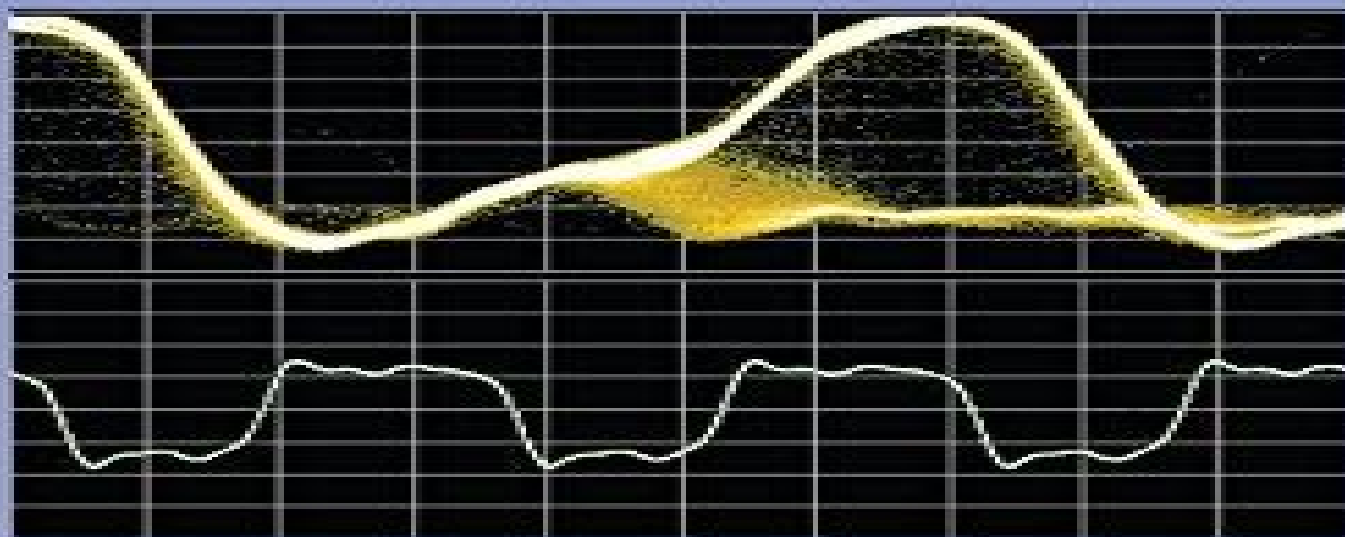


# Digital Communication Systems Using MATLAB® and Simulink®

*Second Edition*



**Dennis Silage**

# Digital Communication Systems Using Matlab And Simulink

**Kwonhue Choi, Huaping Liu**



## **Digital Communication Systems Using Matlab And Simulink:**

*Modeling of Digital Communication Systems Using SIMULINK* Arthur A. Giordano, Allen H. Levesque, 2015-04-01 A comprehensive and detailed treatment of the program SIMULINK that focuses on SIMULINK for simulations in Digital and Wireless Communications Modeling of Digital Communication Systems Using SIMULINK introduces the reader to SIMULINK an extension of the widely used MATLAB modeling tool and the use of SIMULINK in modeling and simulating digital communication systems including wireless communication systems Readers will learn to model a wide selection of digital communications techniques and evaluate their performance for many important channel conditions Modeling of Digital Communication Systems Using SIMULINK is organized in two parts The first addresses Simulink models of digital communications systems using various modulation coding channel conditions and receiver processing techniques The second part provides a collection of examples including speech coding interference cancellation spread spectrum adaptive signal processing Kalman filtering and modulation and coding techniques currently implemented in mobile wireless systems Covers case examples progressing from basic to complex Provides applications for mobile communications satellite communications and fixed wireless systems that reveal the power of SIMULINK modeling Includes access to useable SIMULINK simulations online All models in the text have been updated to R2018a only problem sets require updating to the latest release by the user Covering both the use of SIMULINK in digital communications and the complex aspects of wireless communication systems Modeling of Digital Communication Systems Using SIMULINK is a great resource for both practicing engineers and students with MATLAB experience

**Digital Communication Systems Using MATLAB and Simulink** Dennis Silage, 2009 Digital Communication using MATLAB and Simulink is intended for a broad audience For the student taking a traditional course the text provides simulations of the MATLAB and Simulink systems and the opportunity to go beyond the lecture or laboratory and develop investigations and projects For the professional the text facilitates an expansive review of and experience with the tenets of digital communication systems

