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| Nota di contenuto | List of Contributors xv -- Preface xvii -- 1 Introduction 1 / Xiang Zhou and Chongjin Xie -- 1.1 High-Capacity Fiber Transmission Technology Evolution 1 -- 1.2 Fundamentals of Coherent Transmission Technology 4 -- 1.3 Outline of this Book 8 -- References 9 -- 2 Multidimensional Optimized Optical Modulation Formats 13 / Magnus Karlsson and Erik Agrell -- 2.1 Introduction 13 -- 2.2 Fundamentals of Digital Modulation 15 -- 2.3 Modulation Formats and Their Ideal Performance 20 -- 2.4 Combinations of Coding and Modulation 31 -- 2.5 Experimental Work 40 -- 2.6 Summary and Conclusions 54 -- References 56 -- 3 Advances in Detection and Error Correction for Coherent Optical Communications: Regular, Irregular, and Spatially Coupled LDPC Code Designs 65 / Laurent Schmalen, Stephan ten Brink, and Andreas Leven -- 3.1 Introduction 65 -- 3.2 Differential Coding for Optical Communications 67 -- 3.3 LDPC-Coded Differential Modulation 83 -- 3.4 Coded Differential Modulation with Spatially Coupled LDPC Codes 101 -- 3.5 Conclusions 112 -- Appendix: LDPC-Coded Differential Modulation--Decoding Algorithms 112 -- Differential Decoding 114 -- LDPC Decoding 115 -- References 117 -- 4 Spectrally Efficient Multiplexing: Nyquist-WDM 123 / Gabriella Bosco -- 4.1 Introduction 123 -- 4.2 Nyquist Signaling Schemes 125 -- 4.3 |

