

1. Record Nr.	UNINA9911004758203321
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Titolo	Optical performance monitoring : advanced techniques for next-generation photonic networks / / Calvin C.K. Chan
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Academic Press, c2010
ISBN	1-282-54131-5 9786612541315 0-08-095917-2
Descrizione fisica	1 online resource (510 p.)
Disciplina	621.382/75 621.38275
Soggetti	Optical fiber communication Network performance (Telecommunication)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Optical Performance Monitoring; Copyright Page; Dedication; Contents; List of Acronyms; List of Figures; List of Tables; Preface; Acknowledgments; List of Contributors; About the Editor; Chapter 1: Optical performance monitoring: Perspectives and challenges; 1.1. Introduction; 1.1.1 Overarching vision; 1.1.2 Challenges; 1.2. Physical-Layer Measurements and Routing Decisions in Today's Optical Networks; 1.3. Signal Parameters Requiring Monitoring and OPM Techniques; 1.3.1 Optical impairments; 1.3.2 OPM techniques 1.4. Laudable OPM-enabled Functionalities in Next-generation Optical Networks1.4.1 Robust and stable operation; 1.4.2 Accommodate transparency; 1.4.3 Impairment-aware routing; 1.4.4 Secure links; 1.4.5 Optical supervisory channel; 1.5. Smart Network Operation and Security; 1.5.1 Smart network operation; 1.5.2 Security; 1.6. Summary; Acknowledgments; References; Chapter 2: Optical signal-to-noise ratio monitoring; 2.1. Introduction; 2.2. Linear Interpolation Techniques; 2.2.1 Optical spectrum analysis; 2.2.2 Out-of-band noise measurement; 2.2.3 Potential problems 2.3. Polarization-based Techniques2.3.1 Operating principles; 2.3.2 Potential problems and limitations; 2.3.3 Methods to overcome

limitations; 2.4. Interferometer-based Technique; 2.4.1 Operating principle; 2.4.2 Potential problems and limitations; 2.4.3 Method to overcome limitations; 2.5. Beat Noise Analysis Techniques; 2.5.1 Operating principle; 2.5.2 Potential problems and limitations; 2.5.3 Methods to overcome limitations; 2.6. OSNR Estimation Technique based on the Operating Condition of Optical Amplifiers; 2.6.1 Operating principle; 2.6.2 Link-based OSNR monitoring technique 2.6.3 Potential problems and limitations; 2.7. Summary; References; Chapter 3: Chromatic dispersion monitoring; 3.1. Introduction; 3.2. Chromatic Dispersion and Its Effects on Optical Fiber Systems; 3.2.1 Fiber chromatic dispersion; 3.2.2 Systems limitations due to chromatic dispersion; 3.2.3 Dispersion effects in the presence of fiber nonlinearities; 3.2.4 The need for chromatic dispersion monitoring; 3.3. Chromatic Dispersion Monitoring Techniques; 3.3.1 Measurement of RF spectrum; 3.3.2 Measurement of relative group delay between VSB signals; 3.3.3 Histogram monitoring techniques 3.3.4 All-optical spectral analysis using nonlinear optics 3.3.5 Electronic monitoring techniques; 3.3.6 Other chromatic dispersion monitoring techniques; 3.3.7 Differentiate chromatic dispersion from polarization mode dispersion; 3.4. Summary; Acknowledgments; References; Chapter 4: Polarization mode dispersion monitoring; 4.1. Introduction; 4.2. PMD Monitoring Based on Measurement of RF Tone; 4.3. PMD Monitoring Based on Measurement of Degree of Polarization; 4.4. Electronic PMD Monitoring Techniques; 4.5. Other PMD Monitoring Techniques; 4.6. Summary; Acknowledgments; References Chapter 5: Timing misalignment monitoring

Sommario/riassunto

This in-depth, detailed reference presents for the first time a comprehensive treatment of recent advances in optical performance monitoring. Written by leading experts in the field, the book provides an overview of recent developments in the area and the role of OPM in future optical systems and networks. Detailed discussions of various advanced techniques are provided to illustrate their principles. FEATURES: Presents the principles and applications of advanced OPM techniques, together with a comparative evaluation of their effectiveness in monitoring individual paramet
