Bit-Interleaved Coded Modulation: Fundamentals, Analysis and Design
Leszek Szczecinski, Alex Alvarado


DESCRIPTION

Presenting a thorough overview of bit-interleaved coded modulation (BICM), this book introduces the tools for the analysis and design of BICM transceivers. It explains in details the functioning principles of BICM and proposes a refined probabilistic modeling of the reliability metrics—the so-called L-values—which are at the core of the BICM receivers. Alternatives for transceiver design based on these models are then studied.

Providing new insights into the analysis of BICM, this book is unique in its approach, providing a general framework for analysis and design, focusing on communication theoretic aspects of BICM transceivers. It adopts a tutorial approach, explains the problems in simple terms with the aid of multiple examples and case studies, and provides solutions using accessible mathematical tools.

The book will be an excellent resource for researchers in academia and industry: graduate students, academics, development engineers, and R & D managers.

Key Features:

- Presents an introduction to BICM, placing it in the context of other coded modulation schemes
Offers explanations of the functioning principles and design alternatives

- Provides a unique approach, focusing on communication theory aspects

- Shows examples and case studies to illustrate analysis and design of BICM

- Adopts a tutorial approach, explaining the problems in simple terms and presenting solutions using accessible mathematical tools

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