

## 广东石油化工学院硕士研究生导师简介

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专业领域：光电信息工程

研究方向：1.绿色能源 2.光电材料与器件

主讲本科课程：大学物理，原子物理学

主讲研究生课程：材料分析测试方法



个人简介：徐志堃，理学博士、硕士生导师，中国分析测试协会青年学术委员会委员，黑龙江省电子显微学会委员，中国化学学会会员，权威学术期刊审稿人，2019-2026 连续 7 届能源与环境催化会议常务助理。主要研究方向：电催化析氧，二维材料制备及应用，光电探测器。发表 SCI 收录论文 80 余篇，被引用 2000 余次。主持国家自然科学基金 1 项，主持省部级基金 2 项，主持教育厅项目 1 项，主持广东石油化工学院人才引进项目 1 项，基金总额 100 万。

主要荣誉：“高等教育杯”全国高等学校物理基础课程青年教师讲课比赛黑龙江赛区二等奖。

部分代表性论文（第一作者或通讯作者）：

[1] **Xu ZK**, Sun XT, Li LZ, Lin SY, Zhao ZF. Rational synthesis of Mo-doped FeNiOOH/Ni<sub>3</sub>S<sub>2</sub> for enhanced ampere-level seawater oxidation. Journal of Alloys and Compounds. 2026,1056,186597.

[2] Lin SY, **Xu ZK**. Strategies for improving oxygen evolution performance of MOF nanoarrays. Dalton Transactions. 2026,55(3):1100-1108.

[3] Lin SY, Tao YJ, **Xu ZK**, Li LZ, Chen XY, Yan R, Zhao ZF. Co/Mo dual-doped NiS nanoflakes as efficient and robust OER electrocatalysts for industrial-scale seawater electrolysis. Fuel. 2026,411,138079.

[4] Lin SY, Shi QY, Li LZ, **Xu ZK**, Zhao ZF. Synergistic molybdenum and iron doping engineering of Ni<sub>3</sub>S<sub>2</sub>/Co<sub>9</sub>S<sub>8</sub> hybrid for industrial-scale seawater oxidation. Journal

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[5] Yang Y, Xu ZK, Li TL, Ma XZ, Lin SY. V and Fe dual-doping modulated the electronic structures of  $\text{Ni}_3\text{S}_2/\text{Ni}(\text{OH})_2$  for ampere-level seawater oxidation. *Surfaces and Interfaces*. 2025,58,105864.

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[12] Pan JW, Wang DB, Wu DH, Cao JM, Fang X, Zhao CC, Zeng Z, Zhang BK, Liu DH, Liu SH, Liu G, Jiao SJ, Xu ZK, Zhao LC, Wang JZ. Rational design of three dimensional hollow heterojunctions for efficient photocatalytic hydrogen evolution applications. *Advanced Science*. 2024,11(13),2309293.

[13] Pan JW, Wang DB, Zhang BK, Zhao CC, Liu DH, Liu SH, Zeng Z, Chen TY, Liu G, Jiao SJ, Xu ZK, Liu TL, Liu TF, Fang X, Zhao LC, Wang JZ. Atomic-level charge separation boosting the photocatalytic hydrogen evolution. *Chemical Engineering Journal*. 2024,487,150536.

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Chen TY, Liu G, Jiao SJ, Xu ZK, Huang YW, Zhao LC, Wang JZ. Efficient doping induced by charge transfer at the hetero-interface to enhance photocatalytic performance. ACS Applied Materials & Interfaces. 2023,15(10):12924-12935.

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5. 广东石油化工学院人才引进项目（编号：2020rc010），经费50万，项目主持人

#### 科研成果（获奖、专利、版权、著作权、外观设计等）：

1. 发明专利：一种铅离子的荧光检测探针
2. 发明专利：一种Fe掺杂Ni-MOF纳米片及其制备方法和应用
3. 发明专利：生物燃料电池及其制备方法
4. 发明专利：一种Ni<sub>2</sub>Fe-ICP纳米片及其室温生长的制备方法
5. 发明专利：一种可控微介孔金属有机框架HKUST-1材料及其制备方法和应用
6. 发明专利：Co(OH)<sub>2</sub>@CoMoO<sub>4</sub>复合纳米片的制备方法