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Nota di contenuto	; 1. Glass properties -- ; 2. Gradient index glass. ; 2.1. Applications. ; 2.2. Design of radial gradient index profiles. ; 2.3. Parameters for fabrication of index gradient. ; 2.4. Materials and fabrication techniques. ; 2.5. Spherical gradient index lens -- ; 3. Laser glass. ; 3.1. Fundamentals of laser physics. ; 3.2. Bulk laser glasses. ; 3.3. Fiber lasers and amplifiers. ; 3.4. Waveguide lasers and amplifiers -- ; 4. Nonlinear optical glass. ; 4.1. Fundamentals of nonlinear optics and applications. ; 4.2. Nonresonant nonlinear glasses. ; 4.3. Semiconductor-doped glasses. ; 4.4. Metal-doped glasses. ; 4.5. Comparisons of optical nonlinearities of various nonlinear glass materials -- ; 5. Magneto-optical glass. ; 5.1. Magnetic properties of materials.
Sommario/riassunto	This book is an introduction to recent progress in the development and

application of glass with special photonics properties. Glass has a number of structural and practical advantages over crystalline materials, including excellent homogeneity, variety of form and size, and the potential for doping with a variety of dopant materials. Glasses with photonic properties have great potential and are expected to play a significant role in the next generation of multimedia systems. Fundamentals of glass materials are explained in the first chapter, and the book then proceeds to a discussion of gradient index glass, laser glasses, nonlinear optical glasses and magneto-optical glasses. Beginning with the basic theory, the book discusses actual problems, performance and applications of glasses. The book will be of value to graduate students, researchers and professional engineers working in materials science, chemistry and physics with an interest in photonics and glass with special properties.
