

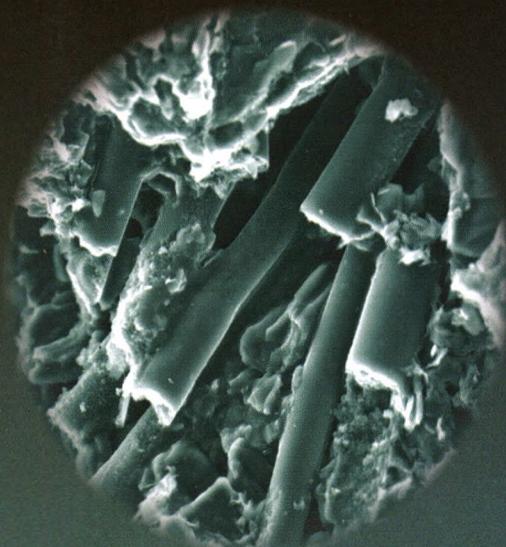


QK2205377



复合材料学报

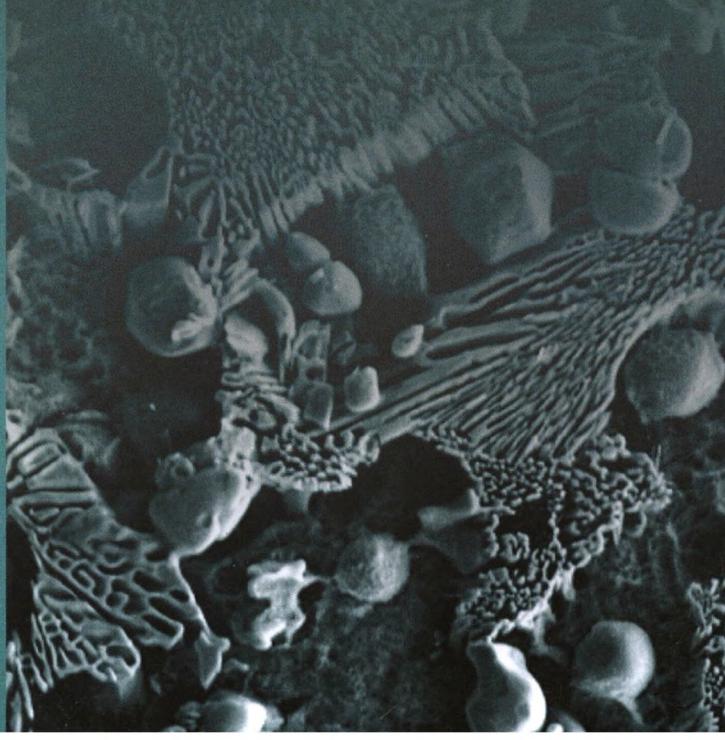
Acta Materiae
Compositae
Sinica



2022. 1

北京航空航天大学
中国复合材料学会 主办

万方数据



目 次

综 述

- 柔性纳米复合材料压阻式应变传感器的研究进展 胡海龙, 马亚伦, 张帆, 岳建岭, 罗世彬(1)
超疏水材料在防/除冰技术中的应用研究进展 李君, 矫维成, 王寅春, 舒宇昕, 楚振明, 赫晓东(23)
纳米纤维素发光材料研究进展 钟伟婷, 王智鑫, 王堃, 彭霄鹏, 蒋建新(39)
碳点基白光荧光薄膜的研究进展 陈童, 刘兴华, 郑静霞, 杨永珍, 刘旭光(48)
碳纤维增强聚合物基复合材料回收再利用现状 胡侨乐, 端玉芳, 刘志, 郑贤宏, 徐珍珍(64)
形状记忆聚合物纤维及增强复合材料的研究进展 李文兵, 魏婉婷, 李金嵘, 刘均浩, 钱坤(77)
锂离子电池富镍正极材料基础科学问题: 表面残锂及其去除
..... 王鑫, 陈欣, 任莉, 王硕, 罗宏基, 张军, 吕根品, 向伟(97)
生物质基复合材料及其铀吸附应用的研究进展 张云秀, 曹明慧, 郑少笛, 江元平(111)

