1. Record Nr. UNINA9910788798703321

Titolo	Discrete groups and geometric structures : Workshop on Discrete Groups and Geometric Structures, with Applications III, May 26-30, 2008, Kortrijk, Belgium / / Karel Dekimpe, Paul Igodt, Alain Valette, editors
Pubbl/distr/stampa	Providence, Rhode Island : , : American Mathematical Society, , [2009] ©2009
ISBN	0-8218-8180-9 0-8218-4647-7
Descrizione fisica	1 online resource (162 p.)
Collana	Contemporary mathematics, ; 501 , 0271-4132
Disciplina	512/.2
Soggetti	Discrete groups Geometrical constructions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Contents -- Preface -- List of Participants -- Complex hyperbolic lattices -- Rank-one isometries of proper CAT(0)-spaces -- Trace polynomial for simple loops on the twice punctured torus -- Simplicial volume of products and fiber bundles -- Homology of Hantzsche-Wendt groups -- 1. Introduction -- 2. Facts and Preliminaries -- 3. Algorithm for Computing Homology -- 4. Example of Didicosm -- 5. Applications to Low Dimensions -- 6. Further Developments -- References -- Seifert fibred structure and rigidity on real Bott towers -- Exotic circles in groups of piecewise smooth circle homeomorphisms -- Groups generated by spine reflections admitting crooked fundamental domains.

2. Record Nr. UNINA9910473456003321

Autore	Hajnsek Irena
Titolo	Polarimetric Synthetic Aperture Radar : Principles and Application
Pubbl/distr/stampa	Springer Nature, 2021 Cham : , : Springer International Publishing AG, , 2021 ©2021
ISBN	3-030-56504-1
Descrizione fisica	1 online resource (304 pages)
Collana	Remote Sensing and Digital Image Processing ; ; v.25
Classificazione	SCI030000SCI063000TEC003000TEC003040TEC008000TEC036000
Altri autori (Persone)	DesnosYves-Louis
Soggetti	Geographical information systems (GIS) & remote sensing Other technologies & applied sciences Teaching of a specific subject Agricultural science Forestry & silviculture: practice & techniques Urban & municipal planning
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Foreword -- Preface -- Pioneering Space-Borne SAR Interferometry -- Organising Airborne Polarimetric SAR Campaigns and Scientific Studies -- Dialoguing with POLinSAR Scientists and Training the Next Generation -- Pioneering Space-Borne SAR Polarimetric Interferometry -- Future Missions -- From Science to Applications -- Outlook -- In Memoriam -- Contents -- Symbols -- 1: Basic Principles of SAR Polarimetry -- 1.1 Theory of Radar Polarimetry -- 1.1.1 Wave Polarimetry -- 1.1.1.1 Electromagnetic Waves and Wave Polarization Descriptors -- 1.1.1.2 Totally and Partially Polarized Waves -- 1.1.1.3 Change of Polarization Basis -- 1.1.2 Scattering Polarimetry -- 1.1.2.1 The Scattering Matrix -- 1.1.2.2 Scattering Polarimetry Descriptors -- 1.1.2.3 Partial Scattering Polarimetry -- 1.1.2.4 Change of Polarization Basis -- 1.1.2.5 Scatterers Characterization by Single, Dual, Compact and Full Polarimetry -- 1.2 SAR Data Statistical Description and Speckle Noise Filtering -- 1.2.1 One-Dimensional Gaussian Distribution -- 1.2.2 Multidimensional Gaussian Distribution -- 1.2.3 The Wishart Distribution -- 1.2.4 The Polarimetric Covariance and Coherency Matrix

