

淮北师范大学研究生导师简介表

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招生专业名称	材料科学与工程		
主要研究方向	新型半导体薄膜材料与器件		
	电容器储能		
个人简历	刘亲壮，1981 年 5 月出生，理学博士，教授，博士生导师，安徽省领军人才特聘教授，安徽省高水平导师，安徽省学科方向带头人，学术骨干，相山学者，优秀教育工作者，安徽省百篇优秀硕士学位论文指导教师，美国田纳西大学访问学者，中国科学技术大学合肥微尺度物质科学国家实验室凝聚态物理专业博士；现为淮北师范大学物理与电子工程学院教师。 主要研究方向包括：新型半导体薄膜材料；透明导电薄膜；光电子器件；铁电储能电容器等。先后主持国家自然科学基金项目 2 项，安徽省自然科学基金 2 项，安徽省优秀科研创新团队 1 项，安徽高校自然科学研究重大和重点项目各 1 项，安徽省优秀青年人才重点项目 1 项，淮北市科技人才培养计划项目 1 项，以及安徽省“协同创新中心”子课题 1 项，总经费 500 余万元。科研成果转化 3 项。先后在 Appl. Phys. Lett. , ACS Appl.Mater. Interfaces, Journal of Materials Chemistry C, Europhys. Lett. 等 SCI 检索刊物上发表学术论文 50 余篇，授权国家发明专利 4 项。2013 和 2016 年获安徽省第七届自然科学优秀论文三等奖，2012 年获校十一五“科研先进个人”称号，2014 年评为校“学术骨干”，2016 年评为校“优秀教育工作者”，2020 年获“相山学者”称号，2020 年“优秀研究生导师”。2022 年安徽省“高水平导师”。2024 年安徽省领军人才特聘教授。		