树脂和高分子复合材料

- 功能化 $\text{Al}_2\text{O}_3@\text{SiO}_2$ /酚醛环氧-双马树脂复合材料的微观结构及性能 陈宇飞, 赵辉, 董磊(126)
基于插层法协同提升碳纤维树脂基复合材料的导电性能与层间韧性
..... 向东, 刘家良, 赵春霞, 李辉, 王斌, 李云涛(134)
皮秒激光切割 AFRP 复合材料实验研究 杨剑, 张瑞, 赵煜, 杜婷婷, 叶云霞(147)
铁镍合金/聚乳酸复合材料的熔融沉积成形制备及其电磁吸收性能和力学性能
..... 吴海华, 胡正浪, 李雨恬, 钱鹏, 刘力, 周建新(158)
基于介孔纳米 SiO_2 抗氧活性组装体的聚乙烯基共混薄膜制备与性能 唐有凯, 丘晓琳, 弓雪峰, 唐亚丽(169)
碳纳米管包裹聚磷酸铵协同 $\text{Mg}(\text{OH})_2$ 构筑乙烯-醋酸乙烯酯共聚物复合材料及其火安全性能
..... 李苗实, 陆境一, 董春, 汪碧波, 金志健, 房权生, 胡源(182)

功能复合材料

- 聚乳酸基聚苯胺柔性可降解超级电容器的制备与性能 韦会鸽, 李桂星, 万同, 陈安利, 彭紫芳, 张欢(193)
BiMn 共掺 Pd 修饰 GO/MOF-74-Co 复合材料设计与电催化氧化乙二醇性能
..... 莫晗, 万正睿, 钟玉婷, 吴祉睿, 胡亚兰, 刘红英, 周立群(203)
镍-磷-钛硅分子筛复合材料的制备与催化性能 张萍萍, 聂鹏飞, 王桂雪, 王兆波, 张宝泉(213)
氨化烟末生物炭吸附剂的制备及其对 Cr(VI) 的吸附行为 杨金辉, 胡世琴, 杨斌, 谢水波, 雷增江, 李聪(222)
 $\text{TiO}_2/\text{MIL}-100(\text{Fe})$ /锦纶复合材料的制备及其对有机染料的脱色 王静, 娄娅娅, 王春梅(232)

膨胀石墨/MnO₂超级电容器电极材料中膨胀石墨的作用机制 桂阳, 曾靖宇, 范宝安, 张春桃(242)

生物和纳米复合材料

自修复氧化海藻酸钠-羧甲基壳聚糖水凝胶的制备及药物缓释性能 候冰娜, 倪凯, 沈慧玲, 李征征(250)

极性界面对海藻酸钙凝胶单元形态与降解性能的影响 李瑜, 申永彬, 卞平艳, 王建平(258)

己酰化乙二醇壳聚糖/泊洛沙姆复合水凝胶的制备及其药物缓释性能

..... 徐文静, 赵琳琳, 郑泽邻, 高留意, 李征征(266)

金属基和陶瓷基复合材料

外场对 SiCp/AZ91D 镁基复合材料组织和性能的影响 李紫阳, 薄文杰, 张清林, 耿桂宏, 周乐章, 王月(275)

电熔 MgAl₂O₄ 对 Al₂O₃-MgAl₂O₄ 复合耐火材料高温蠕变性能的影响 李人骏, 张玲, 郑培毓(285)

旋转摩擦挤压加温法制备金刚石表面 Ti 涂层 李毅, 于爱兵, 洪鑫, 袁建东(292)

土木建筑复合材料

水泥基材料离子热电效应与机制 崔一纬, 王亚琼, 魏亚(302)

三维石墨烯-碳纳米管/水泥净浆的压敏性能 刘金涛, 黄存旺, 杨杨, 蔡倩妮(313)

经纬向纤维体积分数对耐碱玻璃纤维织物增强混凝土拉伸力学性能的影响 朱德举, 李新亮, 李安令(322)

基于长江下游超细疏浚砂的碱激发矿渣混凝土力学性能 李升涛, 陈徐东, 张伟, 冯子鸣, 王润民(335)

潮汐区 GFRP 筋珊瑚海洋混凝土柱轴压性能试验及承载力计算 周济, 陈宗平, 陈宇良, 姚如胜(344)

含孔洞和裂隙混合缺陷的干燥水泥砂浆导热系数相互作用直推预测模型

..... 李云波, 李宗利, 姚希望, 肖帅鹏, 刘士达, 童涛涛(361)

不同预拉力和冲击能量下 BFRP 筋的横向抗冲击性能 朱德举, 李振坤, 郭帅成, 李冕, 易勇(371)

复合材料细观力学

格栅-蜂窝混式芯体夹芯结构的低速冲击性能 张亚文, 陈秉智, 石姗姗, 毛海涛(381)

基于灰色关联分析的碳纤维增强树脂复合材料控制臂铺层优化 蒋荣超, 慈树坤, 刘大维, 孙海霞, 王登峰(390)

基于精确板理论的复合材料格栅/波纹夹芯结构屈曲特性 朱秀杰, 郑坚, 熊超, 殷军辉, 邓辉咏, 邹有纯(399)

体积分数随机场作用下复合材料层合板固有振动特性不确定性分析 于汝雨, 张旭方(412)

