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**IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**  
**Special Issue on**  
**“Advances in Satellite Image Quality Enhancement with Deep Learning Techniques”**

Image quality enhancement of a remote sensing image is an important quality measure and a leading indicator of a country's aeronautical capabilities. Super-resolution and fusion reconstruction in satellite image quality enhancement are the most active research areas in the field of remote sensing. They play a significant role in geospatial object detection, remote sensing monitoring, and image visual effect enhancement. Satellite image quality enhancement has been evolving for diverse Earth observation (EO) satellites, e.g., Landsat, Sentinel, Fengyun, and GaoFen series, as remote sensing technology and equipment improve. This diverse data can improve the recognition abilities of geospatial objects. However, the object in the image varies from a few pixels to dozens of pixels due to the complexity of the imaging scene and lengthy imaging distance, so the resolution assigned to a single spatial object is still difficult to render clearly, especially for the small object images, which often results in poor super-resolution performance. Furthermore, regarding implementing deep learning-based super resolution networks, the quality and quantity of available high- and low-resolution samples, as well as training remote sensing images, are all important considerations. These restrictions severely hamper the performance of satellite image quality enhancement systems. Therefore, satellite image quality enhancement in the presence of complicated backgrounds, especially for Landsat, Sentinel, Fengyun, and GaoFen series remote sensing images, remains a challenging mission. Even deep learning methods with strong feature extraction have limited performance and are still far from meeting practical demands. As a result, this special issue aims at promoting recent advances in applications that contribute to Landsat, Sentinel, Fengyun, and GaoFen series image quality enhancement.

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

- New models and algorithms for Landsat, Sentinel, Fengyun, and GaoFen series remote sensing image processing and representation
- Multi-source image quality enhancement for Landsat, Sentinel, Fengyun, and GaoFen series remote sensing images
- Single-frame Landsat, Sentinel, Fengyun, and GaoFen series remote sensing images super-resolution and fusion reconstruction
- Multi-frame Landsat, Sentinel, Fengyun, and GaoFen series remote sensing images super-resolution and fusion reconstruction
- Multi-modal or multi-spectrum feature fusion and reconstruction for Landsat, Sentinel, Fengyun, and GaoFen series remote sensing images
- Novel applicational case studies with super-resolution reconstruction datasets

#### **Schedule**

June 1, 2023 Submission system opening  
Jan. 31, 2024 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 Satellite Image Quality Enhancement with Deep Learning Techniques**” 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 as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

#### **Guest Editors**

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