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Nota di contenuto	Intro -- PROGRESS IN OPTICAL FIBERS -- PROGRESS IN OPTICAL FIBERS -- CONTENTS -- PREFACE -- RESEARCH AND REVIEW STUDIES -- Chapter 1 INTEGRATED OPTICAL RING RESONATORS: MODELLING AND TECHNOLOGIES -- Abstract -- 1. Introduction -- 2. Modelling -- 2.1. Transfer Matrix Approach -- 2.2. Bidirectional Model -- 2.3. Z-Transform Based Model -- 2.3. Time-Dependent Model -- 2.5. Modelling Based on FDTD -- 3. Technologies -- 3.1. Silica-on-Silicon Technology -- 3.2. Glass Technology -- 3.3. Lithium Niobate Technology -- 3.4. Polymer Technology -- 3.5. SiON, Si3N4 and Sin Technologies -- 3.6. SOI Technology -- 3.7. III-V Semiconductors Technology -- 4. Conclusion -- Acknowledgements -- References -- Chapter 2 VCSEL RESONATORS -- Abstract -- Introduction -- The Model -- The (GaIn)(NAs)/GaAs Quantum Well -- The (GaIn)(NAsSb)/Ga (NAs) Quantum Well -- The Electrical Model -- The Optical Model -- The Thermal Model -- The Gain Model -- Interactions between Individual Physical Phenomena -- Oxide-Confined 1.3- M GaAs-Based VCSELs [41] -- VCSEL with a Single Oxide Aperture -- VCSELs with Two Oxide Apertures -- Oxide-Confined 1.5- M GaAs-Based VCSELs -- Conclusion -- Acknowledgments -- References -- Chapter 3MICROSTUB RESONATORS BASED-WAVEGUIDES FORFILTERING AND MULTIPLEXING DEVICES -- Abstract -- Introduction -- 1. Geometrical Parameters and Method of Calculation -- 2.Rejective Filter -- 2.1.

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Sommario/riassunto

An optical fiber (or fibre) is a glass or plastic fiber that carries light along its length. Fiber optics is the overlap of applied science and engineering concerned with the design and application of optical fibers. Optical fibers are widely used in fiber-optic communications, which permits transmission over longer distances and at higher data rates (a. k.a "bandwidth"), than other forms of communications. Fibers are used instead of metal wires because signals travel along them with less loss, and they are immune to electromagnetic interference. Fibers are also used for illumination, and in bundles can be used to carry images, allowing viewing in tight spaces. Specially designed fibers are used for a variety of other applications, including as sensors and fiber lasers. This new book presents leading research from around the world.