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人才招聘



审核评估



人才引进



就业信息



杰出校友

教授兼博士生导师

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项宏发

点击率: 3703 作者: 来源: 时间: 2017-12-06

教师简介:



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个人简历:

项宏发, 1981年3月生。从事锂电池研究十余年, 至今发表SCI论文50余篇, 论文被引用1300多次, 其中以第一/通讯作者在JCR1区期刊发表论文23篇, 高被引论文3篇。担任包括Journal of Power Sources, Electrochimica Acta, Journal of Membrane Science, Journal of Materials Chemistry A, ACS Applied Materials and Interfaces等20余期刊审稿人。

1999.9-2003.6安徽大学化学化工学院化工专业(高分子化学方向)本科
2005.9-2009.12中国科技大学高分子系高分子化学与物理专业 硕博连读
2009.9-2010.6新加坡国立大学化学系 博士后
2010.7-2011.6华南理工大学化学化工学院 博士后
2014.1-2015.2美国西北太平洋国家实验室 访问学者
2011.7-合肥工业大学材料学院 黄山青年学者

主要研究领域、方向:

锂离子电池, 电解质, 隔膜, 电极/电解液界面, 石墨烯复合电极材料

研究成果(代表性成果):

1. DMMP基阻燃电解液,
2. 新型成膜添加剂与耐高压电解液
3. 无机复合隔膜
4. 钛酸锂/石墨烯复合负极材料

目前承担科研项目:

- 1.国家自然科学基金面上项目: 先进锂电池限域功能无机复合隔膜的制备及电化学性能研究, 项目主持人, 2017.1-2020.12
- 2.国家自然科学基金面上项目: 基于石墨的电化学剥离制备新型薄片碳材料及其储锂性能研究, 项目主持人, 2014.1-2017.12
- 3.企业委托项目: 锂离子电池电解液研究, 项目主持人, 在研
- 4.企业委托项目: 超级锂电池关键技术研究, 项目主持人, 在研
- 5.企业委托项目: 高安全性锂离子电池关键材料研究, 项目主持人, 在研
- 6.国家自然科学基金青年基金: 锂离子电池高安全性电解液与负极材料的界面特征及其形成动力学研究, 项目主持人, 已结题
- 7.合肥工业大学春华计划: 电动汽车用快充长寿命“超级锂电池”关键技术研究, 项目主持人, 已结题

获奖情况:

中国科学院院长优秀奖 2010年

著作论文(代表作):

- 1.H.F. Xiang, H.Y. Xu, Z.Z. Wang, C.H. Chen, "Dimethyl methylphosphonate (DMMP) as an efficient flame retardant additive for the lithium-ion battery electrolytes"
Journal of Power Sources, 173 (2007) 562-564. 被引频次:82 影响因子: 6.333
- 2.H.F. Xiang, Q.Y. Jin, C.H. Chen, X.W. Ge, S. Guo, J.H. Sun, "Dimethyl methylphosphonate-based nonflammable electrolyte and high safety lithium-ion batteries"
Journal of Power Sources, 174 (2007) 335-341. 被引频次:55 影响因子: 6.333
- 3.H.F. Xiang, X. Zhang, Q.Y. Jin, C.P. Zhang, C.H. Chen, X.W. Ge, "Effect of capacity matchup in the LiNi_{0.5}Mn_{1.5}O₄/Li₄Ti₅O₁₂ cells"

