CALL FOR PAPERS

IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing Special Issue on "Advances in Hyperspectral Image Processing and Interpretation: Foundations, Models, and Applications"

Hyperspectral imagery provides rich spectral and spatial information, offering significant potential for fine-grained image interpretation and a wide range of applications. However, challenges such as high-dimensional data, limited labeled samples, complex spectral–spatial relationships, and substantial domain discrepancies across sensors and scenes continue to hinder its effective analysis and generalization. Recent advances in deep learning have created new opportunities to address these challenges through multi-source and multimodal data processing, cross-domain learning, self-supervised learning, and vision–language foundation models.

This Special Issue aims to bring together recent advances in hyperspectral image processing, intelligent interpretation, and practical applications. Topics of interest include multi-source and multimodal remote sensing data processing involving hyperspectral imagery, cross-domain hyperspectral image interpretation, advanced learning paradigms, vision–language and foundation models, as well as hyperspectral image target detection, anomaly detection, change detection, classification, and temporal analysis. Applications in Earth observation, agriculture, environmental monitoring, and biomedical imaging are also encouraged.

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

- Processing of multi-source and multimodal remote sensing data, which must include hyperspectral imagery
- Cross-domain hyperspectral image interpretation, such as domain adaptation and domain generalization for hyperspectral image classification
- Vision–language models and foundation models for hyperspectral imagery
- Hyperspectral image target detection, anomaly detection, change detection, classification, and temporal analysis
- Applications of hyperspectral imagery in Earth observation, agriculture, environmental monitoring, and biomedical imaging

Schedule

Dec. 01, 2026 Submission system opening
Sep. 30, 2027 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 "Advances in Hyperspectral Image Processing and Interpretation: Foundations, Models, 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 since Jan. 1, 2025, IEEE J-STARS, as a fully open-access journal, is charging a flat publication fee $1,800 per paper.

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