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1.5.4.4. Gilbert-Varshamov bound; 1.5.5. A geometrical interpretation; 1.5.6. Fundamental theorem: Gallager's proof
1.5.6.1. Upper bound of the probability of error1.5.6.2. Use of random coding; 1.5.6.3. Form of exponential limits; 1.6. Channels with continuous noise; 1.6.1. Introduction; 1.6.2. A reference model in physical reality: the channel with Gaussian additive noise; 1.6.3. Communication via a channel with additive white Gaussian noise; 1.6.3.1. Use of a finite alphabet, modulation; 1.6.3.2. Demodulation, decision margin; 1.6.4. Channel with fadings; 1.7. Information theory and channel coding; 1.8. Bibliography; Chapter 2. Block Codes; 2.1. Unstructured codes
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2.3.6. The field of nth roots of unity

Sommario/riassunto

This book provides a comprehensive overview of the subject of channel coding. It starts with a description of information theory, focusing on the quantitative measurement of information and introducing two fundamental theorems on source and channel coding. The basics of channel coding in two chapters, block codes and convolutional codes, are then discussed, and for these the authors introduce weighted input and output decoding algorithms and recursive systematic convolutional codes, which are used in the rest of the book. Trellis coded modulations, which have their primary applications in hi