主要学术成就	承担的科研和教学项目： 1. 主持功能薄膜与器件优秀科研创新团队项目，经费 200 万，项目编号：2024AH010027，2024.07-2027.06； 2. 主持国家自然科学基金面上项目 “锡酸盐 ASnO_3 ($\text{A}=\text{Sr}, \text{Ba}$) 薄膜能带原位应变调控及铁电场效应晶体管的制备研究”（项目编号：11974127），2020.01-2023.12； 3. 主持国家自然科学基金青年基金：钙钛矿结构 Sn 基透明导电膜及异质结的制备与物性研究，批准号：11004071，2010.01-2012.12； 4. 主持安徽省自然科学基金面上基金项目 “钙钛矿锡酸盐薄膜结构和物性的应变调控研究”，（项目编号：2008085MA19），2020.01-2021.12； 5. 主持安徽省自然科学基金青年项目 “过渡金属离子掺杂锡酸盐薄膜的制备与物性研究”，项目编号：1408085QA19，2014.01-2015.12； 6. 主持安徽省高校自然科学基金重大项目（项目编号：KJ2019ZD40） “新型宽带隙半导体锡酸盐 ASnO_3 ($\text{A}=\text{Sr}, \text{Ba}$) 薄膜的禁带宽度调控研究”，2019.01-2021.12； 7. 主持安徽省高校自然科学研究重点项目：“钙钛矿结构 BaSnO_3 及其掺杂薄膜的结构、电输运和磁性质研究”，项目编号：KJ2015A095，2015.01-2016.12； 8. 主持安徽省高校优秀青年人才支持计划重点项目，项目编号：gxyqZD2016110； 9. 主持安徽省协同创新中心开放课题：“高电导 Sn 基透明导电薄膜的制备研究”，项目编号：XTZX103732015012； 10. 主持淮北市人才培育项目 “新型透明导电膜玻璃的研究和制备”，项目编号：20130304 11. 主持校级教研项目：材料物理课程教学改革与实践，项目批准号：jy14139。 12. 省级质量工程项目：材料物理一流本科人才示范引领基地，项目编号：2019rcsfjd043 代表论文： 1. Xiaoman Yang, Tong Zhou, Enda Hua, Zhongliao Wang, Zhongliang Liu, Haifeng Wang and Qinzhuang Liu*(通讯), Composition Dependent Structure and Bandgaps in $\text{Hf}_x\text{Zr}_{1-x}\text{O}_2$ Thin Films, <i>Applied Physics Letters</i>, 124, 122902 (2024). 2. Tong Zhou, Xiaoman Yang, Jian Yuan and Qinzhuang Liu*(通讯), Effect of substrate on structural and transport properties of $\text{La}_{0.05}\text{Sr}_{0.95}\text{SnO}_3$ and $\text{La}_{0.05}\text{Ba}_{0.95}\text{SnO}_3$ epitaxial films, <i>Journal of Alloys and Compounds</i>, 984, 173953(2024). 3. Haozhe Li, Kai Zhang, Xiu Li, Baiquan Liu, Lianbi Li, Zengxia Mei, Tongsheng Chen ,Qinzhuang Liu*(通讯) , Wenzhi Yu, Jian Yuan, Haoran Mub, Shenghuang Lin, Two-dimensional (2D) $\text{a-In}_2\text{Se}_3/\text{Ta}_2\text{NiSe}_5$ heterojunction photodetector with high sensitivity and fast response in a wide spectral range, <i>Materials & Design</i>, 227, 111799 (2023). 4. Haozhe Li, Jian Yuan, Qinzhuang Liu*(通讯), Haoran Mu, Self-powered
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	Zhongliang Liu, Jianjun Liu, Jianming Dai, Rectifying property and magnetoresistance of manganite-stannate junctions, <i>Solid State Communications</i>, 173:30~33 (2013). 28. Qinzhuang Liu, Hong Li, Lele Fan, Epitaxial BiFe_{0.95}Mn_{0.05}O₃ thin films on transparent La_{0.07}Ba_{0.93}SnO₃ electrodes, <i>Journal of Alloys and Compounds</i>, 581:479~483 (2013). 29. Qinzhuang Liu, Bing Li, Jianjun Liu, Hong Li, Zhongliang Liu, Kai Dai, Guangping Zhu, Peng Zhang, Feng Chen, Jianming Dai, Structure and band gap tuning of transparent (Ba_{1-x}Sr_x)SnO₃ thin films epitaxially grown on MgO substrates, <i>EPL</i>, 98:47010 (2012). 30. Qinzhuang Liu, Jianjun Liu, Bing Li, Hong Li, Guangping Zhu, Kai Dai, Zhongliang Liu, Peng Zhang, Jianming Dai, Composition dependent metal-semiconductor transition in transparent and conductive La-doped BaSnO₃ epitaxial films, <i>Applied Physics Letters</i>, 101:241901 (2012). 31. Qinzhuang Liu, Jianming Dai, Xiaobo Zhang, Guangping Zhu, Zhongliang Liu, Guohua Ding, Perovskite-type transparent and conductive oxide films: Sb- and Nd-doped SrSnO₃, <i>Thin Solid Films</i>, 519:6059~6063 (2011). 32. Qinzhuang Liu, Jianming Dai, Zhongliang Liu, Xiaobo Zhang, Guangping Zhu, Guohua Ding, Electrical and optical properties of Sb-doped BaSnO₃ epitaxial films grown by pulsed laser deposition, <i>Journal of Physics D-Applied Physics</i>, 43:455401 (2010). 33. Qinzhuang Liu, Haifeng Wang, Feng Chen, Wenbin Wu, Single-crystalline transparent and conductive oxide films with the perovskite structure:Sb-doped SrSnO₃, <i>Journal of Applied Physics</i>, 103:093709 (2008). 34. 发明专利: 刘亲壮 李兵,具有钙钛矿结构的未掺杂透明导电氧化物薄膜, 专利号:ZL201510177538.4, 2017 年。 科研和教学获奖: 1. 2012 年校 “科研先进个人”; 2. 2013 年校首届高校辅导员职业技能大赛三等奖 3. 2014 年校 “学术骨干”; 4. 2015 年度本科毕业论文优秀指导教师; 5. 2016 年校优秀教育工作者; 6. 2020 年 “相山学者”; 7. 2020 年优秀研究生导师; 8. 2022 年安徽省 “高水平导师”; 9. 2022 年安徽省百篇优秀硕士学位论文指导教师 10. 2024 安徽省领军人才特聘教授。
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填表时间: 2025 年 9 月 26 日