

Subdivision 11, Publications 2018 – 2020

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Articles in journals

- 1) **Hao, Q.**, Li, M., **Wang, J.**, **Fan, X.**, Jiang, J., **Wang, X.**, **Zhu, M.**, Qiu, T., **Ma, L.**, Chu, P.K., **Schmidt, O.G.**, Flexible Surface-Enhanced Raman Scattering Chip: A Universal Platform for Real-Time Interfacial Molecular Analysis with Femtomolar Sensitivity, *ACS Applied Materials & Interfaces* 48 12 (2020), S. 54174-54180
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- 2) Zhao, X., Liu, C., Yu, J., Li, Z., Liu, L., **Li, C.**, Xu, S., Li, W., Man, B., Zhang, C., Hydrophobic multiscale cavities for high-performance and self-cleaning surface-enhanced Raman spectroscopy (SERS) sensing, *Nanophotonics* 16 9 (2020), S. 4761-4773
<https://www.degruyter.com/view/journals/nanoph/ahead-of-print/article-10.1515-nanoph-2020-0454/article-10.1515-nanoph-2020-0454.xml>.
- 3) **Naz, E.**, **Yin, Y.**, **Wang, J.**, **Madani, A.**, **Ma, L.**, **Schmidt, O.G.**, Dynamic tuning of photon-plasmon interaction based on three-dimensionally confined microtube cavities, *Optics Letters* 20 45 (2020), S. 5720-5723 <https://doi.org/10.1364/OL.406292>.
- 4) **Valligatla, S.**, **Wang, J.**, **Madani, A.**, **Naz, E.S.G.**, **Hao, Q.**, **Saggau, C.**, **Yin, Y.**, **Ma, L.**, **Schmidt, O.G.**, Selective Out-of-Plane Optical Coupling between Vertical and Planar Microrings in a 3D Configuration, *Advanced Optical Materials* 22 8 (2020), S. 2000782/1-8
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- 5) **Wang, J.**, **Tang, M.**, Yang, Y.-D., **Yin, Y.**, **Chen, Y.**, **Saggau, C.N.**, **Zhu, M.**, Yuan, X., **Karnaushenko, D.**, Huang, Y., **Ma, L.**, **Schmidt, O.G.**, Steering Directional Light Emission and Mode Chirality through Postshaping of Cavity Geometry, *Laser and Photonics Reviews* 10 14 (2020), S. 2000118/1-9 <https://orcid.org/0000-0001-6323-8081>.
- 6) Zhai, L., Löbl, M.C., Jahn, J.-P., **Huo, Y.**, Treutlein, P., **Schmidt, O.G.**, Rastelli, A., Warburton, R.J., Large-range frequency tuning of a narrow-linewidth quantum emitter, *Applied Physics Letters* 8 117 (2020), S. 083106/1-5 <https://doi.org/10.1063/5.0017995>.
- 7) Yang, J., Nawrath, C., **Keil, R.**, Joos, R., **Zhang, X.**, **Höfer, B.**, **Chen, Y.**, Zopf, M., Jetter, M., Portalupi, S.L., **Ding, F.**, Michler, P., **Schmidt, O.G.**, Quantum dot-based broadband optical antenna for efficient extraction of single photons in the telecom O-band, *Optics Express* 13 28 (2020), S. 19457-19468 <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-28-13-19457>.
- 8) **Wang, J.**, **Medina Sanchez, M.**, **Yin, Y.**, **Herzer, R.**, **Ma, L.**, **Schmidt, O.G.**, Silicon-Based Integrated Label-Free Optofluidic Biosensors: Latest Advances and Roadmap, *Advanced Materials Technologies* 6 5 (2020), S. 1901138/1-24
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- 9) **Madani, A.**, Overview on monolithically integrated arrays of microtubular vertical resonators on photonic waveguides for optofluidic applications, *Optik* 204 (2020), S. 164161/1-5 <https://doi.org/10.1016/j.ijleo.2019.164161>.
- 10) Yuan, X., Schwendtner, M., Trotta, R., **Huo, Y.**, Martín-Sánchez, J., Piredda, G., Huang, H., Edlinger, J., Diskus, C., **Schmidt, O.G.**, Jakoby, B., Krenner, H., Rastelli, A., A frequency-tunable nanomembrane mechanical oscillator with embedded quantum dots, *Applied Physics Letters* 18 115 (2019), S. 182101/1-5 <https://doi.org/10.1063/1.5126670>.
- 11) **Madani, A.**, Sedaghat, S., Athermalization of a self-assembled rolled-up TiO₂ microtube ring resonator through incorporation of a positive thermo-optic coefficient material in

