

目 次

- 球形  $\text{NH}_4\text{FePO}_4$  的制备及性能分析 ..... 李军, 赖桂棠, 郑育英, 等(1)  
高倍率长寿命的锂离子电池正极材料  $\text{LiMn}_{1.5}\text{Ni}_{0.5}\text{O}_4$  ..... 申国培, 谌敏(3)  
共沉淀-微波法合成  $\text{LiFePO}_4/\text{C}$  正极材料 ..... 张胜利, 杨胜杰, 宋延华(5)  
磷酸钒锂材料及全钒锂离子电池性能研究 ..... 杨改, 应皆荣, 姜长印, 等(8)  
水热合成  $\text{V}_3\text{O}_7 \cdot \text{H}_2\text{O}$  纳米带及其电化学性能研究 ..... 黄文达, 高绍康, 魏明灯(10)  
锂离子电池  $\text{LiCoO}_2$  材料的安全性能研究 ..... 李贺, 陈志奎, 于申军, 等(13)  
 $\text{LiNi}_{0.5}\text{Mn}_{1.5-x}\text{Ti}_x\text{O}_4$  的电化学性能研究 ..... 袁万颂, 田彦文, 刘国强, 等(15)  
镍离子掺杂磷酸亚铁锂的电化学性能 ..... 卢阳, 童庆松, 崔明(18)  
制备方法对  $\text{LiNi}_{0.5}\text{Mn}_{0.5}\text{O}_2$  的性能影响 ..... 李相良, 刘亚飞, 杨春林, 等(20)  
一种环境友好的磷酸亚铁锂合成方法 ..... 杨克润, 林子吉, 索继栓, 等(23)  
液相还原法制备正极材料  $\text{LiFePO}_4/\text{C}$  ..... 华宁, 王辰云, 吐尔迪, 等(25)  
蔗糖辅助燃烧法制备纳米锂离子电池正极材料  $\text{Li}_{1.1}\text{Mn}_2\text{O}_4$  ..... 毛景, 代克化, 骆文彬, 等(28)  
镍掺杂对  $\text{MoO}_3$  正极材料电化学性能的影响 ..... 魏欣, 焦丽芳, 高海燕, 等(31)  
 $\text{LiV}_3\text{O}_8$  正极材料的合成及电化学性能研究 ..... 秦红莲, 唐致远, 马莉(33)  
不同碳源对  $\text{LiFePO}_4/\text{C}$  复合材料性能的影响 ..... 陶兴华, 唐致远, 陈武(35)  
掺钴  $\text{LiFePO}_4/\text{C}$  的电化学性能研究 ..... 黄维静, 童庆松, 李变云, 等(37)  
锂离子电池用纳米  $\text{Co}_3\text{O}_4$  材料的电化学性能研究 ..... 左朋建, 王博, 程新群, 等(39)  
 $\text{LiFePO}_4$  充放电过程动力学过程 ..... 龚文强, 刘建华, 陈晗(41)  
锂离子电池正极材料—— $\text{Li}_3\text{V}_2(\text{PO}_4)_3$  的合成及其性能研究 ..... 师秀萍, 唐致远, 刘东(44)  
溶胶凝胶法制备锂离子电池正极材料  $\text{LiFePO}_4$  ..... 张震, 钟松材(47)  
脉冲激光沉积法制备  $\text{LiCoO}_2$  薄膜阴极 ..... 陈国光, 霍文培, 李晶泽(49)  
柠檬酸协助的  $\text{Y}_2\text{O}_3$  包覆  $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$  材料性能研究 ..... 刘浩涵, 张建, 张熙贵, 等(52)  
微波合成层状材料  $\text{Li}_{1.2+x}[\text{Ni}_{0.25}\text{Mn}_{0.75}]_{0.8-x}\text{O}_2 (0 \leq x \leq 4/55)$  及其电化学性能研究 ..... 彭庆文, 唐致远, 张联齐, 等(54)  
理解和设计锂过量的层状结构锂离子电池材料 ..... 张联齐, 刘兴江(57)  
合成温度对  $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$  复合材料性能的影响 ..... 任丽彬, 张联齐, 刘兴江, 等(60)

