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| Autore | Davis Mark E (Mark Edward), <1945-> |
| Titolo | Foliage penetration radar : detection and characterization of objects under trees / / Mark E. Davis |
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| Descrizione fisica | 1 online resource (370 p.) |
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| Soggetti | Ground penetrating radar<br>Forest canopies<br>Aerial observation (Military science)<br>Earth (Planet) Surface Remote sensing |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
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| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Contents; Preface; Chapter 1. History of Battlefield Surveillance; 1.1 Early FOPEN MTI RADAR; 1.2 Synthetic Aperture Dual Frequency RADAR; 1.3 Summary; 1.4 References; Chapter 2. Foliage Penetration SAR Collection Systems; 2.1 SAR Resolution; 2.2 FOPEN SAR Systems; 2.3 References; Chapter 3. Foliage Penetration Phenomena; 3.1 Foliage Phase Effects on RADAR Propagation; 3.2 Standard Calibration for FOPEN Measurements; 3.3 Standard RCS Target Characteristics; 3.4 Foliage Clutter Scattering Characteristics; 3.5 Foliage Attenuation; 3.6 Internal Clutter Motion; 3.7 Target Characteristics<br>3.8 Radio Frequency Interference Spectrum3.9 References; Chapter 4. FOPEN SAR Image Formation; 4.1 FOPEN SAR Collection Geometry; 4.2 FOPEN SAR Waveform; 4.3 SAR Image Formation; 4.4 SAR Motion Compensation; 4.5 References; Chapter 5. Radio Frequency Interference Suppression; 5.1 Transmit Waveform Design for RFI Environment; 5.2 Cancellation of Radio Frequency Interference; 5.3 RFI Supression Summary; 5.4 References; Chapter 6. FOPEN Target Detection and Characterization; 6.1 Target Detection Processing; 6.2 Polarimetric Scattering; 6.3 Target Characterization<br>6.4 RADCON Processing Development6.5 Change Detection; 6.6 FOPEN |

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| | ATD/C Summary; 6.7 References; Chapter 7. FOPEN SAR Design; 7.1 Concept of Operations; 7.2 FOPEN SAR Hardware; 7.3 FOPEN SAR System Design; 7.4 References; Chapter 8. FOPEN Ground Moving Target Indication; 8.1 FOPEN GMTI RADAR Design; 8.2 Space-Time Adaptive Processing; 8.3 Along-Track Interferometry; 8.4 References; Chapter 9. Bistatic FOPEN SAR; 9.1 Bistatic RADAR; 9.2 Bistatic SAR Signal Geometry; 9.3 Bistatic SAR Resolution; 9.4 Bistatic SAR Modeling; 9.5 Summary; 9.6 References; Glossary; Index |
| Sommario/riassunto | This book covers all aspects of foliage penetration (FOPEN) radar, concentrating on both airborne military radar systems as well as earth resource mapping radars. It is the first concise and thorough treatment of FOPEN, covering the results of a decade-long investment by DARPA in characterizing foliage and earth surface with ultrawideband UHF and VHF synthetic aperture radar (SAR). Comparisons of the technologies for radar design and signal processing are presented, as are specific design approaches for transmitter design for operation in a dense radio frequency spectrum. Adaptive processing t |