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Problem-Based Learning in Communication Systems Using MATLAB and Simulink Kwonhue Choi, Huaping Liu, 2016-01-13 Designed to help teach and understand communication systems using a classroom tested active learning approach Discusses communication concepts and algorithms which are explained using simulation projects accompanied by MATLAB and Simulink Provides step by step code exercises and instructions to implement execution sequences Includes a companion website that has MATLAB and Simulink model samples and templates password matlab

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MATLAB und SIMULINK in Signalverarbeitung und Kommunikationstechnik Josef Hoffmann, 1999      *MATLAB/Simulink for Digital Communication* Won Y. Yang, 2018-03-02

Chapter 1 Fourier Analysis 1 1 1 CONTINUOUS TIME FOURIER SERIES  
 CTFS 2 1 2 PROPERTIES OF CTFS 6 1 2 1 Time Shifting Property 6 1 2 2 Frequency Shifting Property 6 1 2 3 Modulation  
 Property 6 1 3 CONTINUOUS TIME FOURIER TRANSFORM CTFT 7 1 4 PROPERTIES OF CTFT 13 1 4 1 Linearity 13 1 4 2  
 Conjugate Symmetry 13 1 4 3 Real Translation Time Shifting and Complex Translation Frequency Shifting 14 1 4 4 Real  
 Convolution and Correlation 14 1 4 5 Complex Convolution Modulation Windowing 14 1 4 6 Duality 17 1 4 7 Parseval  
 Relation Power Theorem 18 1 5 DISCRETE TIME FOURIER TRANSFORM DTFT 18 1 6 DISCRETE TIME FOURIER SERIES  
 DFS DFT 19 1 7 SAMPLING THEOREM 21 1 7 1 Relationship between CTFS and DFS 21 1 7 2 Relationship between CTFT  
 and DTFT 27 1 7 3 Sampling Theorem 27 1 8 POWER ENERGY AND CORRELATION 29 1 9 LOWPASS EQUIVALENT OF  
 BANDPASS SIGNALS 30 Chapter 2 PROBABILITY AND RANDOM PROCESSES 39 2 1 PROBABILITY 39 2 1 1 Definition of  
 Probability 39 2 1 2 Joint Probability and Conditional Probability 40 2 1 3 Probability Distribution Density Function 41 2 1 4  
 Joint Probability Density Function 41 2 1 5 Conditional Probability Density Function 41 2 1 6 Independence 41 2 1 7 Function  
 of a Random Variable 42 2 1 8 Expectation Covariance and Correlation 43 2 1 9 Conditional Expectation 47 2 1 10 Central  
 Limit Theorem Normal Convergence Theorem 47 2 1 11 Random Processes 49 2 1 12 Stationary Processes and Ergodic  
 Processes 51 2 1 13 Power Spectral Density PSD 53 2 1 14 White Noise and Colored Noise 53 2 2 LINEAR FILTERING OF A  
 RANDOM PROCESS 57 2 3 PSD OF A RANDOM PROCESS 58 2 4 FADING EFFECT OF A MULTIPATH CHANNEL 58  
 Chapter 3 ANALOG MODULATION 71 3 1 AMPLITUDE MODULATION AM 71 3 1 1 DSB Double Sideband AM Amplitude  
 Modulation 71 3 1 2 Conventional AM Amplitude Modulation 75 3 1 3 SSB Single Sideband AM Amplitude Modulation 78 3 2  
 ANGLE MODULATION AGM FREQUENCY PHASE MODULATIONS 82 Chapter 4 ANALOG TO DIGITAL CONVERSION 87 4 1  
 QUANTIZATION 87 4 1 1 Uniform Quantization 88 4 1 2 Non uniform Quantization 89 4 1 3 Non uniform Quantization  
 Considering the Absolute Errors 91 4 2 Pulse Code Modulation PCM 95 4 3 Differential Pulse Code Modulation DPCM 97 4 4  
 Delta Modulation DM 100 Chapter 5 BASEBAND TRANSMISSION 107 5 1 RECEIVER RCVR and SNR 107 5 1 1 Receiver of  
 RC Filter Type 109 5 1 2 Receiver of Matched Filter Type 110 5 1 3 Signal Correlator 112 5 2 PROBABILITY OF ERROR  
 WITH SIGNALING 114 5 2 1 Antipodal Bipolar Signaling 114 5 2 2 On Off Keying OOK Unipolar Signaling 118 5 2 3  
 Orthogonal Signaling 119 5 2 4 Signal Constellation Diagram 121 5 2 5 Simulation of Binary Communication 123 5 2 6 Multi  
 Level amplitude PAM Signaling 127 5 2 7 Multi Dimensional Signaling 129 5 2 8 Bi Orthogonal Signaling 133 Chapter 6  
 BANDLIMITED CHANNEL AND EQUALIZER 139 6 1 BANDLIMITED CHANNEL 139 6 1 1 Nyquist Bandwidth 139 6 1 2  
 Raised Cosine Frequency Response 141 6 1 3 Partial Response Signaling Duobinary Signaling 143 6 2 EQUALIZER 148 6 2 1  
 Zero Forcing Equalizer ZFE 148 6 2 2 MMSE Equalizer MMSEE 151 6 2 3 Adaptive Equalizer ADE 154 6 2 4 Decision  
 Feedback Equalizer DFE 155 Chapter 7 BANDPASS TRANSMISSION 169 7 1 AMPLITUDE SHIFT KEYING ASK 169 7 2

