

赵文凯 博士，副教授

物理学专业硕士生导师

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教育经历:

- 2012.9~2016.7: 山东大学 凝聚态物理，获得理学博士学位；
- 2009.9~2012.7: 鲁东大学 原子与分子物理，获得理学硕士学位；
- 2005.9~2009.7: 鲁东大学 物理学，获得理学学士学位；

工作经历:

- 2016.7~至今: 鲁东大学物理与光电工程学院从事教学科研工作；

主要社会兼职:

- 中国物理学会原子与分子物理专业委员会青年委员

目前研究领域:

- 分子电子学；
- 自旋电子学；
- 低维器件理论模拟

承担研究课题

- 山东省自然科学基金面上项目: 新原理新架构下的 III-VI 族二维材料场效应晶体管器件的理论设计与研究, No. ZR2023MA080, 2024.1~2026.12,
- 国家自然科学基金青年基金: 基于一维金属卟啉酞菁分子链的自旋逻辑器件的理论研究与设计, No.11804139,2019.1-2021.12, 已结题, 主持
- 国家自然科学基金理论物理专项: 基于一维金属酞菁纳米管的气敏器件理论研究, No.11747002, 2018.1~2018.12, 已结题, 主持
- 山东省自然科学基金培养基金: 基于金属酞菁分子气敏器件的理论设计与研究, No. ZR2018PA008, 2018.3~2020.6, 已结题, 主持

主讲课程

- 研究生课程: 科学计算与模拟
- 本科生课程: 光学, 普通物理

代表性成果

近年来在《Advanced Electronic Material》,《Journal of Materials Chemistry C》,《Physical Chemistry Chemical Physics》,《Advanced Theory and Simulations》,《ChemElectroChem》《Physics Letters A》等期刊发表第一或通讯作者 SCI 收录论文十余篇,代表性论文如下:

- (1) Dongqing Zou, **Wenkai Zhao***, Yuqing Xu, Xiaoteng Li, Yuliang Liu and Chuanlu Yang*, *Phys. Chem. Chem. Phys.*, 2023, 25, 16896
- (2) **Wenkai Zhao**, Dongqing Zou, Zhaopeng Sun, Yuqing Xu, Guomin Ji, Xiaoteng Li and Chuanlu Yang*, High-Performance Monolayer SiMe-graphene n-type Field-Effect Transistors with Low Supply Voltage and High On-State Current in Sub-5 nm Gate Length, *Advanced Electronic Materials*, 2022, 8, 2101359
- (3) **Wenkai Zhao**, Dongqing Zou*, Zhaopeng Sun, Yuqing Xu, Guomin Ji, Xiaoteng Li and Chuanlu Yang*, A Single-Molecule AND Logic Gate via Optical and Acid-Base Control, *Advanced Theory and Simulations*, 2020, 3, 2000163
- (4) **Wenkai Zhao**, Dongqing Zou*, Zhaopeng Sun, Yuqing Xu, Guomin Ji, Yongjiang Yu and Chuanlu Yang*, Spin Logic Gates Operated by Protonation and Magnetism in Molecular Combinational Circuits, *Advanced Theory and Simulations*, 2019, 2, 1900057
- (5) **Wenkai Zhao**, Dongqing Zou*, Zhaopeng Sun, Yuqing Xu, Yongjiang Yu, Chuanlu Yang*, Mechanical Tuning of Giant Magnetoresistance and Spin Filtering in Manganese Diporphyrin-Based Molecular Junction, *ChemElectroChem*, 2019, 6: 421~429
- (6) Dongqing Zou, **Wenkai Zhao***, Bin Cui, Dongmei Li, Desheng Liu*, Adsorption of gas molecules on a manganese phthalocyanine molecular device and its possibility as a gas sensor, *Physical Chemistry Chemical Physics*, 2017, 20: 2048-2056.
- (7) **Wenkai Zhao**, Dongqing Zou, Chuanlu Yang*, Zhaopeng Sun, Spin transport properties and spin logic gates in manganese phthalocyanine-based molecular combinational circuits, *Journal of Materials Chemistry C*, 2017, 5: 8862-8868.
- (8) **Wenkai Zhao**, Chuanlu Yang*, Dongqing Zou, Zhaopeng Sun, Guomin, Ji, Possibility of gas sensor based on C₂₀ molecular devices, *Physics Letters A*, 2017, 381: 1825~1830.