Zhe Zhang

Professor, Ph.D. Supervisor
NSFC Excellent Young Scientists Fund Program (Overseas)
CAS "One Hundred" Talent

DOB: 01/31/1988
Address (Suzhou): Room B203-12, Lab 22
Suzhou Aerospace Information Research Institute
158 Dushuhu Ave, Suzhou Industrial Park, Suzhou, Jiangsu 215000, China
Address (Beijing): Room 342, Lab 1
Aerospace Information Research Institute, Chinese Academy of Sciences
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Homepage: https://people.ucas.ac.cn/~zhe.

Working Experience

2023.01– | Lab Director Assistant, Academic Leader
2022.04– | Professor, Ph.D Supervisor
2021.01–2022.04 | Associate Professor
Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100190, China
Suzhou Aerospace Information Research Institute, Suzhou, Jiangsu 215000, China
Interest Field: Sparse signal processing, Sparse Microwave Imaging, Synthetic aperture radar, Three-dimensional SAR imaging, Combination of signal processing and deep learning.

2023.10– | Double Employed Professor
University of Chinese Academy of Sciences, Beijing 100190, China

2023.09– | Adjunct Professor
Qian Xuesen Honors College, Xi'an Jiaotong University, Xi'an, Shaanxi 710049, China

2024.10– | Adjunct Professor
Harbin Engineering University, Harbin, Heilongjiang, China

2016.12–2020.06 | Post-Doctoral Research Fellow
George Mason University, Fairfax, VA 22030, USA
Advisor: Tian, Zhi, Professor, IEEE Fellow
Interest Field: Sparse signal processing, Atomic norm minimization, Combination of signal processing and deep learning.

2015.12–2016.11 | Post-Doctoral Research Scientist
George Washington University, Washington, DC 20052, USA
Advisor: Tian, Zhi, Professor, IEEE Fellow
Cheng, Xiuzhen, Professor, IEEE Fellow

Interest Field: Sparse signal processing, Atomic norm minimization.

Education

2009.09–2015.07 | Ph.D./ Signal and Information Processing
Institute of Electronics, Chinese Academy of Sciences
University of Chinese Academy of Sciences
Beijing 100190, China
Supervisor: Wu, Yirong, Academician of CAS, Professor
Interest Field: Sparse microwave imaging, Sparse signal processing, Synthetic aperture radar.

2014.01–2014.04 | Visiting Student
University of Connecticut, Storrs, CT 06269, USA
Supervisor: Zhou, Shengli, Professor, IEEE Fellow.

2004.09–2008.07 | B. Eng. Information Engineering
2003.09–2004.07 | Special Class for Gifted Young
Xi'an Jiaotong University
Xi'an, Shaanxi 710049, China.

Research Projects

2023.12– | **Multi-beam Spaceborne High-Resolution Wide-Swath SAR System and Technology**, RMB 25,350,000
Grant: *National Key Research and Development Program of China*, #2023YFB3904900
Principle Investigator.

2022.1– | **Sparse Signal Processing and Its Applications in Microwave Imaging**, RMB 3,000,000
Grant: *NSFC Excellent Young Scientists Fund Program (Overseas)*
Principle Investigator.

2021.1– | **Sparse Signal Processing and Deep Learning with Their Applications in Microwave Imaging**, RMB 4,000,000
Grant: *CAS "One Hundred Talent" Project*
Principle Investigator.

2021.12– | **High Efficiency Sensing System and Technology of Three-dimensional Microwave Imaging**, RMB 500,000
Grant: *Suzhou S&T Development Project*, #ZXL2022381
Principle Investigator.

2021.7– | **Structural Signal Adaptive High Efficiency sensing Theory and Its Applications in Microwave Imaging**, RMB 1,300,000
Grant: *CAS Key Grant*
Principle Investigator.

2020.1– | **Synthetic Aperture Radar Microwave Vision Three-dimensional Imaging Theory and Application Foundations**, RMB 20,000,000
Grant: *NSFC Major Program*, #61991421, 61991420
Co-PI.

2018.8–2018.11 | **A Gated LFMCW TDMA MIMO SAR based Hidden Chamber Detector**, USD $150,000
Grant: *USSOCOM SBIR*, #S173-004-0118
Participant.

