Yariv Optical Waves In Crystals Solution Joburgore

In the thirty-seven years that have gone by since the first volume of Progress in Optics was published, optics has become one of the most dynamic fields of science. At the time of inception of this series, the first lasers were only just becoming operational, holography was in its infancy, subjects such as fiber optics, integrated optics and optoelectronics did not exist and quantum a few physicists. The term photonics had not yet been coined. Today these fields are flourishing and have become areas of specialisation for many science and engineering students and numerous research workers and engineers throughout the world. Some of the advances in these fields have been recognized by awarding Nobel prizes to seven physicists in the last twenty yea which have appeared up to now contain nearly 190 review articles by distinguished research workers, which have become permanent records for many important developments. They have helped optical scientists and optical engineers to stay abreast of their fields. There is no sign that developments in optics are slowing down or becoming less interesting. - Gaussian apodizatio Electromagnetically-induced transparency - Three-dimensional electromagnetic fields - Quantum cryptography - Optical quantum cloning

This is the first volume of a set of three within the Springer Series in Optical Sciences, and is devoted to photorefractive effects, photorefractive materials, and their applications. Since the publication of our first two Springer books on Photorefractive Materials and Their Applications (Topics in Applied Physics, Vols. 61 and 62) almost 20 years ago, a lot of research has been done often expected effects have been discovered, theoretical models developed, known effects finally explained, and novel applications proposed. We believe that the field has now reached a high level of maturity, even if research continues in all areas mentioned above and with new discoveries arriving quite regularly. We therefore have decided to invite some of the top experts in t state of the art in their respective fields. This after we had been encouraged to do so for more than ten years by the publisher, due to the fact that the former volumes were long out of print.

The invention of the laser was one of the towering achievements of the twentieth century. At the opening of the twenty-first century we are witnessing the burgeoning of the myriad technical innovations to which that invention has led. The Handbook of Laser Technology and Applications is a practical and long-lasting reference source for scientists a

In the continuing push toward optical computing, the focus remains on finding and developing the right materials. Characterizing materials, understanding the behavior of light in these materials, and being able to control the light are key players in the search for suitable optical materials. Optics in Magnetic Multilayers and Nanostructures presents an accessible introduction to op magnetic media. While most of the literature presents only final results of the complicated formulae for the optics in anisotropic media, this book provides detailed explanations and full step-by-step derivations that offer insight into the procedure and reveal any approximations. Based on more than three decades of experimental research on the subject, the author explains the ba magnetooptics; nonreciprocal wave propagation; the simultaneous effect of crystalline symmetry and arbitrarily oriented magnetization on the form of permittivity tensors; spectral dependence of permittivity; multilayers at polar, longitudinal, transverse, and arbitrary magnetization; the effect of normal or near-normal incidence on multilayers; and anisotropic multilayer gratings. Ma magnetooptics and anisotropic media approachable by the nonspecialist, Optics in Magnetic Multilayers and Nanostructures serves as an ideal introduction to newcomers and an indispensable reference for seasoned researchers.

Optical Systems and Processes

Photonic Crystals

Nonlinear Optical Properties of Organic Molecules and Crystals

Solutions Manual for Optical Electronics in Modern Communications

Landmark Papers on Photorefractive Nonlinear Optics

Crystal Nonlinear Optics

This book, intended for students, researchers and engineers, is a collection of classic papers on photorefractive nonlinear optics. Included are landmark papers on fundamental photorefractive phenomena, two-wave mixing, four-wave mixing, phase conjugators and resonators, material growth and physics, and applications in image processing, optical storage and optical computing.

This book presents an analytical theory of the electronic states in ideal low dimensional systems and finite crystals based on a differential equation theory approach. It provides precise and fundamental understandings on the electronic states in ideal low-dimensional systems and finite crystals, and offers new insights into some of the basic problems in low-dimensional systems, such as the surface states and quantum confinement effects, etc., some of which are quite different from what is traditionally believed in the solid state physics community. Many previous predictions have been confirmed in subsequent investigations by other authors on various relevant problems. In this new edition, the theory is further extended to one-dimensional photonic crystals and phononic crystals, and a general theoretical formalism for investigating the existence and properties of surface states/modes in semi-infinite one-dimensional crystals is developed. In addition, there are various revisions and improvements, including using the Kronig-Penney model to illustrate the analytical theory and make it easier to understand. This book is a valuable resource for solid-state physicists and material scientists.

