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Fourth Edition • 2014

Edited by: Casimer DeCusatis

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Part I: Technology Building Blocks

Part II: Protocols and Industry Standards

Part III: Network Architectures and Applications

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A volume in Woodhead Publishing Series in Electronic and Optical Materials

Edited by: Roberto Fornari

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1 - Electronic materials and crystal growth

2 - Silicon single crystals

3 - Solar silicon

4 - Germanium crystals

5 - Silicon carbide

6 - III Arsenide

7 - Indium phosphide

8 - Cadmium telluride and cadmium zinc telluride

9 - II sulfides and II selenides: growth, properties, and modern applications

10 - Diamond

11 - Gallium nitride

12 - Growth of AlN and GaN crystals by sublimation

13 - Aluminum oxide

14 - Gallium oxide

15 - Indium oxide: In2O3

16 - Preparation, properties and electronic structure of SnO2

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Edited by Weidong Zhou, Shanhui Fan

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Chapter Three - Light trapping in photonic structures

Chapter Four - Optical image processing using photonic crystal slab

Chapter Five - Guided mode resonances and photonic crystals for biosensing and imaging

Chapter Six - Fano resonance photonic crystal filters and modulators

Chapter Seven - On-chip photonic crystal surface-emitting lasers

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Optical Fiber Telecommunications IV-B

Volume B A volume in Optics and Photonics

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Edited by: Ivan P. Kaminow and Tingye Li

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Chapter 7 - Dispersion-Managed Solitons and Chirped Return to Zero: What Is the Difference?

Chapter 8 - Metropolitan Optical Networks

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Chapter 14 - Fixed and Tunable Management of Fiber Chromatic Dispersion

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Chapter 6 - Laser Machining of Carbon Fiber-Reinforced Plastic Composites

Chapter 7 - Understanding and Improving Process Control in Pulsed and Continuous Wave Laser Welding

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Chapter 10 - Influencing the Weld Pool During Laser Welding

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Chapter 13 - Laser-Induced Forward Transfer Techniques and Applications

Chapter 14 - Production of Biomaterial Coatings by Laser-Assisted Processes

Chapter 15 - Thick Metallic Coatings Produced by Coaxial and Side Laser Cladding: Processing and Properties

Chapter 16 - Laser Consolidation—A Rapid Manufacturing Process for Making Net-Shape Functional Components

Chapter 17 - Laser-Based Additive Manufacturing Processes

Chapter 18 - Direct Infrared Laser Machining of Semiconductors for Electronics Applications

Chapter 19 - Laser Processing of Direct-Write Nano-Sized Materials

Chapter 20 - Micro- and Nano-Parts Generated by Laser-Based Solid Freeform Fabrication

Chapter 21 - Laser-Assisted Additive Fabrication of Micro-Sized Coatings

Chapter 22 - Multiphysics Modelling of Laser Solid Freeform Fabrication Techniques

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InGaAs Avalanche Photodiodes for Ranging and Lidar

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2 - Avalanche photodiode figures of merit

3 - APD photoreceivers for range-finding and lidar

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Appendix: Semiconductor physics

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