

## ■ 综述

电池材料电压滞后的研究进展

李雪梅, 卢晓敏, 梅毅, 廉培超(581)

软包电池在纯电动汽车中应用的机遇与挑战

徐雅慧, 陈思琦, 黄冉军, 张广续, 张少哲(585)

车用动力电池散热管理的热特性建模综述

马正伟, 王正(591)

## ■ 研究与设计

## ● 化学电源

纳米  $ZrO_2$  改性锂离子电池正极材料  $LiNi_{0.8}Co_{0.1}Mn_{0.1}O_2$ 

詹锋, 杨祖安, 杨毅, 谷易洵, 杨款(596)

富锂锰基多层氧化物电极材料的制备与改性

陈颖, 陈大鹏, 刘钊(601)

球磨碳包覆对锂锰电池电性能的影响

陈黎明, 张诗宜, 余佑锋, 常海涛(606)

 $Fe_3O_4$ /石墨烯的制备及其电化学性能研究

陈安国, 付紫微, 石斌, 廖敏会(609)

利用有机杂化前驱体制备锗碳复合负极材料

许静, 龚荣(613)

改性钛酸钡/SPEEK 质子交换膜的制备及性能研究

董翠翠, 王艺洁, 孙进, 周琼(617)

N/P 对 NCM523-石墨圆柱 18650 电池性能影响研究

王珍珍, 陈述林, 孙世敏, 唐世弟, 郭密(621)

镁海水溶解氧电池的制备与浅海测试研究

赵青, 桑林, 徐海波, 丁飞, 刘兴江(625)

用于电网储能的三元锂离子电池交流阻抗分析

石海鹏, 高贺, 周立超, 张倩然(630)

一种基于注意力机制的 CNN-LSTM 锂电池健康状态估算

楚瀛, 陈一凡, 米阳(634)

IAGA 辨识分数阶模型与 FOAEKF 算法的锂电池 SOC 估计

张梦龙, 凌六一, 宫兵, 邢丽坤(638)

几种方法在锂电池 RUL 预测中的对比研究

梁新成, 宋胜, 张勉, 黄国钧(643)

基于二层分解技术的锂离子电池容量评估方法

谢旭, 蒲娴怡, 毕贵红, 王凯, 高晗(647)

基于 K-means 聚类算法的锂电池冗余均衡控制

黄靖, 詹鑫斐, 俞智坤, 熊巍, 陈斌艺(652)

基于改进 FFRLS 算法的锂离子电池参数辨识

刘晓静, 李建良, 南忠良, 郭秋蕊(657)

具有温度自适应性的二阶 RC 参数辨识模型

王向标, 张庭芳, 曹铭, 王会杰(661)

圆柱型锂电池安全装置预测模型的建立及应用

杨昊, 储德韧, 许铤(665)

氢燃料电池堆空气流量优化调节装置

陈愚(669)

复合电源型无人机能量管理策略研究

李元旭, 乔培玉, 彭发醇(672)

水雷电池包装箱智能化设计

周升华, 李志华, 陈兰兰(676)

## ● 物理电源

基于脉冲神经网络光伏电站热斑故障预测

刘海波, 吴亦凡, 徐小奇, 葛强(680)

基于灰狼算法的光伏组件故障诊断模型优化

程陈, 陈堂贤, 孙培胜, 钟嘉锐(684)

复杂光照下光伏阵列 MPPT 算法研究

魏立明, 吴扬昀(688)

## ● 系统技术

隔离式双向有源全桥控制策略分析及仿真研究

陈树君, 易榕仙, 张景璋, 余悦(693)

## ■ 产品博览

上海升立机械

(584)

电池行业用原材料目录

(624)

## **MAIN CONTENTS**

### **Review**

- Research progress of voltage hysteresis of battery material.....LI Xuemei, LU Xiaomin, MEI Yi, LIAN Peichao(581)  
Opportunities and challenges of pouch cell applied in electric vehicles.....XU Yahui, CHEN Siqi, HUANG Ranjun, ZHANG Guangxu, ZHANG Shaozhe(585)  
Review of thermal properties modeling of cooling management for power battery in vehicles.....MA Zhengwei, WANG Zheng(591)

