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Nota di contenuto	Contents ; Preface ; List of Contributors ; 1. From Optical Glass to Photonic Glass ; 1.1 Introduction ; 1.2 Physical Fundamentals ; 1.3 Optical Glasses ; 1.4 Photonic Glasses ; 2. Structure and Properties of Amorphous Thin Films for Optical Data Storage 2.1 Amorphous Rare Earth-transition Metal (RE-TM) Alloy Thin Films 2.2 Amorphous Metallic and Chalcogenide Thin Films ; 2.3 Nonlinear Optical Amorphous Alloy Thin Films ; 3. New Developments in Optics and Spectroscopy of Rare Earth Ions Doped Glasses ; 3.1 Laser Spectroscopy of Nd ³⁺ and Yb ³⁺ High Doped Glasses 3.2 Nonlinear Luminescence of Rare-Earth (RE) Ions in Glasses 3.3 Super-luminescence of RE-doped Glass Fibers ; 4. Third-Order Optical Nonlinear Properties of Glasses ; 4.1 Measurement of Third-Order Optical Nonlinear Susceptibility of Glass ; 4.2 Optical Nonlinearity of Dielectric Glass 4.3 Optical Nonlinearity of Organic-Inorganic Hybrid Glasses 4.4 Optical Nonlinearity of Nano-composite Glasses

; 4.5 Optical Limiting Effects ; 5. Second-Order
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; 5.1 Introduction ; 5.2 Second-Order Optical
Nonlinearity in Silica Glasses
5.3 Second-Order Optical Nonlinearity in High Refractive Index Glasses
5.4 Applications ; 6. Glass Fibers for Optical
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Doped Phosphate Glass Fiber Amplifiers; 7. Glass Fibers for High Power
Lasers ; 7.1 Introduction of Optical Fibers
7.2 Fabrication and Materials

Sommario/riassunto

This book introduces the fundamental mechanism of photonic glasses - the linear and nonlinear optical effects in glass under intense light irradiation: phot-induced absorption, refraction, polarization, frequency, coherence and monochromaticity changes. Emphasis is placed on new developments in the structure, spectroscopy and physics of new glassy materials for photonics applications, such as optical communication, optical data storage, new lasers and new photonic components and devices. The book presents the research results of the authors in new glasses for photonics over the last decade.
