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Functional/Technological Key Issues; 2.3 Mission Analysis of Spaceborne BSAR; 2.3.1 BSAR Orbit Design; 2.3.2 BSAR Attitude and Antenna Pointing Design; 2.4 Summary; Abbreviations; Variables; References; 3 Bistatic SAR for Earth Observation; 3.1 Introduction; 3.2 Bissat Scientific Rationale and Technical Approach; 3.3 Bistatic Payload Main Characteristics and Architecture; 3.3.1 Design Assumptions; 3.3.2 System Architecture; 3.3.3 Payload Operational Modes 3.3.4 Signal Synchronization 3.3.5 Science Data Handling and Telecommunication; 3.3.6 Antenna Characteristics; 3.3.7 Overall Budgets; 3.4 Orbit Design; 3.5 Attitude Design and Radar Pointing Design; 3.6 Radar Performance; 3.7 Summary; Abbreviations; Variables; Acknowledgements; References; 4 Spaceborne Interferometric and Multistatic SAR Systems; 4.1 Introduction; 4.2 Spaceborne SAR Interferometry; 4.3 Interferometric Mission Design; 4.3.1 Satellite Formation; 4.3.2 Phase and Time Synchronization; 4.3.3 Operational Modes for Bi- and Multistatic SAR Systems; 4.4 Mission Examples; 4.4.1 TanDEM-X 4.4.2 Semi-active TerraSAR-L Cartwheel Configuration 4.5 Advanced Multistatic SAR System Concepts; 4.5.1 SAR Tomography; 4.5.2 Ambiguity Suppression and Resolution Enhancement; 4.5.3 Multistatic SAR Imaging; 4.5.4 Along-Track Interferometry and Moving Object Indication; 4.5.5 Multibaseline Change Detection; 4.6 Discussion; Abbreviations; Variables; References; 5 Airborne Bistatic Synthetic Aperture Radar; 5.1 Bistatic Airborne SAR Objectives; 5.2 Airborne Bistatic SAR Configurations; 5.2.1 Time-Invariant Configurations; 5.2.2 General Bistatic Configurations; 5.2.3 MTI Applications 5.2.4 Examples of Resolution Performances

Sommario/riassunto

The impact of bistatic radar technology on remote sensing is increasing as bistatic systems cross the theoretical threshold into practical embodiment. The wide spectrum of radar applications, including space exploration, defence, transport, aerospace, and meteorology, provides persistent impetus for this progress. This book is dedicated to the more advanced studies in bistatic radar which are currently the subject of intensive research activity and development. With contributions from the leading experts in the field of bistatic radar research, this book collates the latest developments in