基于新修正偶应力的增强型 Reddy 层合板热尺度效应分析 司俊岭, 张莹, 殷大伟(424)

期刊基本参数 :CN 11 - 1801/TB * 1984 * m * A4 * 430 * zh * P * ¥ 60.00 * 600 * 38 * 2022 - 1

编辑 :李博涵 韩东蔚 万玉敏

审校 :吴红丽

CONTENTS**Review**

- Research progress of flexible nanocomposites for piezoresistive strain sensors HU Hailong, MA Yalun, ZHANG Fan, YUE Jianling, LUO Shibin (1)
- Research progress on application of superhydrophobic materials in anti-icing and de-icing technology LI Jun, JIAO Weicheng, WANG Yinchun, YIN Yuxin, CHU Zhenming, HE Xiaodong (23)
- Research progress of nanocellulose-based luminescent materials ZHONG Weiting, WANG Zhixin, WANG Kun, PENG Xiaopeng, JIANG Jianxin (39)
- Research progress of carbon dots based white light emitting fluorescent films CHEN Tong, LIU Xinghua, ZHENG Jingxia, YANG Yongzhen, LIU Xuguang (48)
- Current status of carbon fiber reinforced polymer composites recycling and re-manufacturing HU Qiaole, DUAN Yufang, LIU Zhi, ZHENG Xianhong, XU Zhenzhen (64)
- Research progress of shape memory polymer fibers and reinforced composites LI Wenbing, WEI Wanting, LI Jinrong, LIU Junhao, QIAN Kun (77)
- Basic scientific problems of Ni rich cathode materials for Li-ion battery: Surface residual Li and its removal WANG Xin, CHEN Xin, REN Li, WANG Shuo, LUO Hongji, ZHANG Jun, LV Genpin, XIANG Wei (97)
- Recent advances in uranium adsorption by biomass based composite ZHANG Yunxiu, CAO Minghui, ZHENG Shaodi, JIANG Yuanping (111)

Resin and Polymer Composite

- Microstructure and properties of functionalized Al₂O₃@SiO₂/phenolic epoxy-bismaleimide composites CHEN Yafei, ZHAO Hui, DONG Lei (126)
- Synergistic improvement of electrical conductivity and interlaminar toughness of carbon fiber resin matrix composites based on intercalation method XIANG Dong, LIU Jialiang, ZHAO Chunxia, LI Hui, WANG Bing, LI Yuntao (134)
- Experimental study on picosecond laser cutting AFRP composites YANG Jian, ZHANG Rui, ZHAO Yu, DU Tingting, YE Yunxia (147)
- Electromagnetic absorption properties and mechanical properties of Fe-Ni alloy/polylactic acid composites fabricated by fused deposition modeling WU Haihua, HU Zhenglang, LI Yutian, QIAN Peng, LIU Li, ZHOU Jianxin (158)
- Preparation and properties of polyethylene-based blended films base on mesoporous nano-SiO₂ antioxidant active assembly TANG Youkai, QIU Xiaolin, GONG Xuefeng, TANG Yali (169)
- Construction of hierarchical structure of carbon nanotube-encapsulated ammonium polyphosphate/Mg(OH)₂ and the synergistic effect on the fire safety of ethylene-vinyl acetate copolymer LI Zhuoshi, LU Jingyi, DONG Chun, WANG Bibo, JIN Zhijian, FANG Quanshefeng, HU Yuan (182)

Functional Composite

- Polyaniline growing on polylactic acid substrate towards flexible and biodegradable supercapacitors WEI Huige, LI Guixing, WAN Tong, CHEN Anli, PENG Zifang, ZHANG Huan (193)
- Design of BiMn-doped Pd modified GO/MOF-74-Co composites for electrocatalytic oxidation of ethylene glycol MO Han, WAN Zhengrui, ZHONG Yuting, WU Zhirui, HU Yalan, LIU Hongying, ZHOU Liqun (203)
- Preparation and catalytic performance of nickel-phosphorus-titanium silicalite zeolite composite ZHANG Pingping, NIE Pengfei, WANG Guixue, WANG Zhaobo, ZHANG Baoquan (213)
- Preparation of ammoniated tobacco leave powder residue biochar and its adsorption behavior on Cr(VI) YANG Jinhui, HU Shiqin, YANG Bin, XIE Shubo, LEI Zengjiang, LI Cong (222)
- Preparation of TiO₂/MIL-100(Fe)/nylon composite and its decolorization for organic dye WANG Jing, LOUYaya, WANG Chunmei (232)

Action mechanism of expanded graphite in the composite of expanded graphite/MnO ₂ supercapacitor electrode materials GUI Yang, ZENG Jingyu, FAN Baoan, ZHANG Chuntao (242)
---	---

