

江苏大学 | English



江苏大学
JIANGSU UNIVERSITY

能源与动力工程学院
SCHOOL OF ENERGY AND POWER ENGINEERING

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师资队伍



个人照片

姓名 乔芬

个人简历

出生年月：1981.12

任职年月：2020.06

职称：教授

党政职务：系副主任

技术职务：教授

所在学科：新能源科学与工程

导师：博导+硕导

最高学位：博士，大连理工大学/新加坡南洋理工大学联合培养博士；意大利IIT研究所博士后

学术任职：1.经信委电子类评审专家；2.国家自然科学基金委评审专家；3.江苏省工程热物理学会 会员

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研究领域

- 1.纳米结构的控制生长和原理：半导体纳米结构的可控合成，探究其性能和对应的纳米材料的微结构、表面态等因素之间的关系。
- 2.纳米结构的自组装与薄膜制备：探索简易自组装技术，制备纳米光电器件所需纳米薄膜。
- 3.纳米结构光电器件的构筑：构筑低维纳米结构光电器件，实现光电器件性能最佳化。

科研项目

- 1.国家自然科学基金面上项目，异质结阵列的耦合效应强化输运，2020-2023（主持）
- 2.国家自然科学基金青年项目，基于胶体纳米棒阵列异质结结构的可控构筑及其界面电荷输运机制的研究，2014-2017（主持）

- 3.国家特别资助博士后基金, 超晶格在叠层太阳能电池的应用, 2016-2018 (主持)
- 4.国家留学回国人员基金, 可控性自组装及太阳能电池的研究, 2013-2015 (主持)
- 5.国家博士后面上基金, 界面电荷传输性能的改性方法及机理研究, 2015-2017 (主持)
- 6.江苏省博士后基金, 阵列的可控构筑及其在太阳能电池中的应用研,2015-2017 (主持)
- 7.江苏大学青年骨干教师培训工程” 青年学术带头人培育计划, 2014-2018 (主持)
- 8.江苏大学高级人才启动基金, 纳米晶材料的自组装及薄膜太阳能电池的研究, 2013-2015 (主持)

主要论文

近些年发表的一部分SCI论文:

- [1]Construction of microsphere-shaped ZnSe-AgZnInS and its charge transport property. Journal of Materials Research and Technology, 2019.
- [2]Strategies for enhancing conductivity of colloidal nanocrystals and their photoelectronic applications. Journal of Energy Chemistry, 2019.
- [3]Influence of cleaning treatment on structure, optical and electrical properties of Ag/ZnSe microspheres prepared by silver mirror reaction. Vacuum, 2020.
- [4]Tunability in the optical and electronic properties of ZnSe microspheres via Ag and Mn doping. ACS omega, 2019.
- [5]Hexamethyldisilazane-triggered room temperature synthesis of hydrophobic perovskite nanocrystals with enhanced stability for light-emitting diodes. Journal of colloid and interface science, 2019.
- [6]A facile approach of fabricating various ZnO microstructures via electrochemical deposition, Journal of Electronic Materials, 2019.
- [7] Tunable Formation of ZnSe to ZnO due to a Controlled Phase Transition Driven by Hydrazine and Sodium Hydroxide, ES. Energy Environment,2018.
- [8] Efficient ice-bath texturing route for multi-crystalline silicon solar cell application, Silicon, 2018.
- [9]Controlling the morphology of ZnO structures via low temperature hydrothermal method and their optoelectronic application, Materials Science in Semiconductor Processing, 2018.
- [10]Functionalized self-assembly of colloidal CdX (X=S, Se) nanorods on solid substrates for device applications, Nanoscale, 2017.
- [11]Fabrication of 3D graphene/CdTe quantum dots composite through electrophoretic deposition and its electrical properties. Journal of Materials Science: Materials in Electronics, 2017.
- [12]Effect of Cd-phosphonate complex on the self-assembly structure of colloidal nanorods, Materials Letters, 2016.
- [13]Semiconductor Nanocrystals for Photovoltaic Devices, Materials Science Forum, 2016.
- [14]Self-Assembly of Colloidal Nanorods Arrays,International Journal of Nanoscience, 2015.
- [15]Self-assembly of Parallel Aligned Nanorods Monolayer via Thermal Annealing Technique, Materials Letters,2014.
- [16]Enhanced photo-induced charge transfer properties of vertically aligned nanorods arrays fabricated by thermal annealing approach, Journal of Materials Science:Materials in Electronics,2014.
- [17]Surface photovoltage properties of self-assembled CdSe quantum dots arrays fabricated by slow evaporation approach, Vacuum,2014.
- [18]A Novel Method for Preparing Vertically Aligned CdS Nanorod Arrays and Its Application in Photovoltaic Cells with P3HT Fibers, Journal of Inorganic and Organometallic Polymers and Materials,2013.
- [19]Enhanced transport properties of assembled CdSe quantum dot through slow evaporation with mixed solvents, Journal of Materials Science:Materials in Electronics,2013.
- [20]Improved performance of photovoltaic devices based on poly (3-hexylthiophene) nanofibers and CdSe quantum dots through ligand exchange and annealing treatment, Solid-State Electronics, 2013.
- [21]Photovoltaic characterization of poly(2,5-bis(3-dodecylthiophen-2-yl) -2',2''-biselenophene) for organic solar cells, Solar Energy Materials &Solar Cells,2010.
- [22]Optical Properties of Polymer Composites and its Applications in photovoltaic Devices: A Review, Nova Science Publishers,2010.

