

1. Record Nr.	UNINA9910966306403321
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Titolo	Bistatic SAR data processing algorithms // Xiaolan Qiu, Chibiao Ding, and Donghui Hu
Pubbl/distr/stampa	Singapore, : Wiley, : Science Press, [2013]
ISBN	9781118188118 111818811X 9781118188095 1118188098 9781118188101 1118188101
Edizione	[1st ed.]
Descrizione fisica	1 online resource (552 p.)
Classificazione	TEC036000
Altri autori (Persone)	DingChibiao HuDonghui
Disciplina	621.3848/5
Soggetti	Bistatic radar Signal processing Synthetic aperture radar Algorithms
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 and index.
Nota di contenuto	Cover; Title Page; Copyright; About the Authors; Preface; Acknowledgements; List of Acronyms; Chapter 1: Introduction; 1.1 Overview of SAR Development; 1.2 Brief Introduction of Bistatic SAR; 1.3 Contents of the Book; References; Chapter 2: Signal Processing Basis of SAR; 2.1 Range Resolution of SAR; 2.2 Azimuth Resolution of SAR; 2.3 SAR Resolution Cell; 2.4 SAR Processing Model - Single-Point Target Imaging; 2.5 Brief Introduction to Efficient SAR Imaging Algorithms; 2.6 Summary; References; Chapter 3: Basic Knowledge of Bistatic SAR Imaging; 3.1 Bistatic SAR Configurations 3.2 Radar Equation of Bistatic SAR3.3 Spatial Resolution of Bistatic SAR; 3.4 Summary; References; Chapter 4: Echo Simulation of Bistatic SAR; 4.1 Introduction; 4.2 Traditional Monostatic SAR Raw Data Simulation; 4.3 Raw Data Simulation for Translational Invariant Bistatic SAR; 4.4 Summary; References; Chapter 5: Imaging Algorithms for Translational

Invariant Bistatic SAR; 5.1 Introduction; 5.2 Imaging Algorithms Based on Monostatic Transform; 5.3 Imaging Algorithms Based on Range History Simplification; 5.4 Imaging Algorithms Based on Analytical Explicit Spectrums
 5.5 Imaging Algorithms Based on Accurate Implicit Spectrums
 5.6 Comparison of the Algorithms; 5.7 Summary; References; Chapter 6: Imaging Algorithm for Translational Variant Bistatic SAR; 6.1 Introduction; 6.2 Imaging Algorithms for One-Stationary Bistatic SAR; 6.3 Imaging Algorithms for Translational Variant Bistatic SAR with Constant Velocities; 6.4 Summary; References; Chapter 7: Bistatic SAR Parameter Estimation and Motion Compensation; 7.1 Introduction; 7.2 Analyzing the Effects of Motion Errors; 7.3 Estimation of Doppler Parameters; 7.4 Principle and Methods of SAR Motion Compensation
 7.5 SummaryReferences; Index

Sommario/riassunto

"This book focuses on bistatic SAR signal processing, mainly on imaging aspects. Topics include bistatic SAR resolution analysis, echo generation methods, imaging algorithms, imaging parameters estimation, and motion compensation methods. Qiu, Ding, and Hu begin with the history, present status and the trends of SAR development. The concept of bistatic SAR is then introduced and the key problems of bistatic SAR signal processing are described. To aid readers in understanding bistatic SAR more easily and establish a foundation of the concepts, the authors describe the theory of SAR imaging and briefly cover the traditional imaging algorithms of SAR. To give readers deeper impression of the subject the next chapters categorize bistatic SAR configurations and analyze resolution abilities for each configuration. This is followed by echo simulating methods of bistatic SAR. These are used to generate simulated scene echoes of bistatic SAR, which can provide data for the research of bistatic SAR imaging algorithms. Next, the authors describe several imaging algorithms for translational invariant bistatic SAR in detail compare these algorithms, as well as introduce imaging algorithms for translational variant bistatic SAR configurations. This is followed by a study of the special working modes of bistatic SAR (forward- looking mode and three-dimensional resolving mode), analyzes the resolution of these bistatic SAR modes, and studies their imaging algorithms. Lastly, the authors focus on data processing technologies which are closely related to imaging, such as Doppler parameter estimation and the motion compensation method of bistatic SAR"--