FREQUENCY SHIFT KEYING FSK 178 7 3 PHASE SHIFT KEYING PSK 187 7 4 DIFFERENTIAL PHASE SHIFT KEYING DPSK 190 7 5 QUADRATURE AMPLITUDE MODULATION QAM 195 7 6 COMPARISON OF VARIOUS SIGNALINGS 200 Chapter 8 CARRIER RECOVERY AND SYMBOL SYNCHRONIZATION 227 8 1 INTRODUCTION 227 8 2 PLL PHSE LOCKED LOOP 228 8 3 ESTIMATION OF CARRIER PHASE USING PLL 233 8 4 CARRIER PHASE RECOVERY 235 8 4 1 Carrier Phase Recovery Using a Squaring Loop for BPSK Signals 235 8 4 2 Carrier Phase Recovery Using Costas Loop for PSK Signals 237 8 4 3 Carrier Phase Recovery for QAM Signals 240 8 5 SYMBOL SYNCHRONIZATION TIMING RECOVERY 243 8 5 1 Early Late Gate Timing Recovery for BPSK Signals 243 8 5 2 NDA ELD Synchronizer for PSK Signals 246 Chapter 9 INFORMATION AND CODING 257 9 1 MEASURE OF INFORMATION ENTROPY 257 9 2 SOURCE CODING 259 9 2 1 Huffman Coding 259 9 2 2 Lempel Zip Welch Coding 262 9 2 3 Source Coding vs Channel Coding 265 9 3 CHANNEL MODEL AND CHANNEL CAPACITY 266 9 4 CHANNEL CODING 271 9 4 1 Waveform Coding 272 9 4 2 Linear Block Coding 273 9 4 3 Cyclic Coding 282 9 4 4 Convolutional Coding and Viterbi Decoding 287 9 4 5 Trellis Coded Modulation TCM 296 9 4 6 Turbo Coding 300 9 4 7 Low Density Parity Check LDPC Coding 311 9 4 8 Differential Space Time Block Coding DSTBC 316 9 5 CODING GAIN 319 Chapter 10 SPREAD SPECTRUM SYSTEM 339 10 1 PN Pseudo Noise Sequence 339 10 2 DS SS Direct Sequence Spread Spectrum 347 10 3 FH SS Frequency Hopping Spread Spectrum 352 Chapter 11 OFDM SYSTEM 359 11 1 OVERVIEW OF OFDM 359 11 2 FREQUENCY BAND AND BANDWIDTH EFFICIENCY OF OFDM 363 11 3 CARRIER RECOVERY AND SYMBOL SYNCHRONIZATION 364 11 4 CHANNEL ESTIMATION AND EQUALIZATION 381 11 5 INTERLEAVING AND DEINTERLEAVING 384 11 6 PUNCTURING AND DEPUNCTURING 386 11 7 IEEE STANDARD 802 11A 1999 388

**Optical Fiber Communication Systems with MATLAB® and Simulink® Models, Second Edition** Le Nguyen Binh, 2014-12-01 Carefully structured to instill practical knowledge of fundamental issues Optical Fiber Communication Systems with MATLAB and Simulink Models describes the modeling of optically amplified fiber communications systems using MATLAB and Simulink This lecture based book focuses on concepts and interpretation mathematical procedures and engineering applications shedding light on device behavior and dynamics through computer modeling Supplying a deeper understanding of the current and future state of optical systems and networks this Second Edition Reflects the latest developments in optical fiber communications technology Includes new and updated case studies examples end of chapter problems and MATLAB and Simulink models Emphasizes DSP based coherent reception techniques essential to advancement in short and long term optical transmission networks Optical Fiber Communication Systems with MATLAB and Simulink Models Second Edition is intended for use in university and professional training courses in the specialized field of optical communications This text should also appeal to students of engineering and science who have already taken courses in electromagnetic theory signal processing and digital communications as well as to optical engineers designers and practitioners in industry *MATLAB/Simulink for Digital Communication*, 2009 **Digital Signal Processing with**

