

Modern Radar System Analysis

Intended to provide accurate calculations of the maximum detection range of a pulsed radar under a variety of environmental conditions, involving thermal noise, jamming, and all types of clutter. New features of this version include file support, extensive help screens, increased printer support, and numerous small changes. An essential task in radar systems is to find an appropriate solution to the problems related to robust signal processing and the definition of signal parameters. Signal Processing in Radar Systems addresses robust signal processing problems in complex radar systems and digital signal processing subsystems. It also tackles the important issue of defining signal parameters. The book presents problems related to traditional methods of synthesis and analysis of the main digital signal processing operations. It also examines problems related to modern methods of robust signal processing in noise, with a focus on the generalized approach to signal processing in noise under coherent filtering. In addition, the book puts forth a new problem statement and new methods to solve problems of adaptation and control by functioning processes. Taking a systems approach to designing complex radar systems, it offers readers guidance in solving optimization problems. Organized into three parts, the book first discusses the main design principles of the modern robust digital signal

processing algorithms used in complex radar systems. The second part covers the main principles of computer system design for these algorithms and provides real-world examples of systems. The third part deals with experimental measurements of the main statistical parameters of stochastic processes. It also defines their estimations for robust signal processing in complex radar systems. Written by an internationally recognized professor and expert in signal processing, this book summarizes investigations carried out over the past 30 years. It supplies practitioners, researchers, and students with general principles for designing the robust digital signal processing algorithms employed by complex radar systems.

Weather radar is a vital instrument for observing the atmosphere to help provide weather forecasts and issue weather warnings to the public. The current Next Generation Weather Radar (NEXRAD) system provides Doppler radar coverage to most regions of the United States (NRC, 1995). This network was designed in the mid 1980s and deployed in the 1990s as part of the National Weather Service (NWS) modernization (NRC, 1999). Since the initial design phase of the NEXRAD program, considerable advances have been made in radar technologies and in the use of weather radar for monitoring and prediction. The development of new technologies provides the motivation for appraising the status of the current weather radar system and identifying the most

promising approaches for the development of its eventual replacement. The charge to the committee was to determine the state of knowledge regarding ground-based weather surveillance radar technology and identify the most promising approaches for the design of the replacement for the present Doppler Weather Radar. This report presents a first look at potential approaches for future upgrades to or replacements of the current weather radar system. The need, and schedule, for replacing the current system has not been established, but the committee used the briefings and deliberations to assess how the current system satisfies the current and emerging needs of the operational and research communities and identified potential system upgrades for providing improved weather forecasts and warnings. The time scale for any total replacement of the system (20- to 30-year time horizon) precluded detailed investigation of the designs and cost structures associated with any new weather radar system. The committee instead noted technologies that could provide improvements over the capabilities of the evolving NEXRAD system and recommends more detailed investigation and evaluation of several of these technologies. In the course of its deliberations, the committee developed a sense that the processes by which the eventual replacement radar system is developed and deployed could be as significant as the specific technologies adopted. Consequently, some of the committee's recommendations deal with

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such procedural issues.

Target identification and other modern-day radar problems can't be solved by conventional radar technology -- but they can be solved with the ground-breaking signal processing and analysis methods presented in this unique, expertly authored book.

Basic Principles

Modern Radar System Analysis

Principles of Radar and Sonar Signal Processing

Small and Short-Range Radar Systems

Understanding Radar Systems

Based on the classic Radar Range-Performance Analysis from 1980, this practical volume extends that work to ensure applicability of radar equations to the design and analysis of modern radars. This unique book helps you identify what information on the radar and its environment is needed to predict detection range. Moreover, it provides equations and data to improve the accuracy of range calculations. You find detailed information on propagation effects, methods of range calculation in environments that include clutter, jamming and thermal noise, as well as loss factors that reduce radar performance. This invaluable book is supported with nearly 200 illustrations and over 430 equations. The important and fascinating topics of radar enjoy an extensive audience in

