

目次

• 材料科学 •

GO@S 复合正极的制备及其在锂硫电池中的应用

..... 冯明,赵梓宇,孙铭珠,赵迎杉,刘上源(1)

反应温度调控 Zn-Al 类水滑石的光催化性能研究

..... 郎集会,沙桂宇,史越,张哲,吴思(6)

金属-有机框架作为染料分离材料的综合性实验设计

..... 姚婵,王艺婷,秦皓捷,龙霞,董博,许彦红,姜大雨(12)

高性能 CuSCN 无机空穴传输层的制备及其在平面异质结双面钙钛矿太阳能电池中的

初步应用..... 范琳,王鹏飞,贺礼,江海鹏,杨丽丽,王奉友,刘晓艳,杨景海(17)

缺陷对 TiO<sub>2</sub> 纳米棒催化活性的影响

..... 赵钊,关壬铨,李佳昕,宋沐遥,李铭新,宋光鑫,张俊凯(26)

熔体过热对 Bi-Sb<sub>20</sub> 合金熔体结构转变和退火稳定性的影响..... 陆峰(30)

• 数学 •

基于 REGAR 模型的对外贸易对人民币汇率波动的影响分析

..... 袁晓惠,李会贤,王建锦,周世权,王岳(35)

中国铜和铝期货最优套期保值比率与持有期效应的对比分析..... 侯为波,邓芹(41)

关于链路  $P_n(m_1, m_2, \dots, m_{n-2})$  的  $k$ -优美性..... 刘春峰,徐美进(47)

一类概率约束稀疏线性回归模型..... 王博,初丽(51)

• 物理与信息技术科学•

无线石墨烯电热膜加热器的设计 ..... 刘春玲,韩 啸,姜玉森,兰雁茹,王春武(59)

关于相干态一些性质的讨论 ..... 公丕锋,张金锋,朱孟正(64)

• 化学与环境科学•

硫代水杨酸的荧光光谱研究 ..... 孙艳涛,蒋黄卉,邱笑阳,刘 洋(68)

多组份超分子凝胶的表征方法和研究手段 ..... 刘玉村,岳明玮,车广波(74)

• 生命科学•

低温驯化提高冷胁迫下牛皮杜鹃光合作用的研究 ..... 徐洪伟,孟李思,刘芸伯(78)

山葡萄栽培与选育研究进展 ..... 周晓梅,张 彪(84)

树锦鸡儿抗旱性研究 ..... 倪福太,刘洋洋,李长有,刘 强,王占武(92)

玉米毛状根再生植株干旱胁迫与复水条件下膜质过氧化水平变化

..... 未晓巍,杨 艺,王艺璇,王禹佳,周晓馥(97)

• 计算机科学•

大数运算的算法描述 ..... 谭振江,刘佳琳,张耀允(102)

区块链推动下的物联网安全研究进展 ..... 赵 瑞,李 莹,张天宇,刘霏凝(109)

• 地理科学•

城乡家庭冬季供暖方式选择及其影响因素研究 ..... 李国柱,赵可鑫,郝婷婷(116)

长江经济带资源节约型社会建设评价研究 ..... 王 维,张 涛,陈 伟(125)

• 体育科学•

第一届女篮世界杯赛中国队与对手强队攻防指标的 TOPSIS 分析 ..... 郭立平(134)

CONTENTS

Preparation and application of GO@S composite cathode material in the lithium-sulfur batteries  
..... FENG Ming,ZHAO Zi-yu,SUN Ming-zhu,et al. (5)

Research on the photocatalytic properties of Zn-Al LDHs by adjusting the reaction temperature  
..... LANG Ji-hui,SHA Gui-yu,SHI Yue,et al. (11)

Design of comprehensive experiment of metal-organic framework as column-chromatographic dye separation  
..... YAO Chan,WANG Yi-ting,QIN Hao-jie,et al. (16)

Fabrication of high-performance CuSCN inorganic hole transporting layer and its preliminary application in planar  
heterojunction bifacial perovskite solar cell ..... FAN Lin,WANG Peng-fei,He Li,et al. (25)

Effect of defects on catalytic activity of titanium dioxide nanorods ..... ZHAO Zhao,GUAN Ren-quan,LI Jia-xin,et al. (29)

Effect of melt overheating on structural transition and annealing stability of Bi-Sb20 alloy ..... LU Feng(34)

Analysis of the impact of foreign trade on CNY exchange rate fluctuation based on REGAR model  
..... YUAN Xiao-hui,LI Hui-xian,Wang Jian-jin,et al. (40)

Comparative analysis of optimal hedging ratio and holding period effect of chinese copper and aluminum futures  
..... HOU Wei-bo,DENG Qin(46)

On  $k$ -Grappefulness of  $P_n(m_1, m_2, \dots, m_{n-2})$  ..... LIU Chun-feng,XU Mei-jin(50)

A chance constrained sparse linear regression model ..... WANG Bo,CHU Li(58)

Design of wireless graphene electrothermal film heater ..... LIU Chun-ling,HAN Xiao,JIANG Yu-miao,et al. (63)

Study on some properties of the coherent states ..... GONG Pi-feng,ZHANG Jin-feng,ZHU Meng-zheng(67)

Study on fluorescence spectra of thiosalicylic acid ..... SUN Yan-tao,JIANG Huang-hui,QIU Xiao-yang,et al. (73)

Characterization and research methods on multicomponent supramolecular gels  
..... LIU Yu-cun,YUE Ming-wei,CHE Guang-bo(77)

Regulates Cold acclimation and enhances photosynthesis of Rhododendron under cold stress  
..... XU Hong-wei,MENG Li-si,LIU Yun-bo(83)

Research progress in viticulture and breeding of *Vitis amurensis* ..... ZHOU Xiao-mei,ZHANG Biao(91)

Drought resistance study of caragana tree ..... NI Fu-tai,LIU Yang-yang,LI Chang-you,et al. (96)

Changes of membrane peroxidation levels in hairy root regeneration plant of maize under drought and rewatering conditions  
..... WEI Xiao-wei,YANG Yi,WANG Yi-xuan,et al. (101)

Algorithm description of large numbers ..... TAN Zhen-jiang,LIU Jia-lin,ZHANG Yao-yun(108)

Research progress in iot security driven by blockchain ..... ZHAO Rui,LI Ying,ZHANG Tian-yu,et al. (115)

Study on the selection of winter heating mode and its influencing factors for urban and rural families  
..... LI Guo-zhu,ZHAO Ke-xin,HAO Ting-ting(124)

Evaluation and its influencing factors of resource saving construction of Yangtze River Economic Zone  
..... WANG Wei,ZHANG Tao,CHEN Wei(133)

Comparative analysis on the ability of offenseand defense between China Women's Basketball and opponents in the 1<sup>st</sup> FIBA  
Women's Basketball World Cup based on TOPSIS ..... GUO Li-ping(140)