

张 柘 (Zhe Zhang)

研究员, 博士生导师, 国家“海外优青”
中科院“百人计划”, 江苏省“双创人才”, 苏州市“姑苏领军人才”
Professor, Ph.D. Supervisor

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Working Experience (工作经历)

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| 2023.01– | Lab Director Assistant (主任助理), Academic Leader (学术带头人) |
| 2022.04– | Professor (研究员), Ph.D Supervisor (博士生导师) |
| 2021.01–2022.04 | Associate Professor (副研究员, “百人计划” 创新研究员), 硕士生导师 Aerospace Information Research Institute, CAS 中国科学院空天信息创新研究院 , Beijing 100190, China Suzhou Aerospace Information Research Institute 苏州空天信息研究院 , Suzhou, Jiangsu 215000, China 研究方向: 稀疏信号处理, 稀疏微波成像, 合成孔径雷达, 三维成像, 深度学习与信号处理的结合, 机器学习. |
| 2016.12–2020.06 | Post-Doctoral Research Fellow (博士后研究员) George Mason University , Fairfax, VA 22030, USA Advisor: Tian, Zhi (田智), Professor, IEEE Fellow 研究方向: 稀疏信号处理, 原子范数优化, 深度学习与信号处理的结合. |
| 2015.12–2016.11 | Post-Doctoral Research Scientist (博士后研究员) George Washington University , Washington, DC 20052, USA Advisor: Tian, Zhi (田智), Professor, IEEE Fellow Cheng, Xiuzhen (成秀珍), Professor, IEEE Fellow 研究方向: 稀疏信号处理, 原子范数优化. |

Education (教育经历)

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| 2009.09–2015.07 | PH.D. (工学博士) / 信号与信息处理 Institute of Electronics, Chinese Academy of Sciences University of Chinese Academy of Sciences 中国科学院电子学研究所 / 中国科学院大学 , Beijing 100190, China Supervisor: 吴一戎, 中国科学院院士, 研究员 研究方向: 稀疏微波成像, 稀疏信号处理, 合成孔径雷达. |
| 2014.01–2014.04 | VISITING STUDENT (访问学生) University of Connecticut , Storrs, CT 06269, USA Supervisor: Zhou, Shengli (周胜利), Professor, IEEE Fellow. |

Education Cont. (教育经历)

2004.09–2008.07 | B. ENG. (工学学士) / 信息工程, 电子与信息工程学院
2003.09–2004.07 | SPECIAL CLASS FOR GIFTED YOUNG (少年班)
Xi'an Jiaotong University
西安交通大学, Xi'an, Shaanxi 710049, China.

Research Projects (研究经历)

2022.1– | 稀疏信号处理及其在微波成像中的应用研究, 300 万元
资助: 国家自然科学基金 (NSFC) 优秀青年科学基金 (海外)
项目主持人.

2021.1– | 稀疏信号处理与深度学习及其在微波成像中的应用, 400 万元
资助: 中国科学院 “百人计划”
项目主持人.

2021.12– | 微波三维成像的高效感知系统与技术的研发, 50 万元
资助: 苏州市科技发展项目, #ZXL2022381
项目主持人.

2023.1– | * * * * * SAR 成像处理与信息提取, 200 万元
资助: 中国科学院 * * * * * 重点部署项目
课题负责人.

2021.7– | 结构信号的自适应高效感知理论及在微波成像中的应用, 130 万元
资助: 中科院空天院前沿科学与颠覆性先导专项
项目主持人.

2023.1– | * * * * * 星载 SAR 系统技术, 1.06 亿元
资助: KJW * * * * 创新特区重点项目
项目核心参与人, 处理系统负责人.

2023.1– | 街角盲区建筑布局重建机理与方法, 500 万元
资助: KJW * * * * 基础加强课题
子课题负责人.

2020.1– | 合成孔径雷达微波视觉三维成像理论与应用基础研究, 2000 万元
资助: 国家自然科学基金 (NSFC) 重大项目, #61991421, 61991420
子课题负责人.

