

Stanford



Kai Wang

Postdoctoral Scholar, Electrical Engineering

Bio

PROFESSIONAL EDUCATION

- PhD, The Australian National University, Australia (2019)
- MS, Friedrich Schiller University Jena, Germany (2015)
- BE, Tianjin University, China (2012)

STANFORD ADVISORS

- Shanhui Fan, Postdoctoral Faculty Sponsor

LINKS

- Personal website: <https://wkai.org/>

Publications

PUBLICATIONS

- **METASURFACES for quantum technologies** *PHYSICS TODAY*
Wang, K., Chekhova, M., Kivshar, Y.
2022; 75 (8): 38-44
- **Creating boundaries along a synthetic frequency dimension.** *Nature communications*
Dutt, A., Yuan, L., Yang, K. Y., Wang, K., Buddhiraju, S., Vuckovic, J., Fan, S.
2022; 13 (1): 3377
- **Nontrivial point-gap topology and non-Hermitian skin effect in photonic crystals** *PHYSICAL REVIEW B*
Zhong, J., Wang, K., Park, Y., Asadchy, V., Wojcik, C. C., Dutt, A., Fan, S.
2021; 104 (12)
- **Generating arbitrary topological windings of a non-Hermitian band.** *Science (New York, N.Y.)*
Wang, K., Dutt, A., Yang, K. Y., Wojcik, C. C., Vuckovic, J., Fan, S.
2021; 371 (6535): 1240-45
- **Topological complex-energy braiding of non-Hermitian bands.** *Nature*
Wang, K., Dutt, A., Wojcik, C. C., Fan, S.
2021; 598 (7879): 59-64
- **Arbitrary control and direct measurement of topological windings of a non-Hermitian band**
Wang, K., Dutt, A., Yang, K., Wojcik, C. C., Vuckovic, J., Fan, S., IEEE
IEEE.2021
- **Demonstration of Lossy Linear Transformations and Two-Photon Interference via Singular Value Decomposition**

White, S., Wang, K., Szameit, A., Sukhorukov, A. A., Solntsev, A. S., IEEE
IEEE.2021

- **Complex-Birefringent Dielectric Metasurfaces for Arbitrary Polarization-Pair Transformations** *ACS PHOTONICS*
Lung, S., Wang, K., Kamali, K., Zhang, J., Rahmani, M., Neshev, D. N., Sukhorukov, A. A.
2020; 7 (11): 3015–22
- **Multidimensional synthetic chiral-tube lattices via nonlinear frequency conversion.** *Light, science & applications*
Wang, K., Bell, B. A., Solntsev, A. S., Neshev, D. N., Eggleton, B. J., Sukhorukov, A. A.
2020; 9 (1): 132
- **Non-adiabatic dynamic-phase-free geometric phase in multiport photonic lattices** *JOURNAL OF OPTICS*
Wang, K., Perez-Leija, A., Weimann, S., Szameit, A.
2020; 22 (3)
- **Synthetic photonic lattice for single-shot reconstruction of frequency combs** *APL PHOTONICS*
Titchener, J. G., Bell, B., Wang, K., Solntsev, A. S., Eggleton, B. J., Sukhorukov, A. A.
2020; 5 (3)
- **Synthesizing multi-dimensional excitation dynamics and localization transition in one-dimensional lattices** *NATURE PHOTONICS*
Maczewsky, L. J., Wang, K., Dovgij, A. A., Miroshnichenko, A. E., Moroz, A., Ehrhardt, M., Heinrich, M., Christodoulides, D. N., Szameit, A., Sukhorukov, A. A.
2020; 14 (2): 76–+
- **Reversible Image Contrast Manipulation with Thermally Tunable Dielectric Metasurfaces** *SMALL*
Kamali, K., Xu, L., Ward, J., Wang, K., Li, G., Miroshnichenko, A. E., Neshev, D., Rahmani, M.
2019; 15 (15): e1805142
- **Broadband on-chip polarization mode splitters in lithium niobate integrated adiabatic couplers** *OPTICS EXPRESS*
Chung, H., Lee, H., Huang, K., Yang, S., Wang, K., Solntsev, A. S., Sukhorukov, N. A., Setzpfandt, F., Chen, Y.
2019; 27 (2): 1632–45
- **Inline detection and reconstruction of multiphoton quantum states** *OPTICA*
Wang, K., Suchkov, S. V., Titchener, J. G., Szameit, A., Sukhorukov, A. A.
2019; 6 (1): 41–44
- **Quantum metasurface for multiphoton interference and state reconstruction** *SCIENCE*
Wang, K., Titchener, J. G., Kruk, S. S., Xu, L., Chung, H., Parry, M., Kravchenko, I. I., Chen, Y., Solntsev, A. S., Kivshar, Y. S., Neshev, D. N., Sukhorukov, A. A.
2018; 361 (6407): 1104–7
- **Asymmetric adiabatic couplers for fully-integrated broadband quantum-polarization state preparation** *SCIENTIFIC REPORTS*
Chung, H., Huang, K., Wang, K., Yang, S., Yang, S., Sung, C., Solntsev, A. S., Sukhorukov, A. A., Neshev, D. N., Chen, Y.
2017; 7: 16841
- **Spectral photonic lattices with complex long-range coupling** *OPTICA*
Bell, B. A., Wang, K., Solntsev, A. S., Neshev, D. N., Sukhorukov, A. A., Eggleton, B. J.
2017; 4 (11): 1433–36
- **Flat-band light dynamics in Stub photonic lattices** *SCIENTIFIC REPORTS*
Real, B., Cantillano, C., Lopez-Gonzalez, D., Szameit, A., Aono, M., Naruse, M., Kim, S., Wang, K., Vicencio, R. A.
2017; 7: 15085
- **Non-reciprocal geometric phase in nonlinear frequency conversion** *OPTICS LETTERS*
Wang, K., Shi, Y., Solntsev, A. S., Fan, S., Sukhorukov, A. A., Neshev, D. N.
2017; 42 (10): 1990–1993
- **Measuring the Aharonov-Anandan phase in multiport photonic systems** *OPTICS LETTERS*
Wang, K., Weimann, S., Nolte, S., Perez-Leija, A., Szameit, A.
2016; 41 (8): 1889–92