2015.12–2020.6 | **Task-Cognizant Sparse Sensing for Inference**, USD $400,000
Grant: *National Science Foundation (NSF) Standard Grant*, #1527396
Participant.

2010.04–2015.07 | **Theory, System and Methodology of Sparse Microwave Imaging**, RMB 33,000,000
Grant: *National Major Fundamental Science Research Project (973 Project)*, #2010CB731900
Participant.

2012.04–2015.07 | **Advanced Microwave Sensing and Information Processing**, RMB 4,300,000
Grant: *Chinese Academy of Sciences*
Participant.

Honors

2022.09 | **Jiangsu Chief Science and Technology Communication Expert** / *Jiangsu Science and Technology Association*

2022.01 | **Excellent Young Scientists Fund Program (Overseas)** / *NSFC*

2021.01 | **CAS "One Hundred Talent"** / *Chinese Academy of Sciences*

2021.12 | **Suzhou "Gusu Leading Talent"** / *Suzhou City*

2022.12 | **Jiangsu "Innovative and Entrepreneurial Talent"** / *Jiangsu Province*

2022 | **CAS "Young Cross Teams" Member** / *Chinese Academy of Sciences*

Awards

National Disruptive Technology Innovation Competition
/ *Ministry of Science and Technology, China*
2022.03 | *Excellence Prize in Final Competition*
2021.12 | *Winner Prize*
2021.12 | *Excellence Prize*

2008.04 | **TI DSP Contest** / *Texas Instruments*
Winner Prize

COMAP Mathematical Modeling Contest / *COMAP*
2008.02 | *Meritorious*
2007.02 | *Honorable Mentioned*

2006.09 | **China College Mathematical Modeling Contest** / *CSIAM*
Second Prize

Languages

ENGLISH: Professional (Reside in US for 5 years, CET-6/PETS-5/WSK pass, TOEFL 96)
JAPANESE: Fair

Open Source Projects and Services

2006.04–2015.11 | BMY BBS (http://bbs.xjtu.edu.cn/, http://bmybbs.com/)
Host: https://github.com/bmybbs?type=source
Technical Leader

2010.06–2019.04 | KYXK BBS (http://bbs.ucas.ac.cn/, http://kyxk.net/)
Technical Leader

2018.09– | hCNN (https://github.com/pzhg/hCNN)
Principle Developer

Services

Professional Society Membership and Services

Xi'an Jiaotong-Liverpool University
2022.07– | *External Mentor*
2021.11– | *Pilotage Mentor*

IEEE
2024.01– | *Senior Member*
2016.01–2024.01 | *Member*
2010.01–2015.12 | *Student Member*

CSIG
Microwave Intelligent Imaging Professional Committee
2024.06– | *Committee Member*

	CNC-ISDE **Microwave Remote Sensing Professional Committee**
2024.06–	*Committee Member*
	CIE
2021.04–	*Member*
	JSAAI
2020.11–	*Member*

Journal Reviewers

- *IEEE Transactions on Signal Processing* Journal, SCI.
- *IEEE Signal Processing Letters* Journal, SCI.
- *Signal Processing* Journal, SCI.
- *National Science Open* Journal, SCI.
- *IEEE Transactions on Geoscience and Remote Sensing* Journal, SCI.
- *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* Journal, SCI.
- *IEEE Geoscience and Remote Sensing Letters* Journal, SCI.
- *IET Radar, Sonar & Navigation* Journal, SCI.
- *IET Electronics Letters* Journal, SCI.
- *IET Signal Processing* Journal, SCI.
- *Science China Information Science* Journal, SCI.
- *Cogent Engineering* Journal, SCI.
- *Journal of Radars* Journal, EI.

Organizing Committee Member and Technical Program Chair

- 2022 International Workshop on Microwave Vision and 3D SAR Imaging (MiViSAR 2022), Suzhou, China, Oct 17-19, 2022.

Session Chair

- 2022 IET International Radar Conference, Chongqing, China, Dec 3-5, 2023.
- 2024 PhotonIcs and Electromagnetics Research Symposium (PIERS), Chengdu, China, Apr 21-25, 2024.

