1. Record Nr. UNINA9910459095203321 Autore Kaminow Ivan P Titolo Optical fiber telecommunications VIA [[electronic resource]]: components and subsystems // Ivan P. Kaminow, Tingye Li, Alan E. Willner Oxford,: Elsevier, 2013 Pubbl/distr/stampa **ISBN** 0-12-397235-3 Edizione [6th ed.] Descrizione fisica 1 online resource (795 p.) Collana Optics and Photonics Altri autori (Persone) LiTingye WillnerAlan E Disciplina 621.38275 Soggetti Optical fiber communication Optical communications Fiber optics Electronic books. 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 1.2.3.4 Phase/frequency noise performance 1.2.3.5 Tunability; 1.2.3.6 Power scaling-master-oscillator power amplifiers (MOPAs); 1.2.4 Multiwavelength fiber DFB lasers and fiber DFB laser arrays; 1.2.5 Optical transmission system experiments; 1.2.6 Fiber DFB laser in non-telecom applications; 1.3 Summary and concluding remarks-outlook; References: 2 Semiconductor Photonic Integrated Circuit Transmitters and Receivers; 2.1 Introduction; 2.2 Technology; 2.2.1 Group III-V PICs; 2.2.2 Group IV PICs; 2.2.3 Hybrid integration of Groups III-V and IV; 2.2.4 Comparison of PIC technologies 2.3 Devices based on on-off keying (OOK) 2.3.1 Group III-V PICs for OOK transmission; 2.3.1.1 Group III-V single-channel PICs for OOK transmission: 2.3.1.2 Group III-V multichannel PICs for OOK transmission; 2.3.2 Group IV PICs for OOK transmission; 2.3.2.1 Group IV single-channel PICs for OOK transmission; 2.3.2.2 Group IV multichannel PICs for OOK transmission; 2.3.2.3 Space-division multiplexed devices; 2.4 PICs based on advanced modulation formats; 2.4.1

Introduction; 2.4.1.1 Overview; 2.4.1.2 Devices and performance of

advanced modulation formats

2.4.2 Group III-V PICs for advanced modulation format transmission 2.4.2.1 III-V single-channel PICs for advanced modulation format transmission; 2.4.2.2 III-V multi-channel PICs for advanced modulation format transmission; 2.4.3 Group IV PICs for advanced modulation format transmission; 2.4.3.1 Group IV single-channel PICs for advanced modulation format transmission; 2.4.4 Space-division multiplexing PICs; 2.5 Future trends; Acknowledgements; References; 3 Advances in Photodetectors and Optical Receivers; 3.1 Introduction; 3.2 High-speed waveguide photodiodes

3.2.1 Side-illuminated and evanescently-coupled waveguide photodiodes 3.2.2 Distributed and traveling-wave photodetectors; 3.3 High-power photodiodes; 3.3.1 Normal-incidence uni-traveling-carrier photodiodes; 3.3.2 High-power WG photodiodes; 3.3.3 High-linearity photodiodes; 3.3.4 High-power balanced detectors; 3.3.5 Photodetector arrays; 3.4 Long-wavelength photodiodes on silicon; 3.4.1 High-speed Ge photodiodes; 3.4.2 Heterogeneously integrated III-V photodiodes on Si; 3.5 APDs; 3.5.1 SACM APDs; 3.5.2 Low-noise APDs; 3.5.3 Single photon APDs; 3.6 Conclusion; References 4 Fundamentals of Photonic Crystals for Telecom Applications-Photonic Crystal Lasers

## Sommario/riassunto

Optical Fiber Telecommunications VI (A&B) is the sixth in a series that has chronicled the progress in the R&D of lightwave communications since the early 1970's. Written by active authorities from academia and industry, this edition brings a fresh look to many essential topics, including devices, subsystems, systems and networks. A central theme is the enabling of high-bandwidth communications in a cost-effective manner for the development of customer applications. These volumes are an ideal reference for R&D engineers and managers, optical systems implementers, university researchers and...