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- 12) **Saggau, C., Ma, L., Schmidt, O.G.**, Wasserdynamik auf Oxidoberflächen in Echtzeit, *Physik in unserer Zeit* 1 51 (2020), S. 7-8 <https://doi.org/10.1002/piuz.202070105>.
 - 13) Cordoba, C., Zeng, X., **Wolf, D., Lubk, A.**, Barrigón, E., Borgström, M., Kavanagh, K., Three-Dimensional Imaging of Beam-Induced Biasing of InP/GaN Tunnel Diodes, *Nano Letters* 6 19 (2019), S. 3490-3497 <https://pubs.acs.org/doi/abs/10.1021/acs.nanolett.9b00249>.
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 - 16) **Wang, J., Yin, Y.**, Yang, Y., **Hao, Q.**, Tang, M., **Wang, X., Saggau, C., Karnaushenko, D.**, Yan, X., Huang, Y., **Ma, L., Schmidt, O.G.**, Deterministic Yet Flexible Directional Light Emission from Spiral Nanomembrane Cavities, *ACS Photonics* 10 6 (2019), S. 2537-2544
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 - 17) **Zopf, M., Keil, R., Chen, Y., Yang, J., Chen, D., Ding, F., Schmidt, O.G.**, Entanglement Swapping with Semiconductor-Generated Photons Violates Bell's Inequality, *Physical Review Letters* 16 123 (2019), S. 160502/1-7
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 - 18) Prete, P., **Wolf, D.**, Marzo, F., Lovergine, N., Nanoscale spectroscopic imaging of GaAs-AlGaAs quantum well tube nanowires: correlating luminescence with nanowire size and inner multishell structure, *Nanophotonics* 9 8 (2019), S. 1567-1577
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 - 19) **Charnukha, A.**, Sternbach, A., Stinson, H., Schlereth, R., Brüne, C., Molenkamp, L., Basov, D., Ultrafast nonlocal collective dynamics of Kane plasmon-polaritons in a narrow-gap semiconductor, *Science Advances* 8 5 (2019), S. 9956/1-7
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 - 21) Chiasera, A., Meroni, C., Scotognella, F., Boucher, Y., Galzerano, G., Lukowiak, A., Ristic, D., Speranza, G., **Valligatla, S.**, Varas, S., Zur, L., Ivanda, M., Righini, G., Taccheo, S., Ramponi, R., Ferrari, M., Coherent emission from fully Er³⁺ doped monolithic 1-D dielectric microcavity fabricated by rf-sputtering, *Optical Materials* 87 (2019), S. 107-111
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 - 23) Kroh, T., Wolters, J., Ahlrichs, A., Schell, A.W., Thoma, A., Reitzenstein, S., Wildmann, J.S., Zallo, E., Trotta, R., Rastelli, A., **Schmidt, O.G.**, Benson, O., Slow and fast single photons from a quantum dot interacting with the excited state hyperfine structure of the Cesium

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- 24) **Höfer, B.**, Olbrich, F., Kettler, J., Paul, M., Höschele, J., Jetter, M., Portalupi, S., **Ding, F.**, Michler, P., **Schmidt, O.**, Tuning emission energy and fine structure splitting in quantum dots emitting in the telecom O-band, *AIP Advances* 9 (2019), S. 085112/1-6
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 - 32) **Wang, J.**, Yin, Y., **Hao, Q.**, Yang, Y.-D., **Valligatla, S.**, Saei Ghareh Naz, E., Li, Y., **Saggau, C.**, **Ma, L.**, **Schmidt, O.G.**, Curved Nanomembrane-Based Concentric Ring Cavities for Supermode Hybridization, *Nano Letters* 11 18 (2018), S. 7261-7267.
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- 53) **Wang, J., Yin, Y., Hao, Q., Zhang, Y., Ma, L., Schmidt, O.G.**, Strong Coupling in a Photonic Molecule Formed by Trapping a Microsphere in a Microtube Cavity, *Advanced Optical Materials* 1 6 (2018), S. 1700842/1-8 <https://doi.org/10.1002/adom.201700842>

Monograph

- 1) **Fomin, V.M.**, *Physics of Quantum Rings* (2018), S. XXVI, 585 <https://www.springer.com/in/book/9783319951584>.

Individual contributions to edited volumes

- 1) **Fomin, V.M.**, Gladilin, V.N., van Bree, J., Flatte, M.E., Devreese, J.T., Koenraad, P.M., Fomin, V.M., Self-organized Quantum Rings: Physical Characterization and Theoretical Modeling *Physics of Quantum Rings*, Springer International Publishing, Series: NanoScience and Technology, ISBN: 978-3-319-95158-4, Chapter 4 (2018), S. 91-120 <https://www.springer.com/in/book/9783319951584>.
- 2) **Ma, L., Fomin, V., Schmidt, O.G.**, Fomin, V.M., Optical Berry Phase in Micro/Nano-rings *Physics of Quantum Rings*, Springer International Publishing, Series: NanoScience and Technology, ISBN: 978-3-319-95158-4, Chapter 2 (2018), S. 33-55 <https://www.springer.com/in/book/9783319951584>.
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