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Nota di contenuto	Acknowledgments -- Historical Perspective, Motivation and Outline -- I Convolutional and Block Coding -- Convolutional Channel Coding -- Block Coding -- Soft Decoding and Performance of BCH Codes -- II Turbo Convolutional and Turbo Block Coding -- Turbo Convolutional Coding -- The Super-Trellis Structure of Convolutional Turbo Codes -- Turbo BCH Coding -- Redundant Residue Number System Codes -- III Coded Modulation: TCM, TTCM, BICM, BICM-ID -- Coded Modulation Theory and Performance -- IV Space-Time Block and Space-Time Trellis Coding -- Space-time Block Codes -- Space-Time Trellis Codes -- Turbo-coded Adaptive QAM versus Space-time Trellis Coding -- V Turbo Equalisation -- Turbo-coded Partial-response Modulation -- Turbo Equalisation for Partial-response Systems -- Turbo Equalisation Performance Bound -- Comparative Study of Turbo Equalisers -- Reduced-complexity Turbo Equaliser -- Turbo Equalisation for Space-time Trellis-coded Systems -- Summary and Conclusions -- Bibliography -- Subject Index -- Author Index -- About the Authors -- Other Related Wiley and IEEE Press Books.

Against the backdrop of the emerging 3G wireless personal communications standards and broadband access network standard proposals, this volume covers a range of coding and transmission aspects for transmission over fading wireless channels. It presents the most important classic channel coding issues and also the exciting advances of the last decade, such as turbo coding, turbo equalisation and space-time coding. It endeavours to be the first book with explicit emphasis on channel coding for transmission over wireless channels. Divided into 4 parts: Part 1 - explains the necessary background for novices. It aims to be both an easy reading text book and a deep research monograph. Part 2 - provides detailed coverage of turbo conventional and turbo block coding considering the known decoding algorithms and their performance over Gaussian as well as narrowband and wideband fading channels. Part 3 - comprehensively discusses both space-time block and space-time trellis coding for the first time in literature. Part 4 - provides an overview of turbo equalisations, also referred to as turbo demodulation. The book systematically converts the lessons of Shannon's information theory into design principles applicable to practical wireless systems. It provides overall design performance studies, giving cognizance to the contradictory design requirements of bit error rate, implementational complexity, coding and interleaving delay, effective throughput, coding rate and other related systems design aspects in a comprehensive manner.
