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Bowen Wang

Education

2021–presen **M. S.** in **Communication Engineering** (GPA: 3.55/4.0)
University of Electronic Science and Technology of China
Expected Graduate Date: July 2024

2017–2021 **B. S.** in **Communication Engineering** (GPA: 3.89/4.0)
Wuhan University of Technology

Research Areas

Massive MIMO
Dual-function radar-communication
Intelligent reflecting surface
Convex optimization

Awards & Honors

2022 UESTC First Class Scholarship **(No.1 in the vote, 1/416)**
2021 UESTC First Class Freshmen Scholarship
2021 WUT Excellent Graduate Students
2021 WUT Excellent Graduation Thesis for Undergraduates
2017 – 2021 WUT Excellent Academic Scholarship, **The 1st Prize**

Publications

Working Articles

[W7] **B. Wang**, and *et al.*, "A Distributed Hybrid Beamforming Design Framework for Cooperative Cell-Free Dual-Function Radar-Communication Networks," submitted to *IEEE Transactions*.

[W6] **B. Wang**, H. Li, Z. Cheng, S. Shen and B. Clerckx, "A Dual-Function Radar-Communication System Empowered by Beyond Diagonal Reconfigurable Intelligent Surface," submitted to *IEEE Transactions*.

[W4] L. Xu, **B. Wang** and Z. Cheng, "QoS-Constrained Hybrid Beamforming for Multi-User OFDM-DFRC Systems with Optimal Space-Frequency Spectra," submitted to *IEEE Transactions*.

[W3] L. Xu, **B. Wang** and Z. Cheng, "Enhancing Physical Layer Security in Dual-Function Radar-Communication Systems with Hybrid Beamforming Architecture," submitted to *IEEE Letters*.

[W2] R. Guan, **B. Wang**, X. He and Z. Cheng, "An Alternating Proximal Method for Sea Clutter Suppression in Over-the-Horizon Radar Systems," submitted to *IEEE Letters*.

[W1] Z. Cheng, L. Wu, **B. Wang**, B. Shankar, B. Liao and B. Ottersten, "Hybrid Beamforming in mmWave Dual-Function Radar-Communication Systems: Models, Technologies, and Challenges," submitted to *IEEE Magazine*.

Journal Articles

[J5] **B. Wang**, H. Li and Z. Cheng, "Dynamic Hybrid Beamforming Design for Dual-Function Radar-Communication Systems," *IEEE Transactions on Vehicular Technology*.

[J4] **B. Wang**, L. Wu, Z. Cheng and Z. He, "Exploiting Constructive Interference in Symbol Level Hybrid Beamforming for Dual-Function Radar-Communication System," *IEEE Wireless Communications Letters*, vol. 11, no. 10, pp. 2071-2075, Oct. 2022.

[J3] **B. Wang**, Z. Cheng and Z. He, "Manifold Optimization Methods for Hybrid Beamforming in mmWave Dual-Function Radar-Communication System," *Multidimensional Systems and Signal Processing*, vol. 34, no. 1, pp.1-24, Mar. 2023.

[J2] Z. Cheng, L. Wu, **B. Wang**, B. Shankar and B. Ottersten, "Double-Phase-Shifter based Hybrid Beamforming for mmWave DFRC in the Presence of Extended Target and Clutters," *IEEE Transactions on Wireless Communications*, vol. 22, no. 6, pp. 3671-3686, June 2023.

[J1] Z. Cheng, L. Wu, **B. Wang**, J. Xie and H. Li, "Relative Entropy-Based Constant-Envelope Beamforming for Target Detection in Large-Scale MIMO Radar with Low-Resolution ADCs," *IEEE Transactions on Vehicular Technology*.

Conference Articles

[C4] **B. Wang**, Z. Cheng, L. Xu and Z. He, "Semi-Distributed Hybrid Beamforming Design for Cooperative Cell-Free Dual-Function Radar-Communication Networks," in *Proceedings IEEE International Conference on Acoustics, Speech and Signal Processing Workshop (ICASSPW)*, June 2023, pp. 1-1.

[C3] **B. Wang**, Z. Cheng, L. Wu and Z. He, "Hybrid Beamforming Design for OFDM Dual-Function Radar-Communication System with Double-Phase-Shifter Structure," in *Proceedings 30th European Signal Processing Conference (EUSIPCO)*, Sep. 2022, pp. 1067-1071. **(Invited Paper)**

[C2] **B. Wang**, Z. Cheng, L. Wu and Z. He, "Spatial Spectrum Nulling for Wideband OFDM-DFRC System with Hybrid Beamforming Architecture," in *Proceedings IEEE Wireless Communications and Networking Conference (WCNC)*, April 2022, pp. 240-244.

[C1] L. Wu, **B. Wang**, Z. Cheng, M. R. B. Shankar and B. Ottersten, "Joint Symbol-Level Precoding and Sub-Block-Level RIS Design for Dual-Function Radar-Communications," in *Proceedings IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, June 2023, pp. 1-1. **(Invited Paper)**

Patents

2021 B. Jia, **B. Wang** and W. Sun, "The invention relates to a multi-perception intelligent photovoltaic roof and its design method and design system," China:CN202010357623.X.

2020 B. Jia, Q. Hu and **B. Wang**, "A weather-aware intelligent skylight control system," China:CN202010452971.5.

Service to Scientific Community

2022-present **Reviewer for Journals and Conferences**.
- IEEE Trans. on VT, IEEE Trans. on RS
- IEEE Wireless Communications Letters
- ICASSP, EUSIPCO, JC&S, etc

2021-present **Membership**.
- IEEE Student Member
- EURASIP Student Member
- IEEE SPS, ComSoc, VTS Student Member