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industry and government but deserve more attention in undergraduate education to better prepare graduating engineers to meet the demands of modern mankind. Radar is not only one of the major applications of electronics and electromagnetic communications, but it is also a mature scientific discipline with significant theoretical and mathematical foundations that warrant an intellectual and educational challenge. *Fundamental Principles of Radar* is a textbook providing a first exposure to radar principles. It provides a broad concept underlying the basic principle of operations of most existing radar systems and maintains a good balance of mathematical rigor to convince readers without losing interest. The book provides an extensive exposition of the techniques currently being used for radar system design, analysis, and evaluation. It presents a comprehensive set of radar principles, including all features of modern radar applications, with their underlying derivations using simple mathematics. Coverage is limited to the main concepts of radar in order to present them in a systematic and organized fashion. Topics are treated not as abstruse and esoteric to the point of

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incomprehensibility, but the very complex and rich technology of radar is distilled into its fundamentals. The author's emphasis is on clarity without sacrificing rigor and completeness, thus making the book broad enough to satisfy a variety of backgrounds and interests. Thorough documentation provides an unusual degree of completeness for a textbook at this level, with interesting and sometimes thought-provoking content to make the subject even more appealing. Key Features: Covers a wide range of topics in radar systems Includes examples and exercises to reinforce the concepts presented and explain their applications Provides self-contained chapters useful for readers seeking selective topics Provides broad concepts underlying the basic principles of operations of most types of radars in use today Includes documentation to lead to further reading of interesting concepts and applications

With their images practically ubiquitous in the daily media, weather radar systems provide data not only for understanding weather systems and improving forecasts (especially critical for severe weather), but also for hydrological applications, flood warnings and climate research in which ground verification is needed for

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global precipitation measurements by satellites. This book offers an accessible overview of advanced methods, applications and modern research from the European perspective. An extensive introductory chapter summarizes the principles of weather radars and discusses the potential of modern radar systems, including Doppler and polarisation techniques, data processing, and error-correction methods. Addressing both specialist researchers and nonspecialists from related areas, this book will also be useful for graduate students planning to specialize in this field

Developed from the author's graduate-level courses, the first edition of this book filled the need for a comprehensive, self-contained, and hands-on treatment of radar systems analysis and design. It quickly became a bestseller and was widely adopted by many professors. The second edition built on this successful format by rearranging and updating

Radar Systems Principles

Signal Processing in Radar Systems

Radar Systems Analysis and Design Using
MATLAB Third Edition

Principles and Advanced Applications

Signal Processing of Airborne Radar
Stations

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Developed from the author's graduate-level courses, the first edition of this book filled the need for a comprehensive, self-contained, and hands-on treatment of radar systems analysis and design. It quickly became a bestseller and was widely adopted by many professors. The second edition built on this successful format by rearranging and updating topics and code. Reorganized, expanded, and updated, *Radar Systems Analysis and Design Using MATLAB®*, Third Edition continues to help graduate students and engineers understand the many issues involved in radar systems design and analysis. Each chapter includes the mathematical and analytical coverage necessary for obtaining a solid understanding of radar theory. Additionally, MATLAB functions/programs in each chapter further enhance comprehension of the theory and provide a source for establishing radar system design requirements. Incorporating feedback from professors and practicing engineers, the third edition of this bestselling text reflects the state of the art in the field and restructures the material to be more convenient for course use. It includes several new topics and many new end-of-chapter problems. This edition also takes advantage of the new features in the latest version of MATLAB. Updated MATLAB code is available for download on the book's CRC Press web page.

Advances in DSP (digital signal processing) have

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radically altered the design and usage of radar systems -- making it essential for both working engineers as well as students to master DSP techniques. This text, which evolved from the author's own teaching, offers a rigorous, in-depth introduction to today's complex radar DSP technologies. Contents: Introduction to Radar Systems * Signal Models * Sampling and Quantization of Pulsed Radar Signals * Radar Waveforms * Pulse Compression Waveforms * Doppler Processing * Detection Fundamentals * Constant False Alarm Rate (CFAR) Detection * Introduction to Synthetic Aperture Imaging

What is radar? What systems are currently in use? How do they work? Understanding Radar Systems provides engineers and scientists with answers to these critical questions, focusing on actual radar systems in use today. It's the perfect resource for those just entering the field or a quick refresher for experienced practitioners. The book leads readers through the specialized language and calculations that comprise the complex world of modern radar engineering as seen in dozens of state-of-the-art radar systems. The authors stress practical concepts that apply to all radar, keeping math to a minimum. Most of the book is based on real radar systems rather than theoretical studies. The result is a valuable, easy-to-use guide that makes the difficult parts of the field easier and helps readers do

