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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on "Hyperspectral AI"

Hyperspectral remote sensing is the forefront of quantitative and precision optical remote sensing. In recent years, a large number of hyperspectral satellites have been launched, such as the following table.

Satellite Name	Country	Launch Year	Number of Bands	Spectral Range	Spatial Resolution	Swath Width
Gaofen-5	China	2018	330	0.4-2.5 μm	30 m	60 km
Zhuhai-1 OHS	China	2018	32	0.4-1.0 μm	10 m	150 km
HySIS	India	2018	55	0.4-0.95 μm	30 m	30 km
DESIS	Germany	2018	235	0.4-1.0 μm	30 m	30 km
PRISMA	Italy	2019	239	0.4-2.5 μm	30 m	30 km
HISUI	Japan	2019	185	0.4-2.5 μm	20m / 30m	20 km
EnMAP	Germany	2022	242	0.42-2.45 μm	30 m	30 km
EMIT	USA	2022	285	0.38-2.5 μm	60 m	75 km
Geology-1	China	2025	26	0.4-2.4μm	14 m / 30 m	43 km /30 km

With the era of hyperspectral remote sensing, this special issue focuses on NEW satellite hyperspectral data interpretation, including advanced algorithms and applications. Integrating hyperspectral images with other sensor data are also of great interest. We look forward to the potential of artificial intelligence to stimulate the spatial-spectral information of hyperspectral images and promote the development of quantitative and precision remote sensing.

Require the use of the above-mentioned satellite data as the main source, and collaborate with other remote sensing data to carry out theoretical and methodological innovation and technological applications. The broad topics include (but are not limited to):

- AI-driven techniques for hyperspectral remote sensing, such as algorithms, architectures, and applications.
- New deep learning architectures for hyperspectral image classification, semantic segmentation, object detection, and object tracking and so on.
- AI-driven data compression and dimensionality reduction in hyperspectral data.
- Design of hyperspectral foundation model.
- Hyperspectral AI for precision agriculture and environmental monitoring.
- Multimodal fusion of hyperspectral and other remote sensing data via AI.

Schedule

December 1, 2025	Submission system opening
July 31, 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 "**Hyperspectral AI**" 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 of $1,800 per paper.

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