College of Science

物理系 Department of Physics

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本系简介 About Us

物理系是 2011 年南方科技大学首批设立的五个院系之一。现有物理学和应用物理学两个本科专业,物理学一级学科硕士点,物理学一级学科博士点和博士后流动站;已建成完整的从本科、硕士、博士到博士后的人才培养体系。物理系毕业生理论基础扎实、科研能力突出,超过七成的学生升学深造,广泛活跃在北大、牛津等国内外高等院校和科研机构。

物理系吸引了国内外的大批青年才干,现有 47 名专职教师,其中讲席教授 9 人,教授 5 人、副教授 26 人、助理教授 5 人、教学教授 2 人,大部分毕业或 曾就职于世界 Top100 大学或研究所。高端人才有中科院院士 4 位、教育部特聘教授 5 位、国家杰出青年科学基金获得者 5 位、高层次人才特支计划获得者 2 位、南粤优秀教师 2 位、"珠江人才计划"领军人才 2 位、"鹏城学者" 5 位。一流的人才给物理系带来了卓越的成果。

截至 2023 年 7 月,我系已独立承担 320 余项国际级、地方级的科研项目,包括国家自然科学基金项目 144 项,科技部、教育部项目 28 项,广东省自然科学基金项目、重点领域研发计划及联合基金等 51 项,深圳市项目 110 项,科研经费累计逾 7 亿。我系教师在 Nature、Science、Physical Review X、Physical Review Letters 等学术刊物上累计发表论文逾 2200篇,其中以南科大为第一或通讯作者单位的文章 1248篇,影响因子 > 10 或者 PRL 等顶级期刊有 371 篇。体现了我系科研人员深厚的学养和突出的科研能力。

M= Pd cosd

The Department has a current size of 47 academic faculty, including 9 chair professors, 5professors, 26 associate professors,5 assistant professors and 2 teaching professors. There are 4 academicians of Chinese Academy of Sciences (including joint employment), 5 national distinguished young scholars, and 5 "Pengcheng" scholars. All members of our academic staff have study or work experience at top 100 universities around the world.

In recent years, our staff members have published many papers in high profile journals, gaining the Department international impact. Our research support totaled more than 700 million (CNY), including 144 projects from National Natural Science Foundation of China, 28 projects from Ministry of Science and Technology and Ministry of Education, 51 projects from Guangdong Natural Science Foundation, Key Field R&D Plans and Joint Funds, and 110 projects from Shenzhen City. Our academic staff have published over 2200 papers in journals of physics including Nature, Science, Physical Review X, Physical Review Letters,

Department of Physics



我系研究领域涵盖物理科学及系列前沿研究方向,设有凝聚态物理、理论物理、计算物理和光学四个二级学科,同时正在布局天体物理、粒子物理、生物物理等方向的学科建设。同时,物理系在多个公认大学及学科排名上,取得了亮眼的成绩。泰晤士2023学科评级中,南科大物理学评级为A;软科 2022 中国最好学科排名中,物理学位列第 15 位;在 2023 Nature Index 排名中,Physical Science 在 Nature Index 官网排名上升至全国高校第 15 名 (包括香港高校);同时,南科大物理学科也于 2022 年 3 月首次进入了 ESI 全球前 1%。

Department of Physics now offers 4 majors in condensed matter physics, computational physics, theoretical physics and optics, while setting up astrophysics, particle physics and biological physics. Our Physics discipline is rated as "A" in the subject rating of the THE 2023, it also ranked 15th in 2022 Shanghai Ranking's Chinese University Ranking of the Best Subject and 15th in China at the ranking of 2023 Nature Index. At the same time, The Physics discipline of SUSTech entered the top 1% of ESI in the world for the first time in March 2022.

