1. Record Nr. UNINA9910827296703321

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Titolo	Electronic warfare target location methods / / Richard A. Poisel
Pubbl/distr/stampa	Boston : , : Artech House, , 2012 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2012]
ISBN	1-5231-1712-5 1-60807-524-9
Edizione	[Second edition]
Descrizione fisica	1 online resource (439 p.)
Disciplina	623.043
Soggetti	Electronics in military engineering Automatic tracking Automatic control Target acquisition Control automàtic Electrònica en enginyeria militar
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	Electronic WarfareTarget Location Methods Second Edition; Contents; Preface; References; Chapter 1 Introduction to Emitter Geolocation; 1.1 Introduction; 1.2 Gradient Descent Algorithm; 1.3 Concluding Remarks; References; Chapter 2 Triangulation; 2.1 Introduction; 2.2 Basic Concepts; 2.3 Least-Squares Error Estimation; 2.4 Total Least-Squares Estimation; 2.5 Least-Squares Distance Error PF Algorithm; 2.5.1 Brown's Least-Squares Triangulation Algorithm; 2.5.2 Hemispheric Least-Squares Error Estimation Algorithm; 2.5.3 Pages-Zamora Least-Squares; 2.5.4 Total Least-Squares Error. 2.6 Minimum Mean-Squares Error Estimation2.6.1 Dynamical Systems; 2.6.2 Linear Minimum Mean-Square Estimation; 2.6.3 Target Location Estimation with the Linear Model; 2.6.4 Kalman Filter Methods; 2.7 The Discrete Probability Density Method; 2.8 Generalized Bearings; 2.9 Maximum Likelihood PF Algorithm; 2.9.1 Maximum Likelihood Estimation Triangulation Algorithm; 2.9.2 Maximum Likelihood Estimation Algorithm Comparison; 2.10 Multiple Sample Correlation; 2.11 Bearing-Only Target Motion Analysis; 2.12 Sources of Error in

Triangulation; 2.12.1 Geometric Dilution of Precision in Triangulation.
2.12.2 LOB Error2.12.3 Effects of Bias on Bearing-Only PF; 2.12.4 Combining Noisy LOB Measurements; 2.12.5 Effects of Navigation Error; 2.13 Concluding Remarks; References; Appendix 2A Least-Squares Error Estimation Program Listing; Appendix 2B Generalized Bearing Program Listing; Chapter 3 DF Techniques; 3.1 Introduction; 3.2 Array Processing Direction of Arrival Measurement Methods; 3.2.1 Introduction; 3.2.3 Array Covariance Modeling; 3.2.4 Direction of Arrival; 3.2.5 Subspace-Based Methods; 3.2.6 Beamforming AOA Estimation; 3.2.7 Maximum Likelihood AOA Estimation.
3.2.8 Least-Squares Error AOA Estimation3.2.9 Decoupling Sample Source Signals from AOA Parameters; 3.2.10 Gram-Schmidt Orthogonalization; 3.2.11 Nonlinear Programming; 3.3 Other Methods of Estimating the AOA; 3.3.1 Phase Interferometry; 3.3.2 Amplitude Systems; 3.3.3 Doppler Direction Finder; 3.4 MSE Phase Interferometer; 3.4.1 Introduction; 3.4.2 The Algorithm; 3.4.3 Simulation; 3.5 DF with a Butler Matrix; 3.5.1 Introduction; 3.5.2 Beamforming Network; 3.6 Phase Difference Estimation Using SAW Devices; 3.6.1 Introduction; 3.6.2 SAW Characteristics; 3.7 Concluding Remarks; References.
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Sommario/riassunto

Worldwide growth of space communications has caused a rapid increase in the number of satellites operating in geostationary orbits, causing overcrowded orbits. This practical resource is designed to help professionals overcome this problem. This timely book provides a solid understanding of the use of radio interferometers for tracking and monitoring satellites in overcrowded environments. Practitioners learn the fundamentals of radio interferometer hardware, including antennas, receiving equipment, signal processing and phase detection, and measurement accuracies. This in-depth volume describes the nature of the targets to be tracked by the interferometer, helping to clarify the movement of target satellites and what specific information has to be caught by the interferometer. Additionally, engineers find details on applications to practical cases of satellite tracking, covering different types of interferometers, recent technical developments, orbital monitoring and safety control.