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2.4 Transmitter Design; 2.4.1 Coupling Losses and Output Stability; 2.4.2 Wavelength Stability and Tunability; 2.4.3 Monolithic Integation; 2.4.4 Reliability and Packaging; Problems; References; 3 Signal Propagation in Fibers; 3.1 Basic Propagation Equation; 3.2 Impact of Fiber Losses; 3.2.1 Loss Compensation
3.2.2 Lumped and Distributed Amplification3.3 Impact of Fiber Dispersion; 3.3.1 Chirped Gaussian Pulses; 3.3.2 Pulses of Arbitrary Shape; 3.3.3 Effects of Source Spectrum; 3.3.4 Limitations on the Bit Rate; 3.3.5 Dispersion compensation; 3.4 Polarization-Mode Dispersion; 3.4.1 Fibers with Constant Birefringence; 3.4.2 Fibers with Random Birefringence; 3.4.3 Jones-Matrix Formalism; 3.4.4 Stokes-Space Description; 3.4.5 Statistics of PMD; 3.4.6 PMD-Induced Pulse Broadening; 3.4.7 Higher-Order PMD Effects; 3.5 Polarization-Dependent Losses; 3.5.1 PDL Vector and Its Statistics
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5.4 Sensitivity Degradation

Sommario/riassunto

The state of the art of modern lightwave system designRecent advances in lightwave technology have led to an explosion of high-speed global information systems throughout the world. Responding to the growth of this exciting new technology, Lightwave Technology provides a comprehensive and up-to-date account of the underlying theory, development, operation, and management of these systems from the perspective of both physics and engineering.The first independent volume of this two-volume set, Components and Devices, deals with the multitude of silica- and semiconductor-based opt