TPC Member / Reviewer

2024	PIERS 2024, ICC 2024, CoSeRa 2024, EECSI 2024, Globecom2024, IJEECS 2024, EEET 2024.
2023	EECSI 2023, iSemantic 2023, Globlecom 2023, SIRS 2023, IJCDS 2023, IJEECS 2023, IET Radar 2023.
2022	EEET 2022, EECSI 2022, IJCDS, IJECE 2021-22, FSDM 2022.
2021	IJEECS 2021, BEEI 2020-21, ICITech 2021, FSDM 2021, TELKOMNIKA 2021.
2020	CITEI 2020, SIRS 2020, FSDM 2020.
2019	SIRS 2019, DISP 2019
2018	CoSeRa 2018, SIRS 2018, EECSI 2018, ICW-TELKOMNIKA 2018, FSDM 2018.
2017	ICITech 2017, EECSI 2017, SIRS 2017, FSDM 2017.
2016	CoSeRa 2016.
2015	CoSeRa 2015, ISSPIT 2015, ICSPDM 2015.

Publications (Bold for Corresponding / First Authorship)

Journal Articles

1. **Y. Zhao, D. Xiao, Z. Pan, B. W. K. Ling, Y. Tian, and Z. Zhang∗, "Sparse SAR Imaging Based on Non-Local Asymmetric Pixel-Shuffle Blind Spot Network," Remote Sens., vol. 16, no. 13, p. 2367, Jun. 2024, doi: 10.3390/rs16132367.**

2. X. Qiu, Y. Luo, S. Song, L. Peng, Y. Cheng, Q. Yan, S. Shangguan, Z. Jiao, Z. Zhang, and C. Ding, "Microwave Vision Three-dimensional SAR Experimental System and Full-polarimetric Data Processing Method," Journal of Radars, vol. 13, no. 5, pp. 941–954, Sep. 2024, doi: 10.12000/JR24137, in Chinese.

3. **S. Gao, M. Wang, Z. Zhang∗, B. Zhang, and Y. Wu, "Efficient Gridless DOA Estimation for Nonuniformly Spaced Linear Arrays in Automotive Radar Sensors," IEEE Sens. J., vol. 24, no. 17, pp. 27737–27749, Sep. 2024, doi: 10.1109/JSEN.2024.342**

4. M. Wang, X. Qiu∗, Z. Zhang, and S. Gao, "A domain adaptation framework for cross-modality SAR 3D reconstruction point clouds segmentation utilizing LiDAR data", Int. J. Appl. Earth Obs. Geoinf., vol. 133, p. 104103, Sep. 2024, doi: 10.1016/j.jag.2024.104103.

5. **Y. Wu, R. Song, Z. Zhang∗, X. Qiu, and W. Yu, "GSAT-Net: An Azimuth Ambiguity Suppression Network Based on Group Sparsity and Adaptive Threshold for Undersampling SAR Imaging," IEEE Geosci. Remote Sens. Lett., vol. 21, pp. 1–5, 2024, doi: 10.1109/LGRS.2024.3452796.**

6. **S. Gao, M. Wang, Z. Zhang∗, B. Zhang, and Y. Wu, "Efficient gridless 2D DOA estimation based on generalized matrix-form atomic norm minimization," Electron. Lett., vol. 60, no. 10, p. e13212, May 2024, doi: 10.1049/ell2.13212.**.

7. **Y. Zhao, C. Ou, H. Tian, B. W.-K. Ling, Y. Tian, and Z. Zhang∗, "Sparse SAR Imaging Algorithm in Marine Environments Based on Memory-Augmented Deep Unfolding Network," Remote Sens., vol. 16, no. 7, p. 1289, Apr. 2024, doi: 10.3390/rs16071289**.

8. **S. Gao, W. Wang, M. Wang, Z. Zhang∗, Z. Yang, X. Qiu, B. Zhang, and Y. Wu, "A Robust Super-resolution Gridless Imaging Framework for UAV-borne SAR Tomography," IEEE Trans. Geosci. Remote Sens., vol. 62, pp. 1–17, 2024, doi: 10.1109/TGRS.2024.3393972.**.

9. **Z. Wang, Z. Wang, X. Qiu, and Z. Zhang∗, "Global Polarimetric Synthetic Aperture Radar Image Segmentation with Data Augmentation and Hybrid Architecture Model," Remote Sens., vol. 16, no. 2, p. 380, Jan. 2024, doi: 10.3390/rs16020380**.

10. **Y. Zhao, Q. Liu, H. Tian, B. W.-K. Ling, and Z. Zhang∗, "DeepRED Based Sparse SAR Imaging," Remote Sens., vol. 16, no. 2, p. 212, Jan. 2024, doi: 10.3390/rs16020212**.

