

1. Record Nr.	UNINA9911019827803321
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Titolo	Wireless information networks // Kaveh Pahlavan, Allen H. Levesque
Pubbl/distr/stampa	Hoboken, NJ, : John Wiley, 2005
ISBN	9786610239009 9781280239007 128023900X 9780470362327 0470362324 9780471738640 0471738646 9780471738633 0471738638
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (742 p.)
Collana	Wiley series in telecommunications and signal processing
Altri autori (Persone)	LevesqueAllen H
Disciplina	621.382
Soggetti	Wireless communication systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Wiley-Interscience."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	WIRELESS INFORMATION NETWORKS; CONTENTS; Preface; PART I INTRODUCTION TO WIRELESS NETWORKS; 1 Overview of Wireless Networks; 1.1 Introduction; 1.2 Network Architecture and Design Issues; 1.3 Key Trends in Wireless Networking; 1.4 Outline of the Book; Questions; 2 Evolution of the Wireless Industry; 2.1 Introduction; 2.2 Three Views of the Wireless Industry; 2.3 Three Generations of Cellular Networks; 2.4 Trends in Wireless Technologies; Questions; PART II CHARACTERISTICS OF RADIO PROPAGATION; 3 Characterization of Radio Propagation; 3.1 Introduction 3.2 Multipath Fading and the Distance-Power Relationship 3.3 Local Movements and Doppler Shift; 3.4 Multipath for Wideband Signals; 3.5 Classical Uncorrelated Scattering Model; 3.6 Indoor and Urban Radio Propagation Modeling; Questions; Problems; Projects; 4 Modeling and Simulation of Narrowband Signal Characteristics; 4.1 Introduction; 4.2 Modeling Path Loss and Slow Shadow Fading; 4.3 Doppler Spectrum of

Fast Envelope Fading; 4.4 Statistical Behavior of Fast Envelope Fading; 4.5 Simulation of Fast Envelope Fading; Questions; Problems; Projects 5 Measurement of Wideband and UWB Channel Characteristics 5.1 Introduction; 5.2 Time-Domain Measurement Techniques; 5.3 Frequency-Domain Measurement Techniques; 5.4 Advances in Frequency-Domain Channel Measurement; Questions; Problems; Project; 6 Modeling of Wideband Radio Channel Characteristics; 6.1 Introduction; 6.2 Wideband Time-Domain Statistical Modeling; 6.3 Wideband Frequency-Domain Channel Modeling; 6.4 Comparison Between Statistical Models; 6.5 Ray-Tracing Algorithms; 6.6 Direct Solution of Radio Propagation Equations; 6.7 Comparison of Deterministic and Statistical Modeling
6.8 Site-Specific Statistical Model Appendix 6A: GSM-Recommended Multipath Propagation Models; Appendix 6B: Wideband Multipath Propagation Models; Questions; Problems; Projects; PART III MODEM DESIGN; 7 Narrowband Modem Technology; 7.1 Introduction; 7.2 Basic Modulation Techniques; 7.3 Theoretical Limits and Practical Impairments; 7.4 Traditional Modems for Wide-Area Wireless Networks; 7.5 Other Aspects of Modem Implementation; Questions; Problems; Projects; 8 Fading, Diversity, and Coding; 8.1 Introduction; 8.2 Radio Communication on Flat Rayleigh Fading Channels; 8.3 Diversity Combining
8.4 Error-Control Coding for Wireless Channels 8.5 Space-Time Coding; 8.6 MIMO and STC; Questions; Problems; Projects; 9 Broadband Modem Technologies; 9.1 Introduction; 9.2 Effects of Frequency-Selective Multipath Fading; 9.3 Discrete Multipath Fading Channel Model; 9.4 Adaptive Discrete Matched Filter; 9.5 Adaptive Equalization; 9.6 Sectored Antennas; 9.7 Multicarrier, OFDM, and Frequency Diversity; 9.8 Comparison of Traditional Broadband Modems; 9.9 MIMO in Frequency-Selective Fading; Appendix 9A: Analysis of the Equalizers; Questions; Problems; Projects
10 Spread-Spectrum and CDMA Technology

Sommario/riassunto

Towards location aware mobile ad hoc sensors A Systems Engineering Approach to Wireless Information Networks The Second Edition of this internationally respected textbook brings readers fully up to date with the myriad of developments in wireless communications. When first published in 1995, wireless communications was synonymous with cellular telephones. Now wireless information networks are the most important technology in all branches of telecommunications. Readers can learn about the latest applications in such areas as ad hoc sensor networks, home networking, and wireless po
