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Editorial

Recent Advances in Synthetic Aperture Radar Data Processing and Application

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Spaceborne synthetic aperture Radar (SAR) sensors have been intensively applied to map, monitor, and analyze the Earth: new operational modes increase the flexibility of SAR sensors that are now able to obtain microwave 2D images as well as 3D interferometry products within a wide range of space and time resolution and coverage. However, the SAR data processing is challenging due to the changing properties of targets (such as vehicles, ships, and buildings) and terrains for the electromagnetic waves with various bands, views, polarimetric modes, and configurations. Hence, the definition of new techniques and algorithms for SAR data usage as well as assessment of existing methods for SAR products exploitation is required. Main purpose of this special issue is to provide an international forum for the researchers, as well as to advance the exploitation of their data for monitoring applications.

This special issue received twenty-two submissions, of which ten of outstanding quality were selected for publication. Among the topics covered by these contributions, the readers will find original and innovative results in image understanding included in the papers entitled "*Road extraction from high-resolution SAR images via automatic local detecting and human-guided global tracking*," "*Ship detection in high-resolution dual polarization SAR amplitude images*," "*Characterizing the statistical properties of SAR clutter by using an empirical distribution*," "*Modeling multilook magnitude and phase in extremely heterogeneous clutter*," and "*junction point detection algorithm for SAR image*".

The Guest Editors wish to thank the authors for their contributions and offer this special issue to the SAR community in the hope that it constitutes a valuable venue for advances in the knowledge of this important area.

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