

物理学院

首页 学院概况 学科建设 科学研究 师资队伍 教学工作 学生工作 党建工作 赛恩培训中心 实验室 校友园地 联系我们

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发布时间: 2017-10-26 浏览次数: 1948

教师简介

黄伟其,贵州大学物理学院, 纳米光子物理研究所, 教授, 硕士生导师。

曾主持和参加“量子场波函数相因子的研究”、“分形与图像处理的研究”、“半导体材料光电吸收的非线性效应的研究”“硅锗异质结的特性研究”、“MPS纳米结构的加工和特性研究”、“锗的纳米结构分布与PL光谱”、“锗的低维纳米结构分布与量子受限模型”和“硅锗合金的氧化层的生成和纳米结构特性研究”等课题。2001年至2002年, 到丹麦王国奥胡斯大学物理系IFA半导体纳米材料研究所任客座教授; 2003年, 到丹麦王国哥本哈根大学波尔近代物理研究所作高访教授, 深受著名凝聚态物理学家安德森的影响。2000年以来, 曾主持和参加并完成了3项省部级课题; 2005年以来, 曾主持和参加并完成了2项国家自然科学基金课题; 以第1主持人获省科学进步奖二等奖和三等奖各一项。近来, 在《Natures》子刊、Appl.Phys.Lett、Optics Letters、Nanoscale Research Letter、J.Appl.Phys、Opt.Com和Appl.Surf.Sci等国际重要物理期刊上以第一作者发表相关学术论文: “Magic electron affection in preparation process of silicon nanocrystal”、“Lasing with Pumping Levels of Si Nanocrystals on Silicon Wafer”、“Stimulated emission from trap electronic states in oxide of nanocrystal Si”、“Low-dimensional structures formed by irradiation of laser”、“An all-silicon laser by coupling between electronic localized states and defect states of photonic crystal”和“Nano-laser on silicon quantum dots”等100余篇, 其中六十多篇被 (SCI) 和 (EI) 收录, 其中有一百多次他引。出版学术著作三部。

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主要经历

2003/09-至今: 贵州大学理学院物理系教授, 纳米光子物理研究所所长, 凝聚态物理与光学 硕士点导师。

2001/08-2003/09: 丹麦王国哥本哈根大学波尔近代物理研究所高级访问学者和Arhus大学客座教授, 聘请人: 丹麦王国Arhus大学物理系主任A.N.Larsen教授, 合作人: 波尔近代物理研究所所长P. Alstrom教授。

1986/02-2003/09: 贵州师范学院物理系任教, 讲师, 副教授, 教授。

2003/09-至今: 贵州大学理学院物理系教授, 凝聚态物理与光学硕士点导师。

贵州大学纳米光子物理研究所, 所长, 教授。

2009/07-2016/12: 与复旦大学物理系合作开展硅锗量子点发光方面的研究工作, 教授。

2011-至今: 与英国Lancaster大学物理系合作开展硅纳米线发光方面的研究工作, 教授。

2011/07: 与英国Sheffield大学物理系合作开展量子点调控方面的研究工作, 教授。

所获荣誉

以第一主持人获贵州省科技进步二等奖（2009年）和三等奖（2015年）各一项

国际重要学术期刊英国《自然》杂志子刊和美国Optic.Lett.等刊的审稿人

科研成果

发表学术论文100余篇，其中被SCI和EI收录的学术论文六十多篇，申请专利十多项（获三项发明专利授权和六项实用新型专利授权），出版学术著作三部。以第一主持人获贵州省科技进步二等奖和三等奖各一项。近来取得的代表性相关学术成果有：

I. 专利：

代表性的相关发明专利有：

1.全硅量子点纳米激光器及其制备方法，黄伟其，专利证书号：1075471

2.多层全硅发光材料及其制备方法，黄伟其，专利证书号：2687724

代表性的相关实用新型专利有：

1. 利用可控脉冲激光加工纳米结构的装置，黄伟其，专利证书号：2633489

2. 发光材料的发光性质复合检测装置，黄伟其，专利证书号：2687724

3. 利用反射泰伯效应成像的微结构放大装置，黄伟其，专利证书号：3009086

II. 获奖：

以第一主持人获贵州省科技进步二等奖（2009年）和三等奖（2015年）各一项

III. 近来相关代表性论文(被SCI和EI收录)有：

W.Q.Huang, S.R.Liu and Z.M.Huang. Magic electron affection in preparation process of silicon nanocrystal, Nature Scientific Reports, Vol.4,9932 DOI:10.1038/srep09932.2015

W.Q.Huang, S.R.Liu and Z.M.Huang.Silicon nanocrystal growth under irradiation of electron beam,Nature Scientific Reports,Vol.5, 16682 DOI:10.1038/srep16682.2015

Wei-Qi Huang, Shi-Rong Liu and Qian-Dong Zhuang, Lasing with Pumping Levels of Si Nanocrystals on Silicon Wafer [J]. Nanoscale Research Letters, 11:500 IF: 2.58, 2016

Wei-Qi Huang,Zhong-Mei Huang, Shi-Rong Liu, Electronic states of defect with impurity and infrared emission on black Silicon prepared by an ns-laser, Optics Letters, Vol. 42, No. 2, 2017

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Zhong-Mei Huang, Wei-Qi Huang*, Shi-Rong Liu, Emission of direct-gap band in germanium with Ge-GeSn layers on one-dimensional structure [J]. Scientific Reports | 6:24802, IF:5.228,2016

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Wei-Qi Huang, Shirong Liu, Zhong-Mei Huang, Xin-Jian Miao, Chao-Jian Qin, Quan Lv, Nanobulges on surface of silicon film and Si-Yb quantum cascade laser, Optics Communications 323, 178–182, 2014

Wei-Qi Huang, Zhong-Mei Huang, Shi-Rong Liu, and Chao-Jian Qin, Electronic states and curved surface effect of silicon quantum dots. Appl.phys.Lett. 101, 171601, 2012

12. Wei-Qi Huang, Zhong-Mei Huang, Shi-Rong Liu, Chao-Jian Qin, An all-silicon laser by coupling between electronic localized states and defect states of photonic crystal, *Applied Surface Science*, 258, 3033, 2012
13. Wei-Qi Huang, Shi-Rong Liu, Selecting of modes in nano-laser of silicon quantum dots, *Optics Communications*. 285, 3217, 2012
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15. Wei-Qi Huang, Shi-Rong Liu, Feng Jin, Hai-Xu Wang. Response to "Comment on 'Stimulated emission from trap electronic states in oxide of nanocrystal Si' ". *Appl. phys. Lett.* 93, 066102, 2008
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19. Wei-Qi Huang, Shi-Rong Liu. Enhancement of photoluminescence emission in low-dimensional structures formed by irradiation of laser. *J. Appl. Phys.* 102, 053517, 2007
20. Weiqi Huang, Liu Jia-Xing, Cai Cheng-Lan, Lv Quan, Liu Shi-Rong, and Qin Chao-Jian, Role of nitrogen and oxygen in emission of Si quantum dots formed by pulse laser. *Chin. Phys. B. Vol. 19*, 2010
21. Huang Wei-Qi, Liu Shi-Rong, Qin Chao-Jian, Qin Shui-Jie. Stimulated photoluminescence emission and trap states in Si/SiO₂ interface formed by irradiation of laser. *Chinese Physics B. Vol. 17*, 1674 (2008)
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备案序号: 黔ICP证201008207800号