研究内容:

在极低温及强磁场等条件下,对各种新兴低维系的物理性质,特别是 电子或自旋的量子输运性质、拓扑绝缘体等新型量子效应的研究及相关的 量子调控新原理、新方案、进行深入而全面的研究。探索新型功能材料, 发展和完善各种功能材料的制备方法,研究材料的光学、热学、电学、磁学、 声学以及力学等性能。

Research Contents:

Physical properties of various emerging thin film materials will be investigated systematically under ultra—low temperature and high magnetic field conditions, especially the quantum transport of electrons or spins in these materials. We will also aim to effectively control the novel quantum phenomena revealed in these materials by optical, electrical, or magnetic means. Search for novel functional materials, develop and improve the synthesis techniques of various functional materials, study their corresponding photonic, thermal, electronic, magnetic, phonic and mechanic properties.

研究内容:

冷原子物理及原子光学与原子玻色 - 爱因斯坦凝聚: 纳米结构和纳米光学; 全固化激光器物理及应用; 近场光学; 光谱学。

Research Contents:

Cold atom/molecule physics; Atomic optics and atomic Bose-Einstein condensation; Laser cooling and trapping of atom/molecules; Nano structure and nano optics; Optical spectroscopy.

凝聚态物理 Condensed Matter Physics

原子分子光物理 Atomic, Molecular and Optical (AMO) Physics

研究内容:

研究内容软凝聚态物理、软物质力学。

Research Contents:

Soft condensed matter physics; Soft material mechanics.

研究内容:

计算物理是物理学的重要分支之一,与理论物理和实验物理相 互补充。研究领域涵盖不同维度下的半导体、金属、绝缘体等多种 材料,并设计和预测多种新材料。

Research Contents:

Computational physics is an important branch of physics, which has a multitude relationship with theoretical physics and experimental physics. Our research area is mainly to study the fundamental properties of different dimensional materials using combined theoretical calculations and experiments. Furthermore, we also design and predict the new materials.

研究内容:

主要是对强关联电子系统包括高温超导理论、分数量子霍尔效应、磁性理论及数值的研究。

Research Contents:

Theoretical study mainly focus on the strongly correlated electron systems, including high—Tc superconductivity, fractional quantum hall effect, and magnetic theory and its numerical investigations.

研究内容:

量子计算机的结构与实现、量子信息的原理和应用、量子通信网络的设计和实现等。

Research Contents:

Quantum Information and Quantum Computation mainly focus on the structure and implementation of a quantum computer, the principle and application of quantum information, the design and implementation quantum communication network, etc.

研究内容:

研究比原子核更深层次的微观世界中物质的结构性质,和在很高的能量下,这些物质相互转化的现象,以及产生这些现象的原因和规律。研究天空物体的性质及它们的相互作用。

Research Contents:

High—energy Physics mainly focus on the structural properties of substances in the micro world smaller than nuclei, and the phenomena of mutual transformation between these substances under extremely high energy, as well as the causes and laws of these phenomena. Study the properties of astronomical object and their interactions.

生物物理 Biophysics

计算物理 Computational Physics

理论物理 Theoretical Physics

量子信息与量子计算 Quantum Science and Engineering

高能与天体物理 High-energy Physics and Astrophysics

Research











物理系实验室硬件条件完善,拥有包括超高真空超低温扫描隧道显微镜、表面反应及分析仪、球差校正透射电子显微镜、电子束曝光机、超导核磁共振谱仪、综合物性测量系统等在内的总价值近 5 亿元人民币的仪器设备。物理系已建成包括皮米尺度上的基础和应用研究中心、量子科学与工程研究院、中子科学中心等在内的多个科研平台及专业实验室,总面积超过 5000 平方米。为学术研究提供了强有力的支持。

The Department of Physics has well-equipped laboratories, ultrahigh vacuum ultra-low temperature scanning tunneling microscope, boasting surface reaction analyzer, spherical aberration correction transmission electron microscope(TEM), electron beam exposure(EBE) machine, superconducting nuclear magnetic resonance spectrometer, physical property measurement system(PPMS), with a total value of about RMB 500 million. The Department has set up many scientific research platforms and specialized laboratories, including the Picometer-scale Fundamental & Applied

Research Genter, the Institute of Quantum Science and Engineering, the Neutron Science Center and so on, covering a total floor area of 5,000 square meters, providing a strong support for academic research.



