

1. Record Nr.	UNINA9910818700203321
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Titolo	Mobile-to-mobile wireless channels // Alenka Zajic
Pubbl/distr/stampa	Boston : , : Artech House, , ©2013 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2012]
ISBN	1-60807-496-X
Descrizione fisica	1 online resource (311 p.)
Collana	Mobile communications series
Disciplina	621.3845
Soggetti	Wireless communication systems Mobile communication systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Accompanied by: DVD-ROM inserted into pocket of book.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Mobile-to-Mobile Wireless Channels; Contents; Preface; Chapter 1 Introduction; 1.1 Mobile-to-Mobile Communication Systems; 1.1.1 Vehicle-to-Vehicle Communication Systems; 1.1.2 Air-to-Ground Communication Systems; 1.1.3 Underwater Vehicle-to-Underwater Vehicle Systems; 1.2 The Wireless Channel; 1.2.1 Fading; 1.2.2 Statistical Properties of Channels; 1.3 Overview of Remaining Chapters; 1.3.1 Chapter 2: Fixed-to-Mobile Cellular Radio Channels; 1.3.2 Chapter 3: Vehicle-to-Vehicle Radio Channels; 1.3.3 Chapter 4: Air-to-Ground Radio Channels. 1.3.4 Chapter 5: Underwater Vehicle-to-Underwater Vehicle Acoustic Channels 1.3.5 Appendixes; References; Chapter 2 Fixed-to-Mobile Cellular Radio Channels; 2.1 Propagation Principles; 2.1.1 Free Space Propagation; 2.1.2 Reflection; 2.1.3 Diffraction; 2.1.4 Scattering; 2.2 Propagation Modeling; 2.2.1 Large-Scale Fading-Pathloss; 2.2.2 Large-Scale Fading-Shadowing; 2.2.3 Small-Scale Fading-Multipath Propagation; 2.2.4 Factors Influencing Small-Scale Fading; 2.3 Statistical Characterization of Multipath Propagation in F-to-M Cellular Radio Channels; 2.3.1 Received Envelope Distribution. 2.3.2 Clarke's Model for F-to-M Frequency Flat Multipath Fading Channels 2.3.3 Correlation Functions and Doppler Power Spectra for Isotropic Scattering Channels; 2.3.4 Correlation Functions and Doppler Power Spectrum for Nonisotropic Scattering Channels; 2.3.5 Second-Order Statistics-Level Crossing Rates and Fade Durations; 2.3.6

Modeling of F-to-M Frequency-Selective Multipath Fading Channels; 2.3.7 Correlation Functions for F-to-M Frequency-Selective Multipath Fading Channels; 2.3.8 Channel Characteristic Parameters-Delay Spread, Power Delay Profile, and Channel Coherence. 2.3.9 MIMO F-to-M Cellular Radio Channels 2.4 Simulators for Fixed-to-Mobile Cellular Radio Channels; 2.4.1 Simulation Models for F-to-M Frequency-Flat Multipath Fading Channels; 2.4.2 Deterministic and Statistical SoS Simulation Models for F-to-M Frequency-Flat Multipath Fading Channels; 2.4.3 Simulation Models for F-to-M Frequency-Selective Multipath Fading Channels; 2.5 Small-Scale Channel Measurement Techniques; 2.5.1 Direct Pulse-Based Channel Impulse Response Measurements; 2.5.2 Spread Spectrum-Based Channel Impulse Response Measurements. 2.5.3 Frequency Domain-Based Channel Impulse Response Measurements 2.6 Summary; References; Chapter 3 Vehicle-to-Vehicle Radio Channels; 3.1 V-to-V Propagation Modeling; 3.1.1 Large-Scale Fading-Pathloss and Shadowing; 3.1.2 Small-Scale Fading-Multipath Propagation; 3.1.3 Akki and Haber's Model for V-to-V Frequency-Flat Multipath Fading Channels; 3.1.4 Temporal Fading Characteristics of V-to-V Frequency-Flat Multipath Fading Channels; 3.1.5 Two-Dimensional Model for MIMO V-to-V Frequency-Flat Multipath Fading Channels.

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### Sommario/riassunto

Present-day mobile communications systems can be classified as fixed-to-mobile because they allow mobility on only one end (e.g. the mobile phone to a fixed mobile operator's cell tower). In answer to the consumer demand for better coverage and quality of service, emerging mobile-to-mobile (M-to-M) communications systems allow mobile users or vehicles to directly communicate with each other. This practical book provides a detailed introduction to state-of-the-art M-to-M wireless propagation. Moreover, the book offers professionals guidance for rapid implementation of these communications systems.

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