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performance calculations quickly and easily. This series will appeal to radar practitioners within military or government. The first volume was written as a textbook for courses in radar systems and technology and the second volume is aimed at practicing radar engineers and graduate level students. The third volume is designed to serve as a self-contained reference for those aiming to become experts in an advanced technology or application area. POMR: Radar Applications Volume 3 includes concise descriptions of the purposes, principal issues and radar methods found in a wide variety of current radar types. POMR: Advanced Techniques Volume 2 is a professional reference for practicing engineers that provides a stepping stone to advanced practice. POMR: Basic Principles Volume 1 focuses on 4 keys areas; basic concepts, radar signal phenomenology, major subsystems of modern radars and signal and data processing basics.

System Engineering Analysis, Design, and Development

MATLAB Simulations for Radar Systems Design Version 1.1

Signal Processing Algorithms for Communication and Radar Systems

Radar Equations for Modern Radar

Simulation is integral to the successful design of modern radar systems, and there is arguably no better software for this purpose

than MATLAB. But software and the ability to use it does not guarantee success. One must also: Understand radar operations and design philosophy Know how to select the radar parameters to meet the design req

This highly-anticipated second edition of an Artech House classic covers several key radar analysis areas: the radar range equation, detection theory, ambiguity functions, waveforms, antennas, active arrays, receivers and signal processors, CFAR and chaff analysis. Readers will be able to predict the detection performance of a radar system using the radar range equation, its various parameters, matched filter theory, and Swerling target models. The performance of various signal processors, single pulse, pulsed Doppler, LFM, NLFM, and BPSK, are discussed, taking into account factors including MTI processing, integration gain, weighting loss and straddling loss. The details of radar analysis are covered from a mathematical perspective, with in-depth breakdowns of radar performance in the presence of clutter. Readers will be able to determine the nose temperature of a multi-channel receiver as it is used in active arrays. With the addition of three new chapters on moving target detectors, inverse synthetic

aperture radar (ISAR) and constant false alarm rate (CFAR) and new MATLAB codes, this expanded second edition will appeal to the novice as well as the experienced practitioner.

In planning a radar system, having the proper mathematical modeling of propagation effects, clutter, and target statistics is essential. Radar Systems Principles provides a strong theoretical basis for the myriad of formulas and rules of thumb required for analysis, conceptual design, and performance evaluation of radar systems. Mathematical derivations of formulas commonly used by radar engineers are presented, with detailed discussions of the assumptions behind these expressions and their ranges of validity.

These principles are used in a wide range of radar applications. Radar Systems Principles makes it easy to understand the steps in calculating various formulas and when and how these formulas are used. A set of problems is provided for each chapter, enabling you to check your progress in applying the principles discussed in each section of the text. There are more than 170 figures illustrating key concepts. Numerous references to well-known books on radar for coverage of practical design issues and other

specialized topics are given. Radar Systems Principles is an ideal textbook for advanced undergraduates and first-year graduate students and also makes an excellent vehicle for self-study by engineers wishing to enhance their understanding of radar principles and their implication in actual systems.

Since the publication of the second edition of "Introduction to Radar Systems," there has been continual development of new radar capabilities and continual improvements to the technology and practice of radar. This growth has necessitated the addition and updating of the following topics for the third edition: digital technology, automatic detection and tracking, doppler technology, airborne radar, and target recognition. The topic coverage is one of the great strengths of the text. In addition to a thorough revision of topics, and deletion of obsolete material, the author has added end-of-chapter problems to enhance the "teachability" of this classic book in the classroom, as well as for self-study for practicing engineers.

