



## 李述体 研究员



李述体，广东省光电功能材料与器件工程技术研究中心主任，广东省教育厅光电功能材料与器件重点实验室主任，广东省普通高校“千百十工程”省级培养对象，物理学研究员，博士生导师。长期从事氮化物半导体材料与器件制备工作，在氮化物半导体低维材料的生长及其器件应用方面进行了较深入的研究。以第一作者或通讯作者身份在Advanced Materials, ACS Nano, Nano Energy, Nanoscale, Chem.Commun., Appl. Phys. Lett., Optics Express, IEEE Photo.Tech. Lett.等期刊上发表氮化物材料及器件相关论文50余篇，获得多项发明专利。承担过包括国家863计划项目在内的多项半导体材料与器件国家省部级相关课题。2012年“GaN基及AlGaInP基LED的研制”获广东省科学技术二等奖。

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### 工作经历

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| 南昌大学材料物理与化学专业 博士毕业                             | 2002.7   |
| 华南师范大学从事光电子材料与器件的研究工作以及《光电器件物理与设计》、《光电子学》的教学工作 | 2002--至今 |

### 研究项目

- 1) 国家自然科学基金：高可控GaN基纳米线及其异质核壳结构的生长与性能研究，主持人；
- 2) 广东省工艺研究与能力建设专项资金重点项目：氮化物纳米高电子迁移率晶体管芯片研制，主持人；
- 3) 广东省科技平台建设项目：广东省光电功能材料与器件工程技术研究中心建设，主持人；

- 4) 国家自然科学基金面上基金: Si衬底半极性和非极性GaN基材料生长及LED研制, 主持人;
- 5) 国家自然科学基金青年基金: 磷化镓为p型层的高亮度GaN基LED外延片设计与生长, 主持人;
- 6) 广东省战略新兴产业LED专项资金项目: 基于硅集成的照明用倒装焊大功率LED芯片、高压芯片和芯片级模组核心技术攻关及其系列产品的产业化, 主持人;
- 7) 广东省科技攻关重点项目: 超高亮度氮化镓蓝光LED外延片研制, 主持人;
- 8) 广东科技攻关项目: Si衬底InGaN薄膜太阳能电池研制, 主持人;
- 9) 广东省教育部产学研结合项目: 图形衬底GaN基LED外延片及芯片关键技术, 主持人;
- 10) 广东省自然科学基金: 磷化镓为p型层的高亮度GaN基LED外延片设计与生长, 主持人;
- 11) 广州市科技攻关重大项目: 高光效大功率LED图形衬底外延生长和芯片技术开发及产业化, 主持人;
- 12) 广州市科技攻关重点项目: 功率型高亮度蓝光LED外延片及芯片研制, 主持人。

## 发表论文

[1] Song, Weidong, Wang, Xingfu, Xia, Chao, Wang, Rupeng, Zhao, Liangliang, Guo, Dexiao, Chen, Hang, Xiao, Jiakai, Su, Shichen, Li, Shutu\*, Improved photoresponse of a-axis GaN microwire/p-polymer hybrid photosensor by the piezo-phototronic effect, *Nano Energy*, 2017, 33: 272.

[2] Wang, Xingfu, Yu, Ruomeng, Jiang, Chunyan, Hu, Weiguo, Wu, Wenzhuo, Ding, Yong, Peng, Wenbo, Wang Zhong Lin, Li, Shutu\*, Piezotronic Effect Modulated Heterojunction Electron Gas in AlGa<sub>N</sub>/AlN/GaN Heterostructure Microwire, *Advanced Materials*, 2016, 28: 7234.

[3] Zhang Chongzhen, He Miao, Song Wei-Dong, Hu Wenxiao, Qin Ping, Zhao Liangliang, Wang RuPeng, Yuan Song-Yang, Li, Shutu\*, Thermal flow air post-treatment under high relative humidity for efficient and reproducible planar CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3-x</sub>Cl<sub>x</sub> based perovskite solar cells, *Optical and Quantum Electronics*, 2016, 48: 449.

[4] Hu Wenxiao, Qin Ping, Song Weidong, Zhang Chongzhen, Wang Rupeng, Zhao Liangliang, Xia Chao, Yuan Songyang, Yin Yian, Li Shutu\*, Ultraviolet light-emitting diodes with polarization-doped p-type layer, *Superlattices and Microstructures*, 2016, 97: 353.

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