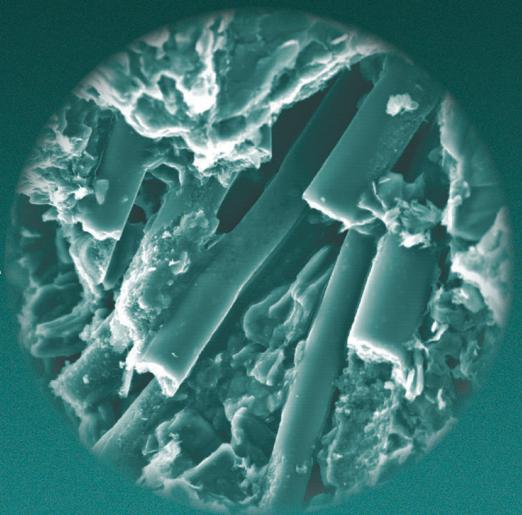




复合材料学报



Acta Materiae
Compositae
Sinica



2023. 3

北京航空航天大学
中国复合材料学会

目 次

综 述

- 碳纤维增强热塑性复合材料的制备与性能研究进展 曹建凡, 白树林, 秦文贞, 严毅 (1229)
石墨烯增强铜基复合材料研究进展 陈春姣, 包宏伟, 李燕, 白惠中, 杨朔涵, 马飞 (1248)
碳纤维复合材料结构锂离子电池研究综述 张峻滔, 王亚震, 李晖, 马心旗, 宗文波, 籍天戚, 吴海宏 (1263)
复合材料在大型风电叶片上的应用与发展 李成良, 杨超, 倪爱清, 王继辉, 宋秋香 (1274)
钛酸钡基纳米材料的压电催化性能研究进展 张鹏, 王欣, 李智 (1285)
静电纺丝技术制备复合纳米纤维电磁屏蔽及吸波材料的研究进展 王喜花, 刘涛, 黄丽, 袁野 (1300)
热固性树脂基复合相变材料的制备及其储能强化研究进展 肖桐, 刘庆祎, 张家豪, 赵佳腾, 刘昌会 (1311)
基于生物质衍生炭在超级电容器中的研究进展 宋晓琪, 雷西萍, 樊凯, 田甜, 朱航 (1328)
基于碳纳米材料的肾上腺素电化学传感器研究进展 刘雪茹, 金彪, 孟龙月 (1340)
湿度响应致动器的研究进展和展望 郑宗敏, 何田, 杨震, 李征 (1354)
基于电催化析氧反应的非贵金属催化剂研究进展 姜金池, 金彪, 孟龙月 (1365)
基于动态共价交联网络自修复涂层的研究进展 周威明, 丁春香, 潘明珠 (1381)

树脂高分子复合材料

- 兼具阻燃和导热性能的环氧树脂复合材料: 石墨烯纳米片杂化三聚氰胺磷酸盐的作用 贾锡宁, 王严, 石慧, 屈红强, 郝建薇 (1395)
湿热环境下碳纤维增强乙烯基树脂复合材料长期力学性能 张裕恒, 王继辉, 魏建辉, 刘明, 李旭, 丁安心 (1406)
纳米 SiO_2 分散性对 SiO_2/LDPE 纳米复合材料直流介电性能的影响 郑昌信, 王博, 杨佳明, 赵洪 (1417)
接枝细菌纤维素改性聚乳酸复合材料的制备与性能 陈倩, 曾威, 石伊康, 吴星宇, 王钊智 (1430)
微米级 $\text{ZnS-Qds}@\text{聚硅氧烷核-壳型光扩散杂化微球}$ 的制备与应用 罗培栋, 赵程, 罗秋萍, 张强, 颜妃妃 (1438)

功能复合材料

- 高强高模碳纤维表面电化学氮化机制 乔伟静, 田艳红, 张学军 (1446)
 $\text{Ag-BiOBr}/\text{WO}_3$ 复合材料的制备及强化磺胺异噁唑去除性能 高生旺, 赵星鹏, 陆迦勒, 崔娟, 王国英, 张青 (1455)
碳纤维三维角联锁机织复合材料弯曲作用下力阻响应 薛有松, 薛凌明, 孙宝忠, 顾伯洪 (1468)
蜂窝状三维整体机织结构型吸波复合材料的设计、制备与性能 吕丽华, 王茉蕊, 刘文迪, 周兴海, 高原 (1477)
基于多层涂布工艺的高阻隔透明纸基材料的制备与性能 邱格, 陈港, 魏渊, 钱杨杨, 雷春发 (1484)