2018.8–2018.11 | A Gated LFM CW TDMA MIMO SAR based Hidden Chamber Detector, 15 万美元
资助: USSOCOM SBIR, #S173-004-0118
信号处理及仿真负责人.

2015.12–2020.6 | Task-Cognizant Sparse Sensing for Inference, 40 万美元
资助: National Science Foundation (NSF) Standard Grant, #1527396
参与.

Research Projects Cont. (研究经历)

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| 2010.04–2015.07 | 稀疏微波成像的理论、体制和方法研究, 3300 万元 资助: 国家重大基础科学研究计划 (973 计划), #2010CB731900 机载部分负责人. |
| 2012.04–2015.07 | 先进微波探测与信息处理, 430 万元 资助: 中国科学院 / 国家外国专家局 “创新团队” 合作伙伴计划 核心参与人. |

Honors (荣誉)

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| 2022.01 | 国家优秀青年基金 (海外) / 国家自然科学基金委员会 (NSFC) |
| 2021.01 | 中国科学院 “百人计划” / 中国科学院 |
| 2021.12 | 苏州市 “姑苏领军人才” / 苏州市 |
| 2022.12 | 江苏省 “双创人才” / 江苏省 |
| 2022 | 中国科学院 “青年交叉团队” 成员 / 中国科学院 |

Awards (获奖)

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| 2022.03 | 全国颠覆性技术创新大赛 / 中华人民共和国科技部 总决赛优秀奖 |
| 2021.12 | 优胜奖 |
| 2021.12 | 优秀奖 |
| 2008.04 | 德州仪器 (TI) DSP 大奖赛 / <i>Texas Instruments</i> 优胜奖 |
| 2008.02 | 美国大学生数学建模竞赛 / <i>COMAP</i> <i>Meritorious</i> (一等奖) |
| 2007.02 | <i>Honorable Mentioned</i> (二等奖) |
| 2006.09 | 中国大学生数学建模竞赛 / 中国工业与应用数学学会 (<i>CSIAM</i>) 二等奖 |

Professional Skills (专业技能)

- 专业方向: 深度学习/AI, 机器学习与信号处理方法的结合, 稀疏信号处理与低秩优化, 合成孔径雷达.
- 专业技能: 大型在线社区开发、运营与维护, Linux 运维, GNU 工具链, \LaTeX .
MATLAB, C/C++/Python/JavaScript.

Languages (语言)

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

Hobbies (兴趣)

IT, 开源, 编程, Linux, 数码, 互联网.
音乐, 动漫, 历史, 常旅客.

Open Source Projects and Services (主持开源项目)

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| 2006.04–2015.11 | 兵马俑 BBS (http://bbs.xjtu.edu.cn/ , http://bmybbs.com/) Host: https://github.com/bmybbs?type=source <i>Technical Leader</i> 兵马俑 BBS 是中国教育网最大的 BBS 站点之一, 属于西安交通大学. 兵马俑 BBS 服务 50000 多名用户, 同时在线数最高 5000. 项目代码超过 10 万行. |
| 2010.06–2019.04 | 科苑星空 BBS (http://bbsucas.ac.cn/ , http://kyxk.net/) <i>Technical Leader</i> 科苑星空 BBS 是中国科学院的官方社区. 科苑星空 BBS 服务 30000 多名用户, 同时在线数最高 1500. 项目代码超过 12 万行. |
| 2018.09– | hCNN (https://github.com/pzhg/hCNN) <i>Principle Developer</i> hCNN 是一个开源的、深度学习与信号处理结合的开发框架, 可方便的进行深度学习开发与训练, 并与传统信号处理方法兼容. |

Services (学术服务)

Professional Society Membership and Services (学术组织与服务)

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| 2023.09– | Qian Xuesen Honors College, Xi'an Jiaotong University (西安交通大学, 钱学森学院) <i>Adjunct Professor (兼职教授)</i> |
| 2021.07– 2021.11– | Xi'an Jiaotong-Liverpool University (西交利物浦大学) <i>External Mentor (校外导师)</i> <i>Pilotage Mentor (领航导师)</i> |
| 2016.01– 2010.01–2015.12 | IEEE <i>Member</i> <i>Student Member</i> |
| 2021.04– | CIE (中国电子学会) <i>Member (会员)</i> |
| 2020.11– | JSAAI (江苏省人工智能学会) <i>Member (会员)</i> |

Journal Reviewers (期刊审稿人)

- *IEEE Transactions on Signal Processing Journal*, SCI.
- *IEEE Transactions on Geoscience 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.
- 雷达学报 Journal, EI.

