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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
“Ultra-high-resolution SAR -Novel Missions, Techniques, Methods, and Applications”

After decades of development, synthetic aperture radar (SAR) has been widely used in remote sensing, geosciences, reconnaissance, surveillance applications, and other fields, and has played an important role. Improving the resolution of SAR systems, both in the military and civilian fields, is one of the most direct and effective technical means of improving Earth observation capabilities. A higher resolution indicates more detail of the target in the image, which is more conducive to the detection and recognition of the target.

So far, with microwave photonic SAR as a typical representative, the signal bandwidth emitted by a single sub-band can reach more than 10 GHz, and the resolution has been increased to the order of centimeters or even millimeters, which will greatly improve the information acquisition capability of the SAR system for Earth observation. However, the significant improvement of resolution has also brought severe challenges to the design of SAR systems, high-precision imaging processing, real-time imaging processing, image processing applications, etc., such as the contradiction between high resolution and wide-swath, the bending problem of satellite orbits, poor imaging real-time, and image recognition difficulties caused by massive data. These are the frontiers and challenges that researchers are currently working on. Therefore, we recommend setting up a Special Issue in the IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) to publish the latest research on Ultra-high-resolution SAR -Novel Missions, Techniques, Methods, and Application.

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

- Current and future ultra-high-resolution SAR systems and missions
- Innovative concepts, techniques, and modes
- High-precision imaging methods for ultra-high-resolution SAR
- Real-time imaging methods for ultra-high-resolution SAR
- Microwave photons SAR imaging and its applications
- Remote Sensing for ultra-high-resolution SAR image
- Other related topics

Schedule

Feb. 1, 2023, Submission system opening

July. 30, 2023, 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 “**Ultra-high-resolution SAR -Novel Missions, Techniques, Methods, 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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