

目次

国防科技大学建校 70 周年专刊

综 述

连续纤维增强陶瓷基复合材料连接件的研究进展 马 昕, 刘海韬, 孙 逊 (1)

聚合物-陶瓷纳米复合材料在电介质储能应用中的研究进展
..... 李 巍, 梁日然, 杨玲妮, 赵盼盼, 陈兴宇, 毛海军, 刘卓峰, 白书欣, 张为军 (12)

SiC 纤维成键陶瓷材料研究进展 许志明, 余艺平, 王 松, 李 伟 (23)

SiC 纤维表面涂层的制备及其作用研究进展 康伟峰, 邢 欣, 张 禹, 闫德轩, 苟燕子 (33)

纤维增强碳化硅陶瓷基复合材料高导热性能研究进展 陈 强, 李 顺, 朱利安, 白书欣, 叶益聪 (46)

钨钴合金反应结构材料的研究进展 赵孔勋, 王 睿, 张周然, 李 顺, 唐 宇, 白书欣 (56)

基于可逆金属电沉积的光谱调控器件研究进展 刘田文, 刘东青, 程海峰 (67)

超疏油表面研究进展 薛瑞英, 孟芸芸, 刘 钧 (77)

聚合物离子凝胶基体体系、改性方法及应用研究进展
..... 靳 力, 鞠 苏, 贺雍律, 张雨林, 陈 晨, 张鉴炜 (89)

研究论文

聚锆碳烷/聚碳硅烷杂化先驱体转化制备 ZrC-SiC 复相陶瓷 赵 哲, 高 强, 韩 成, 王应德 (102)

热处理环境对 Al₂O₃ 纤维力学性能及微观结构的影响 孙敬伟, 王洪磊, 杨 蕊, 周新贵 (110)

固含量对浆料浸渍法制备氧化铝陶瓷基复合材料结构与性能的影响 冻瑞岚, 彭志航, 向 阳, 曹 峰 (120)

BaTi_{1-x}Ce_xO₃ 陶瓷结构特性与介电性能的实验研究及第一性原理计算
..... 汪丰麟, 毛海军, 曹 艳, 席丽丽, 白书欣, 张为军 (130)

碳纤维预制体结构对 CVI-GSI C/C-SiC 复合材料微观结构与力学性能的影响
..... 缪花明, 刘荣军, 王衍飞, 李俊生, 李 端, 万 帆 (142)

碳纤维复合石墨阴极的制备及电子发射性能 方 东, 华 叶, 王 震, 龚瑾瑜, 万 红 (149)

PIP 工艺制备 C/Zr_{0.5}Hf_{0.5}C-SiC 复合材料及其微观结构和弯曲性能
..... 刘星煜, 万 帆, 高世涛, 王衍飞, 李 端, 李俊生, 刘荣军 (155)

PIP 法制备 C/SiOC 复合材料的微结构演变与力学性能 郭 蕾, 马青松, 陈雅琦 (162)

半限域层次孔炭三维锂负极的构筑及性能 高春晖, 李宇杰, 孙巍巍, 陈宇方, 郑春满 (170)

TiVTa 系低活化多主元合金的微观结构及相稳定性 李 顺, 张周然, 郑昆鹏, 卢书晴, 唐 宇, 白书欣 (181)

氢化辅助 Ti-Zr-Ta 合金的制备及其性能 王 睿, 刘泽人, 赵孔勋, 唐 宇, 李 顺, 白书欣 (190)

高活性铝基合金粉水反应性能研究 黄 蕾, 于海洋, 高 晓, 何志成, 周 星, 刘大志 (199)

防隔热一体化 TPS 材料制备及耐高温性能 向 阳, 莫 琛, 彭志航, 曹 峰, 冯 坚, 李良军 (207)

氧化钨锡纳米晶薄膜的制备及其电致变色性能 贾 岩, 刘东青, 程海峰 (215)

