

Dr. Fuxin Guan

In Physics, HKU

Mobile: +852-67431980 HK

+86-13162801889 Shanghai

Email: gfx1992@hkbu.edu.hk

EDUCATION

11, 2024 --- Now	HKBU	Department of Physics	RAP
11, 2020 --- 11, 2024	HKU	Department of Physics	Postdoc.
04, 2020 --- 11, 2020	Shenzhen Univ.	Department of Physics	Postdoc.
09, 2014 --- 01, 2020	Fudan Univ.	Department of Physics	Ph. D
09, 2010 --- 07, 2014	East China University of Science and Technology Department of Physics		B. S

RESEARCH INTERESTS

Metamaterials; Nanophotonics; Topological photonics

17 Publications

- ◇ **Title:** Overcoming losses in superlenses with synthetic waves of complex frequency
Author(s): *Fuxin Guan*, Xiangdong Guo, Kebo Zeng, Shu Zhang, Zhaoyu Nie, Shaojie Ma, Qing Dai, John Pendry, Xiang Zhang, Shuang Zhang
Publication: Science 381, 766-771 (2023)
- ◇ **Title:** Compensating losses in polariton with synthesized complex frequency excitation
Author(s): *Fuxin Guan*, Xiangdong Guo, Shu Zhang, Kebo Zeng, Yue Hu, Chenchen Wu, Shaobo Zhou, Yuanjiang Xiang, Xiaoxia Yang, Qing Dai, Shuang Zhang
Publication: Nature materials 23, 506-511 (2024)
- ◇ **Title:** Excitation of Longitudinal Bound States in a Weyl Metamaterial cavity
Author(s): *Fuxin Guan*, Yang Yang, Hsun-Chi Chan, Zemeng Lin, Yue Hu, Ke Bi, Yuanjiang Xiang, Shuang Zhang
Publication: Laser & Photonics Reviews 2400914 (2025)
- ◇ **Title:** Synthesized complex-frequency excitation for ultrasensitive molecular sensing
Author(s): Kebo Zeng, Chenchen Wu, Xiangdong Guo, *Fuxin Guan*, Yu Duan, Lauren L Zhang, Xiaoxia Yang, Na Liu, Qing Dai, Shuang Zhang
Publication: eLight 4, 1-10 (2024)
- ◇ **Title:** Spin-orbit interactions in a nonlinear medium due to a nonlinear-induced geometric phase

Author(s): *Fuxin Guan*, Yue Hu, Xiaoyu Dai, Xiaohui Ling, Shaojie Ma, Jing Lin, Shaohua Dong, Yuanjiang Xiang

Publication: Optics Letters 4, 2758-2761 (2021)

- ◇ **Title:** Scatterings from surface plasmons to propagating waves at plasmonic discontinuities
Author(s): *Fuxin Guan*, Shulin Sun, Shiyi Xiao, Qiong He, Lei Zhou
Publication: Sci. Bull 64, 802-807 (2019)
- ◇ **Title:** Topology - induced phase transitions in spin - orbit photonics
Author(s): Xiaohui Ling, *Fuxin Guan*, Xiaodong Cai, Shaojie Ma, He - Xiu Xu, Qiong He, Shiyi Xiao, Lei Zhou
Publication: Laser & Photonics Reviews 15, 2000492 (2023)
- ◇ **Title:** Gauge Field Induced Chiral Zero Mode in Five-dimensional Yang Monopole Metamaterials
Author(s): Shaojie Ma, Hongwei Jia, Yangang Bi, Shangqiang Ning, *Fuxin Guan*, Hongchao Liu, Chenjie Wang, Shuang Zhang
Publication: Physical Review Letters 130, 243801 (2023)
- ◇ **Title:** Vortex mode decomposition of the topology-induced phase transitions in spin-orbit optics
Author(s): Xiaohui Ling, *Fuxin Guan*, Zan Zhang, He-Xiu Xu, Shiyi Xiao, Hailu Luo
Publication: Physical Review A 104, 053504 (2021)
- ◇ **Title:** Transmission/reflection behaviors of surface plasmons at an interface between two plasmonic systems
Author(s): *Fuxin Guan*, Shulin Sun, Shaojie Ma, Zhening Fang, Baocheng Zhu, Xin Li, Qiong He, Shiyi Xiao, Lei Zhou
Publication: Journal of Physics: Condensed Matter 30, 114002 (2018)
- ◇ **Title:** Magneto-optical chiral metasurfaces for achieving polarization-independent nonreciprocal transmission
Author(s): Wenjia Li, Qingdong Yang, Oubo You, Cuicui Lu, *Fuxin Guan*, Jianlong Liu, Jinhui Shi, Shuang Zhang
Publication: Science advances 10, eadm7458 (2024)
- ◇ **Title:** Vortex generation in the spin-orbit interaction of a light beam propagating inside a uniaxial medium: origin and efficiency
Author(s): Xiaohui Ling, Huiling Luo, *Fuxin Guan*, Xinxing Zhou, Hailu Luo, Lei Zhou
Publication: Optics Express 28, 27258-27267 (2020)