- 1. Cs-corrected Environmental TEM
- 2. Surface Analysis System
- 3. Physical Property Measurement System
- 4. Ultrahigh Vacuum Ultra-low Temperature Scanning Tunneling Microscope
- 5. Electrospinning Machine
- 6. Pulsed Laser Deposition & Molecular Beam Epitaxy
- 7. Quantum Gravity 会议 Quantum Gravity Conference 2018
- 8. CPS Fall Meeting 2022



Exchanges & Cooperation

2017年以来,我系举办学术报告近400场、南科大讲堂17场;累计接待杰青、两院院士、诺奖获得者等高水平专家超过百人。此外我系举办了中国物理学会2022秋季学术会议、QIP2020、"新材料与能源科学"高峰论坛、香港深圳量子信息联合会议等国际学术会议和论坛,邀请国内外本领域的学术带头人与科研新秀来访交流。

Since 2017, our department has held about 400 academic reports and 17 SUSTech lectures; received over 100 high–level experts including outstanding youths, academicians of the Chinese Academy of Sciences and Chinese Academy of Engineering, and Nobel Prize winners. Besides, ourdepartment organized international academic conferences and forums such as CPS Fall Meeting 2022, QIP2020, "New Materials & Energy Science "Summit Forum, and Hong Kong–Shenzhen Workshop on Quantum Information Science. Academic leaders and young research talents in physics at home and abroad are welcomed to exchange views here.

物理系积极组织师生到世界各地参加各类学术会议,

宣传我系的优秀工作成果,与各国专家学者一起探讨学术研究的前沿动态与发展趋势。同时,物理系设置与国际接轨的课程、使用全英文或中英双语授课,提供丰富的国际交流及交换机会,为学生打开国际视野,支持个性化发展,致力于培养通晓国际规则、具备世界公民素养的创新型人才。

The Department of Physics is active in organizing events for teachers and students to get more engagement in various academic conferences around the world, to publicize our excellent achievements, and to exchange the latest updates and development trends in academic researches. At the same time, the Department of Physics provides international level courses, using full English or bilingual teaching, providing students with rich international exchange opportunities, opening up their international perspectives, supporting personalized development, and committed to cultivating innovative talents who are familiar with international rules and have global citizenship literacy.

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学子风采 Meet Our Students

从 2011 年开始,物理系开始招收本科生。据统计,历届本科生共参与科研项目 50 项 (学生为项目负责人), 其中 5 项国家级大创项目,9 项省级大创项目,4 项省级攀登项目;发表 SCI 论文 100 余篇,其中以一作或共同一作发表超过 30 篇。部分学生在物理学项级期刊 Phys.Rev. Lett、Phys.Rev.X上以第一作者发表论文;获授权专利 3 项,其中一作 2 项;获省级以上学科竞赛奖励 100 余项。物理系大部分本科毕业生选择继续深造,包括境外升学、境外联培、保研、考研等,近三届毕业生深造率分别为 86%、77%、80%。

从2016年开始,南科大与北京大学、哈尔滨工业大学、香港大学、香港科技大学、新加坡国立大学、利兹大学等境内外知名高校开展研究生联合培养。2018年,物理学科分别获得物理学一级学科硕士、博士学位授权点,开始培养南科大自主研究生。物理系研究生的科研成果令人瞩目,仅在2022年,物理系研究生在国际一流期刊上发表

硕士研究生培养情况一览表

培养学校	2016 级	2017级	2018级	2019级	2020 级	2021 级	2022 级	2023 级
南科大自主				46	50	50	61	64
哈工大联培	19	29	35					