- 多巴胺@氮化硼-碳纳米管/聚酰亚胺复合气凝胶太阳能蒸发器的制备与性能 汪日圆, 陈浩然, 陈芳琳, 黎涛, 鲁红典, 杨伟 (1494)
- Fe₂O₃-石墨烯-碳纳米管复合材料制备条件对载硫性能的影响 董伟, 孟令强, 赵美娜, 沈丁, 孙闻, 杨绍斌, 王文博, 纪凌枭, 杨宗松, 刘耀汉 (1501)
- 温和条件可控制备三维还原氧化石墨烯凝胶及其性能 赵虎虎, 周玉敬, 胡晓兰, 朱祥东, 任明伟 (1512)
- Ti₁Li₃Al₂-LDHs/g-C₃N₄ 复合材料的制备及其光催化 CO₂-甲苯反应特性 马梦丹, 周安宁, 段飞阳, 贾忻宇, 凌洁 (1522)
- NaNbO₃@g-C₃N₄ 复合材料的可控构筑及其压电光催化性能 孙术博, 于海瀚, 李强, 葛慎光, 姜葱葱, 王丹, 张丽娜, 程新, 高超民 (1534)
- g-C₃N₄/Pb 复合材料制备及其在铅炭电池负极材料中的应用 谢发之, 张道德, 杨少华, 宋恒帅, 张梦, 方亮, 邵永刚 (1541)
- 氮掺杂碳负载表面部分暴露的 CoFe₂O₄ 用于高性能催化析氧反应 李创, 王宇, 张亚男, 候利强, 刘希恩 (1552)

土木建筑复合材料

- 乳化沥青橡胶混凝土的力学性能 林强, 刘赞群, 禹雷, 周蕴婵, 崔雨 (1560)
- 玄武岩纤维增强泡沫混凝土的单轴拉伸及准静态压缩性能 王小娟, 崔浩儒, 周宏元, 李秀杰 (1569)
- 聚合物改性碳纤维增强混凝土的动态压缩力学性能 王志航, 白二雷, 许金余, 刘高杰, 杨宁 (1586)
- 氧化石墨烯对水泥基渗透结晶型防水材料抗渗性能的影响 齐孟, 蒲云东, 杨森, 盛况, 袁小亚 (1598)
- 废弃瓷砖粉对超高性能混凝土的抗压强度影响规律与机制 张立卿, 潘延念, 胡文兵, 许开成, 付书城, 陈梦成, 韩宝国 (1611)
- 纤维织物增强高延性混凝土加固受损 RC 梁受剪性能试验 张敏, 邓明科, 智奥龙, 马向琨 (1624)
- 石墨烯表面性质对水泥砂浆复合材料力学性能和微观结构的影响 孔祥清, 王荣政, 高伟, 张婷婷, 付莹, 孙若茜 (1637)

生物纳米复合材料

- 单宁酸-端氨基聚氧化丙烯纳米粒子/琼脂糖复合冷冻凝胶的制备及性能 王立伟, 于雪莹, 韩健美, 何炜 (1649)
- 瘤症基因靶向治疗用高细胞摄取可注射纳米马达-水凝胶递送系统 任姣雨, 王虹 (1655)
- 复合催化材料纳米氧化铜颗粒 (CuO NPs)@纤维素纳米纤丝 (CNF)-Si-N(OH)₂ 的制备及其对 4-硝基苯酚的催化还原性能 戴德贤, 林兆云, 陈嘉川, 李新才, 邱程龙, 杨桂花 (1663)
- 纳米金刚石/酵母-壳聚糖复合微球的制备及光热控释性能 王锦, 白波, 罗钰, 葛广宁, 邓祥云, 王其召, 曹芳利 (1676)
- 微波原位合成 2D Ni-Fe MOF/硅藻土复合材料及其改性聚乙烯醇水凝胶不锈钢筛网油水分离性能 高德玉, 程志林 (1686)

金属基和陶瓷基复合材料

陶瓷基复合材料涡轮叶盘设计、制备与考核验证 刘小冲，徐友良，李坚，罗潇，郭小军，胡晓安，曹学强，李龙彪，刘持栋，董宁，刘永胜 (1696)

复合材料细观力学

复合材料层合板剪切稳定性试验及强度预测 杨钧超，陈向明，邹鹏，王喆 (1707)

