

INTERNATIONAL EDITION

Digital Communications

Fourth Edition

John G. Proakis



Digital Communication Proakis 4th Edition

Ke Gong,Zhisheng Niu



Digital Communication Proakis 4th Edition:

Theory and Design of Digital Communication Systems Tri T. Ha, 2010-10-28 Providing the underlying principles of digital communication and the design techniques of real world systems this textbook prepares senior undergraduate and graduate students for the engineering practices required in industry Covering the core concepts including modulation demodulation equalization and channel coding it provides step by step mathematical derivations to aid understanding of background material In addition to describing the basic theory the principles of system and subsystem design are introduced enabling students to visualize the intricate connections between subsystems and understand how each aspect of the design supports the overall goal of achieving reliable communications Throughout the book theories are linked to practical applications with over 250 real world examples whilst 370 varied homework problems in three levels of difficulty enhance and extend the text material With this textbook students can understand how digital communication systems operate in the real world learn how to design subsystems and evaluate end to end performance with ease and confidence

Chaotic Signals in Digital Communications Marcio Eisencraft, Romis Attux, Ricardo Suyama, 2018-09-03 Chaotic Signals in Digital Communications combines fundamental background knowledge with state of the art methods for using chaotic signals and systems in digital communications The book builds a bridge between theoretical works and practical implementation to help researchers attain consistent performance in realistic environments It shows the possible shortcomings of the chaos based communication systems proposed in the literature particularly when they are subjected to non ideal conditions It also presents a toolbox of techniques for researchers working to actually implement such systems A Combination of Tutorials and In Depth Cutting Edge Research Featuring contributions by active leading researchers the book begins with an introduction to communication theory dynamical systems and chaotic communications suitable for those new to the field This lays a solid foundation for the more applied chapters that follow A Toolbox of Techniques Including New Ways to Tackle Channel Imperfections The book covers typical chaos communication methods namely chaotic masking chaotic modulation chaotic shift key and symbolic message bearing as well as bidirectional communication and secure communication It also presents novel methodologies to deal with communication channel imperfections These tackle band limited channel chaos communication radio channels with fading and the resistance of a special chaotic signal to multipath propagations In addition the book addresses topics related to engineering applications such as optical communications chaotic matched filters and circuit implementations and microwave frequency modulated differential chaos shift keying FM DCSK systems Insights for Both Theoretical and Experimental Researchers Combining theory and practice this book offers a unique perspective on chaotic communication in the context of non ideal conditions Written for theoretical and experimental researchers it tackles the practical issues faced in implementing chaos based signals and systems in digital communications applications

MATLAB/Simulink for Digital Communication Won Y. Yang, 2018-03-02 Chapter 1 Fourier Analysis 1 1 1 CONTINUOUS TIME FOURIER SERIES CTFS 2

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Digital Transmission Dayan Adionel Guimaraes,2010-01-18 Digital Transmission A Simulation Aided Introduction with
 VisSim Comm is a book in which basic principles of digital communication mainly pertaining to the physical layer are
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 advanced topics and the associated technology In this book each topic is addressed in two different and complementary ways
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 space representation spread spectrum multi carrier and ultra wideband transmission carrier and symbol timing recovery
 information theory and error correcting codes The simulation approach revisits the same subjects focusing on the capabilities
 of the communication system simulation software VisSim Comm on helping the reader to fulfill the gap between the theory
 and its practical meaning The presentation of the theory is made easier with the help of 357 illustrations A total of 101
 simulation files supplied in the accompanying CD support the simulation oriented approach A full evaluation version and a
 viewer only version of VisSim Comm are also supplied in the CD

Digital Communications Michael Rice,2009 Digital
 Communications A Discrete Time Approach by Michael Rice presents the traditional topics in digital communications such as
 modulation PAM and QAM detection using the matched filter and performance in AWGN It also includes less traditional topics
 as pulse shaping carrier phase synchronization symbol timing synchronization automatic gain control channel selection and

