



CALL FOR PAPERS
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
“Learning Algorithms and Frameworks for SAR/InSAR Signal Processing and Applications”

Synthetic Aperture Radar (SAR) and Synthetic Aperture Radar Interferometry (InSAR) are primarily utilized in Remote Sensing applications and have created a new class of radar data that has significantly evolved over the last couple of decades. The recent, more and more SAR/InSAR missions (e.g., Advanced Land Observing Satellite 2 SAR satellites and the near-future Surface Water and Ocean Topography mission) have been completed, are in progress, or will be launched soon. It is fair to say that, from its initial development, SAR and InSAR have become the increasingly mature microwave remote sensing tools for Earth observations, which can now provide crucial constraints on a broad and diverse range of Earth science processes.

In the past, SAR/InSAR signal and information processing mainly relied on the “physical model” or “statistical model”. However, the deep learning technique and a flood of valuable data coming from different SAR/InSAR sensors open the possibility to enable the learning-based “data model” outside of the traditional ones, which will act as a new discovery agent to investigate and explore previously intractable or inaccessible problems. This Special Issue aims to invite contributions on the latest developments and advances of the learning algorithms and frameworks on SAR/InSAR signal processing and applications.

The broad topics include (but are not limited to):

- Novel theoretical insights of learning algorithms and models of SAR/InSAR dataset for Earth remote sensing (supervised/weakly-supervised/unsupervised/reinforcement).
- Learning architectures for large-scale SAR/InSAR time series data analysis, e.g., surface deformation detection.
- Fusion framework of the datasets from disparate SAR/InSAR systems.
- Learning frameworks for the novel SAR/InSAR model (e.g., Circular SAR, TomoSAR and Non-ill-posed SAR interferometry) signal/information processing, analysis and representation.
- Comparative studies of existing learning approaches of SAR/InSAR datasets.
- Novel SAR/InSAR data utilization from learning models for Earth remote sensing, e.g., weak target detection and unmixing.

Schedule

Jan 31, 2021: Submission system opening

~~Jun 30, 2021:~~ Submission system closing

New submission closing: Oct 30, 2021

Format

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on <http://mc.manuscriptcentral.com/jstars>, using the Manuscript Central interface and select the “**SAR/InSAR Signal Processing and Applications**” special issue manuscript type. Prospective authors should consult the site <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit http://www.ieee.org/publications_standards/publications/authors/author_templates.html to download a template for transactions. Please note that as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

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