Design and Analysis of Modern Tracking Systems

Radar Resolution and Complex-image Analysis

Radar System Analysis and Modeling

Radar System Analysis

Modern Radar System Analysis Software and User's Manual Version 2.0

Collects the revised and updated versions of lectures presented at an advanced course on [title] held at the Accademia dei Lincei, Rome, 1988, as well as some additional chapters. The 13 chapters address basic concepts on detection, estimation, and optimum filtering; models of clutter; CFAR techniques in clutter; pulse compression and equivalent technologies; pulse doppler radar; MTI, MTD, and adaptive clutter cancellation; rejection of active interference; architecture and implementation of radar signal processors; identification of radar targets; phased arrays; bistatic radars; space-based radar; and evolution and future trends of radar. Primarily for radar engineers and researchers, as well as advanced students. Distributed by INSPEC. Annotation copyright by Book News, Inc., Portland, OR

This book presents the basic principles, analyses, design formulas, and characteristics of various fin-line

configurations. You'll find summaries of hundreds of rigorous formulas as well as approximate closed-form expressions, which can be readily programmed to generate design data for any structure. Discover millimeter-wave integrated circuits and components realized using the various fin-line techniques presented in the text, including directional couplers, power dividers, attenuators, detectors, modulators, and oscillators. An Artech House bestseller!

Here's a thorough overview of the state-of-the-art in design and implementation of advanced tracking for single and multiple sensor systems. This practical resource provides modern system designers and analysts with in-depth evaluations of sensor management, kinematic and attribute data processing, data association, situation assessment, and modern tracking and data fusion methods as applied in both military and non-military arenas.

**En lærebog i radarteori og -teknik.
Radar Systems Analysis and Design
Using MATLAB
Advanced Radar Techniques and
Systems**

Introduction to Radar Using Python and MATLAB

Modern Radar System Analysis Software and User's Manual

Modern Radar

This new handbook on radar signal analysis adopts a deliberate and systematic approach. It uses a clear and consistent level of delivery while maintaining strong and easy-to-follow mathematical details. The emphasis of this book is on radar signal types and their relevant signal processing and not on radar systems hardware or components. This handbook serves as a valuable reference to a wide range of audience. More specifically, college-level students, practicing radar engineers, as well as casual readers of the subject are the intended target audience of the first few chapters of this book. As the book chapters progress, these grow in complexity and specificity. Accordingly, later chapters are intended for practicing engineers, graduate college students, and advanced readers. Finally, the last few chapters contain several special topics on radar systems that are both educational and scientifically entertaining to all readers. The presentation of topics in this handbook takes the reader on a scientific journey whose major landmarks comprise the different radar subsystems and components. In this context, the chapters follow the radar signal along this journey from its birth to the end of its life. Along the way, the different relevant radar subsystems are analyzed and discussed in great detail. The chapter contributors of this new handbook comprise experienced academia members and practicing radar engineers. Their combined years of academic and real-world experiences are in excess of 175. Together, they bring a unique, easy-to-follow mix of mathematical and practical presentations of the topics discussed in this book. See the

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"Chapter Contributors" section to learn more about these individuals.

Radar Expert, Esteemed Author Gregory L. Charvat on CNN and CBS Author Gregory L. Charvat appeared on CNN on March 17, 2014 to discuss whether Malaysia Airlines Flight 370 might have literally flown below the radar. He appeared again on CNN on March 20, 2014 to explain the basics of radar, and he explored the hope and limitations of the technology i

This revised and updated edition offers complete and up-to-date coverage of modern radar systems, including new material on accuracy, resolution, and convolution and correlation. The book features more than 540 illustrations (drawn in Maple V) that offer a greater understanding of various waveforms, and other two- and three-dimensional functions, to help you more accurately analyze radar system performance.

The first edition of this ground-breaking and widely used book introduced a comprehensive textbook on radar systems analysis and design providing hands-on experience facilitated by its companion MATLAB® software. The book very quickly turned into a bestseller. Based on feedback provided by several users and drawing from the author's own teaching experience, the 4th edition adopts a new approach. The presentation in this edition takes the reader on a scientific journey whose major landmarks comprise the different radar sub-systems and components. Along the way, the different relevant radar subsystems are analyzed and discussed in great level of detail. Understanding the radar signal types and their associated radar signal processing techniques are key to understating how radar systems function. Each chapter provides the necessary mathematical and analytical coverage required for a sound understanding of radar theory.

