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Nota di contenuto	Wireless Communications over MIMO Channels; Contents; Preface; Acknowledgements; List of Abbreviations; List of Symbols; 1 Introduction to Digital Communications; 1.1 Basic System Model; 1.1.1 Introduction; 1.1.2 Multiple Access Techniques; 1.1.3 Principle Structure of SISO Systems; 1.2 Characteristics of Mobile Radio Channels; 1.2.1 Equivalent Baseband Representation; 1.2.2 Additive White Gaussian Noise; 1.2.3 Frequency-Selective Time-Variant Fading; 1.2.4 Systems with Multiple Inputs and Outputs; 1.3 Signal Detection; 1.3.1 Optimal Decision Criteria; 1.3.2 Error Probability for AWGN Channel 1.3.3 Error and Outage Probability for Flat Fading Channels 1.3.4 Time-Discrete Matched Filter; 1.4 Digital Linear Modulation; 1.4.1 Introduction; 1.4.2 Amplitude Shift Keying (ASK); 1.4.3 Quadrature Amplitude Modulation (QAM); 1.4.4 Phase Shift Keying (PSK); 1.5 Diversity; 1.5.1 General Concept; 1.5.2 MRC for Independent Diversity Branches; 1.5.3 MRC for Correlated Diversity Branches; 1.6 Summary; 2 Information Theory; 2.1 Basic Definitions; 2.1.1 Information, Redundancy, and Entropy; 2.1.2 Conditional, Joint and Mutual Information; 2.1.3 Extension for Continuous Signals

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3.7.1 Basic Definitions and Encoding

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## Sommario/riassunto

Wireless Communications over MIMO Channels: Applications to CDMA and Multiple Antenna Systems covers both, state-of-the-art channel coding concepts and CDMA and multiple antenna systems, rarely found in other books on the subject. Furthermore, an information theoretical analysis of CDMA and SDMA systems illuminate ultimate limits and demonstrates the high potential of these concepts. Besides spatial multiplexing, the use of multiple transmit antennas in order to increase the link reliability by diversity concepts (space-time coding) is described. Another focus is the application of er

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