Detection of a Nyquist-WDM Signal 134 -- 4.4 Practical Nyquist-WDM Transmitter Implementations 137 -- 4.5 Nyquist-WDM Transmission 146 -- 4.6 Conclusions 149 -- References 150 -- 5 Spectrally Efficient Multiplexing - OFDM 157 / An Li, Di Che, Qian Hu, Xi Chen, and William Shieh -- 5.1 OFDM Basics 158 -- 5.2 Coherent Optical OFDM (CO-OFDM) 161 -- 5.3 Direct-Detection Optical OFDM (DDO-OFDM) 169 -- 5.4 Self-Coherent Optical OFDM 174 -- 5.5 Discrete Fourier Transform Spread OFDM System (DFT-S OFDM) 180 -- 5.6 OFDM-Based Superchannel Transmissions 183 -- 5.7 Summary 193 -- References 194 -- 6 Polarization and Nonlinear Impairments in Fiber Communication Systems 201 / Chongjin Xie. 6.1 Introduction 201 -- 6.2 Polarization of Light 202 -- 6.3 PMD and PDL in Optical Communication Systems 206 -- 6.4 Modeling of Nonlinear Effects in Optical Fibers 209 -- 6.5 Coherent Optical Communication Systems and Signal Equalization 211 -- 6.6 PMD and PDL Impairments in Coherent Systems 215 -- 6.7 Nonlinear Impairments in Coherent Systems 228 -- 6.8 Summary 240 -- References 241 -- 7 Analytical Modeling of the Impact of Fiber Non-Linear Propagation on Coherent Systems and Networks 247 -- Pierluigi Poggiolini, Yanchao Jiang, Andrea Carena, and Fabrizio Forghieri -- 7.1 Why are Analytical Models Important? 247 -- 7.2 Background 248 -- 7.3 Introducing the GN-EGN Model Class 260 -- 7.4 Model Selection Guide 269 -- 7.5 Conclusion 294 -- Acknowledgements 295 -- Appendix 295 -- A.1 The White-Noise Approximation 295 -- A.1.2 The Link Function -- 296 -- A.1.3 The EGN Model Formulas for the X2-X4 and M1-M3 Islands 297 -- A.1.4 Outline of GN-EGN Model Derivation 299 -- A.1.5 List of Acronyms 303 -- References 304 -- 8 Digital Equalization in Coherent Optical Transmission Systems 311 / Seb Savory -- 8.1 Introduction 311 -- 8.2 Primer on the Mathematics of Least Squares Finite Impulse Response Filters 312 -- 8.3 Equalization of Chromatic Dispersion 318 -- 8.4 Equalization of Polarization-Mode Dispersion 323 -- 8.5 Concluding Remarks and Future Research Directions 329 -- Acknowledgments 330 -- References 330 -- 9 Nonlinear Compensation for Digital Coherent Transmission 333 / Guifang Li -- 9.1 Introduction 333 -- 9.2 Digital Backward Propagation (DBP) 334 -- 9.3 Reducing DBP Complexity for Dispersion-Unmanaged WDM Transmission 339 -- 9.4 DBP for Dispersion-Managed WDM Transmission 342 -- 9.5 DBP for Polarization-Multiplexed Transmission 349 -- 9.6 Future Research 350 -- References 351 -- 10 Timing Synchronization in Coherent Optical Transmission Systems 355 / Han Sun and Kuang-Tsan Wu -- 10.1 Introduction 355 -- 10.2 Overall System Environment 357 -- 10.3 Jitter Penalty and Jitter Sources in a Coherent System 359. 10.4 Digital Phase Detectors 368 -- 10.5 The Chromatic Dispersion Problem 383 -- 10.6 The Polarization-Mode Dispersion Problem 386 -- 10.7 Timing Synchronization for Coherent Optical OFDM 390 -- 10.8 Future Research 391 -- References 392 -- 11 Carrier Recovery in Coherent Optical Communication Systems 395 / Xiang Zhou -- 11.1 Introduction 395 -- 11.2 Optimal Carrier Recovery 397 -- 11.3 Hardware-Efficient Phase Recovery Algorithms 399 -- 11.4 Hardware-Efficient Frequency Recovery Algorithms 416 -- 11.5 Equalizer-Phase Noise Interaction and its Mitigation 424 -- 11.6 Carrier Recovery in Coherent OFDM Systems 429 -- 11.7 Conclusions and Future Research Directions 430 -- References 431 -- 12 Real-Time Implementation of High-Speed Digital Coherent Transceivers 435 / Timo Pfau -- 12.1 Algorithm Constraints 435 -- 12.2 Hardware Implementation of Digital Coherent Receivers 442 -- References 446 -- 13 Photonic Integration 447 / Po Dong and Sethumadhavan Chandrasekhar -- 13.1

Introduction 447 -- 13.2 Overview of Photonic Integration Technologies 449 -- 13.3 Transmitters 451 -- 13.4 Receivers 459 -- 13.5 Conclusions 467 -- Acknowledgments 467 -- References 467 -- 14 Optical Performance Monitoring for Fiber-Optic Communication Networks 473 / Faisal N. Khan, Zhenhua Dong, Chao Lu, and Alan Pak Tao Lau -- 14.1 Introduction 473 -- 14.2 OPM TECHNIQUES FOR DIRECT DETECTION SYSTEMS 482 -- 14.3 OPM For Coherent Detection Systems 490 -- 14.4 Integrating OPM Functionalities in Networking 499 -- 14.5 Conclusions and Outlook 499 -- Acknowledgments 500 -- References 500 -- 15 Rate-Adaptable Optical Transmission and Elastic Optical Networks 507 / Patricia Layec, Annalisa Morea, Yvan Pointurier, and Jean-Christophe Antona -- 15.1 Introduction 507 -- 15.2 Key Building Blocks 511 -- 15.3 Practical Considerations for Elastic WDM Transmission 527 -- 15.4 Opportunities for Elastic Technologies in Core Networks 530 -- 15.5 Long Term Opportunities 534 -- 15.6 Conclusions 539 -- Acknowledgments 539. References 539 -- 16 Space-Division Multiplexing and MIMO Processing 547 / Roland Ryf and Nicolas K. Fontaine -- 16.1 Space-Division Multiplexing in Optical Fibers 547 -- 16.2 Optical Fibers for SDM Transmission 548 -- 16.3 Optical Transmission in SDM Fibers with Low Crosstalk 551 -- 16.4 MIMO-Based Optical Transmission in SDM Fibers 553 -- 16.5 Impulse Response in SDM Fibers with Mode Coupling 558 -- 16.6 MIMO-Based SDM Transmission Results 566 -- 16.7 Optical Components for SDM Transmission 568 -- 16.8 Conclusion 593 -- Acknowledgments 593 -- References 594 -- Index 609.

