Zheng Gong (龚政)

E-mail: zhenggongehao@zju.edu.cn

Tel.:(+86) 18810502308

Google Scholar

Personal Homepage

RESEARCH AREA

- ✧ Free-electron nanophotonics: Cherenkov radiation, transition radiation
- ✧ Electromagnetic wave theory: light-matter interactions in photonic (time) crystals, metamaterials, and random media
- ✧ Deep learning in electromagnetics: inverse design of metamaterials
- ✧ Integrated photonic devices: compact light sources, particle detectors, frequency combs

EDUCATION

2022-now: PhD. candidate (five-year direct PhD program), Zhejiang University, China (advisors: Prof. Xiao Lin and Prof. Hongsheng Chen)
2018-2022: Undergraduate, Beijing University of Posts and Telecommunications (BUPT) (GPA: 3.81/4.00, rank: 2/138, Outstanding graduates, Top 1%, Beijing, 2022)
2015-2018: High School Student, Jiangxi Linchuan No.1 Senior High School

PUBLICATION LIST (Updated Aug. 12th, 2024)

First-authored publications (#contributing equally; *corresponding authors)

1. **Z. Gong**, J. Chen, R. Chen, X. Zhu, C. Wang, X. Zhang, H. Hu, Y. Yang, B. Zhang*, H. Chen*, I. Kaminer, X. Lin*, Interfacial Cherenkov radiation from ultralow-energy electrons. ***Proceedings of the National Academy of Sciences of the USA*** **120**, e2306601120 (2023).
2. **Z. Gong**, R. Chen, Z. Wang, X. Xi, Y. Yang, B. Zhang*, H. Chen*, I. Kaminer, X. Lin*, Free-electron resonance transition radiation via Brewster randomness. *Under review* (2024).
3. **Z. Gong**, H. Chen*, X. Lin*, Anomalous Maxwell-Garnett theory for photonic time crystals beyond the long wavelength-limit. *Under preparation* (2024).
4. Z. Wang#, **Z. Gong#**, H. Chen*, X. Lin*, Directional transition radiation via ultrathin anisotropic epsilon-near-infinity metamaterials. *Under preparation* (2024).
5. X. Xi#, **Z. Gong#**, H. Chen*, X. Lin*, Achromatic interfacial Cherenkov radiation via Brewster effect. *Under preparation* (2024).

Co-authored publications

6. R. Chen#, J. Chen#, **Z. Gong**, X. Zhang, X. Zhu, Y. Yang, I. Kaminer*, H.

Chen*, B. Zhang, X. Lin*, Free-electron Brewster-transition radiation. ***Sci. Adv.*** **9**, eadh8098 (2023).

7. J. Chen, R. Chen, F. Tay, **Z. Gong**, H. Hu, Y. Yang, X. Zhang, C. Wang, I. Kaminer*, H. Chen*, B. Zhang, X. Lin*, Low-velocity-favored transition radiation. ***Phys. Rev. Lett.*** **131**, 113002 (2023).
8. X. Zhang, C. Bian, **Z. Gong**, R. Chen, T. Low*, H. Chen*, X. Lin*, Hybrid surface waves in twisted anisotropic heterometasurfaces. *Phys. Rev. Appl.* **21**, 064034 (2024).
9. R. Chen, **Z. Gong**, J. Chen, X. Zhang, X. Zhu, H. Chen*, X. Lin*, Recent advances of transition radiation: fundamentals and applications. *Materials Today Electronics* **3**, 100025 (2023).

Conference Activities

1. **Zheng Gong**; Jialin Chen; Ruoxi Chen; Xingjian Zhu; Chan Wang; Xinyan Zhang; Hao Hu; Yi Yang; Baile Zhang; Hongsheng Chen; Ido Kaminer; Xiao Lin; Interfacial Cherenkov radiation from ultralow-energy electrons, *Photonics and Electromagnetics Research Symposium*, Chengdu, China, 2024-04-21 to 2024-04-25. [**Onsite oral presentation**]
2. Zun Wang; **Zheng Gong**; Hongsheng Chen; Xiao Lin; Directional Transition Radiation from Slow Electrons via Anisotropic Metamaterials, *Photonics and Electromagnetics Research Symposium*, Chengdu, China, 2024-04-21 to 2024-04-25.
3. Ruoxi Chen; Jialin Chen; **Zheng Gong**; Xinyan Zhang; Xingjian Zhu; Yi Yang; Ido Kaminer; Hongsheng Chen; Baile Zhang; Xiao Lin; Free-electron Brewster-transition radiation, *Photonics and Electromagnetics Research Symposium*, Chengdu, China, 2024-04-21 to 2024-04-25.
4. Jialin Chen; Ruoxi Chen; Fuyang Tay; **Zheng Gong**; Hao Hu; Yi Yang; Xinyan Zhang; Chan Wang; Ido Kaminer; Hongsheng Chen; Baile Zhang; Xiao Lin; Low-velocity-favored Transition Radiation Based on Ultrathin ENZ Slab, *Photonics and Electromagnetics Research Symposium*, Chengdu, China, 2024-04-21 to 2024-04-25.
5. Xinyan Zhang; Chenxu Bian; **Zheng Gong**; Ruoxi Chen; Tony Low; Hongsheng Chen; Xiao Lin; Hybrid Surface Waves in Twisted Anisotropic Hetero-metasurfaces, *Photonics and Electromagnetics Research Symposium*, Chengdu, China, 2024-04-21 to 2024-04-25.

HONORS & AWARDS

PhD stage

- ✧ Five-Good Graduate Students of Zhejiang University，2023
- ✧ Excellent Graduate Students of Zhejiang University，2023

Undergraduate stage

- ✧ Outstanding Bechalor's Thesis of Beijing, China; 2022.06.
- ✧ Outstanding Graduate of Beijing, China; 2022.06.
- ✧ First-class Scholarship (<3%); Beijing University of Posts and Telecommunications; 2021.09/ 2020.09/ 2019.09 for three consecutive years.

- ✧ Three-Good Students; Beijing University of Posts and Telecommunications; 2021.09/ 2020.09/ 2019.09 for three consecutive years.
- ✧ First Prize; 12th National College Student Mathematics Competition, China; 2020.12.
- ✧ Third Prize; National College Student Electronic Design Competition - Embedded System Invitational Competition (Intel Cup), China; 2020.10.
- ✧ First Prize; National College Student Mathematical Modeling Competition, Bejing, China; 2020.12.
- ✧ First Prize; Integrated Circuit Design Competition (Digital Group), Beijing, China; 2020.12.
- ✧ Second Prize; 6th China International "Internet+" Innovation and Entrepreneurship Competition, Beijing ,China; 2020.08.
- ✧ H Award (Honorable Mention); International Mathematical Contest in Modeling (MCM-ICM); 2020.04.