11. **Y. Zhao, Q. Liu, H. Tian, M. Luo, B. W.-K. Ling, and Z. Zhang∗, "New convex approaches to general MVDR robust adaptive beamforming problems," Electron. Lett., vol. 59, no. 18, p. e12957, Sep. 2023, doi: 10.1049/ell2.12957**.

12. Y. Bai, J. Kang, X. Ding, A. Zhang, Z. Zhang, and N. Yokoya, "LaMIE: Large-Dimensional Multipass InSAR Phase Estimation for Distributed Scatterers," IEEE Trans. Geosci. Remote Sens., vol. 61, pp. 1–15, Nov. 2023, doi: 10.1109/TGRS.2023.3330971.

13. **D. Zhao, Z. Zhang∗, D. Lu, J. Kang, X. Qiu, and Y. Wu, "CVGG-Net: Ship Recognition for SAR Images Based on Complex-Valued Convolutional Neural Network," IEEE Geosci. Remote Sens. Lett., vol. 20, pp. 1–5, 2023, doi: 10.1109/LGRS.2023.3316133**.

14. **M. Shao, Z. Zhang∗, J. Li, J. Kang, and B. Zhang, "TADCG: A Novel Gridless Tomographic SAR Imaging Approach Based on the Alternate Descent Conditional Gradient Algorithm With Robustness and Efficiency," IEEE Trans. Geosci. Remote Sens., vol. 62, pp. 1–13, 2024, doi: 10.1109/TGRS.2023.3345454**.

15. **Y. Wu, Z. Zhang∗, X. Qiu, Y. Zhao, and W. Yu, "MF-JMoDL-Net: A Sparse SAR Imaging Network for Undersampling Pattern Design towards Suppressed Azimuth Ambiguity," IEEE Trans. Geosci. Remote Sens., vol. 62, pp. 1–18, 2024, doi: 10.1109/TGRS.2024.3397826.**.

16. G. Zhou, Z. Xu, Y. Fan, Z. Zhang, X. Qiu, B. Zhang, K. Fu∗ and Y. Wu, "HPHR-SAR-Net: Hyper-pixel High-resolution SAR Imaging Network Based on Nonlocal Total Variation," IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens., vol. 16, pp. 8595–8608, 2023, doi: 10.1109/JSTARS.2023.3295728.

17. **M. Wang, Z. Zhang∗, X. Qiu, S. Gao, and Y. Wang, "ATASI-Net: An Efficient Sparse Reconstruction Network for Tomographic SAR Imaging with Adaptive Threshold," IEEE Trans. Geosci. Remote Sens., vol. 61, pp. 1–18, 2023, doi: 10.1109/TGRS.2023.3268132**.

18. **R. Shi, Z. Zhang∗, X. Qiu, and C. Ding, "A Novel Gradient Descent Least-Squares (GDLSs) Algorithm for Efficient Gridless Line Spectrum Estimation With Applications in Tomographic SAR Imaging," IEEE Trans. Geosci. Remote Sens., vol. 61, pp. 1–13, 2023, doi: 10.1109/TGRS.2023.3273568**.

19. **J. Li, Z. Xu, Z. Li, Z. Zhang∗, B. Zhang, and Y. Wu, "An Unsupervised CNN-Based Multichannel Interferometric Phase Denoising Method Applied to TomoSAR Imaging," IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens., vol. 16, pp. 3784–3796, Jul. 2023, doi: 10.1109/JSTARS.2023.3263964**.

20. **Y. Zhao, Y. Chen, H. Tian, X. Quan, B. W.-K. Ling, and Z. Zhang∗, "Wide angle SAR imaging method based on hybrid representation," Electron. Lett., vol. 59, no. 15, p. e12897, Aug. 2023, doi: 10.1049/ell2.12897**.

21. **P. Jiang, Z. Zhang∗, B. Zhang, and Z. Xu, "A novel TomoSAR imaging method with few observations based on nested array," IET Radar, Sonar Navig., vol. 17, no. 6, pp. 925–938, Jun. 2023, doi: 10.1049/rsn2.12388**.