Additionally, dedicated MATLAB® functions/programs

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enhance the understanding of the theory and establish a means to perform radar system analysis and design trades. The software provides users with numerous varieties of graphical outputs. Additionally, a complete set of MATLAB® code that generates all plot and graphs found within the pages of this textbook are also available. All companion MATLAB® code can be downloaded from the book's web page. The 4th Edition: □Takes advantage of the new features offered by MATLAB® 2021 release □Brings the text to a current state of the art □Incorporates much of the feedback received from users using this book as a text and from practicing engineers; accordingly, several chapters have been rewritten □Presents unique topics not found in other books □Maintains a comprehensive and exhaustive presentation □Restructures the presentation to be more convenient for course use. □Provides a post-course reference for engineering students as they enter the field □Offers a companion solutions manual for instructors The 4th edition will serve as a valuable tool to students and radar engineers by helping them better analyze and understand the many topics of radar systems. This book is written primarily as a graduate-level textbook, although parts of it can be used as a senior level course. A companion solutions manual has been developed for use by instructors.

Concepts, Principles, and Practices

Fundamental Principles of Radar

Handbook of Radar Signal Analysis

Plane Flight Control in Difficult Meteoconditions

Weather Radar

Praise for the first edition: "This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL relevant SE material and does so in a very clear, methodical fashion. The breadth and depth of the author's presentation of SE

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principles and practices is outstanding.” -Philip Allen This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for “bridging the gap” between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services Each chapter provides definitions of key terms, guiding principles, examples, author’s notes, real-world examples, and exercises, which highlight and reinforce key SE&D concepts and practices Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UMLTM) / Systems Modeling Language (SysMLTM), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface definition & control; system integration & test; and Verification & Validation (V&V) Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D)

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paradigm that is easy to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strategy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al. Thoroughly illustrated, with end-of-chapter exercises and numerous case studies and examples, Systems Engineering Analysis, Design, and Development, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.

Radar System Analysis and Modeling Artech House Signal Processing for Multistatic Radar Systems: Adaptive Waveform Selection, Optimal Geometries and Pseudolinear Tracking Algorithms addresses three important aspects of signal processing for multistatic radar systems, including adaptive waveform selection, optimal geometries and pseudolinear tracking algorithms. A key theme of the book is performance optimization for multistatic target tracking and localization via waveform adaptation, geometry optimization and tracking algorithm design. Chapters contain detailed mathematical derivations and algorithmic development that are accompanied by simulation examples and associated MATLAB codes. This book is an ideal resource for university researchers and industry engineers in radar, radar signal processing and communications engineering. Develops

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waveform selection algorithms in a multistatic radar setting to optimize target tracking performance Assesses the optimality of a given target-sensor geometry and designs optimal geometries for target localization using mobile sensors Gives an understanding of low-complexity and high-performance pseudolinear estimation algorithms for target localization and tracking in multistatic radar systems Contains the MATLAB codes for the examples used in the book

An introduction to radar systems should ideally be self-contained and hands-on, a combination lacking in most radar texts. The first edition of Radar Systems Analysis and Design Using MATLAB® provided such an approach, and the second edition continues in the same vein. This edition has been updated, expanded, and reorganized to include advances in the field and to be more logical in sequence. Ideal for anyone encountering the topic for the first time or for professionals in need of on-the-job reference, this book features an abundance of MATLAB programs and code. Radar Systems Analysis and Design Using MATLAB®, Second Edition presents the fundamentals and principles of radar along with enough rigorous mathematical derivations to ensure that you gain a deep understanding. The author has extensively revised chapters on radar cross-section and polarization, matched filter and radar ambiguity function, and radar wave propagation. He also added information on topics such as PRN codes, multipath and refraction, clutter and MTI processing, and high range resolution. With all MATLAB functions updated to reflect version 7.0 and an expanded set of self-test problems, you will

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find this up-to-date text to be the most complete treatment of radar available, providing the hands-on tools that will enrich your learning.

***Adaptive Waveform Selection, Optimal Geometries and Pseudolinear Tracking Algorithms
Fundamentals of Radar Signal Processing
Signal Processing for Multistatic Radar Systems***

Software and User's Manual, Version 3.0

A thorough update to the Artech House classic Modern Radar Systems Analysis, this reference is a comprehensive and cohesive introduction to radar systems design and performance estimation. It offers you the knowledge you need to specify, evaluate, or apply radar technology in civilian or military systems. The book presents accurate detection range equations that let you realistically estimate radar performance in a variety of practical situations. With its clear, easy-to-understand language, you quickly learn the tradeoffs between choice of wavelength and radar performance and see the inherent advantages and limitations associated with each radar band. You find modeling procedures to help you analyze enemy systems or evaluate radar integrated into new weapon systems. The book covers ECM and ECCM for both surveillance and tracking to help you estimate the effects of active and passive ECM, select hardware/software for reconnaissance or jamming, and plan the operation of EW systems. As radar systems evolve, this book provides the equations

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needed to calculate and evaluate the performance of the latest advances in radar technology.

