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姓名：马峰

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本人主要从事微纳材料制备和电化学储能与能量转化器件的研究。目前已在权威期刊上发表论文 21 篇，总引用~1000。其中以第一作者（含共同一作）ACS Nano、Fundamental Research、Joule、Science Bulletin 等国际国内 TOP 期刊上发表高水平 SCI 论文 11 篇。申请国家发明专利 3 项，授权 2 项。多次参加学术会议，其中于 2019 年赴美参加美国化学会年会并作口头报告。2020 年入职武汉科技大学以后主持 1 项国家自然科学基金青年项目和 1 项湖北省重点实验室开放基金重点项目，并作为骨干成员参与 1 项国家自然科学基金区域创新联合基金重点项目和 2 项企业合作项目。2021 年入选湖北省楚天学者计划（楚天学子），2022 年获聘武汉科技大学“香涛青年百人”特任教授。

研究方向：

（1）Electrochemistry and electrocatalysis (oxygen reduction, oxygen evolution, CO₂ reduction, etc.)

（2）Electrocatalysts (metal nanoparticles, nanocarbon, composites, etc.) for energy conversion (fuel cells, water splitting, etc.) and storage (batteries)

（3）Synthesis of metal, carbon, semiconductor, and their hybrids by the

unusual method (such as ultrafast laser, ion implantation, etc.)

(4) Advanced electrode structures for Li based batteries

(5) Lithium-ion battery assembly, testing and diagnostics

荣誉与奖项:

(1) “香涛青年百人”特任教授, 武汉大学, 2022

(2) 湖北省“楚天学者计划”(楚天学子), 2021

科研项目

(1) 国家自然科学基金委员会, 青年项目, 22109121, 基于 Li⁺离子流调控的金属/碳基复合材料用于长寿命锂金属负极的研究, 在研, 主持

(2) 国家自然科学基金委员会, 重点项目, U21A20317, 多组分冶金煤气绿色转化制取烯烃及电催化调控机制研究, 在研, 主要参与人

(3) 煤转化与新型炭材料湖北省重点实验室开放基金, 重点项目 (WKDM202204), 多金属位点/碳基复合材料用于高性能锂二次电池的研究, 在研, 主持

(4) 国家自然科学基金委员会, 面上项目, 21972051, 基于键能调控制备新型铂基金属间纳米晶催化剂及其氧还原电催化性能研究, 在研, 主要参与人

(5) 国家自然科学基金委员会, 面上项目, 22072051, 基于离子势调控的耐腐蚀非贵金属酸性氧析出电催化结构设计和反应机制研究, 在研, 主要参与人

(6) 企业委托项目, 锂电池硅基负极材料制备工艺研究, 在研, 主要参与人

(7) 企业委托项目, 超低铂载量催化剂的制备工艺和关键技术研究, 在研, 主

要参与人

(8) 国家自然科学基金委员会, 青年项目, 21705052, 金属性 1T-二硫化钼的电分析应用研究, 已结题, 主要参与人

(9) 深圳市项目, 基于催化转化机制的长寿命能量型锂硫电池研究, 已结题, 主要参与人

论文与专利:

(21 papers, 2 Chinese patents, Total citations ~1000)

论文:

[1] **Feng Ma**[#], Xuan Liu[#], Xiaoming Wang, Jiashun Liang, Jianyu Huang, Cameron Priest, Jinjia Liu, Shuhong Jiao, Tanyuan Wang, Gang Wu, Yunhui Huang, Qing Li*, Atomically Dispersed Zn-Co-N-C Catalyst Boosting Efficient and Robust Oxygen Reduction Catalysis in Acid via Stabilizing Co-N bonds, **Fundam. Res.**, 2022, DOI: 10.1016/j.fmre.2022.03.008. ([#]These authors contributed equally)

[2] **Feng Ma**, Yangyang Wan, Xiaoming Wang, Xinchao Wang, Jiashun Liang, Zhengpei Miao, Tanyuan Wang, Cheng Ma, Gang Lu, Jiantao Han, Yunhui Huang, Qing Li*, Bifunctional Atomically Dispersed Mo-N₂/C Nanosheets Boost Lithium Sulfide Deposition/Decomposition for Stable Lithium-Sulfur Batteries, **ACS Nano**, 2020, 14, 10115-10126.