The fundamental science and latest applications of liquid crystal technologies An excellent professional reference and superior upper-level student text, Liquid Crystals, Second Edition is a comprehensive treatment of all the basic principles underlying the unique physical and optical properties of liquid crystals. Written by an internationally known pioneer in the nonlinear optics of liquid crystals, the book also provides a unique, in-depth discussion of the mechanisms and theoretical principles behind all major nonlinear optical phenomena occurring in liquid crystals. Fully revised and updated with the latest developments, this Second Edition covers: Basic physics and optical properties of liquid crystals Nematics, as well as other mesophases such as smectics, ferroelectrics, and cholesterics Fundamentals of liquid crystals for electro-optics, and display and non-display related applications Various theoretical and computational techniques used in describing optical propagation through liquid crystals and anisotropic materials Nonlinear optics of liquid crystals, including updated literature reviews and fundamental discussions Structured to follow a natural sequence of instruction, from basic physics to the latest specialized optical, electro-optical, and nonlinear applications, Liquid Crystals is a textbook that grounds students in the fundamentals before introducing them to the most current discoveries in the field. Written in a clear, reader-friendly style, it features numerous figures, tables, and illustrations, including important and hard-to-find device and material parameters. Invaluable to students, researchers, and those working with liquid crystal applications in various industries, Liquid Crystals, Second Edition is the most comprehensive and up-to-date resource available.

Here, more than 20 experts from leading research institutes around the world present the entire scope of this rapidly developing field. In so doing, they cover a wide range of topics, including the characterization and investigation of structural, dielectric and piezoelectric properties of ceramic materials, a well as phase transitions, electrical and optical properties and microscopic investigations. Another feature is a complete profile of the properties of polar oxides -- from their proof to their latest applications. Throughout, the authors review, discuss and assess the material properties with regard to new and advanced characterization and imaging techniques. For physicists, physicochemists, semiconductor and solid state physicists, materials scientists, and students of chemistry and physics.

Spin Waves

Photonics

Optical Waves in Layered Media

Optical Electronics in Modern Communications

The Physics and Applications of Photorefractive Materials

Nonlinear Optics in Semiconductor Physics I

A comprehensive review of optical pattern recognition techniques and implementations, for graduate students and researchers.

Advanced textbook on crystal nonlinear optics.

This Third Edition of the popular text, while retaining nearly all the material of the previous edition, incorporates material on important new developments in lasers and quantum electronics. Covers phase-conjugate optics and its myriad applications, the long wavelength quaternary semiconductor laser, and our deepened understanding of the physics of semiconductor lasers--especially that applying to their current modulations and limiting bandwidth, laser arrays and the related concept of supermodes, quantum well semiconductor lasers, the role of phase amplitude coupling in laser noise, and free-electron lasers. In addition, the chapters on laser noise and third-order nonlinear effects have been extensively revised.

This volume contains papers presented at the NATO Advanced Study Institute (ASI) Photonic Crystals and Light Localization held at the Creta Maris Hotel in Limin Hersonissou, Crete, June 18-30, 2000. Photonic crystals offer unique ways to tailor light and the propagation of electromagnetic waves (EM). In analogy to electrons in a crystal, EM waves propagating in a structure with a periodically modulated dielectric constant are organized into photonic bands, separated by gaps where propagating states are forbidden. There have been proposals for novel applications ofthese photonic band gap (PBG) crystals, with operating frequencies ranging from microwave to the optical regime, that include zero threshold lasers, low-loss resonators and cavities, and efficient microwave antennas. Spontaneous emission, suppressed for photons in the photonic band gap, offers novel approaches to manipulate the EM field and create high-efficiency light-emitting structures. Innovative ways to manipulate light can have a profound iofluence on science and technology.

Materials, Properties, and Applications

Handbook of Laser Technology and Applications

Quantum Confinement of Bloch Waves

Slow Light Photonic Crystal Line-defect Waveguides

Advances in Photonic Crystals

Properties, Characterization, and Imaging

NOW UPDATED—THE HIGHLY PRACTICAL GUIDE TO ANALYZING LIQUIDCRYSTAL DISPLAYS The subject of liquid crystal displays has vigorously evolvedinto an exciting interdisciplinary field of research anddevelopment, involving optics, materials, and electronics. Updatedto reflect recent advances, the Second Edition of Optics ofLiquid Crystal Displays now offers a broader, morecomprehensive discussion on the fundamentals of display systems andteaches readers how to analyze and design new components andsubsystems for LCDs. New features of this edition include: Discussion of the dynamics of molecular reorientation Expanded information of the method of Poincaré sphere invarious optical components, including achromatic wave plates andcompensators Neutral and negative Biaxial thin films for compensators Circular polarizers and anti-reflection coatings The introduction of wide field-of-view wave plates andfilters Comprehensive coverage of VA-LCD and IPS-LCD Additional numerical examples This updated edition is intended as a textbook for students inelectrical engineering and applied physics, as well as a referencebook for engineers and scientists working in the area of researchand development of display technologies.