22. J. Kang∗, T. Ji, Z. Zhang, and R. Fernandez-Beltran, "SAR Time Series Despeckling via Nonlocal Matrix Decomposition in Logarithm Domain," Signal Processing, vol. 209, p. 109040, Aug. 2023, doi: 10.1016/j.sigpro.2023.109040.

23. **J. Kang∗, F. Tong, Y. Bai, T. Ji, and Z. Zhang∗, "SAR Time Series Despeckling and Component Analysis Method based on Matrix Decomposition," Journal of Radars, vol. 12, no. 5, pp. 1031–1043, Mar. 2023, doi: 10.12000/JR22242**, in Chinese.

24. X. Ding, J. Kang∗, Z. Zhang, Y. Huang, J. Liu, and N. Yokoya, "Coherence-Guided Complex Convolutional Sparse Coding for Interferometric Phase Restoration," IEEE Trans. Geosci. Remote Sens., vol. 60, pp. 1–14, 2022, doi: 10.1109/TGRS.2022.3228279.

25. Z. Zhu, J. Kang∗, T. Ji, Z. Zhang, and R. Fernandez-Beltran, "SAR Time-Series Despeckling via Nonlocal Total Variation Regularized Robust PCA," IEEE Geosci. Remote Sens. Lett., vol. 19, pp. 1–5, 2022, doi: 10.1109/LGRS.2022.3227187.

26. **Y. Zhao, W. Huang, X. Quan, W.-K. Ling, and Z. Zhang∗, "Data-driven sampling pattern design for sparse spotlight SAR imaging," Electron. Lett., vol. 58, no. 24, pp. 920–923, Nov. 2022, doi: 10.1049/ELL2.12650**.

27. **Z. Xu, B. Zhang, Z. Zhang∗, M. Wang, and Y. Wu, "Nonconvex-Nonlocal Total Variation Regularization Based Joint Feature-Enhanced Sparse SAR Imaging," IEEE Geosci. Remote Sens. Lett., vol. 19, pp. 1–1, 2022, doi: 10.1109/lgrs.2022.3222185**.

28. Z. Lyu, X. Qiu∗, Z. Zhang and C. Ding, "Error Analysis of Polarimetric Interferometric SAR under Different Processing Modes In Urban Areas,", Journal of Radars, 2022, doi: 10.12000/JR22059, in Chinese.

29. **Z. Xu, G. Zhou, B. Zhang, Z. Zhang∗ and Y. Wu, "Sparse Regularization Method Combining SVA for Feature Enhancement of SAR Images," Electronics Letters, Jun. 2022, doi: 10.1049/ell2.12509**.

30. **Y. Zhao, J. Xu, X. Quan, L. Cui and Z. Zhang∗, "L_1 Minimization with Perturbation for Off-grid Tomographic SAR Imaging," Journal of Radars, vol. 11, no. 1, pp. 52-61, 2022**, in Chinese.

31. B. Du, X. Qiu∗, Z. Zhang, B. Lei and C. Ding, "Tomographic SAR Imaging Method Based on Sparse and Low-rank Structures," Journal of Radars, vol. 11, no. 1, pp. 62-70, 2022, in Chinese.

32. **Z. Zhang∗, B. Zhang, C. Jiang, X. Liang, L. Chen, W. Hong and Y. Wu, "The First Airborne Experiment of Sparse Microwave Imaging: Prototype System Design and Result Analysis," Available: http://arxiv.org/abs/2110.10675**.

33. **Z. Zhang∗, Y. Wang, and Z. Tian, "Efficient Two-Dimensional Line Spectrum Estimation Based on Decoupled Atomic Norm Minimization," Signal Processing, Vol. 163, pp. 95-106, 2019**.

34. **Z. Zhang∗, B. Zhang, W. Hong and Y. Wu, "Accelerated Error Compensation Algorithm of Sparse Microwave Imaging with Combination of Map-drift and SAR Raw Data Simulator," Journal of Radars, vol. 5, no. 1, pp. 25-34, 2016**, in Chinese.

35. **B. Zhang, Z. Zhang∗, C. Jiang, Y. Zhao, W. Hong and Y. Wu, "System Design and First Airborne Experiment of Sparse Microwave Imaging Radar: Initial Results," Science China Information Sciences (Series F), vol. 58, no. 6, 2015**.

