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**IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**  
**Special Issue on**  
**“Synthetic Aperture Radar (SAR) Technology: Innovations and Cutting-Edge Trends”**

As an active microwave remote sensing system, Synthetic Aperture Radar (SAR) has emerged as an essential sensor for Earth observation due to its all-weather, day-and-night imaging capabilities. By transmitting coherent pulse sequences and processing phase information from echo signals, SAR overcomes the resolution limitations of conventional radar systems, enabling high-precision two-dimensional scene reconstruction. The rapid development of SAR technology is driven by a wide range of applications. Fields such as environmental monitoring, disaster emergency response, and national security are placing increasingly higher demands on observation timeliness, accuracy, and information dimensionality. Moreover, requirements including multi-band fusion, full-polarization transceivers, and multi-baseline configurations, have spurred the need for hardware innovations,

This Special Issue centers on the innovations and cutting-edge trends while providing a platform for researchers and practitioners to share their latest findings, methodologies, and technologies related to super-resolution imaging, algorithmic breakthroughs, interesting applications, and system-level innovations. The broad topics include (but are not limited to):

- Multi-physics-coupled radar system design
- Super-resolution SAR imaging technology
- SAR/InSAR signal processing and applications
- Biomass quantification based on PolInSAR
- Other related topics

**Schedule**

01 Apr 2025 Submission system opening

31 Dec 2025 Submission system closing

**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 “**Synthetic Aperture Radar (SAR) Technology: Innovations and Cutting-Edge Trends**” 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](http://www.ieee.org/publications_standards/publications/authors/author_templates.html) to download a template for transactions. Please note that since Jan. 1, 2025, as a fully open-access journal, IEEE J-STARS charges a flat publication fee \$1,800 per paper.

**Guest Editors**

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