**Matlab Examples, Volume 1** Jose Maria Giron-Sierra, 2016-11-19 This is the first volume in a trilogy on modern Signal Processing The three books provide a concise exposition of signal processing topics and a guide to support individual practical exploration based on MATLAB programs This book includes MATLAB codes to illustrate each of the main steps of the theory offering a self contained guide suitable for independent study The code is embedded in the text helping readers to put into practice the ideas and methods discussed The book is divided into three parts the first of which introduces readers to periodic and non periodic signals The second part is devoted to filtering which is an important and commonly used application The third part addresses more advanced topics including the analysis of real world non stationary signals and data e g structural fatigue earthquakes electro encephalograms birdsong etc The book s last chapter focuses on modulation an example of the intentional use of non stationary signals Spektrale Analyse mit MATLAB und Simulink Josef Hoffmann, 2011-12-02 Die Spektrale Analyse von Signalen ist ein wichtiger Bestandteil der Signalverarbeitung MATLAB und Simulink sind ideale Instrumente zur computergestützten Spektralanalyse Zu den verschiedensten Signalen werden hier Herangehensweisen zur Analyse beschrieben und jeweils durch einige Experimente veranschaulicht Die Beispiele stammen aus Kommunikationstechnik Elektrotechnik und Mechanischer Schwingungstechnik Digital Communication Systems Engineering with Software-defined Radio Alexander M. Wyglinski, Di Pu, 2013 For a senior level undergraduate course on digital communications this unique resource provides you with a practical approach to quickly learning the software defined radio concepts you need to know for your work in the field **Network Modeling, Simulation and Analysis in MATLAB** Dac-Nhuong Le, Abhishek Kumar Pandey, Sairam Tadepalli, Pramod Singh Rathore, Jyotir Moy Chatterjee, 2019-08-06 The purpose of this book is first to study MATLAB programming concepts then the basic concepts of modeling and simulation analysis particularly focus on digital communication simulation The book will cover the topics practically to describe network routing simulation using MATLAB tool It will cover the dimensions like Wireless network and WSN simulation using MATLAB then depict the modeling and simulation of vehicles power network in detail along with considering different case studies Key features of the book include Discusses different basics and advanced methodology with their fundamental concepts of exploration and exploitation in NETWORK SIMULATION Elaborates practice questions and simulations in MATLAB Student friendly and Concise Useful for UG and PG level research scholar Aimed at Practical approach for network simulation with more programs with step by step comments Based on the Latest technologies coverage of wireless simulation and WSN concepts and implementations **Grundlagen der digitalen Informationsübertragung** Peter Adam Höher, 2013-05-23 Die Informations und Kommunikationstechnik hat in den letzten Jahrzehnten enorm an Bedeutung gewonnen Umso wichtiger wird die Vermittlung von Grundlagenwissen in der digitalen Informationsübertragung Aktuelle Forschungsgebiete wie Mehrantennensysteme MIMO Systeme Mehrnutzerkommunikation und Netzwerkcodierung basieren auf informationstheoretischen Ansätzen aber auch auf Kenntnissen der Codierungstheorie der Übertragungstechnik und der Sch

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**Contemporary Communication Systems Using MATLAB and Simulink** John G. Proakis, Masoud Salehi, Gerhard Bauch, 2004 Featuring a variety of applications that motivate students, this book serves as a companion or supplement to any of the comprehensive textbooks in communication systems The book provides a variety of exercises that may be solved on the computer using MATLAB The authors assume that the student is familiar with the fundamentals of MATLAB By design, the treatment of the various topics is brief The authors provide the motivation and a short introduction to each topic, establish the necessary notation, and then illustrate the basic concepts by means of an example

**Problem-Based Learning in Communication Systems Using MATLAB and Simulink** Elliott Edling, 2017-05-03 This book covers the basic concepts of signals and analog and digital communications to more complex simulations in communication systems Problem Based Learning in Communication Systems Using MATLAB and Simulink begins by introducing MATLAB and Simulink to prepare readers who are unfamiliar with these environments in order to tackle projects and exercises included in this book Discussions on simulation of signals, filter design, sampling and reconstruction, and analog communications are covered next The book concludes by covering advanced topics such as Viterbi decoding, OFDM, and MIMO In addition, this book contains examples of how to convert waveforms constructed in simulation into electric signals It also includes problems illustrating how to complete actual wireless communications in the band near ultrasonic frequencies

