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| Nota di contenuto | Distributed Feedback Laser Diodes and Optical Tunable Filters; Contents; Preface; Acknowledgements; Glossary of Abbreviations; Glossary of Symbols; 1. An Introduction to Optical Communication Systems; 1.1 Introduction; 1.2 Historical Progress; 1.3 Optical Fibre Communication Systems; 1.3.1 Intensity Modulation with a Direct Detection Scheme; 1.3.2 Coherent Detection Schemes; 1.4 System Requirements for High-Speed Optical Coherent Communication; 1.4.1 Spectral Purity Requirements; 1.4.2 Spectral Linewidth Requirements; 1.5 Summary; 1.6 References<br>2. Principles of Distributed Feedback Semiconductor Laser Diodes: Coupled Wave Theory2.1 Introduction; 2.2 Basic Principle of Lasers; 2.2.1 Absorption and Emission of Radiation; 2.2.2 The Einstein Relations and the Concept of Population Inversion; 2.2.3 Dispersive Properties of Atomic Transitions; 2.3 Basic Principles of Semiconductor |

Sommario/riassunto

Advances in optical fibre based communications systems have played a crucial role in the development of the information highway. By offering a single mode oscillation and narrow spectral output, distributed feedback (DFB) semiconductor laser diodes offer excellent optical light sources as well as optical filters for fibre based communications and dense wavelength division multiplexing (DWDM) systems. This comprehensive text focuses on the basic working principles of DFB laser diodes and optical filters and details the development of a new technique for enhanced system performance.Consi