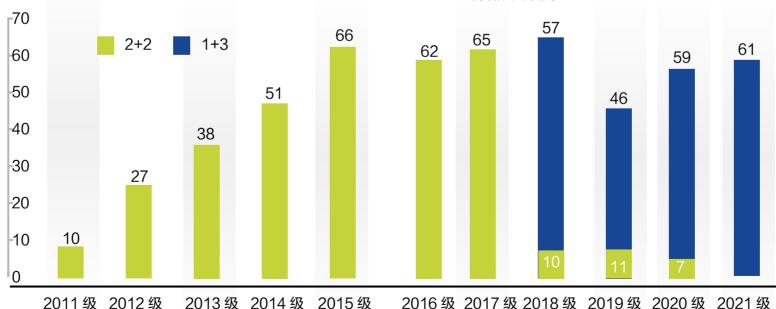
博士研究生培养情况一览表

培养学校	2016级	2017级	2018级	2019级	2020级	2021 级	2022级	2023 级
南科大自主				31	29	27	24	26
哈尔滨工业 大学	4	8	19	3				
北京大学	2		1					
澳门大学	2		1					
香港大学	3	4	4	1	2	2		
香港科技大 学	3	4	3	2	3			
香港理工大 学				1				
香港浸会大 学				1				
新加坡国立 大学		1	3	3	1			
悉尼科技大 学			2					
昆士兰大学				1	1			
利兹大学			1					
香港城市大 学						2		
学生总人数	14	17	34	43	36	31	24	26

论文124篇,研究生作为一作或共同一作的论文接近半数。 毕业生理论基础扎实、科研能力突出,广泛活跃在北大、 牛津等国内外高等院校和科研机构。

Up to now, our undergraduates have participated in 50 scientific research projects at both state and provincial levels. Their researches are also fruitful, with over 100 papers being published on SCI journals, more than 30 of which were finished as the first or co-first author. They have multiple patents and have excellent performance at various competitions. Since 2016, SUSTech has carried out joint postgraduate training program with Peking University, Harbin Institute of Technology, University of Hong Kong, National University of Singapore, Leeds University and other well-known universities at home and abroad. In 2018, the Department started to recruit postgraduates independently. The research achievements of our postgraduates are remarkable. In 2022 alone, they published 124 papers on International firstclass journals, and nearly half of the papers were finished by students as the first or co-first author. Graduates have a solid theoretical foundation and outstanding scientific research ability.Our graduates have furthered their study in renowned universities or research institutions.

物理系历届本科生录取情况(在系师生比1:5)



学生动态

Student's Activities

2020年1月,物理系2017级本科生王凌飞、钟海文和其他队员组成的参赛团队在"2019年美国大学物理竞赛"中获得银奖。

In January, 2020, Lingfei WANG, Haiwen ZHONG (class of 2021) got silver award in the 2019 University Physics Competition.

2020 年 1 月,物理系 2017 级本科生田致远、冯锴和 其他队员组成的参赛团队在"2019 年美国大学物理竞赛" 中获得银奖。

In January, 2020, Zhiyuan TIAN, Kai FENG (class of 2021) got silver award in the 2019 University Physics Competition.

2020 年 8 月,物理系 2018 级本科生卞凯明、邵天浩 和其他队员组成的参赛团队在"2020 中国大学生物理学术 竞赛(中南赛区)"中获省级三等奖。

In August, 2020, Kaiming BIAN, Tianhao SHAO (class of 2022) won the third prize at provincial level in China Undergraduate Physics Tournament (Central South Division)

2020 年 12 月,物理系 2019 级本科生肖天翼、江一帆和其他队员组成的参赛团队在"2020 全国大学生物理实验竞赛"中获国家级一等奖。

In December, 2020, Tianyi XIAO, Yifan JIANG (class of 2023) won the first prize at state level in the 2020 National College Student Physics Experiment Competition.