*Contemporary Communication Systems Using MATLAB* John G. Proakis, Masoud Salehi, 1998 This text contains a large number of MATLAB-based problems dealing with topics covered in a first course in communication systems Each chapter contains fundamental concepts briefly reviewed and presents illustration problems using MATLAB Each chapter contains a list of MATLAB files used

*Problem-Based Learning in Communication Systems Using MATLAB and Simulink* Jesus Jean, 2017-05-16 This book covers the basic concepts of signals and analog and digital communications to more complex simulations in communication systems Problem Based Learning in Communication Systems Using MATLAB and Simulink begins by introducing MATLAB and Simulink to prepare readers who are unfamiliar with these environments in order to tackle projects and exercises included in this book Discussions on simulation of signals, filter design, sampling and



reconstruction and analog communications are covered next The book concludes by covering advanced topics such as Viterbi decoding OFDM and MIMO In addition this book contains examples of how to convert waveforms constructed in simulation into electric signals It also includes problems illustrating how to complete actual wireless communications in the band near ultrasonic frequencies      *Advances in Computer Science, Environment, Ecoinformatics, and Education, Part V* Sally Lin,Xiong Huang,2011-08-09 This 5 volume set CCIS 214 CCIS 218 constitutes the refereed proceedings of the International Conference on Computer Science Environment Ecoinformatics and Education CSEE 2011 held in Wuhan China in July 2011 The 525 revised full papers presented in the five volumes were carefully reviewed and selected from numerous submissions The papers are organized in topical sections on information security intelligent information neural networks digital library algorithms automation artificial intelligence bioinformatics computer networks computational system computer vision computer modelling and simulation control databases data mining e learning e commerce e business image processing information systems knowledge management and knowledge discovering multimedia and its application management and information system mobile computing natural computing and computational intelligence open and innovative education pattern recognition parallel and computing robotics wireless network web application other topics connecting with computer environment and ecoinformatics modeling and simulation environment restoration environment and energy information and its influence on environment computer and ecoinformatics biotechnology and biofuel as well as biosensors and bioreactor

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## **Table of Contents Digital Communication Systems Using Matlab And Simulink**

1. Understanding the eBook Digital Communication Systems Using Matlab And Simulink
  - The Rise of Digital Reading Digital Communication Systems Using Matlab And Simulink
  - Advantages of eBooks Over Traditional Books
2. Identifying Digital Communication Systems Using Matlab And Simulink
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Digital Communication Systems Using Matlab And Simulink
  - User-Friendly Interface
4. Exploring eBook Recommendations from Digital Communication Systems Using Matlab And Simulink
  - Personalized Recommendations
  - Digital Communication Systems Using Matlab And Simulink User Reviews and Ratings
  - Digital Communication Systems Using Matlab And Simulink and Bestseller Lists
5. Accessing Digital Communication Systems Using Matlab And Simulink Free and Paid eBooks
  - Digital Communication Systems Using Matlab And Simulink Public Domain eBooks

- Digital Communication Systems Using Matlab And Simulink eBook Subscription Services
- Digital Communication Systems Using Matlab And Simulink Budget-Friendly Options
- 6. Navigating Digital Communication Systems Using Matlab And Simulink eBook Formats
  - ePub, PDF, MOBI, and More
  - Digital Communication Systems Using Matlab And Simulink Compatibility with Devices
  - Digital Communication Systems Using Matlab And Simulink Enhanced eBook Features
- 7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Digital Communication Systems Using Matlab And Simulink
  - Highlighting and Note-Taking Digital Communication Systems Using Matlab And Simulink
  - Interactive Elements Digital Communication Systems Using Matlab And Simulink
- 8. Staying Engaged with Digital Communication Systems Using Matlab And Simulink
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Digital Communication Systems Using Matlab And Simulink
- 9. Balancing eBooks and Physical Books Digital Communication Systems Using Matlab And Simulink
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Digital Communication Systems Using Matlab And Simulink
- 10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
- 11. Cultivating a Reading Routine Digital Communication Systems Using Matlab And Simulink
  - Setting Reading Goals Digital Communication Systems Using Matlab And Simulink
  - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Digital Communication Systems Using Matlab And Simulink
  - Fact-Checking eBook Content of Digital Communication Systems Using Matlab And Simulink
  - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
  - Utilizing eBooks for Skill Development
  - Exploring Educational eBooks

### 14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

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