### **Research and design**

#### **Chemical power sources**

- Modification of lithium-ion battery cathode material  $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$  by nano  $\text{ZrO}_2$ .....ZHAN Feng, YANG Zu'an, YANG Yi, GU Yixun, YANG Kuan(596)  
Preparation and modification of lithium-rich manganese-based layered oxide cathode materials.....CHEN Ying, CHEN Dapeng, LIU Zhao(601)  
Effect of ball milling and carbon coating on electrical properties of  $\text{Li-MnO}_2$  batteries.....CHEN Liming, ZHANG Shiyi, YU Youfeng, CHANG Haitao(606)  
Preparation and electrochemical properties of  $\text{Fe}_3\text{O}_4$ /graphene.....CHEN Anguo, FU Ziwei, SHI Bin, LIAO Minhui(609)  
Preparation of Ge/C composite anode materials by hybrid Germanium oxide precursor.....XU Jing, GONG Rong(613)  
Effect of KH550 modified barium titanate on properties of SPEEK proton exchange membrane.....DONG Cuicui, WANG Yijie, SUN Jin, ZHOU Qiong(617)  
Effects of capacity ratio on electrochemical properties of NCM523-graphite cylindrical 18650 battery.....WANG Zhenzhen, CHEN Shulin, SUN Shimin, TANG Shidi, GUO Mi(621)  
Preparation and shallow sea test of magnesium seawater dissolved oxygen battery.....ZHAO Qing, SANG Lin, XU Haibo, DING Fei, LIU Xingjiang(625)  
AC impedance analysis of ternary lithium-ion battery for grid energy storage.....SHI Haipeng, GAO He, ZHOU Lichao, ZHANG Qianran(630)  
Lithium battery health state estimation based on attention mechanism-CNN-LSTM.....CHU Ying, CHEN Yifan, MI Yang (634)  
IAGA for identification of fractional order model and FOAEKF algorithm for lithium battery SOC estimation.....ZHANG Menglong, LING Liuyi, GONG Bing, XING Likun(638)  
Comparative study on different methods in RUL prediction of lithium batteries.....LIANG Xincheng, SONG Sheng, ZHANG Mian, HUANG Guojun(643)  
Capacity estimation method of lithium-ion batteries based on two-layer decomposition technique.....XIE Xu, PU Xianyi, BI Guihong, WANG Kai, GAO Han(647)  
Lithium battery redundancy equalization strategy based on K-means clustering algorithm.....HUANG Jing, ZHAN Xunfei, YU Zhikun, XIONG Wei, CHEN Binyi(652)  
Parameter identification of Li-ion battery based on improved FFRRLS algorithm.....LIU Xiaojing, LI Jianliang, NAN Zhongjiang, GUO Qiurui(657)  
Second-order RC parameter identification model with temperature self-adaptation.....WANG Xiangbiao, ZHANG Tingfang, CAO Ming, WANG Huijie(661)  
Construction and application of prediction model for safety device of cylindrical lithium battery.....YANG Hao, CHU Deren, XU Ting(665)  
Optimized design of air flow regulation device for hydrogen fuel cell stack.....CHEN Yu(669)  
Study on energy management strategy of hybrid power UAV.....LI Yuanxu, QIAO Peiyu, PENG Fachun (672)  
Intelligent design of mine battery packing box.....ZHOU Kaihua, LI Zhihua, CHEN Lanlan (676)

#### **Physical power sources**

- Hot spot fault prediction of photovoltaic power station based on pulse neural network.....LIU Haibo, WU Yifan, XU Xiaoqi, GE Qiang(680)  
Optimization of fault diagnosis model for photovoltaic module based on gray wolf algorithm.....CHENG Chen, CHEN Tangxian, SUN Peisheng, ZHONG Jiarui(684)  
Research on MPPT algorithm of photovoltaic array under complex illumination.....WEI Liming, WU Yangyun(688)

#### **System technology**

- Analysis and simulation of isolated dual active full bridge control strategy.....CHEN Shujun, YI Rongxian, ZHANG Jingzhang, YU Yue(693)