Curriculum Vitae

Guobing Zeng

Ph.D. candidate
School of Electronic and Information Engineering
Beijing University of Aeronautics and Astronautics

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Research interests

My research interests focus on bio- and geo-physical parameters inversion using multipolarimetric multibaseline Synthetic Aperture Radar (SAR) data, including:

- Earth surface deformation, digital elevation model (DEM).
- Forest canopy height model (CHM), forest underlying digital terrain model (CHM) and aboveground biomass (AGB).
- I also developed an open source InSAR tool library using C++, which can process many spaceborne SAR datasets including Sentinel-1, TerraSAR-X/TanDEM-X, ALOS-2, etc. (Link to the library)

Education

Centre d'Etudes Spatiales de la Biosphère (CESBIO), Toulouse, France — October 2024 – Present
Visiting Ph.D.
Advisor: Prof. Laurent Ferro-Famil

Beijing University of Aeronautics and Astronautics, Beijing, China — September 2019 – Present
Ph.D., School of Electronic and Information Engineering
Advisor: Prof. Huaping Xu

Beijing University of Aeronautics and Astronautics, Beijing, China — September 2015 – June 2019
B.E., School of Energy and Power Engineering
Advisor: Prof. Lin Du

Selected publications

[1] **G. Zeng**, H. Xu, Y. Wang and W. Liu. A Novel Method for Airborne SAR Tomography Baseline Error Correction Driven by Small Baseline Interferometric Phase. *IEEE Transactions on Geoscience and Remote Sensing*. doi: 10.1109/TGRS.2024.3478055
[2] **G. Zeng**, H. Xu, Y. Wang, S. Li and C. Ren. A Modified Minimum Cost Flow Phase Unwrapping Method Based on Reliable Pixel Detection. *IEEE Sensors Journal*. doi: 10.1109/JSEN.2024.3450508
[3] **G. Zeng**, H. Xu, Y. Wang, W. Liu, A. Liu and L. Yi. Separation of Ground and Volume Scattering in Multibaseline Polarimetric SAR Data and Its Application in DTM and CHM Inversion. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-13, 2023, Art no. 5202913. doi: 10.1109/TGRS.2024.3430382

[4] **G. Zeng**, H. Xu, W. Liu, A. Liu and Y. Wang. An MLE of Interferometric Coherence Matrix and Its Applications in Multipolarimetric Interferometric Phase Optimization and Phase Series Estimation. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, doi: 10.1109/JSTARS.2023.3327196

[5] H. Xu, **G. Zeng**, W. Liu and Y. Wang. MLE-MPPL: A Maximum Likelihood Estimator for Multipolarimetric Phase Linking in MTInSAR. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-13, 2023, Art no. 5202913. doi: 10.1109/TGRS.2023.3243220 / Code.

[6] **G. Zeng**, B. Yang, H. Xu, C. Ren and Y. Wang. A differential SAR Tomography inversion method based on Distributed Compressive Sensing. *2021 CIE International Conference on Radar (Radar)*, Haikou, Hainan, China, 2021, pp. 740-744. doi: 10.1109/Radar53847.2021.10028429.

[7] **G. Zeng**, H. Xu, Y. Wang and W. Li. P-Band Airborne SAR Tomography Baseline Error Correction Driven by Small Baseline Subset Interferometric Network. *IGARSS 2024 - 2024 IEEE International Geoscience and Remote Sensing Symposium*, Athens, Greece, 2024, pp. 11367-11370. doi: 10.1109/IGARSS53475.2024.10641795

Invited talks

- Title: Multi-polarimetric phase-linking and InSAR data processing
  Time: September 19, 2024

  Invited by Prof. Jianbao Sun

Awards

- China National Scholarship for Ph.D. Students.
- State Scholarship Fund, China Scholarship Council.
- Academic Excellence Foundation of BUAA for Ph.D. Students.
- China Association for Science and Technology's Young Talents Project for Ph.D. Students.