advanced discrete time architectures BOOK JACKET **Introduction to Digital Communications** Michael B. Pursley,2005 In addition to full analyses of optimum systems Pursley electrical and computer engineering Clemson University develops the analytical tools needed to evaluate suboptimum systems and conduct tradeoff studies in this text for a first course in digital communication system engineering for advanced undergraduates and beginning graduate students in electrical and computer engineering The text features clear derivations and solved exercises with coverage progressing from a review of probability and random variable through intersymbol interference and spread spectrum communications Background in linear systems is required 2004 Book News Inc Portland Detection and Estimation Theory and Its Applications Thomas A. Schonhoff,Arthur Anthony Giordano,2006 For courses in Estimation and Detection Theory offered in departments of Electrical Engineering This is the first student friendly textbook to comprehensively address the topics of both detection and estimation with a thorough discussion of the underlying theory as well as the practical applications By addressing detection and estimation theory in the same volume the authors encourage a greater appreciation of the strong coupling and often blurring of these fields of study In order to modernize classical topics the text focuses on discrete signal processing with continuous signal presentations included to demonstrate uniformity and consistency of the results

Digital Signal Processing Jonathan Y. Stein,2000-10-09 Get a working knowledge of digital signal processing for computer science applications The field of digital signal processing DSP is rapidly exploding yet most books on the subject do not reflect the real world of algorithm development coding for applications and software engineering This important new work fills the gap in the field providing computer professionals with a comprehensive introduction to those aspects of DSP essential for working on today s cutting edge applications in speech compression and recognition and modem design The author walks readers through a variety of advanced topics clearly demonstrating how even such areas as spectral analysis adaptive and nonlinear filtering or communications and speech signal processing can be made readily accessible through clear presentations and a practical hands on approach In a light reader friendly style Digital Signal Processing A Computer Science Perspective provides A unified treatment of the theory and practice of DSP at a level sufficient for exploring the contemporary professional literature Thorough coverage of the fundamental algorithms and structures needed for designing and coding DSP applications in a high level language Detailed explanations of the principles of digital signal processors that will allow readers to investigate assembly languages of specific processors A review of special algorithms used in several important areas of DSP including speech compression recognition and digital communications More than 200 illustrations as well as an appendix containing the essential mathematical background *Achieving Efficient Spectrum Usage in Ultra Wide Band Ad Hoc Networks* Ioannis Broustis,2005 *Telecommunications Systems and Technology* Michael Khader,William E. Barnes,2000 Engineering computer science data communications and telecommunications professionals want to learn more about a specific area covered in the book or who want to get a broad and in depth understanding of telecommunications

technology *Synchronization and (DE-) Modulation for Ultra-wideband Access* Xiliang Luo,2006 Proceedings ,2001
Digital Communication Over Fading Channels Marvin K. Simon, Mohamed-Slim Alouini,2000-08-14 A unified presentation
broad coverage single volume convenience This timesaving reference provides a unified approach to the performance
analysis of digital communication systems over generalized fading channels Employing alternative forms of such classical
mathematical functions as the Gaussian Q function the Marcum Q function and the incomplete Gamma function the book
expresses communication system error probability performance in terms of the moment generation function MGF of the
fading process This MGF based approach provides the unifying backbone of the book *Digital Communication over Fading
Channels* discusses in detail coherent differentially coherent and noncoherent communication systems as well as a large
variety of fading channel models typical of communication links found in the real world Coverage also includes single and
multichannel reception and in the case of the latter a large variety of diversity types For each combination of communication
type channel fading model and diversity type the average bit error rate and or symbol error rate is expressed in an easy to
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Simplified results heretofore available only in complex forms Extremely broad coverage of topics Explores practical
applications including the problem of optimum combining in the presence of co channel interference **Information
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information technology This all inclusive reference source examines through case studies empirical analysis and conceptual
models the successes and consequences associated with the growth of information communication technologies in the world
today **IEEE Transactions on Circuits and Systems** ,2005 *Radio Resource Management Strategies in UMTS* Jordi
Perez Romero,2005-07-22 This book focuses on the RRM concepts including the theoretical background that serves as a basis
for the description of specific RRM algorithms The RRM problem for UMTS is presented and more specifically for the FDD
mode which is based on a WCDMA scheme This comprehensive title is essential reading for engineers and managers in radio
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Systems for GNSS and Wireless Communications** Jack Kenneth Holmes,2007 This cutting edge resource offers a modern
treatment of spread spectrum SS communications including direct sequence and frequency hopping This comprehensive
volume presents the principles of design and analysis for all SS systems and places special emphasis on wireless systems and
global navigation satellite systems GNSS *Intelligent Information Technologies* Vijayan Sugumaran,2008 This collection
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The 14th IEEE 2003 International Symposium on Personal, Indoor, and Mobile Radio Communications Ke Gong,Zhisheng Niu,2003

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