-- 1.2.5 The Polarimetric Coherence -- 1.2.6 Polarimetric Speckle Noise Filtering -- 1.2.6.1 PolSAR Speckle Noise Filtering Principles -- 1.2.6.2 PolSAR Speckle Noise Filtering Alternatives -- 1.3 Polarimetric Scattering Decomposition Theorems -- 1.3.1 Coherent Scattering Decomposition Techniques -- 1.3.1.1 The Pauli Decomposition -- 1.3.2 Incoherent Scattering Decompositions Techniques -- 1.3.2.1 Three-Component Freeman Decomposition -- 1.3.2.2 Four-Component Yamaguchi Decomposition -- 1.3.2.3 Non-negative Eigenvalue Decomposition -- 1.3.2.4 Eigenvector-Eigenvalue-Based Decomposition -- 1.3.2.5 The Touzi Target Scattering Decompositions -- 1.4 Polarimetric SAR Interferometry.
1.4.1 SAR Interferometry -- 1.4.2 Algorithms for Optimum Interferogram Generation -- 1.4.3 Model-Based Polarimetric SAR Interferometry -- 1.4.3.1 PolInSAR for Bare Surface Scattering -- 1.4.3.2 PolInSAR for Random Volume Scattering -- 1.4.3.3 PolInSAR Two-Layer Combined Surface and Random Volume Scattering -- 1.5 Polarimetric SAR Tomography -- 1.5.1 TomoSAR and PolTomoSAR as Spectral Estimation Problems: Non-model-Based Adaptive Solutions -- 1.5.2 Model-Based PolTomoSAR -- 1.5.3 Coherence Tomography -- References -- 2: Forest Applications -- 2.1 Introduction -- 2.2 Forest Classification -- 2.2.1 Land Cover Classification in Tropical Lands Using PolSAR -- 2.2.1.1 Introduction, Motivation and Literature Review -- 2.2.1.2 Methodology -- 2.2.1.3 Experimental Results -- 2.2.1.4 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.2.2 Forest Mapping and Classification Using Polarimetric and Interferometric Data -- 2.2.2.1 Introduction, Motivation and Literature Review -- 2.2.2.2 Methodology -- 2.2.2.3 Experimental Results -- 2.2.2.4 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.2.3 Detection of Fire Scars -- 2.2.3.1 Introduction, Motivation and Literature Review -- 2.2.3.2 Methodology -- 2.2.3.3 Experimental Results -- 2.2.3.4 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.3 Forest Height Estimation -- 2.3.1 Introduction, Motivation and Literature Review -- 2.3.2 Methodology -- 2.3.2.1 Random-Volume-Over-Ground Inversion -- 2.3.2.2 Non-volumetric Decorrelation Contributions -- 2.3.3 Experimental Results -- 2.3.4 Comparison with Single/Dual Polarimetric Data -- 2.3.5 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions.
2.4 Forest Vertical Structure Estimation Using Multi-baseline Polarimetric SAR Acquisitions -- 2.4.1 Polarimetric SAR Tomography -- 2.4.1.1 Introduction, Motivation and Literature Review -- 2.4.1.2 Methodology -- 2.4.1.3 Experimental Results -- 2.4.1.4 Comparison with Single/Dual Polarization Data -- 2.4.1.5 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.4.2 Estimation of Vegetation Structure Parameters -- 2.4.2.1 Introduction, Motivation and Literature Review -- 2.4.2.2 Methodology -- 2.4.2.3 Experimental Results -- 2.4.2.4 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.5 Biomass Estimation -- 2.5.1 Biomass Estimation: A Review -- 2.5.1.1 Introduction, Motivation -- 2.5.1.2 Methodology -- 2.5.1.2.1 Direct Biomass Estimation -- 2.5.1.2.2 Model-Based Estimation -- 2.5.1.2.3 Allometric Biomass Estimation -- 2.5.1.3 Experimental Results -- 2.5.1.4 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions -- 2.5.2 Biomass Estimation from Semi-empirical Relationships -- 2.5.2.1 Introduction, Motivation and Literature Review -- 2.5.2.2 Methodology -- 2.5.2.3 Experimental Results -- 2.5.2.4 Discussion on the Role of Polarimetry, on the

Experimental Results -- 4.2.4 Comparison with Single/Dual Polarisation Data -- 4.2.5 Discussion on the Role of Polarimetry, on the Maturity of the Application, and Conclusions -- 4.3 Snow Water Equivalent Retrieval -- 4.3.1 Introduction, Motivation, and Literature Review -- 4.3.2 Methodology -- 4.3.2.1 Polarimetric Decomposition for Snow-Covered Areas -- 4.3.2.2 Snow Water Equivalent Retrieval Algorithm -- 4.3.3 Experimental Results -- 4.3.4 Comparison with Single/Dual Polarisation Data.
4.3.5 Discussion on the Role of Polarimetry, on the Maturity of the Application and Conclusions.

Sommario/riassunto

This open access book focuses on the practical application of electromagnetic polarimetry principles in Earth remote sensing with an educational purpose. In the last decade, the operations from fully polarimetric synthetic aperture radar such as the Japanese ALOS/PalSAR, the Canadian Radarsat-2 and the German TerraSAR-X and their easy data access for scientific use have developed further the research and data applications at L,C and X band. As a consequence, the wider distribution of polarimetric data sets across the remote sensing community boosted activity and development in polarimetric SAR applications, also in view of future missions. Numerous experiments with real data from spaceborne platforms are shown, with the aim of giving an up-to-date and complete treatment of the unique benefits of fully polarimetric synthetic aperture radar data in five different domains: forest, agriculture, cryosphere, urban and oceans.