Biological and Nano-composite

Preparation of self-healing oxidized sodium alginate-carboxymethyl chitosan hydrogel for sustained drug release .....	..... HOU Bingna, NI Kai, SHEN Huiling, LI Zhengzheng (250)
Influence of polar interface on the morphology and degradation performance of calcium alginate gel units .....	..... LI Yu, SHEN Yongbin, BIAN Pingyan, WANG Jianping. (258)
Preparation of hexanoyl ethylene glycol chitosan/poloxamer composite hydrogel for drug release .....	..... XU Wenjing, ZHAO Linlin, ZHENG Zelin, GAO Liuyi, LI Zhengzheng (266)

Metal and Ceramic Matrix Composite

Effect of compound field on microstructure and properties of SiCp/AZ91D magnesium matrix composites .....	..... LI Ziyang, BO Wenjie, ZHANG Qinglin, GENG Guihong, ZHOU Yuezhang, WANG Yue (275)
Effect of fused MgAl ₂ O ₄ on high temperature creep properties of Al ₂ O ₃ -MgAl ₂ O ₄ refractory .....	..... LI Renjun, ZHANG Ling, ZHENG Peiyu (285)
Fabrication of Ti layer on diamond surface with rotary friction extrusion heating method .....	..... LI Yi, YU Aibing, HONG Xin, YUAN Jiandong (292)

Civil Construction Composite

Ionic thermoelectric effect and mechanism of cement-based materials .....	..... CUI Yiwei, WANG Yaqiong, WEI Ya (302)
Piezoresistivity of three dimensional graphene-carbon nanotubes/cement paste .....	..... LIU Jintao, HUANG Cunwang, YANG Yang, CAI Qianni (313)
Influence of warp and weft fiber volume fractions on tensile mechanical properties of alkali-resistant glass textile reinforced concrete .....	..... ZHU Deju, LI Xinliang, LI Anling (322)
Mechanical properties of alkali activated slag concrete with ultra fine dredged sand from Yangtze River .....	..... LI Shengtao, CHEN Xudong, ZHANG Wei, FENG Ziming, WANG Runmin (335)
Test on axial compression performance and bearing capacity calculation of GFRP bars reinforced coral aggregate marine concrete columns exposed to tidal area .....	..... ZHOU Ji, CHEN Zongping, CHEN Yuliang, YAO Rusheng (344)
Interaction direct deduction prediction model of thermal conductivity of dry cement mortar with mixed defects of cavities and cracks .....	..... LI Yunbo, LI Zongli, YAO Xiwang, XIAO Shuaipeng, LIU Shida, TONG Taotao (361)
Lateral impact resistance of BFRP tendon under different pretensions and impact energies .....	..... ZHU Deju, LI Zhenkun, GUO Shuaicheng, LI Sheng, YI Yong (371)

Composite Micro-mechanics

Low-velocity impact performance of grid-honeycomb hybrid core sandwich structure .....	..... ZHANG Yawen, CHEN Bingzhi, SHI Shanshan, MAO Haitao (381)
Ply optimization of carbon fiber reinforced plastic control arm based on grey relational analysis .....	..... JIANG Rongchao, CI Shukun, LIU Dawei, SUN Haixia, WANG Dengfeng (390)
Buckling characteristics of composite grid/corrugated sandwich structure based on refined plate theory .....	..... ZHU Xiujie, ZHENG Jian, XIONG Chao, YIN Junhui, DENG Huiyong, ZOU Youchun (399)
Uncertainty analysis of natural vibration characteristics of composite laminated plates with spatially varied stochastic volume fractions .....	..... YU Ruyu, ZHANG Xufang (412)
Thermal scale effect analysis of enhanced Reddy's laminated composite based on new modified couple stress theory .....	..... SI Junling, ZHANG Ying, YIN Dawei (424)

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,荣获“中国出版政府奖提名奖”、“中国精品科技期刊”、“百种中国杰出学术期刊”、“中国最具国际影响力学术期刊”等多项荣誉,并有多篇论文入选“领跑者5000—中国科技期刊顶尖论文”和“中国百篇最具影响国内学术论文”。同时,是“材料科学综合类高质量科技期刊分级目录”中的T1区期刊。《复合材料学报》是美国工程索引《Ei Compendex》源期刊;同时被中国知网(CNKI)、中国科学引文数据库(CSCD)、万方数据库、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》等国内外知名检索系统收录。

《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 39 卷 第 1 期 2022 年 1 月出版

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

Acta Materiae Compositae Sinica

Monthly, Started in 1984

Vol. 39 No. 1 Jan 2022

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



9 771000 385220