- 水溶液二次锂空气电池充电过程中氢离子还原研究 ..... 丁 飞, 刘兴江, 桑 林, 等(62)
- 商业化磷酸铁锂材料循环差异性研究 ..... 金慧芬, 王 鹏, 高俊奎, 等(64)
- $\text{Li}_{1.05}\text{Fe}(\text{PO}_4)_{1-x}(\text{GeO}_3)_x/\text{C}$  正极材料的制备及性能研究 ..... 李变云, 鲍 雨, 黄维静, 等(66)
- 均相沉淀法制备  $\text{LiFePO}_4$  正极材料的电化学性能研究 ..... 王 峰, 吴 锋, 吴 川, 等(68)
- 
- 裂解聚合物锂盐制备  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  电极材料 ..... 林子吉, 胡学步, 杨克润, 等(70)
- 水热合成  $\text{SnO}_2$  纳米粒子及其电化学性能研究 ..... 郑春龙, 魏明灯(72)
- $\text{Zn}_4\text{Si}_2\text{O}_7(\text{OH})_2$  纳米带的合成及其电化学性能研究 ..... 王进超, 魏明灯(74)
- 锂离子电池负极材料  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  的制备 ..... 王辰云, 华 宁, 康雪雅, 等(76)
- 化学还原 - 球磨法制备 Sn - Co - C 负极材料 ..... 许 琪, 于维平(79)
- 钛酸锂作负极锂离子电池体系研究 ..... 刘志远, 陈效华, 李 燕, 等(81)
- 
- 纯电动汽车用动力电池电解液的研究进展 ..... 王 健, 廖红英, 李冰川, 等(84)
- 2 - 氯苯甲醚作锂电池防过充电添加剂研究 ..... 李永坤, 刘建生, 杨春巍, 等(87)
- 低聚物离子液体为溶剂的电解质研究 ..... 齐 力(89)
- $\text{Li}/\text{MnO}_2$  电池用 LiTFSI 系电解液的研究 ..... 高 军, 汪红萍, 苏晓卉, 等(92)
- 基于超支化聚醚的固体聚合物电解质性能研究 ..... 冯 婷, 吴 锋, 吴 川, 等(94)
- $\text{Li}/\text{S}$  电池电解质的研究进展与展望 ..... 翟丽娟, 陈效华, 李 燕, 等(96)
- P(AN - MMA)基锂离子电池凝胶聚合物电解质研究进展 ..... 易 金, 谭春林, 李伟善, 等(98)
- 
- 26650 型钛酸锂电池的研制 ..... 崔 明, 许汉良, 张 帆, 等(103)
- 减小方形锂离子电池电芯变形的卷绕控制技术研究 ..... 王立松, 阳如坤(106)
- 导电炭黑对锂离子电池循环特性的影响 ..... 邓正华, 杨克润, 陈勉忠, 等(108)
- 锂离子电池的热失控模拟 ..... 卢立丽, 王松蕊, 刘兴江(111)
- 磷酸铁锂电池低温性能的研究 ..... 谢晓华, 张 建, 李 佳, 等(113)
- 水分对锂离子电池性能的影响研究 ..... 朱 静, 于申军, 陈志奎, 等(115)
- 提高锂离子电池储存性能的新方法 ..... 张熙贵, 李 佳, 谢晓华, 等(118)
- 锂离子电池高倍率放电性能的影响因素 ..... 朴金丹, 罗新耀, 李秀琴(120)
- 混合动力轿车用集中式锂离子动力电池管理系统设计 ..... 张华辉, 夏保佳, 齐铂金, 等(122)
-

JOURNAL OF SOUTH CHINA NORMAL UNIVERSITY  
(Natural Science Edition)

