Curriculum Vitae

Personal Information



Dr. **Ming-Zhe Chong 种明喆**
Ph.D. from Peking University
Email: cmz1999@stu.pku.edu.cn, cmz1999@qq.com
Tel: +86-13919155808
Homepage: https://cmz1999.github.io/

Research Interests

My research lies in electromagnetics and optics, with a focus on creating new electromagnetic and optical technologies for a better world, such as:

- Terahertz Technology
- Metasurfaces and Metamaterials
- Electromagnetic Wave Manipulation
- Diffractive Optical Neural Networks
- Terahertz Communication
- Display and Imaging
- Structured Beam Manipulation

Education and Work Experience

- **Peking University (PKU), Beijing, China**
  - Ph.D. (Sept. 2021 – Jun. 2026)
  - Major: Electromagnetic Field and Microwave Technology
  - Supervisor: Prof. Ming-Yao Xia
- **City University of Hong Kong (CityUHK), Hong Kong SAR, China**
  - Research Assistant (May 2025 – Aug. 2025)
  - State Key Laboratory of Terahertz and Millimeter Waves
  - Supervisor: Prof. Chi Hou Chan
- **Huazhong University of Science and Technology (HUST), Wuhan, China**
  - B.Eng. (Sept. 2017 – Jun. 2021)
  - Major: Optoelectronic Information Science and Engineering
- **Zhejiang University (ZJU), Hangzhou, China**
  - Exchange Student (Sept. 2019 – Jan. 2020)
  - Major: Optoelectronic Information Science and Engineering

Publications

Google Scholar: https://scholar.google.com/citations?user=x3EPXBgAAAAJ
ORCID: https://orcid.org/0000-0003-1960-0877
ResearchGate: https://www.researchgate.net/profile/Ming-Zhe-Chong

Journal Papers

[1]. **M.-Z. Chong**, S.-X. Huang, Z.-K. Zhang, K. F. Chan, P. Feng, K. M. Shum, K. W. Cheung, G.-B. Wu, C. H. Chan, M.-Y. Xia, "Orbital angular momentum processing via diffractive networks for terahertz mode-division-multiplexed wireless links," *Light: Science & Applications* **Accepted** (2026).

[2]. S.-Q. Li, **M.-Z. Chong**, F. Zhang, J.-T. Yang, C.-H. Du, "Quasi-Bound States in the Continuum of Localized Spoof Surface Plasmons Transverse Magnetic Modes," *Electromagnetic Science* **4**, 0130182 (2026).

[3]. P. Feng, F. Liu, Y. Liu, **M. Chong**, Z. Zhang, Q. Zhao, J. Li, R. Pan, Z. Wang, J. Sun, J. Zhou, Y. Tan, "Diffractive magic cube network with super-high capacity enabled by mechanical reconfiguration," *Nature Communications* **17**, 1605 (2026).

[4]. **M.-Z. Chong**, C. He, P. Feng, Z.-K. Zhang, G. Geng, J. Li, M.-Y. Xia, L. Huang, "Janus meta-imager: asymmetric image transmission and transformation enabled by diffractive neural networks," *PhotoniX* **6**, 60 (2025).

[5]. Z.-K. Zhang, T. Zhang, Z.-P. Zhang, **M.-Z. Chong**, M. Xiao, P. Peng, P. Feng, H. Sun, Z. Zheng, X. Zang, Z. Fang, M.-Y. Xia, "Deep learning-enabled ultra-broadband terahertz high-dimensional photodetector," *Nature Communications* **16**, 8133 (2025).

[6]. **M.-Z. Chong**, S.-X. Huang, Z.-K. Zhang, P. Feng, K. F. Chan, C. H. Chan, M.-Y. Xia, "Reconfigurable terahertz beam splitters enabled by inverse-designed meta-devices," *Photonics Research* **13**, 2328-2338 (2025).

[7]. P. Feng, Y. Tan, **M. Chong**, L. Li, Z. Zhang, F. Liu, Y. Wen, Y. Tan, "All-Optical Autoencoder Machine Learning Framework Using Linear Diffractive Processors," *Laser & Photonics Reviews* **19**, 2401945 (2025).

[8]. Z.-K. Zhang, T. Zhang, **M.-Z. Chong**, Z. Dang, Y. Dai, H. Shang, Y. Zhou, Z. Zheng, H. Zhang, P.-K. Liu, M.-Y. Xia, X. Zang, Z. Fang, "All-Optical Single-Channel Plasmonic Logic Gates," *Nano Letters* **25**, 1367-1372 (2025).

[9]. **M.-Z. Chong**, Y. Zhou, Z.-K. Zhang, J. Zhao, Y.-Y. Zhang, C.-Q. Zhang, X. Zang, C.-H. Du, P.-K. Liu, M.-Y. Xia, "Generation of polarization-multiplexed terahertz orbital angular momentum combs *via* all-silicon metasurfaces," *Light: Advanced Manufacturing* **5**, 400-409 (2024).

