

publications

2023

1. X. Jiang, S. Yin, H. Li, J. Quan, H. Goh, M. Cotrufo, J. Kullig, J. Wiersig, A. Alu
› Coherent control of chaotic optical microcavity with reflectionless scattering modes
Nat. Phys. (2023)
2. J. Kullig, D. Grom, S. Klembt, and J. Wiersig
› Higher-order exceptional points in waveguide-coupled microcavities: perturbation induced frequency splitting and mode patterns
Photonics Res. 11, A54-A64 (2023)
3. J. Wiersig
› Moving along an exceptional surface towards a higher-order exceptional point
Phys. Rev. A 108, 033501 (2023)
4. J. Wiersig
› Petermann factors and phase rigidities near exceptional points
Phys. Rev. Research 5, 033042 (2023)

2022

1. J. Wiersig
› Revisiting the hierarchical construction of higher-order exceptional points
Phys. Rev. A 106, 063526 (2022)
2. J. Kullig and J. Wiersig
› Ray–Wave Correspondence in Microstar Cavities
Entropy 24, 1614 (2022)
3. J. Wiersig
› Distance between exceptional points and diabolic points and its implication for the response strength of non-Hermitic systems
Phys. Rev. Research 4, 033179 (2022)
4. J. Wiersig
› Response strengths of open systems at exceptional points
Phys. Rev. Research 4, 023121 (2022)

2021

1. Y.J. Qian, H. Liu, Q.-T. Cao, J. Kullig, K. Rong, C.-W. Qiu, J. Wiersig, Q. Gong, J. Chen, and Y.F. Xiao
› Regulated Photon Transport in Chaotic Microcavities by Tailoring Phase Space
Phys. Rev. Lett. 127, 273902 (2021)
2. W. Seemann, A. Kothe, C. Tessarek, G. Schmidt, S. Qiao, N. von den Driesch, J. Wiersig, A. Pawlis, G. Callsen, and Gutowski
› Free-Standing ZnSe-Based Microdisk Resonators: Influence of Edge Roughness on the Optical Quality and Reducing Degradation with Supported Geometry
Phys. Status Solidi B 258, 2100249 (2021)
3. H. Deng, G. L. Lippi, J. Mørk, J. Wiersig, S. Reitzenstein
› Physics and Applications of High- β Micro- and Nanolasers
Adv. Optical Mater. 9, 2100415 (2021)

4. J. Kullig and J. Wiersig
‣ Microdisk cavities with a Brewster notch
Phys. Rev. Research 3, 023202 (2021)
5. M. Schmidt, I.H. Grothe, S. Neumeier, L. Bremer, M. von Helversen, W. Zent, B. Melcher, J. Beyer, C. Schneider, S. Höfling, J. Wiersig, and S. Reitzenstein
‣ Bimodal behavior of microlasers investigated with a two-channel photon-number-resolving transition-edge sensor system
Phys. Rev. Research 3, 013263 (2021)

2020

1. J. Kullig and J. Wiersig
‣ Weakly deformed optical microdisks: A third-order perturbation theory for transverse-magnetic modes
J. Phys. Commun. 4, 105020 (2020)
2. J. Kullig, C.-H. Yi, and J. Wiersig
‣ Resonance-assisted Tunneling in Weakly Deformed Microdisk Cavities
In: Y.-F. Xiao, C.-L. Zou, Q. Gong, and L. Yang, Ultra-High-Q Optical Microcavities, World Scientific
3. J. Wiersig
‣ Review of exceptional point-based sensors
Photonics Res. 8, 1457 (2020)
4. P. C. Burke, J. Wiersig, and M. Haque
‣ Non-Hermitian scattering on a tight-binding lattice
Phys. Rev. A 103, 012212 (2020)
5. M. Khanbekyan and J. Wiersig
‣ Decay suppression of spontaneous emission of a single emitter in a high-Q cavity at exceptional points
Phys. Rev. Research 2, 023375 (2020)
6. J. Wiersig
‣ Robustness of exceptional-point-based sensors against parametric noise: The role of Hamiltonian and Liouvillian degeneracies
Phys. Rev. A 101, 053846 (2020)
7. J. Wiersig
‣ Prospects and fundamental limits in exceptional point-based sensing
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8. C.-H. Yi, J.-W. Lee, J. Ryu, J.-H. Kim, H.-H. Yu, S. Gwak, K.-R. Oh, J. Wiersig, C.-M. Kim
‣ Robust lasing of modes localized on marginally unstable periodic orbits
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9. J. Kullig, X. Jiang, L. Yang, and J. Wiersig
‣ Microstar cavities: An alternative concept for the confinement of light
Phys. Rev. Research 2, 012072(R) (2020)
10. M. Eichelmann and J. Wiersig
‣ Morphology of wetting-layer states in a simple quantum-dot wetting-layer model
J. Phys.: Condens. Matter 32, 075301 (2020)

2019

1. J. Wiersig
‣ Nonorthogonality constraints in open quantum and wave systems
Phys. Rev. Research 1, 033182 (2019)
2. J. Kullig and J. Wiersig
‣ High-order exceptional points of counterpropagating waves in weakly deformed microdisk cavities
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3. L.-K. Chen, Y.-Z. Gu, Q.-T. Cao, Q. Gong, J. Wiersig, Y.-F. Xiao
‣ Regular-Orbit-Engineered Chaotic Photon Transport in Mixed Phase Space
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4. B. Melcher, B. Gulyak, and J. Wiersig
‣ Information-theoretical approach to the many-particle hierarchy problem
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5. M. Badel and J. Wiersig
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6. C.-H. Yi, J. Kullig, M. Hentschel, and J. Wiersig
 › Non-Hermitian degeneracies of internal–external mode pairs in dielectric microdisks
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4. Y.-K. Lu, P. Peng, Q.-T. Cao, D. Xu, J. Wiersig, Q. Gong, Y.-F. Xiao
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 Sci. Bull. 63, 1096 (2018)
5. S. Liu, J. Wiersig, W. Sun, Y. Fan, L. Ge, J. Yang, S. Xiao, Q. Song, and H. Cao
 › Transporting the Optical Chirality through the Dynamical Barriers in Optical Microcavities
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9. T. Lettau, H. A. M. Leymann, B. Melcher, and J. Wiersig
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11. M. Khanbekyan
 › Three-dimensional cavity-assisted spontaneous emission as a single-photon source: Two cavity modes and Rabi resonance
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 › Chaos-assisted broadband momentum transformation in optical microresonators
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2. J.-H. Kim, J. Kim, C.-H. Yi, H.-H. Yu, J.-W. Lee, and C.-M. Kim
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3. C.-H. Yi, J. Kullig, C.-M. Kim, and J. Wiersig
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4. W. Chen, S.K. Özdemir, G. Zhao, J. Wiersig, and L. Yang
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 5. H. A. M. Leymann, D. Vorberg, T. Lettau, C. Hopfmann, C. Schneider, M. Kamp, S. Höfling, R. Ketzmerick, J. Wiersig, S. Reitzenstein, and A. Eckardt
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 9. J. Ryu, J.-W. Lee, C.-H. Yi, J.-H. Kim, I.-G. Lee, H.-S. Kim, S.-B. Kim, K. R. Oh, and C.-M. Kim
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 11. M. Khanbekyan and D.-G. Welsch
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