为庆祝中国共产党百年华诞,2021年6月-7月2019级博士生周良、陈见,以及研究生第一、第二党支部委员和党员策划组织党史知识竞赛活动,以"强国梦文创桌游"为载体乐学党史。

To celebrate the 100th anniversary of the CPC, doctoral students Liang ZHOU, Jian CHEN and other members of Postgraduate's Party Committees organized a Party history contest

2021年7月,物理系2020级本科生姚健在第七届全国大学生物理实验竞赛(教学赛)中获得二等奖。

In July, 2021, Jian YAO (class of 2024) won the second prize in the 7th National College Student Physics Experiment Competition (Teaching Competition).

2021 年 8 月,物理系 2018 级本科生周滢瑶在第二届 " 华数杯 "全国大学生数学建模竞赛中获得一等奖。

In August, 2021, Yingyao ZHOU (class of 2022) won the first prize in the 2nd HuaShu Cap Math Modeling Competition.

2021年10月,物理系2020级本科生陈登科及队员在第四届APACHPC-AI挑战赛中获得总冠军。

In October, 2021, Dengke CHEN (class of 2024) won the champion in the 4th APAC HPC-AI Challenge.

2021年11月,物理系学生黄梓晋、侯力文、罗翊原、 戴越、成云显在第七届全国大学生物理实验竞赛决赛(创 新赛)中获得团体一等奖。

In November, 2021, Zijin HUANG, Liwen HOU, Yiyuan LUO, Yue DAI, Yunxian CHENG as a group won the first prize in the 7th National College Student Physics Experiment Competition Finals (Innovation Competition).

2022年11月,物理系2020级本科生陈立仁在"2022年全国大学生数学建模竞赛"中获得二等奖。

In November, 2022, Liren CHEN (class of 2020) got the second prize in the 2022 National College Student Math Modeling Competition.

2022 年 12 月,物理系 2020 级本科生李海琳、邹瑗鲡、 冯千格在"2022 年第八届全国大学生物理实验竞赛(创新赛)"中获二等奖。

In December, 2022, Hailin LI, Aili ZOU, and Qiange FENG (class of 2024) got the second prize in the 8th National College Student Physics Experimental Competition (Innovation Competition).

2023年1月,物理系2020级本科生邓熠、尹春茗、刘亦婷、周子栋、张祖吉等在"2022年美国大学物理竞赛"中获得铜奖。

In January, 2023, Yi DENG, Chunming YIN, Yiting LIU, Zidong ZHOU, Zuji ZHANG (class of 2024) got the bronze medal in the 2022 University Physics Competition.

2023年5月,物理系2020级本科生陈登科、崔璟睿、 周正扬在"美国大学生数学建模竞赛"中获得二等奖。

In May, 2023, Dengke CHEN, Jingrui CUI, and Zhengyang ZHOU(class of 2024) won the second prize in Mathematical Contest In Modeling. $\sqrt{50}$

College of Science

毕业生风采 Excellent Graduates



夏亦宇 Yiyu XIA

2022 届物理系本科毕业生。毕业后前往康奈尔大学应用物理系进行博士学习。本科期间获得优秀学生一等奖学金。2021 年 9 月,他凭借过硬的实力被南科大 - 麻省理工机械工程教育科研中心的项目选中,成为 MIT 本科生交换项目的 9 名幸运儿之一,来到麻省理工学院交流学习。

Yiyu XIA, undergraduate of class of 2022. After graduation, he went to the Department of Applied Physics of Cornell University for doctoral study. He won the first-class scholarship for outstanding students during his undergraduate period. In September 2021, he was selected by the project of SUSTech and the mechanical engineering education and research center of MIT. He became one of the students in the MIT undergraduate exchange program.