[3] **Feng Ma**, Qing Li*, Tanyuan Wang, Hanguang Zhang, Gang Wu*, Energy Storage Materials Derived from Prussian Blue Analogues, **Sci.**

Bull., 2017, 62, 358-368. (Top 25 cited papers published in *Sci. Bull.*)

[4] **Feng Ma**, Jiashun Liang, Tanyuan Wang, Xian Chen, Yining Fan, Benjamin Hultman, Huan Xie, Jiantao Han, Gang Wu*, Qing Li*, Efficient Entrapment and Catalytic Conversion of Lithium Polysulfides on Hollow Metal Oxides Submicro-spheres as Lithium-Sulfur Battery Cathodes. **Nanoscale**, 2018, 10, 5634-5641.

[5] Jiashun Liang[#], **Feng Ma**[#], Sooyeon Hwang, Xiaoxia Wang, Joshua Sokolowski, Qing Li*, Gang Wu*, Dong Su*, Atomic Arrangement Engineering of Metallic Nanocrystals for Energy-Conversion Electrocatalysis. **Joule**, 2019, 3, 956-991. (#These authors contributed equally, ESI highly cited paper)

[6] Jiao Wang, Jiayao Mao, **Feng Ma***, Kaili Qi, Yilin Liu, Lin Cheng, Rongsheng Chen*, Nickel-Cobalt Layered Double Hydroxide Fabricated on TiO₂/C Nanofiber Arrays as Free Standing Electrode for High Performance Supercapacitors, **J. Alloys and Compds.**, 2022, 920, 165909.

[7] **Feng Ma**[#], Pei Hu[#], Tanyuan Wang, Jiashun Liang, Rui Han, Jiantao Han, and Qing Li*, Yolk@Shell Structured MnS@Nitrogen-Doped Carbon as a Sulfur Host and Polysulfide Conversion Booster for Lithium/Sodium Sulfur Batteries, **ACS Appl. Energy Mater.**, 2021, 4, 4, 3487–3494. (#These authors contributed equally)

[8] **Feng Ma**[#], Xiaoming Wang[#], Jiayang Wang, Yuan Tian, Jiashun Liang,

Yining Fan, Liang Wang, Tanyuan Wang, Ruiguo Cao, Shuhong Jiao, Jiantao Han, Yunhui Huang, Qing Li*, Phase-Transformed Mo_4P_3 Nanoparticles as Efficient Catalysts towards Lithium Polysulfide Conversion for Lithium–Sulfur Battery. ***Electrochim. Acta***, 2019, 330, 135310. (#These authors contributed equally)

[9] **Feng Ma**, Anbao Yuan*, Jiaqiang Xu, Nanoparticulate $\text{Mn}_3\text{O}_4/\text{VGCF}$ Composite Conversion-Anode Material with Extraordinarily High Capacity and Excellent Rate Capability for Lithium Ion Batteries, ***ACS Appl. Mater. & Interfaces***, 2014, 6, 18129-18138.

[10] **Feng Ma**, Anbao Yuan*, Jiaqiang Xu*, Pengfei Hu, Porous $\alpha\text{-MoO}_3/\text{MWCNT}$ Nanocomposite Synthesized via a Surfactant-Assisted Solvothermal Route as a Lithium-Ion-Battery High-Capacity Anode Material with Excellent Rate Capability and Cyclability, ***ACS Appl. Mater. & Interfaces***, 2015, 7, 15531-15541.

[11] **Feng Ma**[#], Xiaoyu Zhang[#], Ping He*, Xueping Zhang, Peng Wang, Haoshen Zhou*, Synthesis of Hierarchical and Bridging Carbon-coated $\text{LiMn}_{0.9}\text{Fe}_{0.1}\text{PO}_4$ Nanostructure as Cathode Material with Improved Performance for Lithium Ion Battery., ***J. Power Sources***, 2017, 359, 408-414. (#These authors contributed equally)

[12] **Feng Ma**, Fushan Geng, Anbao Yuan*, Jiaqiang Xu, Facile Synthesis and Characterization of a SnO_2 -modified $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ High-voltage Cathode Material with Superior Electrochemical Performance for Lithium

Ion Batteries., **Phys. Chem. Chem. Phys.**, 2017, 19, 9983-9991.