Suppl 2, 2009

CONTENTS

- Preparation and Performance Analysis of Spherical  $\text{NH}_4\text{FePO}_4$  ..... *LI Jun, LAI Guitang, ZHENG Yuying, et al( 1 )*
- High Rate and Long Life Cathode Material  $\text{LiMn}_{1.5}\text{Ni}_{0.5}\text{O}_4$  in Lithium Ion Battery ..... *SHEN Guopei, CHEN Min( 3 )*
- Synthesis of  $\text{LiFePO}_4/\text{C}$  Cathode Material through Co - precipitation and Microwave Heating ..... *ZHANG Shengli, YANG Shengjie, SONG Yanhua( 5 )*
- Study on  $\text{Li}_3\text{V}_2(\text{PO}_4)_3$  and All - Vanadium Lithium - Ion Batteries ..... *YANG Gai, YING Jierong, JIANG Changyin, et al( 8 )*
- Synthesis of  $\text{V}_3\text{O}_7 \cdot \text{H}_2\text{O}$  Nanobelts and Their Electrochemical Measurements ..... *HUANG Wenda, CAO Shaokang, WEI Mingdeng( 10 )*
- Research of Safety Performances of  $\text{LiCoO}_2$  Cathode Material for Li - Ion Batteries ..... *LI He, CHEN Zhikui, YU Shenjun, et al( 13 )*
- The Electrochemical Properties of  $\text{LiNi}_{0.5}\text{Mn}_{1.5-x}\text{Ti}_x\text{O}_4$  ..... *YUAN Wansong, TIAN Yanwen, LIU Guoqiang, et al( 15 )*
- Electrochemical Performance of Nickle Doping  $\text{LiFePO}_4$  ..... *LU Yang, TONG Qingsong, CUI Ming( 18 )*
- Effect of Synthesis Route on Properties of  $\text{LiNi}_{0.5}\text{Mn}_{0.5}\text{O}_2$  ..... *LI Xiangliang, LIU Yafei, YANG Chunlin, et al( 20 )*
- An Environment - Friendly Synthesis of  $\text{LiFePO}_4$  Electrode Material ..... *YANG Kerun, LIN Ziji, SUO Jishuan, et al( 23 )*
- $\text{LiFePO}_4/\text{C}$  Cathode Materials Synthesized by Liquid Reduction Method ..... *HUA Ning, WANG Chenyun, TURDI, et al( 25 )*
- Preparation of Nanosized  $\text{Li}_{1.1}\text{Mn}_2\text{O}_4$  Cathode Material for Lithium - Ion Battery via Sucrose - Aided Combustion Method ..... *MAO Jing, DAI Kehua, LUO Wenbing, et al( 28 )*
- Electrochemical Performance of Ni - doped  $\text{MoO}_3$  Cathode Materials ..... *WEI Xin, JIAO Lifang, GAO Haiyan, et al( 31 )*
- Synthesis and Electrochemical Characterization of Cathode Material  $\text{LiV}_3\text{O}_8$  ..... *QIN Honglian, TANG Zhiyuan, MA Li( 33 )*
- The Influence of Different Carbon Resource on Performance of  $\text{LiFePO}_4/\text{C}$  Composite Material ..... *TAO Xinghua, TANG Zhiyuan, CHEN Wu( 35 )*
- Study on the Electrochemical Performance of the Cobalt Doped Lithium - Iron Phosphate ..... *HUANG Weijing, TONG Qingsong, LI Bianyun, et al( 37 )*
- Study on Electrochemical Performance of  $\text{Co}_3\text{O}_4$  Composite Anode for Lithium - Ion Batteries ..... *ZUO Pengjian, WANG Bo, CHENG Xinqun, et al( 39 )*
- Kinetic Process of  $\text{LiFePO}_4$  in the Charge and Discharge Process ..... *GONG Wenqiang, LIU Jianhua, CHEN Han( 41 )*
- Study on the Synthesis of  $\text{Li}_3\text{V}_2(\text{PO}_4)_3$  for Cathode Meterial of Lithium - Ion Battery ..... *SHI Xiuping, TANG Zhiyuan, LIU Dong( 44 )*
- Using Sol - Gel Method to Synthesize  $\text{LiFePO}_4$  Cathode Material for Lithium - Ion Batteries ..... *ZHANG Zhen, ZHONG Songcui( 47 )*
- Electrochemical Properties of  $\text{LiCoO}_2$  Thin Film Cathode Sputtered by Pulsed Laser Deposition ..... *CHEN Guoguang, HUO Wenpei, LI Jingze( 49 )*
- Synthesis and Electrochemical Performance of Citric Acid Assisted  $\text{Y}_2\text{O}_3$  Coated  $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$  ..... *LIU Haohan, ZHANG Jian, ZHANG Xigui, et al( 52 )*
- Synthesis of Layered  $\text{Li}_{1.2+x}[\text{Ni}_{0.25}\text{Mn}_{0.75}]_{0.8-x}\text{O}_2(0 \leq x \leq 4/55)$  Materials via Microwave Heating Method and Their Electrochemical Properties ..... *PENG Qingwen, TANG Zhiyuan, ZHANG Lianqi, et al( 54 )*
- Interpretation and Designing of Li Excess Layered Materials for Li - Ion Batteries ..... *ZHANG Lianqi, LIU Xingjiang( 57 )*