- Journal of Power Sources, 183 (2008) 355-360. 被引频次:64 影响因子: 6.333
- 4.H.F. Xiang, Q.Y. Jin, R. Wang, C.H. Chen, X.W. Ge, "Nonflammable electrolyte for 3-V lithium-ion battery with spinel materials LiNi_{0.5}Mn_{1.5}O₄ and Li₄Ti₅O₁₂"
Journal of Power Sources, 2008, 179: 351-356. 被引频次:37 影响因子: 6.333
- 5.H.F. Xiang, H. Wang, C.H. Chen, X.W. Ge, S. Guo, J.H. Sun, W.Q. Hu, "Thermal stability of LiPF₆-based electrolyte and effect of contact with various delithiated cathodes of Li-ion batteries"
Journal of Power Sources, 2009, 191(2): 575-581. 被引频次:72 影响因子: 6.333
- 6.H.F. Xiang, B. Yin, H. Wang, H.W. Lin, X.W. Ge, S. Xie, C.H. Chen, "Improving electrochemical properties of room temperature ionic liquid (RTIL) based electrolyte for Li-ion batteries"
Electrochimica Acta, 55 (2010) 5204-5209. 被引频次:71 影响因子: 4.803
- 7.H.F. Xiang, H.W. Lin, B. Yin, C.P. Zhang, X.W. Ge, C.H. Chen, "Effect of activation at elevated temperature on Li-ion batteries with flame-retarded electrolytes"
Journal of Power Sources, 2010, 195: 335-340. 被引频次:15 影响因子: 6.333
- 8.H.F. Xiang, C.H. Chen, J. Zhang, K. Amine, "Temperature effect on the graphite exfoliation in propylene carbonate based electrolytes"
Journal of Power Sources, 2010, 195: 604-609. 被引频次:9 影响因子: 6.333
- 9.B.B. Tian, L. Zhang, Z. Li, H.F. Xiang, H.H. Wang*, "Niobium doped lithium titanate as a high rate anode material for Li-ion batteries"
Electrochimica Acta, 2010, 55: 5453-5458. 被引频次:115 影响因子: 4.803 ESI高被引
- 10.P.C. Lian, X.F. Zhu, Z. Li, W.S. Yang, H.H. Wang, H.F. Xiang*, "Enhanced cycling performance of Fe₃O₄-graphene nanocomposite as an anode material for lithium-ion batteries"
Electrochimica Acta, 2010, 56: 834-840. 被引频次:258 影响因子: 4.803 ESI高被引
- 11.H.F. Xiang, K. Zhang, G. Ji, J-Y Lee, C. Zou, X.D. Chen, J.S. Wu, "Graphene/nanosized silicon composites for lithium battery anodes with improved cycling stability"
Carbon, 49 (2011) 1787-1796. 被引频次:154 影响因子: 6.198 ESI高被引
- 12.H.F. Xiang, B.B. Tian, P.C. Lian, Z. Li, H.H. Wang, "Sol-gel synthesis and electrochemical performance of Li₄Ti₅O₁₂/graphene composite anode for lithium-ion batteries"
Journal of Alloys and Compounds, 509 (2011) 7205-7209. 被引频次:61 影响因子: 3.014
- 13.H.F. Xiang, J.Y. Shi, X.Y. Feng, X.W. Ge, H.H. Wang, C.H. Chen, "Graphitic platelets prepared by electrochemical exfoliation of graphite and their application for Li energy storage"
Electrochimica Acta, 56 (2011) 5322-5327. 被引频次:4 影响因子: 4.803
- 14.H.F. Xiang, J.J. Chen, Z. Li, H.H. Wang, "An inorganic membrane as a separator for lithium-ion battery"
Journal of Power Sources, 2011, 196(20): 8651-8655. 被引频次:34 影响因子: 6.333
- 15.H.F. Xiang, D.W. Zhang, Y. Jin, C.H. Chen, J.S. Wu, H.H. Wang, "Hydrothermal synthesis of ultra-thin LiFePO₄ platelets for Li-ion batteries"
Journal of Materials Science, 2011, 46(14): 4906-4912. 被引频次:20 影响因子: 2.302
- 16.H.F. Xiang, Z.D. Li, K. Xie, J. Z. Jiang, J.J. Chen, P.C. Lian, J.S. Wu, Y. Yu, H.H. Wang, "Graphene sheets as anode materials for Li-ion batteries: preparation, structure, electrochemical properties and mechanism for lithium storage"
RSC Advances, 2012, 2(17): 6792-6799. 被引频次:65 影响因子: 3.289
- 17.L. Zhang, Z. Li, H.H. Wang, H.F. Xiang*, "Porous Li₃V₂(PO₄)₃/C cathode with extremely high-rate capacity prepared by a sol-gel-combustion method for fast charging and discharging"
Journal of Power Sources, 2012, 203: 121-125. 被引频次:54 影响因子: 6.333
- 18.L. Zhang, X.F. Zhu, W.S. Yang, H.H. Wang, H.F. Xiang*, "Synthesis of LiFePO₄/C composite as a cathode material for lithium-ion battery by a novel two-step method"
Journal of Materials Science, 2012, 47(7): 3076-3081. 被引频次:23 影响因子: 2.302
- 19.B.B. Tian, L. Zhang, H.H. Wang, H.F. Xiang*, "Effect of Nb-doping on electrochemical stability of Li₄Ti₅O₁₂ discharged to 0 V"
Journal of Solid State Electrochemistry, 2012, 16(1): 205-211. 被引频次:42 影响因子: 2.327