The field of integrated- or guided-wave optics has experienced significant and continuous growth since its inception in the late 1960s. There has been a considerable increase in research and development activity in this field worldwide and some significant advances in the realization of working in tegrated optic devices and modules have been made in recent years. In fact, there have already been some commercial manufacturing and technical ap plications of such devices and modules. The guided-wave-acoustooptics involving Bragg interactions between guided optical waves and surface acoustic waves is one of the areas of in tegrated-optics that has reached some degree of scientific and technological maturity. This topical volume is devoted to an in-depth treatment of this emerging branch of science and technology. Presented in this volume are concise treatments on bulk-wave acoustooptics, guided-wave optics, and surface acoustic waves, and detailed studies of guided-wave acoustooptic Bragg diffraction in three promising material substrates, namely, LiNb0 , 3 ZnO/Si0 , and GaAs, the resulting wide band modulators and deflectors, 2 and applications. The chapters cover not only the basic principles and the oretical analysis, but also the design, fabrication, and measurement of the resulting devices and modules, and their applications.

Diode Lasers and Photonic Integrated Circuits, Second Edition provides a comprehensive treatment of optical communication technology, its principles and theory, treating students as well as experienced engineers to an in-depth exploration of this field. Diode lasers are still of significant importance in the areas of optical communication, storage, and sensing. Using the the same well received theoretical foundations of the first edition, the Second Edition now introduces timely updates in the technology and in focus of the book. After 15 years of development in the field, this book will offer brand new and updated material on GaN-based and quantum-dot lasers, photonic IC technology, detectors, modulators and SOAs, DVDs and storage, eye diagrams and BER concepts, and DFB lasers. Appendices will also be expanded to include quantum-dot issues and more on the relation between spontaneous emission and gain.

This book collects chapters on different theoretical and experimental aspects of photonics crystals for Nanophotonics applications. It is divided in two parts - a theoretical section and an experimental and applicative section. The first part includes chapters developing several numerical methods for analysis and design of photonic crystal devices, such as 2D ring resonators for filters, single and coupled nanobeam cavities, birefringence in photonic crystal cavities, threshold analysis in photonic crystal lasers, gap solitons in photonic crystals, novel photonic atolls, dynamic characteristics of photonic crystal filters. The second part focuses on some aspects of photonic crystals fabrication and relevant applications, such as nitrogen defect technology in diamond, silicon nitride free standing membranes, photonic crystals structures in silicon, photonic crystals for optical sensing.

Nonlinear Optical Waves

Optical Waves in crystals: propagation and control of laser radiation

Polarized Light and Optical Systems

Photorefractive Optics

Nano-Optics

Confined Electrons and Photons

Nano-Optics: Fundamentals, Experimental Methods, and Applications offers insights into the fundamentals and industrial applications of nanoscale light-emitting materials and their composites. This book serves as a reference, offering an overview of existing research, with a particular focus on industrial applications. Nano-optics is the branch of nanoscience and nanotechnology that deals with interaction of light with nanoscale objects. This book explores the materials, structure, manufacturing techniques, and industrial applications of nano-optics. The applications discussed include healthcare, communication, astronomy, and satellites. Explains the major manufacturing techniques for light-emitting nanoscale materials Discusses how nanoscale optical materials are being used in a range of industrial applications Assesses the challenges of using nano-optics in a mass-production context

Polarized Light and Optical Systems presents polarization optics for undergraduate and graduate students in a way which makes classroom teaching relevant to current issues in optical engineering. This curriculum has been developed and refined for a decade and a half at the University of Arizona’s College of Optical Sciences. Polarized Light and Optical Systems provides a reference for the optical engineer and optical designer in issues related to building polarimeters, designing displays, and polarization critical optical systems. The central theme of Polarized Light and Optical Systems is a unifying treatment of polarization elements as optical elements and optical elements as polarization elements.

Optical Waves in Layered Media presents a clear picture of the propagation of optical waves in layered media and teaches the reader how to design and analyze optical devices using such media. Starting from the simplest case of plane wave propagation in homogeneous media, the author introduces a new matrix method for studying the optical properties of multilayer structures consisting of isotropic materials. He then describes propagation in anisotropic layered media and in inhomogeneous layers, guided waves, the coupling of modes, and the optical properties of superlattices and quantum wells. Optical Waves in Layered Media bridges the gap between theory and practice by means of numerical examples based on real-life situations.

This book describes the processes of optical information recording in photorefractive crystals and applications of these materials in phase-conjugating devices, holographic interferometry, optical computers and sensors. It is in essence an extensive introduction to this new and rapidly developing area of quantum electronics. It presents physical concepts, fundamentals of theory, and important experimental data. A rigorous treatment of basic phenomena is accompanied by a quantitative analysis, which makes the book interesting to experts and accessible for newcomers to the field. Of particular interest to researchers is an extensive summary of basic physical and holographic parameters of all presently known photorefractive crystals and structures and also a detailed critical analysis of their applications.