A software that offers radar and electronic warfare engineers a tool for solving the radar equation for the maximum range at which a radar can achieve target detection under conditions of various interference sources, such as thermal noise, surface clutter, precipitation, chaff, and jamming.

Dr. John Milan, radar consultant; formerly 36 years with ITT Gilfillan, IEEE AESS Radar Systems Panel --

This comprehensive resource provides readers with the tools necessary to perform analysis of various waveforms for use in radar systems. It provides information about how to produce synthetic aperture (SAR) images by giving a tomographic formulation and implementation for SAR imaging. Tracking filter fundamentals, and each parameter associated with the filter and how each affects tracking performance are also presented. Various radar cross section measurement techniques are covered, along with waveform selection analysis through the study of the ambiguity function for each particular waveform from simple linear frequency modulation (LFM) waveforms to more complicated coded waveforms. The text includes the Python tool suite, which allows the reader to analyze and predict radar performance for various scenarios and applications. Also provided are MATLAB®

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scripts corresponding to the Python tools. The software includes a user-friendly graphical user interface (GUI) that provides visualizations of the concepts being covered. Users have full access to both the Python and MATLAB source code to modify for their application. With examples using the tool suite are given at the end of each chapter, this text gives readers a clear understanding of how important target scattering is in areas of target detection, target tracking, pulse integration, and target discrimination.

Modern Radar Systems

Weather Radar Technology Beyond NEXRAD

RAVIR Handbook of Modern Radar System Design, Analysis and Simulation

Basic Radar Analysis, Second Edition

Modern Radar System Analysis Software

Bogen beskæftiger sig specielt med de grundlæggende teorier inden for søge- og følgeradar.

The classic reference for radar and remote sensing engineers, Handbook of Radar for Scattering Statistics for Terrain, has been reissued with updated, practical software for modern data analysis applications. First published in 1989, this update features a new preface, along with three new appendices that explain how to use the new software and graphical user interface. Python- and MATLAB-based software has been utilized so remote

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sensing and radar engineers can utilize the wealth of statistical data that came with the original book and software. This update combines the book and software, previously sold separately, into a single new product. The text first presents detailed examinations of the statistical behavior of speckle when superimposed on nonuniform terrain. The Handbook of Radar Scattering Statistics for Terrain then supports system design and signal processing applications with a complete database of calibrated backscattering coefficients. Compiled over 30 years, the statistical summaries of radar backscatter from terrain offers you over 400,000 data points compiled in tabular format. With this text, you'll own the most comprehensive database of radar terrain scattering statistics ever compiled. Derived from measurements made by both airborne and ground-based scatterometer systems, the database includes information from 114 references. The text provides over 60 tables of backscatter data for 9 different surface categories, all derived under strict quality criteria. Rigorous standards for calibration accuracy, measurement precision, and category identification make the database the most reliable source for scattering statistics

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ever available.

An authoritative text covering the key topics, concepts and analytical tools needed to understand modern communication and radar systems. With numerous examples, exercises and computational results, it is an invaluable resource for graduate students in electrical and computer engineering, and practitioners in communications and radar engineering. This book highlights new methods and parametric algorithms for the digital coherent processing of signals in airborne radar systems located on air vehicles. Using the autoregressive (AR) model, it delivers more accurate danger assessments for flight in wind shear and atmospheric turbulence, while also suggesting how they could be implemented. Given its scope, the book is intended for technical experts whose work involves the development, production and operation of airborne radio-electronic systems.

Analysis, Evaluation, and System Design
Radar Systems Analysis and Design Using

MATLAB Second Edition

Introduction to Radar Systems

Handbook of Radar Scattering Statistics
for Terrain

Principles of Modern Radar