2022 届南科大 - 哈工大联培博士生。2022 年南方科技大学"研究生十佳毕业生"获得者。在徐虎教授的指导下从事第一性原理计算、电催化方向研究。毕业后前往扬州大学担任副教授。研究生期间获得博士国家奖学金、物理系研究生优秀党员等多项荣誉。



张哲 Zhe ZHANG

Zhe ZHANG, Ph.D graduate of SUSTech-HIT joint program. He has been honored Postgraduate Summa Cum Laude of SUSTech in 2022. Under the guidance of Professor Hu XU, he was engaged in first principle calculation and electrocatalysis research. After graduation, he went to Yangzhou University as an associate professor. During his postgraduate period, he won the national scholarship for doctorate and the excellent Party member of the graduate student of the Department of Physics.



石晶晶 Jingjing SHI

2023 届物理系本科毕业生。本科期间专业排名连续两年保持第一,获得国家奖学金及优秀学生 奖学金一等奖等多项荣誉。同时,她曾担任南科大羽毛球社社长、南科大学习中心导生等,志愿深圳 义工时长超过 50 小时。2023 年 6 月,她凭借过硬的综合实力被选为 2023 年南方科技大学"十佳本科毕业生"。毕业后前往北京大学进行博士学习。

Jingjing SHI, undergraduate of class of 2023. She has maintained the top professional ranking for two consecutive years, and she got the National Scholarship and the First-class Scholarship for Outstanding Students during her undergraduate period. She has served as the president of the badminton club in SUSTech and a mentor of the learning center of SUSTech, and she have volunteered in Shenzhen for over 50 hours. In June 2023, she was selected as one of the "Top 10 undergraduate student" of SUSTech in 2023 due to her excellent comprehensive strength. After graduation, she went to Peking University for doctoral study.

2023 届南科大与 NUS 联培博士毕业生。在何佳清讲席教授的指导下,从事透射电镜与热电材料的相关研究工作。以第一作者或共同第一作者在 Science, Nature Communications(两篇), Science Advances 等期刊上发表论文 13 篇, IF 值总和超过 243。2023 年 6 月,被选为 2023 年南方科技大学"十佳毕业研究生"。毕业后入职新加坡国立大学博士后。



于勇 Yong YU

Yong YU, Ph.D graduate from SUSTech-NUS joint program. Under the guidance of chair professor Jiaqing HE, he was engaged in research related to transmission electron microscopy and thermoelectric materials. He has published 13 articles as first author or co-first author in journals such as Science, Nature Communications (two articles), and Science Advances, with a total IF value exceeding 243. In June 2023, he was selected as one of the "Top 10 Graduate Students" of SUSTech in 2023. He joined the National University of Singapore as a postdoctoral fellow after graduation.











1. 参观 "大潮起珠江 广东改革开放 40 周年" 展览 "The 40th Anniversary of Reform and Opening in Pearl River, Guangdong" exhibition 2. 研究生党支部广州红色之旅活动 Postgraduate Party Building Activity in Guangzhou 3.2023 年毕业活动 Graduation activities in 2023 4. 新生沙滩足球赛

Beach Soccer Game of the Freshmen 5. 体育活动 Sports Activity College of Science

Department of Physics





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1998 年获得武汉大学物理学学士学位; 2004 年获得武汉大学和德国于利希研究中心联合培养的物理学博士学位,师从著名电子显微镜专家 Knut Urban 教授和王仁卉教授; 博士毕业后 2004-2012 年先后在美国布鲁克海文国家实验室和美国西北大学工作。现为南方科技大学物理系讲席教授,研究方向主要包括透射电子显微学、热电材料和结构与物理性能关联性。何佳清教授在 SCI 杂志上发表论文 280 余篇,其中包括 Nature 和 Science 等影响因子大于 10 的论文近 160 篇。文章被引用 31000 多次,H 因子 85。近年来主持国自然重点等科研项目 10 余项。

Jiaqing He is a full professor at Southern University of Science and Technology (SUSTech). He received his joint Ph.D. degree in physics from both Juelich Research Center and Wuhan University in 2004. He was a post-doctor at Brookhaven National Laboratory (2004–2008), research associate (2008–2010) and research assistant professor (2010–2012) at Northwestern University. His research interests include transmission electron microscopy, thermoelectric materials, and structure and property relationship. He has published over 280 papers on SCI journals, including Nature and Science, and his papers have been cited over 31,000 times with a h-index 85. He's also presided over 10 state-level research projects.