36. C. Jiang∗, Y. Zhao, Z. Zhang, B. Zhang, and W. Hong, "Azimuth Sampling Optimization Scheme for Sparse Microwave Imaging Based on Mutual Coherence Criterion," Journal of Electronics and Information Technology, vol. 37, no. 3, 2015.

37. Y. Wu, W. Hong, B. Zhang∗, C. Jiang, Z. Zhang and Y. Zhao, "Current Developments of Sparse Microwave Imaging," Journal of Radars, vol.3, no. 4, pp. 383–395, 2014, in Chinese.

38. C. Jiang∗, B. Zhang, J. Fang, Z. Zhang, W. Hong, Y. Wu and Z. Xu, "An efficient Lq regularization algorithm with range-azimuth decoupled for SAR imaging," Electronics Letters, vol. 50, no. 3, pp. 204–205, 2014.

39. **Z. Zhang∗, B. Zhang, C. Jiang, Y. Xiang, W. Hong, and Y. Wu, "Influence factors of sparse microwave imaging radar system performance: approaches to waveform design and platform motion analysis," Science China Information Sciences (Series F), vol. 55, no. 10, pp. 2301–2317, 2012**.

40. C. Jiang∗, B. Zhang, Z. Zhang, W. Hong, and Y. Wu, "Experimental results and analysis of sparse microwave imaging from spaceborne radar raw data," Science China Information Sciences (Series F), vol. 55, no. 8, pp. 1801–1815, 2012.

41. M. Xie∗, R. Qiao, Z. Pan, D. Li, Y. Qiao and Z. Zhang, "Realization of an Improved Absolute Error Inequality Algorithm on DM642," Microelectronics & Computer, vol. 27, no. 4, pp. 182-185, 2010, in Chinese.

42. T. Wang∗, R. Qiao, Z. Pan, D. Li, Y. Qiao, F. Gao and Z. Zhang, "Research and Application of Vector Quantization Algorithm Based on DM642", in Proceedings of 2008 TI DSP Contest, pp. 143–161, Publishing House of Electronics Industry, Beijing, 2008, in Chinese.

Keynotes / Invited Talks

1. **Z. Zhang∗, "无网格稀疏信号处理及其在微波成像中的应用", in 当稀疏信号处理技术遇见雷达研讨会, Nanjing, 2021,** ***invited***.

2. **Z. Zhang∗, "基于深度神经网络隐式约束的 SAR 微波视觉三维成像方法", in 第四届雷达未来大会雷达与微波视觉分论坛暨第四期雷达学报大讲堂, Xi'an, 2024, *invited*.**

3. **Z. Zhang∗, "基于微波视觉与多径利用的低空 SAR 城市三位建筑布局重构研究", in 第二届雷达与信号处理技术及应用研讨会, Nanjing, 2024, *invited*.**

Invited Peer-reviewed Conference Papers

1. **Z. Zhang∗, M. Jian, Z. Lu, H. Chen, S. James, C. Wang. and R. Gentile, "Embedded Micro Radar for Pedestrian Detection in Clutter", in IEEE International Radar Conference (RADAR 2020), 2020, *invited*.**

2. **Z. Zhang∗, B. Zhang, W. Hong, H. Bi and Y. Wu, "SAR Imaging of Moving Target in a Sparse Scene Based on Sparse Constraints: Preliminary Experiment Results," in 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2015), *invited*.**

3. **W. Hong, B. Zhang, Z. Zhang∗, C. Jiang, Y. Zhao and Y. Wu, "Radar Imaging with Sparse Constraint: Principle and Initial Experiment," in 10th European Conference on Synthetic Aperture Radar (EuSAR 2014), *invited*.**

Peer-reviewed Conference Papers

1. **Y. Wu, Z. Zhang∗, X. Qiu, Y. Zhao, W. Yu, and R. Song, "An efficient azimuth sampling design network for sparse SAR imaging," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 2994–2998. doi: 10.1049/icp.2024.1570.**

2. G. Zhou, Z. Xu, Y. Fan, Z. Zhang, B. Zhang∗, and Y. Wu, "Deep unfolding network for sparse SAR imaging based on compound regularization," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 3536–3540. doi: 10.1049/icp.2024.1673.

