

Call for papers

**ISPRS Journal of Photogrammetry and Remote Sensing – Theme Issue  
“Innovative Applications of SAR Interferometry from modern Satellite Sensors”**

**Guest Editors:**

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SAR Interferometry is a key technology of radar remote sensing. Based on the differential phase of two or more SAR images it is possible to derive digital elevation models (DEM) or to detect and monitor surface deformation. In recent years high-resolution SAR satellite sensors became operational such as TerraSAR-X or COSMO-Skymed. Furthermore, in June 2010 TanDEM-X was launched, the sister satellite of TerraSAR-X. Both devices currently perform systematic bi-static mapping of Earth for the period of three years. From this data a high-quality global DEM shall be derived by means of SAR Interferometry.

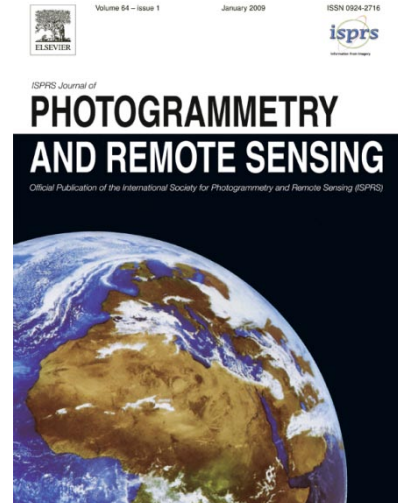
SAR Interferometry based on repeat-pass SAR data may suffer from temporal decorrelation and changing atmospheric conditions. In particular for urban areas, those problems can be solved to large extent by application of advanced techniques which exploit time-series of high-resolution SAR data. For example, multi-baseline SAR Interferometry enables to estimate the position of strong urban scatterers with higher accuracy, Persistent Scatterer Interferometry is useful for surface deformation monitoring, and SAR Tomography is capable to resolve several individual scattering objects inside the same range/azimuth resolution cell which are located at different positions in elevation direction.

In recent years the foundations in terms of theory and data processing have been laid. However, we still see a gap to be bridged between theory and practice. Therefore, the focus of this special issue is on innovative applications in the field of SAR Interferometry from high-resolution satellite data, more specifically:

- DEM extraction and validation from repeat-pass SAR data
- DEM extraction and validation from TanDEM-X
- Comparison of DEM derived by SAR Interferometry and Radargrammetry
- Differential Interferometry and Persistent Scatterer Interferometry
- SAR Tomography
- 3D object recognition
- Data fusion

Papers must be original contributions, not previously published or submitted to other journals. Papers published or submitted for publication in conference proceedings may be considered provided that they are considerably extended and improved. Substantive research and relevant-for-practice papers will be preferred. Papers must follow the instructions for authors at <http://www.itc.nl/isprsjournal>.

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