Bowen Wang

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My Webpage

Education

2021–present **M. S. in Electrical Information**, *University of Electronic Science and Technology of China*, Chengdu, China.

2017–2021 : **B. Sc. in Communication Engineering**, *Wuhan University of Technology*, Wuhan, China.
GPA: 4.218/5

Research Experience

University of Electronic Science and Technology of China, SCIE

March 2022 – present **Research on Key Techniques in Distributed Integrated Sensing and Communications**, *HUAWEI Corporation Collaboration Project*, UESTC, Participated.

- Participated in the research: waveform design for dual-function radar-communication system.
- Working on designing base station model, frame structure and timing sequence.

Wuhan University of Technology, SIE

Nov 2020 – Feb 2021 **Research on the Theory in Mid-infrared Photodetectors on the Mismatched Substrate**, *Wuhan Natural Science Foundation of China Project*, WUT, Participated.

- Participated in the research: monolithic integration of InSb photodetector.
- Implemented a model with InAlSb barrier layers on the InSb mid-infrared photodetectors.

Publications

Working Articles

[W4] **B. Wang**, H. Li and Z. Cheng, "Dynamic Hybrid Beamforming Design for Dual-Function Radar-Communication Systems," submitted to *IEEE Transactions on Vehicular Technology*.

[W3] **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 on Wireless Communications*.

[W2] 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 Communications Magazine*.

Journal Articles

[J4] **B. Wang**, L. Wu, Z. Cheng and Z. He, "Exploiting Constructive Interference in Nonlinear Symbol Level Hybrid Beamforming for Dual-Function Radar-Communication System," in *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," in *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," in *IEEE Transactions on Wireless Communications*.**(Early Access)**

[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-Resoultion ADCs," in *IEEE Transactions on Vehicular Technology*.**(Early Access)**

Conference Articles

[C5] **B. Wang**, Z. Cheng, L. Xu and Z. He, "Semi-Distributed Hybrid Beamforming Design for Cooperative Cell-Free Dual-Function Radar-Communication Networks," 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023, pp. 1-1. **(Accepted)**

[C4] **B. Wang**, Z. Cheng, L. Wu and Z. He, "Hybrid Beamforming Design for OFDM Dual-Function Radar-Communication System with Double-Phase-Shifter Structure," 2022 30th European Signal Processing Conference (EUSIPCO), 2022, pp. 1067-1071. **(Invited Paper)**

[C3] **B. Wang**, Z. Cheng, L. Wu and Z. He, "Spatial Spectrum Nulling for Wideband OFDM-DFRC System With Hybrid Beamforming Architecture," 2022 IEEE Wireless Communications and Networking Conference (WCNC), 2022, pp. 240-244.

[C2] 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," 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2023, pp. 1-1. **(Invited Paper)**

[C1] Z. Zhao, X. Qian, **B. Wang** and B. Jia, "Numerical simulation of the effects of InAlSb barrier layers on the InSb mid-infrared photodetectors on a mismatched substrate," Optoelectronic Devices and Integration VIII. International Society for Optics and Photonics, 2019.

Patents

2021 B. Jia, **B. Wang** and Wenbin 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.

Academic Achievements

2020 13th National University Student Social Practice and Science Contest on Energy Saving & Emission Reduction of China, **The 3rd Prize**.

2019 National Undergraduate Electronic Design Contest of China, **The 1st Prize**

Extra Curriculars

Sept 2018 – June 2019 **Voluntary Maintenance Activities**, *SIE*, WUT, Executive Member.
- Participated in the voluntary maintenance service of household appliances.
- Working on maintenance of desktop computers, rice cookers, and radios.
- Our works has been highly praised by the public for many times.

March 2018 – June 2019 **Voluntary Tutor**, *SIE*, WUT, Volunteer.
- Taught Mathematics, Physics and Chemistry to five children from poor communities.
- Improved my teaching and communication ability.

Awards & Honors

2022 UESTC First Class Scholarship **(No.1 in the vote)**

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

Skills

Programming Matlab (A), Python (A), C/C++ (A)& Java (B)

Frameworks Tensorflow, PyTorch

Language	Chinese & English
Others	Markdown & LaTeX

Hobbies

Life	Current politics, economics & history
Sport	Table Tennis & badminton
Music	Piano & Classic Music