENG Lei (3543)
Structure damage identification method of inverse finite element method-pseudo-excitation method based on 2D continuous wavelet transform and data fusion technology	XU Hao, SHA Ganggang, LI Tengting, LI Jianle, WU Zhanjun (3554)

欢迎订阅《复合材料学报》

《复合材料学报》(月刊)是中国复合材料领域的基础性、学术性科技期刊;主要刊载复合材料基础研究和应用研究方面具有创造性、高水平和有重要意义的最新研究成果的论文,以及由该领域专家亲自撰写的反映本学科最新发展状况的文献综述和信息性文章;所刊载的研究成果对科学研究具有参考价值,对生产实践具有指导作用。

《复合材料学报》的学术影响力和办刊质量不断提高,2019年获批列入《中国科技期刊卓越行动计划》择优支持的梯队期刊。2020年再次被评选为“中国精品科技期刊”,并再度入选“百种中国杰出学术期刊”,入选“领跑者5000—中国科技期刊顶尖论文”库,荣获“中国百篇最具影响国内学术论文”。《复合材料学报》是美国工程索引《Ei Compendex》源期刊;同时被 Elsevier《Scopus》、《EBSCO》(全文)、美国化学文摘《CA》、俄罗斯文摘杂志《AJ》、美国应用力学评论《Appl. Mech. Rev.》(《AMR》)、剑桥科学文摘(工程类)《CSA2》等国际检索系统收录。

《复合材料学报》国内外公开发行,邮发代号:80-413

刊号:ISSN 1000-3851;CN 11-1801/TB

每期定价60元,全年定价720元

复合材料学报

Fuhe Cailiao Xuebao 月刊,1984年创刊

第38卷 第10期 2021年10月出版

Acta Materiae Compositae Sinica

Monthly, Started in 1984

Vol. 38 No. 10 Oct 2021

主管单位:工业和信息化部

主办单位:北京航空航天大学

中国复合材料学会

主 编:章明秋

编辑出版:《复合材料学报》编辑部

电 话:(010) 82316907, 82338527

网 址:<http://fhclxb.buaa.edu.cn>

印 刷:北京科信印刷有限公司

发 行:北京报刊发行局

发行范围:国内外公开发行

Administrated by Ministry of Industry and Information

Technology of the People's Republic of China

Sponsored by Beihang University (BUAA)

Chinese Society for Composite Materials

Chief Editor: Prof. Zhang Mingqiu

Edited and Published by Editorial Office of

Acta Materiae Compositae Sinica

Tel: 0086-010-82316907, 82338527

<http://fhclxb.buaa.edu.cn>

Printed by Beijing Kexin Printing Co., Ltd

Distributed by Beijing Bureau for Distribution of

Newspapers and Journals

刊 号: ISSN 1000-3851 (国际标准连续出版物号)
CN 11-1801/TB (中国标准连续出版物号)

国内定价:60.00元 邮发代号:80-413

ISSN 1000-3851