[10]. C.-Q. Zhang, Y. Deng, **M.-Z. Chong**, Z.-W. Zhang, Y.-H. Tan, "Entropy-Based re-sampling method on SAR class imbalance target detection," *ISPRS Journal of Photogrammetry and Remote Sensing* **209**, 432-447 (2024).

[11]. J. Zhao, H. Zhang, **M.-Z. Chong**, Y.-Y. Zhang, Z.-W. Zhang, Z.-K. Zhang, C.-H. Du, P.-K. Liu, "Deep-Learning-Assisted Simultaneous Target Sensing and Super-Resolution Imaging," *ACS Applied Materials & Interfaces* **15**, 47669-47681 (2023).

[12]. C. Zhang, Z. Zhang, Y. Deng, Y. Zhang, **M. Chong**, Y. Tan, P. Liu, "Blind Super-Resolution for SAR Images with Speckle Noise Based on Deep Learning Probabilistic Degradation Model and SAR Priors," *Remote Sensing* **15**, 330 (2023).

[13]. **M.-Z. Chong**, Y. He, J. Zhao, Y.-Y. Zhang, Z.-K. Zhang, C.-Q. Zhang, C.-H. Du, X. Zang, P.-K. Liu, "Spin-decoupled excitation and wavefront shaping of structured surface waves via on-chip terahertz metasurfaces," *Nanoscale* **15**, 4515-4522 (2023).

[14]. **M.-Z. Chong**, J. Zhao, L.-Z. Yin, F.-Y. Han, C.-Q. Zhang, P.-K. Liu, "Nonlinear modulation of terahertz waves based on a MAPbI3/Gold/Si Hybrid Plasmon-Induced Transparency (PIT)

metasurface," *Optical Materials* **129**, 112554 (2022).

[15]. L.-Z. Yin, J. Zhao, **M.-Z. Chong**, F.-Y. Han, P.-K. Liu, "Ultrathin All-Angle Hyperbolic Metasurface Retroreflectors Based on Directed Routing of Canalized Plasmonics," *ACS Applied Materials & Interfaces* **14**, 21605-21612 (2022).

[16]. F.-Y. Han, J. Zhao, Z.-W. Zhang, **M.-Z. Chong**, L.-Z. Yin, T.-J. Huang, D. Wang, Y.-H. Tan, P.-K. Liu, "Free-space scattering characterization of ultrathin reflective metasurfaces and high-Q-factor sensing methods for conductor-backed materials," *Results in Physics* **35**, 105386 (2022).

Conference Papers

[1]. **M. Z. Chong**, Z. K. Zhang, Z. F. Yuan, M. Y. Xia, "Reconfigurable Terahertz Holography Generated by Diffractive Neural Networks," in *2025 IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization (NEMO)*, Jul. 2025.

[2]. Z. Zhang, H. Shang, **M. Chong**, Z. Fang, M. Xia, "Compact generation of surface plasmon polariton Bessel-like beams," in *2024 SPIE/COS Photonics Asia*, Oct. 2024.

[3]. P. Feng, Z. Zhang, **M. Chong**, Y. Tan, "AE-D2NN: Autoencoder in Diffractive Neural Network Form," in *2024 Photonics & Electromagnetics Research Symposium (PIERS)*, Apr. 2024.

[4]. C. Zhang, Y. Deng, **M. Chong**, P. Feng, Y. Tan, "The Guiding Function of Different SAR Image Quality Indicators on Object Detection Tasks," in *2024 IEEE 3rd International Conference on Electrical Engineering, Big Data and Algorithms (EEBDA)*, Feb. 2024.

[5]. Y. Zhang, Y. Lei, Z. Zhang, J. Zhao, **M. Chong**, Z. Zhang, P. Liu, "Design of Metasurface for Retroreflection," in *2023 Cross Strait Radio Science and Wireless Technology Conference (CSRSWTC)*, Nov. 2023.

[6]. Z. Zhang, **M. Z. Chong**, J. Zhao, Y. Zhang, P. K. Liu, "A Broadband Double-Lined Metasurface for Simultaneous Generation of Inverse Functions," in *2023 Asia Communications and Photonics Conference/2023 International Photonics and Optoelectronics Meetings (ACP/POEM)*, Nov. 2023.

[7]. C. Q. Zhang, Z. W. Zhang, **M. Z. Chong**, Y. H. Tan, "A Joint Unsupervised Super-resolution and SAR Object Detection Network," in *2023 8th International Conference on Computer and Communication Systems (ICCCS)*, Apr. 2023.

[8]. J. Zhao, **M. Z. Chong**, Z. W. Zhang, P. K. Liu, "A Method of generating orbital angular momentum based on curved Meanderline," in *2022 International Conference on Microwave and Millimeter Wave Technology (ICMMT)*, Aug. 2022.

Awards and Honors

- **Outstanding Graduate**, Peking University, 2026
- **BYD Scholarship**, Peking University, 2025
- **Award for Scientific Research**, Peking University, 2025
- **Merit Student**, Peking University, 2024
- **Youth Science Award of "Challenge Cup" (Special Prize)**, Peking University, 2024
- **First Prize in Hubei Province**, The Chinese Mathematics Competitions for College Students, 2018