

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,姜玉淼,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  $k$ -Gracefulness 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 rewetring 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 offense and 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 )