责任编辑 王 晶

CONTENTS

SPECIAL ISSUE FOR THE 70TH ANNIVERSARY OF NATIONAL UNIVERSITY OF DEFENSE TECHNOLOGY

REVIEW

- Research progress in continuous fiber reinforced ceramic matrix composite joints
..... MA Xin, LIU Haitao, SUN Xun(1)
- Research progress in polymer-ceramic nanocomposites for dielectric energy storage applications
..... LI Wei, LIANG Riran, YANG Lingni, ZHAO Panpan, CHEN Xingyu,
MAO Haijun, LIU Zhuofeng, BAI Shuxin, ZHANG Weijun(12)
- Research progress of SiC fiber-bonded ceramics XU Zhiming, YU Yiping, WANG Song, LI Wei(23)
- Research progress in preparation and effect of surface coating on SiC fibers
..... KANG Weifeng, XING Xin, ZHANG Yu, YAN Dexuan, GOU Yanzi(33)
- Research progress in high thermal conductivity of silicon carbide matrix composites reinforced with fibers
..... CHEN Qiang, LI Shun, ZHU Li'an, BAI Shuxin, YE Yicong(46)
- Research progress in W-Zr alloy reactive structural materials
..... ZHAO Kongxun, WANG Rui, ZHANG Zhouan, LI Shun, TANG Yu, BAI Shuxin(56)
- Research progress in spectrum regulation devices based on reversible metal electrodeposition
..... LIU Tianwen, LIU Dongqing, CHENG Haifeng(67)
- Research progress in superoleophobic surface XUE Ruiying, MENG Yunyun, LIU Jun(77)
- Research progress in polymer ionic gel matrix system, modification methods and applications
..... JIN Li, JU Su, HE Yonglyu, ZHANG Yulin, CHEN Chen, ZHANG Jianwei(89)

RESEARCH ARTICLE

- Preparation of ZrC-SiC multiphase ceramics by pyrolysis of polyzrocarbonane/polycarbosilane hybrid precursor ZHAO Zhe, GAO Qiang, HAN Cheng, WANG Yingde(102)
- Effect of heat treatment environment on mechanical properties and microstructure of alumina fibers
..... SUN Jingwei, WANG Honglei, YANG Rui, ZHOU Xingui(110)
- Effect of solid content on structure and properties of alumina ceramic matrix composite prepared by slurry infiltration method DONG Ruilan, PENG Zhihang, XIANG Yang, CAO Feng(120)
- Experimental study and first-principles calculation of structural characteristics and dielectric properties of $BaTi_{1-x}Ce_xO_3$ ceramics WANG Fenglin, MAO Haijun, CAO Yan, XI Lili, BAI Shuxin, ZHANG Weijun(130)
- Influence of carbon fiber preform structure on microstructure and mechanical properties of C/C-SiC composites fabricated by combined CVI-GSI method
..... MIAO Huaming, LIU Rongjun, WANG Yanfei, LI Junsheng, LI Duan, WAN Fan(142)
- Preparation and electron emission properties of carbon fiber composited graphite cathodes
..... FANG Dong, HUA Ye, WANG Zhen, GONG Jinyu, WAN Hong(149)
- Preparation of C/Zr_{0.5}Hf_{0.5}C-SiC composite by PIP process and its microstructure and flexural properties
..... LIU Xingyu, WAN Fan, GAO Shitao, WANG Yanfei, LI Duan, LI Junsheng, LIU Rongjun(155)
- Microstructural evolution and mechanical properties of C/SiOC composites prepared by PIP process
..... GUO Lei, MA Qingsong, CHEN Yaqi(162)
- Construction and performance of semi-confined hierarchical porous carbon three-dimensional lithium anode GAO Chunhui, LI Yujie, SUN Weiwei, CHEN Yufang, ZHENG Chunman(170)
- Microstructure and phase stability of TiVTa-based low-activation, multi-principal-element alloys
..... LI Shun, ZHANG Zhouan, ZHENG Kunpeng, LU Shuqing, TANG Yu, BAI Shuxin(181)
- Preparation and properties of Ti-Zr-Ta alloy assisted by hydrogenation
..... WANG Rui, LIU Zeren, ZHAO Kongxun, TANG Yu, LI Shun, BAI Shuxin(190)
- Water reaction characteristics of highly active aluminum-based alloy powder
..... HUANG Lei, YU Haiyang, GAO Xiao, HE Zhicheng, ZHOU Xing, LIU Dazhi(199)
- Preparation and high temperature resistance property of TPS material with integrated thermal insulation
..... XIANG Yang, MO Chen, PENG Zhihang, CAO Feng, FENG Jian, LI Liangjun(207)
- Preparation and electrochromic properties of indium tin oxide nanocrystal films
..... JIA Yan, LIU Dongqing, CHENG Haifeng(215)