- [23] Ordered Two-Dimensional Superstructures of Colloidal Octapod-Shaped Nanocrystals on Flat Substrates, *Nano Letters*, 2012.
- [24] Phase diagram of octapod-shaped nanocrystals in a quasi-two-dimensional planar geometry, *The Journal of Chemical Physics*, 2013.
- [25] Atomic-layer-deposited (ALD) Al₂O₃ passivation dependent interface chemistry, band alignment and electrical properties of HfYO/Si gate stacks, *Journal of Materials Science & Technology*, 2019.
- [26] Room temperature synthesis of aqueous soluble covellite CuS nanocrystals with high photothermal conversion, *CrystEngComm*, 2018.
- [27] Inter-diffusion of Cu²⁺ ions into CuS nanocrystals confines the microwave absorption properties, *CrystEngComm*, 2018.
- [28] Optical and electrical properties of colloidal (spherical Au)-(spinel ferrite nanorod) heterostructures, *Nanoscale*, 2011.
- [29] Transient photovoltage in poly(3-hexylthiophene)/n-crystalline silicon heterojunction, *Vacuum*, 2013.

编著及参编主要教材专著

《新能源专业英语》，江苏大学出版社，2016.

学术及科研成果

获奖情况

1. 江苏大学“青年骨干教师培养工程”青年学术带头人培育人选，2014.12；
2. 江苏大学校级优秀教师，2017.12.
3. 江苏大学中文讲课比赛二等奖，2013.10
4. 江苏大学双语讲课比赛三等奖，2013.10

授权专利

授权发明专利：

1. 有机太阳能电池片的测试支架，2013.05.08, 中国，ZL201220477925.1
2. 一种有机太阳能电池量子效率的测试固定装置，2013.12.11, 中国，ZL201310297773
3. 一种纳米棒单层自组装的制备方法，2014.01.09，中国，201410020328

其他

研究方向：功能性微纳材料结构设计及光电器件制备

招收工程热物理、新能源科学与工程等相关专业硕士研究生，每年2-3名。



相关链接： 国家自然科学基金委中科院热物理所江苏省科技厅 江苏大学科技处中科院期刊分区在线平台信息公告学习强国Web Of ScienceEngineering Village

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