Effect of Sintering Temperature on the Performance of $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ Composite Material	<i>RENN Libin, ZHANG Lianqi, LIU Xingjiang, et al( 60 )</i>
Study on $\text{H}^+$ Ion Reduction during Charging of Rechargeable Li - Air Battery with Aqueous Electrolyte	<i>DING Fei, LIU Xingjiang, SANG Lin, et al( 62 )</i>
The Study of the Cycle Difference Property of Commercial Lithium - Ion Phosphate	<i>JIN Huifen, WANG Peng, CAO Junkui, et al( 64 )</i>
Synthesis of the $\text{Li}_{1.05}\text{Fe}(\text{PO}_4)_{1-x}(\text{GeO}_3)_x/\text{C}$ Cathode Materials and Their Electrochemical Performance	<i>LI Binyun, BAO Yu, HUANG Weijing, et al( 66 )</i>
Electrochemical Performance of $\text{LiFePO}_4$ Cathode Material Prepared by Homogeneous Precipitation	<i>WANG Feng, WU Feng, WU Chuan, et al( 68 )</i>
Synthesis of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ Electrode Materials Pyrolyzed from Polymer Lithium Salts	<i>LIN Ziji, HU Xuebu, YANG Kerun, et al( 70 )</i>
Hydrothermal Synthesis of $\text{SnO}_2$ Nanoparticles and Their Electrochemical Properties	<i>ZHENG Chunlong, WEI Mingdeng( 72 )</i>
The Synthesis of Zinc Silicate Hydroxide Nanobelts and Their Electrochemical Properties	<i>WANG Jinchao, WEI Mingdeng( 74 )</i>
Synthesis of Anode $\text{Li}_4\text{Ti}_5\text{O}_{12}$ Material for Lithium - Ion Batteries	<i>WANG Chenyun, HUA Ning, KANG Xueya, et al( 76 )</i>
Sn - Co - C Negative Electrode Material Prepared by Chemical Reduction	<i>XU Kun, YU Weiping( 79 )</i>
Study on the Lithium Ion Cell System of Using $\text{Li}_4\text{Ti}_5\text{O}_{12}$ as Cathode Material	<i>LIU Zhiyuan, CHEN Xiaohuan, LI Yan, et al( 81 )</i>
The Development Trends of the Liquid Electrolyte of the Power Battery in Electric Auto	<i>WANG Jian, LIAO Hongying, LI Bingchuan, et al( 84 )</i>
2 - Chloroanisole for Overcharge Protection of Li - Ion Battery	<i>LI Yongkun, LIU Jiansheng, YANG Chunwei, et al( 87 )</i>
Electrolytes of Low Polymer Ionic Liquids as Solvents	<i>QI Li( 89 )</i>
Study on the Litfisi - Based Electrolytes for $\text{Li}/\text{MnO}_2$ Batteries	<i>GAO Jun, WANG Hongping, SU Xiaohui, et al( 92 )</i>
Properties of Solid Polymer Electrolytes Based on Hyperbranched Polyether	<i>FENG Ting, WU Feng, WU Chuan, et al( 94 )</i>
Progres and Prospect for Research Status of Li/S Battery Electrolyte	<i>ZHAI Lijuan, CHEN Xiaohua, LI Yan, et al( 96 )</i>
Research Progress in Gel Polymer Electrolyte Based on P(AN - MMA) for Li - Ion Battery	<i>YI Jin, TAN Chunlin, LI Weishan, et al( 98 )</i>
Preparation and Performance of 26650 Type Lithium - Ion Batteries with $\text{Li}_4\text{Ti}_5\text{O}_{12}$ as Negative Electrode	<i>CUI Ming, XU Hanliang, ZHANG Fan, et al(103)</i>
Study on Winding Control Technique of Reducing the Square Lithium - Ion Battery Core Deformation	<i>WANG Lisong, YANG Rukun(106)</i>
Effect of Conductive Carbon Black for The Cycling Performances of Lithium - Ion Batteries	<i>DENG Zhenghua, YANG Kerun, CHEN Mianzhong, et al(108)</i>
Simulation of Thermal Abuse for Lithiumion Cells	<i>LU Lili, WANG Songrui, LIU Xingjiang(111)</i>
Study on the Low Temperature Performance of the $\text{LiFePO}_4/\text{Li}$ Batteries	<i>XIE Xiaohua, ZHANG Jian, LI Jia, et al(113)</i>
Effect of Water Contamination on the Electrochemical Performance of Lithium - Ion Battery	<i>ZHU Jing, YU Shenjun, CHEN Zhikui, et al(115)</i>
Effect of Deep Discharge of Li - Ion Battery on Its Storage Performance	<i>ZHANG Xigui, LI Jia, XIE Xiaohua, et al(118)</i>
The Influence Factors of High Rate Discharge Performance of Li - Ion Battery	<i>PIAO Jindan, LUO Xinyao, LI Xiuqin(120)</i>
Design for Battery Management System of Driven Li - Ion Batteries	<i>ZHANG Huahui, XIA Baojia, QI Bojin, et al(122)</i>