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Altri autori (Persone)	VankwikelbergePatrick
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Nota di contenuto	Title; Contents; Preface; CH01 Introduction to Fabry-Perot andDistributed Feedback Laser Diodes; 1.1 Historical Background; 1.2 Laser Diode Device Structure; 1.3 Operation of the Laser Diode; 1.4 Essential Laser Diode Characteristics; 1.5 Use of Laser Diodes in Optical CommunicationsSystems; 1.6 Dynamic Single-Mode Laser Diodes; 1.7 Organization of This Book; CH02 Rate Equation Theory of Laser Diodes; 2.1 Introduction; 2.2 Carrier Density Rate Equation; 2.3 Photon Density Rate Equation; 2.4 Phase Equations; 2.5 Introducing Noise in the Rate Equations; 2.6 Optical Gain and Absorption. 2.7 Some Well-Known Solutions of the Rate Equations2.8 The Influence of External Reflections; 2.9 Summary; CH03 Coupled-Mode Theory of DFB LaserDiodes; 3.1 The Physical Processes Inside a Laser Diode; 3.2 The Need for Simplification; 3.3 Assumptions about the Modeled Laser Structure; 3.4 Optical Wave Propagation; 3.5 Discussion of the Coupled-Mode Wa.
Sommario/riassunto	Since the first edition of this book was published in 1997, the photonics landscape has evolved considerably and so has the role of distributed feedback (DFB) laser diodes. Although tunable laser diodes continue to be introduced in advanced optical communication systems,

DFB laser diodes are still widely applied in many deployed systems. This also includes wavelength tunable DFB laser diodes and DFB laser diode arrays, usually integrated with intensity or phase modulators and semiconductor optical amplifiers. This valuable resource gives professionals a comprehensive description of the different effects that determine the behavior of a DFB laser diode. Special attention is given to two new chapters on wavelength tunable DFB laser diodes and bistable and unstable DFB laser diodes. Among many other updates throughout the reference, semi-conductor and electromagnetic professionals are also provided two new appendices. This book fully covers the underlying theory, commercial applications, necessary design criteria, and future direction of this technology.