20. Z.D. Li, Y.C. Zhang, H.F. Xiang*, X.H. Ma, Q.F. Yuan, Q.S. Wang, C.H. Chen, "Trimethyl phosphite as an electrolyte additive for high-voltage lithium-ion batteries using lithium-rich layered oxide cathode"
Journal of Power Sources, 240 (2013) 471-475. 被引频次:34 影响因子: 6.333
- 21.X. Guo, H.F. Xiang*, T.P. Zhou, W.H. Li, X.W. Wang, J.X. Zhou, Y. Yu*, "Solid-state synthesis and electrochemical performance of Li₄Ti₅O₁₂/graphene composite for lithium-ion batteries"
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- 22.X. Guo, H.F. Xiang*, T.P. Zhou, X.K. Ju, Y.C. Wu*, "Morphologies and structures of carbon coated on Li₄Ti₅O₁₂ and their effects on lithium storage performance"
Electrochimica Acta, 2014, 130: 470-476. 被引频次:20 影响因子: 4.803
- 23.W.W. Wu, H.F. Xiang*, G.B. Zhong, W. Su, W. Tang, Y. Zhang, Y. Yu*, C.H. Chen, "Ordered LiNi_{0.5}Mn_{1.5}O₄ hollow microspheres as high-rate 5 V cathode materials for lithium ion batteries"
Electrochimica Acta, 2014, 119: 206-213. 被引频次:17 影响因子: 4.803
- 24.H.F. Xiang, D.H. Mei, P.F. Yan, P. Bhattacharya, SD Burton, AVW Cresce, R.G. Cao, MH Engelhard, ME Bowden, Z.H. Zhu, BJ Polzin, C.M. Wang, K. Xu, J.G. Zhang, X. Wu, "The Role of Cesium Cation in Controlling Interphasial Chemistry on Graphite Anode in Propylene Carbonate-Rich Electrolytes"
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- 25.D. Gao, J.B. Xu, M. Lin, Q. Xu, C.F. Ma, H.F. Xiang*, "Ethylene ethyl phosphate as a multifunctional electrolyte additive for lithium-ion batteries"
RSC Advances, 2015, 5(23): 17566-17571. 被引频次:2 影响因子: 3.289
- 26.T.P. Zhou, X.Y. Feng, X. Guo, W.W. Wu, S. Cheng, H.F. Xiang*, "Solid-state synthesis and electrochemical performance of Ce-doped Li₄Ti₅O₁₂ anode materials for lithium-ion batteries"
Electrochimica Acta 174 (2015) 369-375. 被引频次:15 影响因子: 4.803
- 27.Q. Xu, G.C. Hu, H.L. Bi, H.F. Xiang*, "A trilayer carbon nanotube/Al₂O₃/polypropylene separator for lithium-sulfur batteries"
Ionics, 2015, 21(4): 981-986. 被引频次:4 影响因子: 2.119
- 28.Y.C. Zhang, Z.H. Wang, P.C. Shi, H.F. Xiang*, H.H. Wang*, "A thin inorganic composite separator for lithium-ion batteries"
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29. Y. Xie, H.L. Zou, R. Xia, D.D. Liang, H.F. Xiang*, P.C. Shi S. Dai, H.H. Wang*, "Enhancement on the wettability of lithium battery separator toward nonaqueous electrolytes"
Journal of Membrane Science, 2016, 503: 25-30. 被引频次:2 影响因子: 5.557
30. T.L. Wang, P.C. Shi, J.J. Chen, C. Cheng, H.F. Xiang *, "Effects of porous structure of carbon hosts on preparation and electrochemical performance of sulfur/carbon composites for lithium-sulfur batteries"
Journal of Nanoparticle Research, 2016, 18: 19-27. 被引频次:0 影响因子: 2.101
31. L.L. Zhang, J.J. Chen, S. Cheng, H.F. Xiang*, "Enhanced electrochemical performances of Li_{1.2}Ni_{0.2}Mn_{0.6}O₂ cathode materials by coating LiAlO₂ for lithium-ion batteries"
Ceramics International 2016, 42: 1870-1878. 被引频次:5 影响因子: 2.758
32. X. Feng, H. Zou, H.F. Xiang *, X. Guo, T. Zhou, Y. Wu *, W. Xu, P. Yan, C. Wang, J.-G. Zhang, and Y. Yu *, "Ultrathin Li₄Ti₅O₁₂ Nanosheets as Anode Materials for Lithium and Sodium Storage"
ACS Applied Materials & Interfaces, 2016, 8: 16718-16726 被引频次:1 影响因子: 7.145
33. H. Zou, X. Liang, X. Feng, H.F. Xiang *, "Chromium-Modified Li₄Ti₅O₁₂ with a Synergistic Effect of Bulk Doping, Surface Coating, and Size Reducing"
ACS Applied Materials & Interfaces, 2016, 8: 21407-21416 被引频次:1 影响因子: 7.145
34. H.F. Xiang, P. Shi, P. Bhattacharya, X. Chen, D. Mei, M. E. Bowden, J. Zheng, J.-G. Zhang, W. Xu *, "Enhanced charging capability of lithium metal batteries based on lithium bis(trifluoromethanesulfonyl)imide-lithium bis(oxalato)borate dual-salt electrolytes"
Journal of Power Sources, 2016, 318: 170-177. 被引频次:5 影响因子: 6.333
35. Y. Xie, H.F. Xiang *, P. Shi, J. Guo, H.H. Wang*, "Enhanced separator wettability by LiTFSI and its application for lithium metal batteries"
Journal of Membrane Science, 2017, 524: 315-320. 被引频次:0 影响因子: 5.557

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