Organizing Committee Member and Technical Program Chair (学术会议组委会成员及学术主席)

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

Session Chair (学术会议分会场主席)

- 2023 IET International Radar Conference, Chongqing, China, Dec 3-5, 2023.

TPC Member / Reviewer (学术会议学术委员会成员 / 审稿人)

2023 | EECSI 2023, iSemantic 2023, SIRS 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, 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.*, accepted.

2. 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.*, under review.
3. Z. Wang, Z. Wang, X. Qiu, J. Kang, and Z. Zhang*, "A Study on SAR High Dimensional Feature Extension Method Based on Full Polarization Transformation and Its Application in Fine Classification of Crops," *Journal of Radars*, *under review*, in Chinese.
4. 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.*, accepted.
5. 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.*, *under review*.
6. Y. Wu, Z. Zhang*, X. Qiu, Y. Zhao and W. Yu, "MF-JMoDL-Net: A Deep Network for Azimuth Undersampling Pattern Design and Ambiguity Suppression for Sparse SAR Imaging", *IEEE Trans. Geosci. Remote Sens.*, *under review*.
7. G. Zhou, Z. Xu, Y. Fan, Z. Zhang, X. Qiu, B. Zhang, K. Fu* and Y. Wu, "HPHR-SAR-Net: Superpixel High-resolution SAR Imaging Network Based on Nonlocal Total Variation," *IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens.*, accepted.
8. S. Gao, Z. Zhang*, M. Wang, Y. Zhang, J. Zhao, B. Zhang, Y. Wang and Y. Wu, "Gridless Single Snapshot Super-resolution DoA Estimation Method for Non-uniform Linear Arrays in Automotive Radars with Efficiency," *IEEE Trans. Vehicular Tech.*, *under review*.
9. 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.
10. 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.
11. 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.
12. 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..
13. 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.
14. 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.

15. 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*, *accepted*, in Chinese.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. 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>.
25. 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.
26. 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.
27. 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.
28. 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.

29. 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.
30. 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.
31. **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.
32. 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.
33. 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.
34. 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*.

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. 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.

2. 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.
3. 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.
4. 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>.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Z. Zhang and Z. Tian*, "ANM-PhaseLift: Structured Line Spectrum Estimation from Quadratic Measurements", in *7th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2017)*, 2017.
11. Z. Tian, Z. Zhang* and Y. Wang, "Low-complexity optimization for Two-Dimensional Direction-of-arrival Estimation via Decoupled Atomic Norm Minimization", in *42th International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2017)*, 2017.
12. Z. Zhang*, Z. Tian, B. Zhang, W. Hong, W. Hong and L. Li, "Multi-channel SAR Covariance Matrix Estimation Based on Compressive Covariance Sensing", in *4th International Workshop on Compressive Sensing Theory and its Applications to Radar, Sonar and Remote Sensing (CoSeRa 2016)*, 2016.
13. C. Jiang*, Y. Lin, Z. Zhang, B. Zhang and W. Hong, "WASAR Imaging based on message passing with structured sparse constraint: approach and experiment", in *3th International Workshop on Compressive Sensing Theory and its Applications to Radar, Sonar and Remote Sensing (CoSeRa 2015)*, 2015.
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15. X. Quan*, Z. Zhang, C. Jiang, B. Zhang and Y. Wu, "Comparison of Several Sparse Reconstruction Algorithms in SAR Imaging," in IET International Radar Conference 2015, 2015.
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