[13] Zhengpei Miao, Xiaoming Wang, Zhonglong Zhao, Wenbin Zuo, Shaoqing Chen, Zhiqiang Li, Yanghua He, Jiashun Liang, **Feng Ma**, Hsing-Lin Wang, Gang Lu, Yunhui Huang, Gang Wu, Qing Li*, Improving the Stability of Non-Noble-Metal M–N–C Catalysts for Proton-Exchange-Membrane Fuel Cells through M–N Bond Length and Coordination Regulation, **Advanced Materials**, 2021, 33, 2006613.

[14] Jiashun Liang, Zhengpei Miao, **Feng Ma**, Ran Pan, Xian Chen, Tanyuan Wang, Huan Xie, Qing Li*, Enhancing Oxygen Reduction Electrocatalysis through Tuning Crystal Structure: Influence of Intermetallic MPt Nanocrystals, **Chinese J. Catal.**, 2018, 39, 583-589.

[15] Zhengpei Miao, Xiaoming Wang, Meng Che Tsai, Qianqian Jin, Jiashun Liang, **Feng Ma**, Tanyuan Wang, Shijian Zheng, Bing Joe Hwang, Yunhui Huang, Shaojun Guo*, Qing Li*, Atomically Dispersed Fe-N_x/C Electrocatalyst Boosts Oxygen Catalysis via a New Metal-Organic Polymer Supramolecule Strategy, **Adv. Energy Mater.**, 2018, 8, 1801226.

[16] Xian Chen, Liang Wang, **Feng Ma**, Tanyuan Wang, Jiantao Han, Yunhui Huang and Qing Li*, Core@Shell Sb@Sb₂O₃ Nanoparticles Anchored on 3D Nitrogen-Doped Carbon Nanosheets as Advanced Anode Materials for Li-ion Batteries, **Nanoscale Adv.**, 2020, 2, 5578-5583.

[17] Liang Wang, Jiashun Liang, Xiaoyu Zhang, Shenzhou Li, Tanyuan Wang, **Feng Ma**, Jiantao Han, Yunhui Huang and Qing Li*, An Effective

Dual-Modification Strategy to Enhance the Performance of $\text{LiNi}_{0.6}\text{Co}_{0.2}\text{Mn}_{0.2}\text{O}_2$ Cathode for Li-ion Batteries, **Nanoscale**, 2021, 13, 4670-4677.

[18] Xian Chen, **Feng Ma**, Yuyu Li, Jiashun Liang, Bryan Matthews, Joshua Sokolowski, Jiantao Han, Gang Wu*, Xing Lu*, Qing Li*, Nitrogen-Doped Carbon Coated $\text{LiNi}_{0.6}\text{Co}_{0.2}\text{Mn}_{0.2}\text{O}_2$ Cathode with Enhanced Electrochemical Performance for Li-Ion Batteries, **Electrochim. Acta**, 2018, 284, 526-533.

[19] Rusong Chen, Shenzhou Li, Jianyun Liu, Yuyu Li, **Feng Ma**, Jiashun Liang, Xian Chen, Zhengpei Miao, Jiantao Han, Tanyuan Wang*, Qing Li*, Hierarchical Cu Doped SnSe Nanoclusters as High-Performance Anode for Sodium-Ion Batteries, **Electrochim. Acta**, 2018, 282, 973-980.

[20] Huan Xie, Shaoqing Chen, **Feng Ma**, Jiashun Liang, Zhengpei Miao, Tanyuan Wang, Hsinglin Wang*, Yunhui Huang, Qing Li*, Boosting Tunable Syngas Formation via Electrochemical CO_2 Reduction on $\text{Cu/In}_2\text{O}_3$ Core/Shell Nanoparticles, **ACS Appl. Mater. Interfaces**, 2018, 10, 36996–37004.

[21] Yining Fan, **Feng Ma**, Jiashun Liang, Xian Chen, Zhengpei Miao, Shuo Duan, Liang Wang, Tanyuan Wang, Jiantao Han, Ruiguo Cao, Shuhong Jiao, Qing Li*, Accelerated Polysulfide Conversion on Hierarchical Porous Vanadium–Nitrogen–Carbon for Advanced Lithium–Sulfur Batteries. **Nanoscale**, 2020, 12, 584-590.

授权专利:

[1] 何平, 马峰, 周豪慎, 一种磷酸锰锂纳米片的合成方法, 专利号:

ZL201610108088.8

[2] 李箫, 马峰, 王谭源, 一种负载金属磷化物的多孔空心碳、其制备和应用,

专利号: ZL201910660022.3