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| Nota di contenuto | Front Cover; Low-Angle Radar Land Clutter: Measurements and Empirical Models; Copyright Page; Dedication; Table of Contents; Foreword; Preface; Chapter 1. Overview; 1.1 Introduction; 1.2 Historical Review; 1.3 Clutter Measurements at Lincoln Laboratory; 1.4 Clutter Prediction at Lincoln Laboratory; 1.5 Scope of Book; 1.6 Organization of Book; References; Chapter 2. Preliminary X-Band Clutter Measurements; 2.1 Introduction; 2.2 Phase Zero Clutter Measurements; 2.3 The Nature of Low-Angle Clutter; 2.4 X-Band Clutter Spatial Amplitude Statistics; 2.5 Summary; References Appendix 2.A: Phase Zero Radar Appendix 2.B: Formulation of Clutter Statistics; Appendix 2.C: Depression Angle Computation; Chapter 3. Repeat Sector Clutter Measurements; 3.1 Introduction; 3.2 Multifrequency Clutter Measurements; 3.3 Fundamental Effects in Low-Angle Clutter; 3.4 Mean Land Clutter Strength vs Frequency by Terrain Type; 3.5 Dependencies of Mean Land Clutter Strength with Radar Parameters; 3.6 Higher Moments and Percentiles in Measured Land Clutter Spatial Amplitude Distributions; 3.7 Effects of Weather and Season; 3.8 Summary; References; Appendix 3.A: Phase One Radar Appendix 3.B: Multipath Propagation Appendix 3.C: Clutter |

Computations; Chapter 4. Approaches to Clutter Modeling; 4.1 Introduction; 4.2 An Interim Angle-Specific Clutter Model; 4.3 Non-Angle-Specific Modeling Considerations; 4.4 Terrain Visibility and Clutter Occurrence; 4.5 Discrete vs Distributed Clutter; 4.6 Temporal Statistics, Spectra, and Correlation; 4.7 Summary; References; Appendix 4.A: Clutter Strength vs Range; Appendix 4.B: Terrain Visibility as a Function of Site Height and Antenna Mast Height; Appendix 4.C: Effects of Terrain Shadowing and Finite Sensitivity
Appendix 4.D: Separation of Discretes in Clutter Modeling
Chapter 5. Multifrequency Land Clutter Modeling Information; 5.1 Introduction; 5.2 Derivation of Clutter Modeling Information; 5.3 Land Clutter Coefficients for General Terrain; 5.4 Land Clutter Coefficients for Specific Terrain Types; 5.5 PPI Clutter Map Prediction; 5.6 Summary; References; Appendix 5.A: Weibull Statistics; Chapter 6. Windblown Clutter Spectral Measurements; 6.1 Introduction; 6.2 Exponential Windblown Clutter Spectral Model; 6.3 Measurement Basis for Clutter Spectral Model; 6.4 Use of Clutter Spectral Model
6.5 Impact on MTI and STAP
6.6 Historical Review; 6.7 Summary; References; Index

Sommario/riassunto

A necessary reference for all radar engineers or analysts including many levels of managers, advisors and decision makers in the U.S. and worldwide radar industry. Directly useful in both military (DOD) and civilian (FAA) applications. The result of 20 years of research at MIT Lincoln Lab, this book is of the most significant technological consequence for the industry. It actually solves the problem of low angle radar land clutter by showing the reader how to design and predict the performance of radars that operate in situations where land clutter prevalent. Radar land clutter constit
