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Nota di contenuto	Cover -- Half-Title Page -- Title Page -- Copyright Page -- Contents -- Preface -- List of Notations -- Chapter 1. Unsupervised Change Detection in Multitemporal Remote Sensing Images -- 1.1. Introduction -- 1.2. Unsupervised change detection in multispectral images -- 1.2.1. Related concepts -- 1.2.2. Open issues and challenges -- 1.2.3. Spectral-spatial unsupervised CD techniques -- 1.3. Unsupervised multiclass change detection approaches based on modeling spectral-spatial information -- 1.3.1. Sequential spectral change vector analysis (S2CVA) -- 1.3.2. Multiscale morphological compressed change vector analysis -- 1.3.3. Superpixel-level compressed change vector analysis -- 1.4. Dataset description and experimental setup -- 1.4.1. Dataset description -- 1.4.2. Experimental setup -- 1.5. Results and discussion -- 1.5.1. Results on the Xuzhou dataset -- 1.5.2. Results on the Indonesia tsunami dataset -- 1.6. Conclusion -- 1.7. Acknowledgements -- 1.8. References -- Chapter 2. Change Detection in Time Series of Polarimetric SAR Images -- 2.1. Introduction -- 2.1.1. The problem -- 2.1.2. Important concepts illustrated by means of the gamma distribution -- 2.2. Test theory and matrix ordering -- 2.2.1. Test for equality of two complex Wishart distributions -- 2.2.2. Test for equality of k-complex Wishart distributions -- 2.2.3. The block

diagonal case -- 2.2.4. The Loewner order -- 2.3. The basic change detection algorithm -- 2.4. Applications -- 2.4.1. Visualizing changes -- 2.4.2. Fieldwise change detection -- 2.4.3. Directional changes using the Loewner ordering -- 2.4.4. Software availability -- 2.5. References -- Chapter 3. An Overview of Covariance-based Change Detection Methodologies in Multivariate SAR Image Time Series -- 3.1. Introduction -- 3.2. Dataset description -- 3.3. Statistical modeling of SAR images -- 3.3.1. The data. 3.3.2. Gaussian model -- 3.3.3. Non-Gaussian modeling -- 3.4. Dissimilarity measures -- 3.4.1. Problem formulation -- 3.4.2. Hypothesis testing statistics -- 3.4.3. Information-theoretic measures -- 3.4.4. Riemannian geometry distances -- 3.4.5. Optimal transport -- 3.4.6. Summary -- 3.4.7. Results of change detectors on the UAVSAR dataset -- 3.5. Change detection based on structured covariances -- 3.5.1. Low-rank Gaussian change detector -- 3.5.2. Low-rank compound Gaussian change detector -- 3.5.3. Results of low-rank change detectors on the UAVSAR dataset -- 3.6. Conclusion -- 3.7. References -- Chapter 4. Unsupervised Functional Information Clustering in Extreme Environments from Filter Banks and Relative Entropy -- 4.1. Introduction -- 4.2. Parametric modeling of convnet features -- 4.3. Anomaly detection in image time series -- 4.4. Functional image time series clustering -- 4.5. Conclusion -- 4.6. References -- Chapter 5. Thresholds and Distances to Better Detect Wet Snow over Mountains with Sentinel-1 Image Time Series -- 5.1. Introduction -- 5.2. Test area and data -- 5.3. Wet snow detection using Sentinel-1 -- 5.4. Metrics to detect wet snow -- 5.5. Discussion -- 5.6. Conclusion -- 5.7. Acknowledgements -- 5.8. References -- Chapter 6. Fractional Field Image Time Series Modeling and Application to Cyclone Tracking -- 6.1. Introduction -- 6.2. Random field model of a cyclone texture -- 6.2.1. Cyclone texture feature -- 6.2.2. Wavelet-based power spectral densities and cyclone -- 6.2.3. Fractional spectral power decay model -- 6.3. Cyclone field eye detection and tracking -- 6.3.1. Cyclone eye detection -- 6.3.2. Dynamic fractal field eye tracking -- 6.4. Cyclone field intensity evolution prediction -- 6.5. Discussion -- 6.6. Acknowledgements -- 6.7. References. Chapter 7. Graph of Characteristic Points for Texture Tracking: Application to Change Detection and Glacier Flow Measurement from SAR Image -- 7.1. Introduction -- 7.2. Texture representation and characterization using local extrema -- 7.2.1. Motivation and approach -- 7.2.2. Local extrema keypoints within SAR images -- 7.3. Unsupervised change detection -- 7.3.1. Proposed framework -- 7.3.2. Weighted graph construction from keypoints -- 7.3.3. Change measure (CM) generation -- 7.4. Experimental study -- 7.4.1. Data description and evaluation criteria -- 7.4.2. Change detection results -- 7.4.3. Sensitivity to parameters -- 7.4.4. Comparison with the NLM model -- 7.4.5. Analysis of the algorithm complexity -- 7.5. Application to glacier flow measurement -- 7.5.1. Proposed method -- 7.5.2. Results -- 7.6. Conclusion -- 7.7. References -- Chapter 8. Multitemporal Analysis of Sentinel-1/2 Images for Land Use Monitoring at Regional Scale -- 8.1. Introduction -- 8.2. Proposed method -- 8.2.1. Test site and data -- 8.3. SAR processing -- 8.4. Optical processing -- 8.5. Combination layer -- 8.6. Results -- 8.7. Conclusion -- 8.8. References -- Chapter 9. Statistical Difference Models for Change Detection in Multispectral Images -- 9.1. Introduction -- 9.2. Overview of the change detection problem -- 9.2.1. Change detection methods for multispectral images -- 9.2.2. Challenges addressed in this chapter -- 9.3. The Rayleigh-Rice mixture model for the magnitude of the difference image -- 9.3.1. Magnitude image statistical mixture model

-- 9.3.2. Bayesian decision -- 9.3.3. Numerical approach to parameter estimation -- 9.4. A compound multiclass statistical model of the difference image -- 9.4.1. Difference image statistical mixture model -- 9.4.2. Magnitude image statistical mixture model -- 9.4.3. Bayesian decision. 9.4.4. Numerical approach to parameter estimation -- 9.5. Experimental results -- 9.5.1. Dataset description -- 9.5.2. Experimental setup -- 9.5.3. Test 1: Two-class Rayleigh-Rice mixture model -- 9.5.4. Test 2: Multiclass Rician mixture model -- 9.6. Conclusion -- 9.7. References -- List of Authors -- Index -- Summary of Volume 2 -- EULA.

Sommario/riassunto

Change Detection and Image Time Series Analysis 1 presents a wide range of unsupervised methods for temporal evolution analysis through the use of image time series associated with optical and/or synthetic aperture radar acquisition modalities. Chapter 1 introduces two unsupervised approaches to multiple-change detection in bi-temporal multivariate images, with Chapters 2 and 3 addressing change detection in image time series in the context of the statistical analysis of covariance matrices. Chapter 4 focuses on wavelets and convolutional-neural filters for feature extraction and entropy-based anomaly detection, and Chapter 5 deals with a number of metrics such as cross correlation ratios and the Hausdorff distance for variational analysis of the state of snow. Chapter 6 presents a fractional dynamic stochastic field model for spatio temporal forecasting and for monitoring fast-moving meteorological events such as cyclones. Chapter 7 proposes an analysis based on characteristic points for texture modeling, in the context of graph theory, and Chapter 8 focuses on detecting new land cover types by classification-based change detection or feature/pixel based change detection. Chapter 9 focuses on the modeling of classes in the difference image and derives a multiclass model for this difference image in the context of change vector analysis.
