

## Chenkai Mao

Ph.D. Student in Electrical Engineering, admitted Autumn 2020

### Publications

---

#### PUBLICATIONS

- **Inverse-designed metasurfaces with facile fabrication parameters** *JOURNAL OF OPTICS*  
Zhou, Y., Shao, Y., Mao, C., Fan, J. A.  
2024; 26 (5)
- **Large-Area, High-Numerical-Aperture, Freeform Metasurfaces** *LASER & PHOTONICS REVIEWS*  
Zhou, Y., Mao, C., Gershnel, E., Chen, M., Fan, J. A.  
2024
- **Towards General Neural Surrogate Solvers with Specialized Neural Accelerators** *Proceedings of the 41st International Conference on Machine Learning*  
Mao, C., Lupoiu, R., Dai, T., Chen, M., Fan, J.  
2024
- **Reparameterization Approach to Gradient-Based Inverse Design of Three-Dimensional Nanophotonic Devices** *ACS PHOTONICS*  
Gershnel, E., Chen, M., Mao, C., Wang, E. W., Lalanne, P., Fan, J. A.  
2022
- **High Speed Simulation and Freeform Optimization of Nanophotonic Devices with Physics-Augmented Deep Learning** *ACS PHOTONICS*  
Chen, M., Lupoiu, R., Mao, C., Huang, D., Jiang, J., Lalanne, P., Fan, J. A.  
2022
- **WaveY-Net: Physics-Augmented Deep Learning for High-Speed Electromagnetic Simulation and Optimization**  
Chen, M., Lupoiu, R., Mao, C., Huang, D., Jiang, J., Lalanne, P., Fan, J. A., Chang-Hasnain, C. J., Fan, J. A., Zhou, W.  
SPIE-INT SOC OPTICAL ENGINEERING.2022