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IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing

Special Issue on "Multi-resolution and Multi-platform Remote Sensing Image Fusion"

Recent advances in sensor and aircraft technologies allow us to acquire huge amounts of remote sensing data, benefiting the Earth observation. Diverse information of Earth's surface can be derived from data acquired by multiple sources. Multi- and hyper- spectral images can reveal the material composition, panchromatic images can reach fine spatial resolutions, synthetic aperture radar (SAR) data can be used to map different properties of the terrain, while laser imaging detection and ranging (LIDAR) data provides the elevation of the observed objects.

Unfortunately, the use of a single data source is not always enough to reach proper spectral and spatial resolutions. Thus, multiple source data, acquired by sensors on board of different platforms, should be combined. Multi-resolution data fusion has received enormous attention in a wide variety of applications as it combines the advantages of the data acquired from different sensors, often on board of different platforms. The main advantage of using multi-resolution remote sensing data is to exploit complementary properties to improve each data considered separately. Hence, the analysis of the acquired scene (classification, target detection, geological mapping, etc.) can be improved.

While there have been considerable attempts in the related literature, many technical challenges are left open. Besides, with the emergency of new platforms and modalities, new methodologies and applications for multi-platform and multi-modal data fusion need to be developed. The objective of this special issue is to provide a forum for academic and industrial communities to report recent theoretical and application results related to multi-resolution, multi-platform and multi-modal fusion of remotely sensed images from the perspectives of theories, algorithms, architectures, and applications.

The broad topics include (but are not limited to):
- Pansharpening
- Hyperspectral pansharpening
- Multispectral and hyperspectral image fusion
- Thermal sharpening
- Optical and SAR image fusion
- Optical and LIDAR image fusion (e.g., hyperspectral and LIDAR image fusion)
- Multi-platform image fusion
- Machine learning approaches for image sharpening
- Novel benchmark multi-resolution datasets
- Novel benchmark multi-platform datasets
- Novel benchmark multi-modal datasets
- Novel applications based on multi-platform and/or multi-resolution and/or multi-modal datasets

Schedule
January 1, 2021 Submission system opening
July 31, 2021   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 "**Multi-resolution and Multi-platform Remote Sensing Image Fusion**" 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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