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人员

[首页](#) » [人员](#) » 陈晓东

陈晓东

教师名单

科研人员

技术人员

行政人员

退休人员

职称：副教授

学位：博士

毕业学校：中山大学

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主要经历:

工作经历:

2019.05-至今 中山大学 物理学院 副教授

2016.09-2019.04 中山大学 物理学院 副研究员

教育经历:

2011.09-2016.06 中山大学 物理学院 光学理学博士

2007.09-2011.06 中山大学 理工学院 光信理学学士

学科方向:

近年来，围绕片上光子芯片中的微纳光场调控的科学问题，基于光子晶体和超构光栅等人工光学结构开展拓扑光子学、微纳光子学的基础物理研究，发表含Nature Materials、Physical Review Letters、Laser & Photonics Reviews、Physical Review A/B/Applied等SCI论文，多篇研究论文入选ESI高被引论文、单篇他引>200次、能谷光子晶体成果获“2017中国光学十大进展”。

研究内容:

- [1] **光传输**: 面向高效光学波导的能谷光子晶体和自旋光子晶体
- [2] **光局域**: 面向新型片上微腔的高阶超构材料和高维超构材料
- [3] **光耦合**: 面向三维集成光学的叠层光子晶体与复合超构光栅

招生情况:

每年可在光学方向招收硕士研究生2名。根据个人情况,在学习与科研中,将会从事理论公式推导、数值模拟仿真、微波实验测量、微纳样品制备、器件性能表征等一个或多个方面工作。同时欢迎本科生提前进组感受科研氛围,有意向同学请通过Email联系。本科生科研训练具体项目可以参考所在团队网页:

<http://spe.sysu.edu.cn/metaphotonics/openings>。

承担课题:

- 1、国家自然科学基金面上项目, 2021-2024, 主持。
- 2、广东省自然科学基金杰出青年项目, 2019-2023, 主持。
- 3、国家自然科学基金青年项目, 2018-2020, 主持。
- 4、高校基本业务费青年教师重点培育项目, 2020-2021, 主持。
- 5、高校基本业务费青年教师培育项目, 2017-2019, 主持。
- 6、国家自然科学基金NSFC-RGC联合基金, 2018-2021, 参与。
- 7、广东省自然科学基金重大基础研究培育, 2018-2022, 参与。

代表论著:

[*标记并列第一作者, #标记通讯作者]

【光传输】

1. Jian-Wen Dong, **Xiao-Dong Chen***, Hanyu Zhu, Yuan Wang, and Xiang Zhang, "Valley photonic crystals for control of spin and topology," **Nature Materials** 16, 298-302 (2017). [**ESI高被引论文, 能谷光子晶体概念提出**]
2. **Xiao-Dong Chen**, Fu-Li Zhao, Min Chen, and Jian-Wen Dong, "Valley-contrasting physics in all-dielectric photonic crystals: Orbital angular momentum and topological propagation," **Physical Review B** 96, 020202 (R) (2017). [**Rapid Communications, ESI高被引论文, 全介质能谷光子晶体理论提出**]
3. **Xiao-Dong Chen**, Wei-Min Deng, Jin-Cheng Lu, and Jian-Wen Dong, "Valley-controlled propagation of pseudospin states in bulk metacrystal waveguides," **Physical Review B** 97, 184201 (2018).
4. **Xiao-Dong Chen***, Fu-Long Shi*, Huan Liu, Jin-Cheng Lu, Wei-Min Deng, Jun-Yan Dai, Qiang Cheng, and Jian-Wen Dong, "Tunable electromagnetic flow control in valley photonic crystal waveguide," **Physical Review Applied** 10, 044002 (2018).
5. Guo-Jing Tang*, **Xiao-Dong Chen***, Fu-Long Shi, Jian-Wei Liu, Min Chen, and Jian-Wen Dong, "Frequency range dependent topological phases and photonic detouring in valley photonic crystals," **Physical Review B** 102, 174202 (2020).
6. Fu-Long Shi*, Yuan Cao*, **Xiao-Dong Chen***, Jian-Wei Liu, Wen-Jie Chen, Min Chen, and Jian-Wen Dong, "Distortionless Pulse Transmission in Valley Photonic Crystal Slab Waveguide," **Physical Review Applied** 15, 024002 (2021)
7. Jian-Wei Liu, Fu-Long Shi, Xin-Tao He, Guo-Jing Tang, Wen-Jie Chen, **Xiao-Dong Chen#**, and Jian-Wen Dong#, "Valley photonic crystals," **Advances in Physics: X** 6, 1905546 (2021).

【光局域】

1. **Xiao-Dong Chen***, Wei-Min Deng*, Fu-Long Shi*, Fu-Li Zhao, Min Chen, and Jian-Wen Dong, "Direct Observation of Corner States in Second-Order Topological Photonic Crystal Slabs," **Physical Review**

Letters 122, 233902 (2019). [二阶光子晶体中的局域拐角模式的微波成像, ESI高被引论文]

2. **Xiao-Dong Chen**, Ding Zhao, Xiao-Sheng Zhu, Fu-Long Shi, Huan Liu, Jin-Cheng Lu, Min Chen, and Jian-Wen Dong, "Edge states in self-complementary checkerboard photonic crystals: Zak phase, surface impedance, and experimental verification," **Physical Review A** 97, 013831 (2018). [Selected

Kaleidoscope, 棋盘格子中扎克位相确定的边界态微波实验]

3. Xin-Tao He*, Meng-Yu Li*, Hao-Yang Qiu, Wen-Sheng Ruan, Li-Dan Zhou, Lin Liu, **Xiao-Dong Chen**, Wen-Jie Chen, Fu-Li Zhao, and Jian-Wen Dong, "In-Plane Excitation of Topological Corner State at Telecom in a Cross-Coupled Cavity," **Photonic Research** 9, 1423 (2021) [二阶光子晶体中的局域拐角模式的微纳测量, Editors' Pick, Top10 Download]

4. **Xiao-Dong Chen**, Zi-Lan Deng, Wen-Jie Chen, Jia-Rong Wang, and Jian-Wen Dong. "Manipulating pseudospin-polarized state of light in dispersion-immune photonic topological metacrystals," **Physical Review B** 92, 014210 (2015).

【光耦合】

1. **Xiao-Dong Chen**, Wei-Min Deng, Fu-Li Zhao, Jian-Wen Dong, "Accidental Double Dirac Cones and Robust Edge States in Topological Anisotropic Photonic Crystals," **Laser & Photonics Reviews** 12, 1800073 (2018). [叠层结构实现各向异性拓扑光子晶体]

2. **Xiao-Dong Chen***, Xin-Tao He*, and Jian-Wen Dong, "All-dielectric layered photonic topological insulators," **Laser & Photonics Reviews** 13, 1900091 (2019). [全介质叠层光子晶体理论提出]

3. Wen-Hui Wang*, Wen-Long Gao*#, **Xiao-Dong Chen***, Fu-Long Shi, Gui-Xin Li, Jian-Wen Dong#, Yuan-Jiang Xiang#, and Shuang Zhang#, "Moire Fringe Induced Gauge Field in Photonics," **Physical Review Letters** 125, 203901 (2020). [摩尔结构实现慢光平带]

4. Zi-Long Wu, **Xiao-Dong Chen**, Ming-Song Wang, Jian-Wen Dong, and Yue-Bing Zheng, "High-

Performance Ultrathin Active Chiral Metamaterials," **ACS Nano** 12, 5030 (2018).

【所有发表论文】

<https://scholar.google.com/citations?user=PGHgSn8AAAAJ&hl=zh-CN>

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