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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing Special Issue on "Marine Target and Image Interpretation based on Ocean Remote Sensing Technique"

Ocean remote sensing is a pivotal topic for the scientific and operational community and marine target observation and image interpretation are two key applications benefitting from remotely sensed measurements. The "interpretation" is a wide concept that includes detection, imaging and recognition, etc., as well as the integrated processing of the above techniques, whose advancement are expected to contribute significantly to the improvement of both theory and practical applications. In the past decades, significantly increased literatures can be found on the relative research of oceanic target/image interpretation and resolution enhancement through advanced remote sensing techniques, such as Synthetic Aperture Radar (SAR), Synthetic Aperture Sonar (SAS), as well as other effective approaches. These studies have contributed to a better understanding of target and image interpretation using ocean remote sensing technologies.

Within this context, the enhanced imaging abilities provided by synthetic aperture techniques (i.e., the synthetic aperture radar (SAR) and the synthetic aperture sonar (SAS)) facilitates easier classification and observation of multiple targets of interest. Additionally, the developments of algorithms that can achieve higher detection probability via remote sensing mediums have proven valuable for target finding in various scenarios. Furthermore, the manipulation of carefully designed waveform properties provides the re-distribution of sidelobes, offering new methods for the suppression of sidelobes, enhancement of detection performance and further developments in this area. Unlike traditional scenarios, the strong sea clutter conditions and the reverberation make target and image interpretation very challenging. This means that there is still room for improvements both in the comprehension of physical scattering phenomena and in the development of new and effective algorithms.

The aim of this special issue is to collect and promote advanced ocean remote sensing approaches for marine target/image interpretation, including but not limited to the aforementioned aspects, which will achieve a deeper understanding of the new remote sensing theory as well as application requirement, and demonstrate a guideline to solve future problems. The special issue would attract numbers of manuscripts interested in ocean remote sensing methods, as well as applications of remote sensing images.

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

- Novel marine target/image interpretation concept and techniques
- SAR/SAS imaging for ocean remote sensing
- Denoising and normalization of ocean remote sensing images
- Machine learning for ocean remote sensing
- Advanced array signal processing for ocean remote sensing
- Waveform design for ocean remote sensing system

Schedule

Oct. 1, 2025 Submission system opening
April 30, 2026 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 "**Marine Target and Image Interpretation based on Ocean Remote Sensing Technique**" 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 since Jan. 1, 2024, IEEE J-STARS, as a fully open-access journal, is charging a flat publication fee $1,800 per paper.

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