粘结层和预应力对 CFRP 板加固损伤钢梁抗弯性能的影响 王海涛，卞致宁，熊浩，陈敏生，吴琼 (1718)

考虑纤维面外起伏的变刚度层合板优化策略研究 居相文，肖军，王东立，赵聪，王显峰 (1729)

原位聚合碳纤维增强聚甲基丙烯酸甲酯基复合材料损伤与修复研究 龚明，张代军，张嘉阳，付善龙，李军，陈祥宝 (1740)

基于 Micro-CT 图像的缎纹织物细观结构分析及渗透率预测 曹鹏军，赵文斌，杨斌，倪爱清，王继辉 (1751)

低密度纤维增强纳米孔树脂基复合材料的断裂机制 张鸿宇，钱震，蔡宏祥，牛波，张亚运，龙东辉 (1764)

水泥基复合材料加固小偏心受压钢筋混凝土柱承载力 王新玲，李世伟，罗鹏程，范家俊 (1773)

曲面结构石英纤维增强树脂复合材料分层损伤缺陷太赫兹智能检测 王强，赵博研，刘秋寒，刘文权，高建国，张鹏涛 (1785)

激光增材制造镍基复合材料界面连接机制与断裂行为 高永康，陈洪胜，聂慧慧，薛柏林，刘润爱，郑留伟，王文先，陈晓春 (1797)

考虑界面应变传递机制的内埋 FBGs 环氧树脂固化过程模拟 雷伟华，胡海晓，曹东风，肖磊，田一洲，李书欣，王静南 (1807)

Keywords for Composite (1818)

期刊基本参数 :CN 11 - 1801/TB * 1984 * m * A4 * 592 * zh * P * ¥ 60.00 * 550 * 52 * 2023 - 3

编辑 :李博涵 孙芳 吕兰香

审校 :吴红丽

CONTENTS

Review

Research progress on preparation and properties of carbon fiber reinforced thermoplastic composites	CAO Jianfan, BAI Shulin, QIN Wenzhen, YAN Yi (1229)
Research progress of graphene reinforced copper matrix composites	CHEN Chunjiao, BAO Hongwei, LI Yan, BAI Huizhong, YANG Shuhan, MA Fei (1248)
Study review on structure lithium-ion batteries of carbon fiber reinforced composites	ZHANG Juntao, WANG Yazhen, LI Hui, MA Xinqi, ZONG Wenbo, JI Tianqi, WU Haihong (1263)
Application and development of composite materials in large-scale wind turbine blade	LI Chengliang, YANG Chao, NI Aiqing, WANG Jihui, SONG Qiuxiang (1274)
Research progress in piezoelectric catalysis of barium titanate nanomaterials	ZHANG Peng, WANG Xin, LI Zhi (1285)
Research progress for preparation of composite nanofiber electromagnetic shielding and absorbing materials by electrostatic spinning technology	WANG Xihua, LIU Tao, HUANG Li, YUAN Ye (1300)
Recent advances in thermosetting resin-based composite phase change materials and enhanced phase change energy storage	XIAO Tong, LIU Qingyi, ZHANG Jiahao, ZHAO Jiateng, LIU Changhui (1311)
Research progress of biomass derived carbon in supercapacitors	SONG Xiaoqi, LEI Xiping, FAN Kai, TIAN Tian, ZHU Hang (1328)
Research progress of adrenaline electrochemical sensors based on carbon nanomaterials	LIU Xueru, JIN Biao, MENG Longyue (1340)
Research progress and the prospect of humidity response actuators	ZHENG Zongmin, HE Tian, YANG Zhen, LI Zheng (1354)
Research progress of non-noble metal catalysts based on electrocatalytic oxygen evolution reaction	JIANG Jinchi, JIN Biao, MENG Longyue (1365)
Research progress of self-healing coatings based on dynamic covalent crosslinking	ZHOU Weiming, DING Chunxiang, PAN Mingzhu (1381)