3. **Z. Wang, Z. Wang, X. Qiu, and Z. Zhang∗, "End-to-end global segmentation of PolSAR images with data augmentation," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 1816–1820. doi: 10.1049/icp.2024.1359.**

4. M. Wang, S. Gao, Z. Zhang, and X. Qiu∗, "An autofocus network for multi-channel phase errors with application to tomoSAR imaging," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 3045–3050. doi: 10.1049/icp.2024.1580.

5. **S. Gao, M. Wang, Z. Zhang∗, B. Zhang, and Y. Wu, "Gridless DOA estimation for automotive radars with various array geometries: the non-Vandermonde atomic soft thresholding approach," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 2068–2073. doi: 10.1049/icp.2024.1406.**

6. **M. Shao, C. Su, Z. Zhang∗, and B. Zhang, "The application of the alternate descent conditional gradient method in tomographic SAR off-grid imaging," in IET International Radar Conference (IRC 2023), Institution of Engineering and Technology, 2023, pp. 3259–3264. doi: 10.1049/icp.2024.1622.**

7. **M. Wang, S. Gao, Z. Zhang∗, and X. Qiu, "A Novel Multi-Channel Phase Error Estimation Method Based On Stochastic Optimization For Tomographic SAR Autofocusing," in IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Jul. 2023, pp. 7953–7956. doi: 10.1109/IGARSS52108.2023.102829**

8. T. Chen, Y. Meng, G. Zhou, Z. Zhang, B. Zhang, and Y. Wu, "An Improved Imaging Method for Highly-Squinted SAR Based on Hyper-Optimized ADMM," in IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Jul. 2023, pp. 4548–4551. doi: 10.1109/IGARSS52108.2023.10281842.

9. **P. Jiang, Z. Zhang∗, and B. Zhang, "Efficient Sparse MIMO SAR Imaging with Fast Iterative Method Based on Back Projection and Approximated Observation," in 2022 5th International Conference on Electronics and Electrical Engineering Technology (EEET), Dec. 2022, pp. 34–40. doi: 10.1109/EEET58130.2022.00014**.

10. **S. Gao, Z. Zhang∗, B. Zhang, and Y. Wu, "Gridless tomographic SAR imaging based on accelerated atomic norm minimization with efficiency," in International Conference on Radar Systems (RADAR 2022), 2022, pp. 48–53. doi: 10.1049/icp.2022.2290**.

11. **M. Wang, Z. Zhang∗, Y. Wang, S. Gao, and X. Qiu, "TomoSAR-ALISTA: Efficient TomoSAR imaging via deep unfolded network," in International Conference on Radar Systems (RADAR 2022), 2022, pp. 528–533. doi: 10.1049/icp.2023.1289**.

12. Z. Xu, G. Zhou, B. Zhang, Z. Zhang, and Y. Wu, "An Accurate Sparse SAR Imaging Method for Joint Feature Enhancement Based on Nonconvex-Nonlocal Total Variation Regularization," in 14th European Conference on Synthetic Aperture Radar (EUSAR 2022), 2022, pp. 576–581. [Online]. Available: https://ieeexplore.ieee.org/document/9944320.

13. M. Liu, J. Li, Z. Zhang, B. Zhang, and Y. Wu, "Azimuth Ambiguities Suppression for Multichannel SAR Imaging Based on L2,q Regularization: Initial Results of Non-sparse Scenario," in International Geoscience and Remote Sensing Symposium (IGARSS) 2021, 2021, pp. 3153–3156.

14. B. Du, Z. Zhang, X. Qiu, B. Lei, and C. Ding, "Multi-aspect Tomographic SAR Imaging Approach via Distributed Compressed Sensing and Joint Sparsity," in CIE Radar Conference 2021, 2021, pp. 2–5.

15. Z. Wang, X. Lin, X. Xiang, Z. Zhang, Z. Tian, K. Pham, E. Blasch and G. Chen, "A hidden chamber detector based on a MIMO SAR", in Proc. SPIE 11017, Sensors and Systems for Space Applications XII, 1101706, 2019.

16. P.Xu, Z. Tian, Z. Zhang and Y. Wang, "COKE: Communication-Censored Kernel Learning via random features", in the 2019 IEEE Data Science Workshop (DSW 2019), 2019.

17. **Z. Zhang, X. Chen and Z. Tian∗, "A Hybrid Neural Network Framework and Application to Radar Automatic Target Recognition", in the 6th IEEE Global Conference on Signal and Information Processing (GlobalSIP 2018), 2018**.

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