

Exhaustive Publication List

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Peer-Reviewed Publications

- [1] V. Shatov, S. Schieler, C. Muth, J. M. Mateos-Ramos, I. Bizon, F. Euchner, S. Semper, S. T. Brink, G. Fettweis, C. Häger, H. Wymeersch, L. Schmalen, R. Thomä, and N. Franchi. “Integrated Radio Sensing Capabilities for 6G Networks: AI/ML Perspective”. In: *IEEE Communications Surveys & Tutorials* (2026), pp. 1–1. DOI: [10.1109/COMST.2026.3668458](https://doi.org/10.1109/COMST.2026.3668458).
- [2] R. Thomä, C. Andrich, M. Döbereiner, R. Faramarzhangari, J. Gedschold, M. F. C. Miranda, S. J. Myint, S. Schieler, C. Schneider, S. Semper, C. Smeenk, G. Sommerkorn, and Z. Zhao. “Distributed multisensor ISAC”. In: *npj Wireless Technology* 2.1 (2026), p. 22. DOI: [10.1038/s44459-026-00041-2](https://doi.org/10.1038/s44459-026-00041-2).
- [3] J. Bang, S. Berweger, J. Chuang, C. Gentile, N. Golmie, and S. Semper. “Real-Time 141 GHz JCAS Channel Sounder: Near-Field Switched Beamforming, Carrier Multiplexing, and Context Awareness”. In: *IEEE Transactions on Microwave Theory and Techniques* (2025), pp. 1–14. DOI: [10.1109/tmtt.2025.3529345](https://doi.org/10.1109/tmtt.2025.3529345).
- [4] A. Elgamal, P. Knott, T. Dallmann, and S. Semper. “Multi-Bistatic Coordinated Multipoint JCAS: Exploring the Synchronization Requirements”. In: *2025 IEEE 5th International Symposium on Joint Communications & Sensing (JC&S)*. 2025, pp. 1–6. DOI: [10.1109/JCS64661.2025.10880632](https://doi.org/10.1109/JCS64661.2025.10880632).
- [5] J. Gedschold, D. Dupleich, S. Semper, M. Döbereiner, A. Ebert, G. D. Galdo, and R. S. Thomä. “Metrology of Multicarrier-Based Delay-Doppler Channel Sounding for sub-THz Frequencies”. In: *IEEE Open Journal of Antennas and Propagation* (2025), pp. 1–1. DOI: [10.1109/ojap.2025.3566473](https://doi.org/10.1109/ojap.2025.3566473).
- [6] J. Gedschold, S. Semper, A. Ebert, G. Del Galdo, and R. S. Thomä. “Experimental Performance Validation of Fisher Information-Optimized Multicarrier Waveforms for Sub-THz Channel Sounding”. In: *2025 19th European Conference on Antennas and Propagation (EuCAP)*. 2025, pp. 1–5. DOI: [10.23919/EuCAP63536.2025.10999680](https://doi.org/10.23919/EuCAP63536.2025.10999680).
- [7] J. Gedschold, S. Semper, G. D. Galdo, and R. Thomä. “Multidimensional Parameter Estimation for Channel Sounding”. In: *Metrology for THz Communications*. Springer Nature Switzerland, 2025, pp. 195–212. DOI: [10.1007/978-3-032-01986-8_17](https://doi.org/10.1007/978-3-032-01986-8_17).
- [8] M. Miranda, S. Semper, C. Schneider, and R. Thomä. “Model-Based Joint Delay-Doppler Estimation for ICAS with Sparse OFDM Resources”. In: *2025 19th European Conference on Antennas and Propagation (EuCAP)*. 2025, pp. 1–5. DOI: [10.23919/EuCAP63536.2025.10999889](https://doi.org/10.23919/EuCAP63536.2025.10999889).
- [9] M. Miranda, S. Semper, C. Schneider, R. Thomä, and G. Del Galdo. “Joint Delay-Doppler Estimation Using OFDMA Payloads for Integrated Communications and Sensing”. In: *2025 Joint European Conference on Networks and Communications & 6G Summit (EuCNC/6G Summit)*. 2025, pp. 577–582. DOI: [10.1109/EuCNC/6GSummit63408.2025.11037009](https://doi.org/10.1109/EuCNC/6GSummit63408.2025.11037009).
- [10] J. Naviliat, S. Semper, and M. Döbereiner. “Cubic B-Splines for Hardware-Accelerated Antenna Beampattern Interpolation”. In: *2025 19th European Conference on Antennas and Propagation (EuCAP)*. 2025, pp. 1–5. DOI: [10.23919/EuCAP63536.2025.10999491](https://doi.org/10.23919/EuCAP63536.2025.10999491).