Sommario/riassunto

Presents the technological advancements that enable high spectral-efficiency and high-capacity fiber-optic communication systems and networks This book examines key technology advances in high spectral-efficiency fiber-optic communication systems and networks, enabled by the use of coherent detection and digital signal processing (DSP). The first of this book's 16 chapters is a detailed introduction. Chapter 2 reviews the modulation formats, while Chapter 3 focuses on detection and error correction technologies for coherent optical communication systems. Chapters 4 and 5 are devoted to Nyquist-WDM and orthogonal frequency-division multiplexing (OFDM). In chapter 6, polarization and nonlinear impairments in coherent optical communication systems are discussed. The fiber nonlinear effects in a non-dispersion-managed system are covered in chapter 7. Chapter 8 describes linear impairment equalization and Chapter 9 discusses various nonlinear mitigation techniques. Signal synchronization is covered in Chapters 10 and 11. Chapter 12 describes the main constraints put on the DSP algorithms by the hardware structure. Chapter 13 addresses the fundamental concepts and recent progress of photonic integration. Optical performance monitoring and elastic optical network technology are the subjects of Chapters 14 and 15. Finally, Chapter 16 discusses spatial-division multiplexing and MIMO processing technology, a potential solution to solve the capacity limit of single-mode fibers. Ø Contains basic theories and up-to-date technology advancements in each chapter Ø Describes how capacity-approaching coding schemes based on low-density parity check (LDPC) and spatially coupled LDPC codes can be constructed by combining iterative demodulation and decoding Ø Demonstrates that fiber nonlinearities can be accurately described by some analytical models, such as GN-EGN model Ø Presents impairment equalization and mitigation techniques Enabling Technologies for High Spectral-efficiency Coherent Optical Communication Networks is a reference for researchers, engineers, and graduate students. Xiang Zhou is a Tech

Lead within Google Platform Advanced Technology. Before joining Google, he was with AT&T Labs, conducting research on various aspects of optical transmission and photonics networking technologies. Dr. Zhou is an OSA fellow and an associate editor for Optics Express. He has extensive publications in the field of optical communications. Chongjin Xie is a senior director at Ali Infrastructure Service, Alibaba Group. Before joining Alibaba Group, he was a Distinguished Member of Technical Staff at Bell Labs, Alcatel-Lucent. Dr. Xie is a fellow of OSA and senior member of IEEE. He is an associate editor of the Journal of Lightwave Technology and has served in various conference committees.

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After Death: The Problems of Accurate Diagnosis from Case History Review and Relative Interviews; Membrane Binding Assays: Membrane Preparation and Assay Development; The Localisation and Quantification of Molecular Changes in the Human Brain Using In Situ Radioligand Binding and Autoradiography; In Situ Hybridisation Histochemistry: Application to Human Brain Tissue; Immunohistochemistry Techniques Applicable for Use with Human Brain Tissue
The Processing and Use of Postmortem Human Brain Tissue for Electron Microscopy Isolating Components of Human Brain: The Purification of A and the Alzheimer's Amyloid Precursor Protein; Analysis of Receptor Systems in Schizophrenia Using Tissue Obtained at Autopsy and Neuroimaging; Index

Sommario/riassunto

Essential for the laboratory, this practical manual presents a wide variety of techniques associated with the use of human CNS tissue obtained at autopsy. The book contains detailed methodologies in discrete chapters written by an expert in the specific field. It also addresses the potential for extending molecular studies in brain tissue obtained at autopsy into studies in living brain by using neuroimaging techniques. In addition, the reader is directed to suppliers of equipment and reagents that have been shown to be useful when studying human brain tissue.