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曾为美国马里兰大学博士,法国国家科研中心博士后。获得了深圳市海外高层次人才"孔雀计划"B 类人才启动经费支持和 2015 年度深圳市鹏城学者凝聚态物理长期特聘教授称号。目前共发表论文 140 多篇,包括 Nature子刊,PRL,Adv.Mater.等一流期刊,被引大于 4500 次,H 因子 36。目前共主持过各类科研经费 3000 多万元。

Prof. Chen obtained his Ph.D. in University of Maryland and worked as postdoc fellow in CNRS, France. He has published more than 140 journal papers, which has been cited over 4500 times with a h-index 36. He has presided over 7 state-level research projects and 7 provincial and municipal level projects with total amount over 30M Yuan.



叶飞 Fei YE

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博士毕业于上海交通大学物理系,后前往清华大学高等研究中心做博后,并在意大利国际理论物理中心、意大利 Padova 大学、香港大学物理系做访问学者。研究方向为分数统计、低维量子场论在凝聚态物理中的应用、关联系统的数值算法。

Prof. YE obtained his Ph.D at Department of Physics, Shanghai Jiaotong University. He then worked as post-doctor at Center for Advanced Study, Tsinghua University, and visiting scholar at International Centre for Theoretical Physics, University of Padova, Italy and Department of Physics, University of Hong Kong. His research focuses on fractional statistics, low-dimensional quantum field theory' application in condensed matter physics and numerical algorithm for correlated system.



林君浩 Junhao LIN

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美国田纳西州 Vanderbilt 大学物理学博士,毕业后获日本振兴学会 (JSPS) 特聘研究员资格,赴日本国立产业综合研究所电子显微镜研究组进行博士后研究。林君浩博士利用高分辨扫描透射电镜和第一性原理计算作为研究工具,致力于实验与理论相结合的手段研究二维材料中原子结构与材料性能之间的关联,以期通过结构工程获得性能更优异的新型材料。近年来的主要研究兴趣为透射电子显微学新技的发展,以及新型二维铁磁与铁电材料缺陷的精确测量及其对磁性与极化的影响。近5年来,在Nature、PRL、Advanced Materials、ACS Nano等高影响期刊发表110余篇文章,总引用次数超过11900多次,H因子45。担任广东省"珠江人才计划"创新创业团队带头人,深圳市"孔雀计划"高层次人才团队带头人,深圳市新型量子功能材料与器件重点实验室执行副主任。

Dr. Junhao Lin obtained his PhD degree of Physics from Vanderbilt University, USA, in 2015. He was trained in both

theoretical density functional theory (DFT) and experimental scanning transmission electron microscopy (STEM), and combine these two techniques synergistically to investigate the structure property correlations in two-dimensional (2D) materials. He had his postdoctoral work as a JSPS fellow in AIST, Japan from 2015, hosted by Dr. Kazu Suenaga, and continue the research mostly in 2D materials with low-voltage monochromatic S/TEM. He is now an associate professor in the Physics Department, Southern University of Science and Technology (SUSTech). His main research direction includes analysis of complex defect structures in novel layered materials, real time in-situ observation of the dynamical processes in structural transition of materials under various environmental stimulations, and the development of stable 2D ferromagnetic and ferroelectric materials. He has published more than 110 journal papers, including first authored paper in Nature, Nature Nanotechnology, Nature Materials and PRL, with a total citation of more than 11900 times, H-index 45



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