- [11] S. Schieler, S. Semper, C. Schneider, and R. Thomä. “Measurement-Based Evaluation of CNN-Based Detection and Estimation for ISAC Systems”. In: *2025 IEEE International Radar Conference (RADAR)*. 2025, pp. 1–6. DOI: [10.1109/RADAR52380.2025.11031730](https://doi.org/10.1109/RADAR52380.2025.11031730).
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- [18] Z. Zhao, C. J. Smeenk, S. Semper, C. Schneider, and R. S. Thomä. “Dual-Band Sensing for Passive Target Surveillance in ISAC Systems”. In: *2025 IEEE Wireless Communications and Networking Conference (WCNC)*. 2025, pp. 1–6. DOI: [10.1109/WCNC61545.2025.10978429](https://doi.org/10.1109/WCNC61545.2025.10978429).
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- [20] M. Miranda, S. Semper, M. Döbereiner, and R. Thomä. “Improving the Spatial Correlation Characteristics of Antenna Arrays using Linear Operators and Wide-band Modelling”. In: *2024 27th International Workshop on Smart Antennas (WSA)*. 2024, pp. 1–7. DOI: [10.1109/WSA61681.2024.10511328](https://doi.org/10.1109/WSA61681.2024.10511328).
- [21] E. Pérez, S. Semper, S. Kodera, F. Römer, and G. D. Galdo. “Misspecification of Multiple Scattering in Scalar Wave Fields and its Impact in Ultrasound Tomography”. In: *IEEE Access* (2024), pp. 1–1. DOI: [10.1109/access.2024.3471430](https://doi.org/10.1109/access.2024.3471430).
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- [24] S. Schieler, S. Semper, R. Faramarzhangari, M. Döbereiner, C. Schneider, and R. Thomä. “Grid-Free Harmonic Retrieval and Model Order Selection Using Convolutional Neural Networks”. In: *2024 18th European Conference on Antennas and Propagation (EuCAP)*. 2024, pp. 1–5. DOI: [10.23919/EuCAP60739.2024.10501588](https://doi.org/10.23919/EuCAP60739.2024.10501588).
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- [33] D. Stanko, M. Döbereiner, G. Sommerkorn, D. Czaniera, C. Andrich, C. Schneider, S. Semper, A. Ihlow, and M. Landmann. “Time Variant Directional Multi-Link Channel Sounding and Estimation for V2X”. In: *2023 IEEE 97th Vehicular Technology Conference (VTC2023-Spring)*. 2023, pp. 1–5. DOI: [10.1109/VTC2023-Spring57618.2023.10199213](https://doi.org/10.1109/VTC2023-Spring57618.2023.10199213).
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- [35] A. Rashidifar, S. Semper, and C. Wagner. “A Frequency Domain Approach for Estimating the Angular Dependent Delay of an UWB Antenna”. In: *2022 16th European Conference on Antennas and Propagation (EuCAP)*. 2022, pp. 1–5. DOI: [10.23919/EuCAP53622.2022.9769534](https://doi.org/10.23919/EuCAP53622.2022.9769534).
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Datasets

- [1] S. Semper, G. Sommerkorn, M. Döbereiner, and R. Thomä. *Elowen: MIMO Channel Sounding and Characterization in an Urban Macro Cell*. en. refodat - Repositorium für Forschungsdaten in Thüringen, 2025. DOI: [10.71758/REFODAT.55](https://doi.org/10.71758/REFODAT.55).

Patents

- [1] C. Wagner, F. Römer, S. Semper, and G. Del Galdo. “Method for the acquisition of impulse responses, e.g. for ultra-wideband systems (pending)”. EP3806413, WO21069513. 2019.

Preprints

- [1] L. Mohr, M. Döbereiner, S. Schieler, J. Robert, C. Schneider, S. Semper, and R. S. Thoma. *Performance Comparison of Joint Delay-Doppler Estimation Algorithms*. 2025. DOI: <https://doi.org/10.48550/arXiv.2510.16200>.
- [2] L. Mohr, M. Miranda, S. Semper, J. Beuster, C. Andrich, S. Giehl, C. Schneider, and R. S. Thomä. *Oscillator Drift Compensation by Line-of-Sight Tracking for Distributed Multisensor ISAC*. 2025. DOI: <https://doi.org/10.48550/arXiv.2510.13442>.
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- [7] T. Hotz, M. Glock, S. Heyder, S. Semper, A. Böhle, and A. Krämer. *Monitoring the spread of COVID-19 by estimating reproduction numbers over time*. 2020. DOI: [10.48550/arXiv.2004.08557](https://doi.org/10.48550/arXiv.2004.08557).