Resin Polymer Composite

Epoxy resin composites with flame retardancy and thermal conductivity: Effect of graphene nanoplatelets hybridized with melamine phosphate	JIA Xi'ning, WANG Yan, SHI Hui, QU Hongqiang, HAO Jianwei (1395)
Long-term mechanical properties of carbon fiber reinforced vinyl resin composites in hydrothermal environment	ZHANG Yuheng, WANG Jihui, WEI Jianhui, LIU Ming, LI Xu, DING Anxin (1406)
Influence of nano-SiO ₂ dispersion on the direct current dielectric properties of SiO ₂ /LDPE nanocomposite	ZHENG Changji, WANG Bo, YANG Jiaming, ZHAO Hong (1417)
Preparation and properties of polylactic acid composite modified by bacterial cellulose	CHEN Qian, ZENG Wei, SHI Yikang, WU Xingyu, WANG Zhaozhi (1430)
Preparation and application of micron-sized ZnS-Qds@ polysiloxane core-shell light diffusion hybrid microspheres	LUO Peidong, ZHAO Cheng, LUO Qiuping, ZHANG Qiang, YAN Feifei (1438)

Functional Composite

Forming mechanism of surface nitriding of high strength and high modulus carbon fiber by electrochemical modification	QIAO Weijing, TIAN Yanhong, ZHANG Xuejun (1446)
Preparation of Ag-BiOBr/WO ₃ composites and enhanced sulfisoxazole removal performance	GAO Shengwang, ZHAO Xingpeng, LU Jiale, CUI Juan, WANG Guoying, ZHANG Qing (1455)

Piezoresistive effect of carbon fiber 3D angle-interlock woven composites under bending	XUE Yousong, XUE Lingming, SUN Baozhong, GU Bohong (1468)
Design, preparation and properties of honeycomb 3D integral woven structure microwave absorbing composites	LYU Lihua, WANG Rongrui, LIU Wendi, ZHOU Xinghai, GAO Yuan (1477)
Preparation and performance of high-barrier transparent paper-based materials via multi-coating technology	QIU Ge, CHEN Gang, WEI Yuan, QIAN Yangyang, LEI Chunfa (1484)
Preparation and performance of dopamine@boron nitride-carbon nanotubes/polyimide composite aerogel solar-driven evaporator	WANG Riyuan, CHEN Haoran, CHEN Fanglin, LI Tao, LU Hongdian, YANG Wei (1494)
Effect of preparation conditions of Fe_2O_3 -graphene-carbon nanotube composites on sulfur loading properties	DONG Wei, MENG Lingqiang, ZHAO Meina, SHEN Ding, SUN Wen, YANG Shaobin, WANG Wenbo, JI Lingxiao, YANG Zongsong, LIU Yaohan (1501)
Controllable preparation method and performance of three-dimensional reduced graphene oxide aerogel under mild conditions	ZHAO Huhu, ZHOU Yujing, HU Xiaolan, ZHU Xiangdong, REN Mingwei (1512)
Preparation of $\text{Ti}_1\text{Li}_3\text{Al}_2$ -LDHs/g-C ₃ N ₄ composites and its photocatalytic properties in CO ₂ -toluene reaction system	MA Mengdan, ZHOU Anning, DUAN Feiyang, JIA Xinyu, LING Jie (1522)
Controlled construction of NaNbO ₃ @g-C ₃ N ₄ composites and their piezo-photocatalytic properties	SUN Shubo, YU Haihan, LI Qiang, GE Shenguang, JIANG Congcong, WANG Dan, ZHANG Li'na, CHENG Xin, GAO Chaomin (1534)
Preparation of g-C ₃ N ₄ /Pb composites and application in anode materials for lead carbon batteries	XIE Fazhi, ZHANG Daode, YANG Shaohua, SONG Hengshuai, ZHANG Meng, FANG Liang, SHAO Yonggang (1541)
Partially surface exposed CoFe ₂ O ₄ anchored on N-doped carbon endows its high performance for oxygen evolution reaction	LI Chuang, WANG Yu, ZHANG Yanan, HOU Liqiang, LIU Xi'en (1552)

Civil Construction Composite

Mechanical properties of emulsified asphalt rubber concrete	LIN Qiang, LIU Zanqun, YU Lei, ZHOU Yunchan, CUI Yu (1560)
Mechanical performance of basalt fiber reinforced foam concrete subjected to quasi-static tensile and compressive tests	WANG Xiaojuan, CUI Haoru, ZHOU Hongyuan, LI Xiujie (1569)
Dynamic compression mechanical properties of polymer modified carbon fiber reinforced concrete	WANG Zhihang, BAI Erlei, XU Jinyu, LIU Gaojie, YANG Ning (1586)
Effect of graphene oxide on the impermeability of cementitious capillary crystalline waterproofing	QI Meng, PU Yundong, YANG Sen, SHENG Kuang, YUAN Xiaoya (1598)
Effect law and mechanism of ceramic tile powder on compressive strength of ultra high performance concrete	ZHANG Liqing, PAN Yannian, HU Wenbing, XU Kaicheng, FU Shucheng, CHEN Mengcheng, HAN Baoguo (1611)
Experimental on the shear behavior of pre-damaged RC beams strengthened by textile reinforced highly ductile concrete	ZHANG Min, DENG Mingke, ZHI Aolong, MA Xiangkun (1624)
Effect of graphene surface properties on mechanical properties and microstructure of cement mortar composites	KONG Xiangqing, WANG Rongzheng, GAO Wei, ZHANG Tingting, FU Ying, SUN Ruoxi (1637)