- ◇ **Title:** Helicity-delinked manipulations on surface waves and propagating waves by metasurfaces
Author(s): Shiqing Li, Zhuo Wang, Shaohua Dong, Sixiong Yi, *Fuxin Guan*, Yizhen Chen, Huijie Guo, Qiong He, Lei Zhou, Shulin Sun
Publication: Nanophotonics 9, 3473-3481 (2020)

- ◇ **Title:** Broadband and high-efficiency spin-polarized wave engineering with PB metasurfaces
Author(s): Shiqing Li, Shaohua Dong, Sixiong Yi, Weikang Pan, Yizhen Chen, Fuxin Guan, Huijie Guo, Zhuo Wang, Qiong He, Lei Zhou, Shulin Sun
Publication: Optics Express 28, 15601-15610 (2020)

- ◇ **Title:** Dielectric meta-walls for surface plasmon focusing and Bessel beam generation
Author(s): Shaohua Dong, Zhuo Wang, Huijie Guo, *Fuxin Guan*, Xiaor Li, Qiong He, Haibin Zhao, Lei Zhou, Shulin Sun
Publication: Europhysics Letters 122, 67002 (2018)

- ◇ **Title:** Highly efficient wave-front reshaping of surface waves with dielectric metawalls
Author(s): Shaohua Dong, Yu Zhang, Huijie Guo, Jingwen Duan, *Fuxin Guan*, Qiong He, Haibin Zhao, Lei Zhou, Shulin Sun
Publication: Physical Review Applied 9, 014032 (2018)

- ◇ **Title:** High-efficiency and full-space manipulation of electromagnetic wave fronts with metasurfaces
Author(s): Tong Cai, GuangMing Wang, ShiWei Tang, HeXiu Xu, JingWen Duan, HuiJie Guo, *FuXin Guan*, ShuLin Sun, Qiong He, Lei Zhou
Publication: Physical Review Applied 8, 034033 (2017)

REFERENCES

Prof. Shuang Zhang

Department of Physics

HKU

Pok Fu Lam, HK, China

Email: shuzhang@hku.hk

Website: <https://scholar.google.com/citations?user=sepjZ3sAAAAJ&hl=zh-CN>

Prof. Zhang is my Postdoc supervisor.

Prof. Lei Zhou

Department of Physics

Fudan University

2005 Rd. Songhu, Shanghai 200438, China

Email: phzhou@fudan.edu.cn

Website: <http://www.physics.fudan.edu.cn/tps/people/lzhou>

Prof. Zhou is my Ph. D supervisor.

Prof. Guancong Ma

Department of physics

Hong Kong Baptist University

Kowloon Tong, Hong Kong

Email: phgcma@hkbu.edu.hk

Website: <https://www.acoustmeta.com/>

Prof. Ma is my Research assistant professor supervisor.