Biological and Nano-composite

Preparation and properties of cryogels composed of agarose and nanoparticles of tannic acid and amino-capped poly(propylene glycol)	WANG Liwei, YU Xueying, HAN Jianmei, HE Wei (1649)
Injectable nanomotors-hydrogel system with high cellular uptake for targeted cancer gene therapy	REN Jiaoyu, WANG Hong (1655)
Preparation of catalytic composite copper oxide nanoparticles (CuO NPs)@cellulose nanofiber (CNF)-Si-N(OH) ₂ and its catalytic reduction of 4-nitrophenol	JI Dexian, LIN Zhaoyun, CHEN Jiachuan, LI Xincai, QIU Chenglong, YANG Guihua (1663)
Preparation and photo-thermal controlled release properties of nanodiamond/yeast-chitosan composite microspheres	WANG Jin, BAI Bo, LUO Yu, GE Guangning, DENG Xiangyun, WANG Qizhao, CAO Fangli (1676)
Microwave in-situ synthesis of 2D Ni-Fe MOF/diatomite composite and oil-water separation performance of modified polyvinyl alcohol hydrogel stainless steel screen	GAO Deyu, CHENG Zhilin (1686)

Metal and Ceramic Matrix Composite

Design, fabrication and testing of ceramic-matrix composite turbine blisk	LIU Xiaochong, XU Youliang, LI Jian,
LUO Xiao, GUO Xiaojun, HU Xiaoan, CAO Xueqiang, LI Longbiao, LIU Chidong, DONG Ning, LIU Yongsheng	(1696)
Composite Micro-mechanics	
Shear stability test and strength prediction of composite laminates	YANG Junchao, CHEN Xiangming, ZOU Peng, WANG Zhe (1707)
Effects of the adhesive layer and prestress on the flexural behavior of damaged steel beams strengthened with CFRP plates	WANG Haitao, BIAN Zhining, XIONG Hao, CHEN Minsheng, WU Qiong (1718)
Study on the optimization strategy of variable stiffness laminate considering out-of-plane fiber waviness	JU Xiangwen, XIAO Jun, WANG Dongli, ZHAO Cong, WANG Xianfeng (1729)
Damage and repair study of in-situ polymerized carbon fiber reinforced PMMA composites	GONG Ming, ZHANG Daijun, ZHANG Jiayang, FU Shanlong, LI Jun, CHEN Xiangbao (1740)
Meso-structure analysis and permeability prediction of satin fabric based on Micro-CT	CAO Pengjun, ZHAO Wenbin, YANG Bin, NI Aiqing, WANG Jihui (1751)
Fracture mechanism of low-density fiber reinforced nanoporous resin composites	ZHANG Hongyu, QIAN Zhen, CAI Hongxiang, NIU Bo, ZHANG Yayun, LONG Donghui (1764)
Bearing capacity of reinforced concrete columns strengthened by engineered cementitious composite under small eccentric compression load	WANG Xinling, LI Shiwei, LUO Pengcheng, FAN Jiajun (1773)
Intelligent detection of delamination defect in curved structural quartz fiber reinforced polymer composites using terahertz technology	WANG Qiang, ZHAO Boyan, LIU Qiuhan, LIU Wenquan, GAO Jianguo, ZHANG Pengtao (1785)
Interface connection mechanism and fracture behavior of nickel-based composites fabricated by selective laser melting	GAO Yongkang, CHEN Hongsheng, NIE Huihui, XUE Bolin, LIU Run'ai, ZHENG Liuwei, WANG Wenxian, CHEN Xiaochun (1797)
Simulation of curing process of epoxy resin with embedded FBGs considering interfacial strain transfer mechanism	LEI Weihua, HU Haixiao, CAO Dongfeng, XIAO Lei, TIAN Yizhou, LI Shuxin, WANG Jingnan (1807)
Keywords for Composite	(1818)