Fundamentals, Experimental Methods, and Applications

Optical Waves in Crystals

New Physics and Applications

Photorefractive Crystals in Coherent Optical Systems

Electronic States in Crystals of Finite Size

Photorefractive Materials and Their Applications 1

Nonlinear Optical Properties of Organic Molecules and Crystals, Volume 1 discusses the nonlinear optical effects in organic molecules and crystals, providing a classical distinction between quadratic and cubic processes. This book begins with a general overview of the basic properties of organic matter, followed by a review on the benefits derived from quantum-chemistry-based models and growth and characterization of high quality, bulk organic crystals and waveguided structures. A case study focusing on a specific material, namely urea, which exemplifies a situation in which transparency in the UV region has been purposely traded for nonlinear efficiency is also deliberated. This text concludes with a description of a type of trade-off between the unpredictable orientation of molecules in crystalline media, polarity of liquid-crystalline structures, and dominant electronic contribution to the electro-optic effect. This publication is beneficial to solid-state physicists and chemists concerned with nonlinear optical properties of organic molecules and crystals.

Photorefractive materials combine photoconductive and electro-optic properties: light affects their electrical conductivity; their optical properties (refractive index, etc.) are affected by applied electric fields. The aim of this book is to cover the vast range of phenomena occurring in Photorefractive Materials. For Physicists it is part of the fashionable subject of Nonlinear Optics. Engineers tend to place it as part of optoelectronics promising a variety of new devices. This book summarizes the results of 28 years of research in a manner that would appeal both to the beginner (a graduate student who has just entered the field) and to the expert (who might have done research on some aspect of the subject for a decade or more). It is in three parts. Part I serves as an introduction with emphasis on physical principles and simple mathematical models. Part II is a comprehensive account of all the major advances. Its main merit is the organization of the material accompanied by a detailed list of references. Part III is concerned with the enormous range of potential applications.

The optical properties of semiconductors have played an important role since the identification of semiconductors as "small" bandgap materials in the thinies, due both to their fundamental interest as a class of solids baving specific optical propenies and to their many important applications. On the former aspect we can cite the fundamental edge absorption and its assignment to direct or indirect transitions, many-body effects as revealed by exciton formation and photoconductivity. On the latter aspect, large-scale applications sucb as LEDs and lasers, photovoltaic converters, photodetectors, electro-optics and non-linear optic devices, come to mind. The eighties saw a revitalization of the whole field due to the advent of heterostructures of lower-dimensionality, mainly two-dimensional quantum wells, which through their enhanced photon-matter interaction yielded new devices with unsurpassed performance. Although many of the basic phenomena were evidenced through the seventies, it was this impact on applications which in turn led to such a massive investment in fabrication tools, thanks to which many new structures and materials were studied, yielding funher advances in fundamental physics.

A non-linear wave is one of the fundamental objects of nature. They are inherent to aerodynamics and hydrodynamics, solid state physics and plasma physics, optics and field theory, chemistry reaction kinetics and population dynamics, nuclear physics and gravity. All non-linear waves can be divided into two parts: dispersive waves and dissipative ones. The history of investigation of these waves has been lasting about two centuries. In 1834 J. S. Russell discovered the extraordinary type of waves without the dispersive broadening. In 1965 N. J. Zabusky and M. D. Kruskal found that the Korteweg-de Vries equation has solutions of the solitary wave form. This solitary wave demonstrates the particle-like properties, i. e. , stability under propagation and the elastic interaction under collision of the solitary waves. These waves were named solitons. In succeeding years there has been a great deal of progress in understanding of soliton nature. Now solitons have become the primary components in many important problems of nonlinear wave dynamics. It should be noted that non-linear optics is the field, where all soliton features are exhibited to a great extent. This book had been designed as the tutorial to the theory of non-linear waves in optics. The first version was projected as the book covering all the problems in this field, both analytical and numerical methods, and results as well. However, it became evident in the process of work that this was not a real task.

Superhard Materials, Convection, and Optical Devices

Propagation and Control of Laser Radiation

Physics of Light and Optics (Black & White)

Photonic Crystals and Light Localization in the 21st Century

An Introduction to Theory and Applications of Quantum Mechanics

Polar Oxides

This book begins by introducing magnetism and discusses magnetic properties of materials, magnetic moments of atoms and ions, and the elements important to magnetism. It covers magnetic susceptibilities and electromagnetic waves in anisotropic dispersive media among other topics. There are problems at the end of each chapter, many of which serve to expand or explain the material in the text. The bibliographies for each chapter give an entry to the research literature.

A concise, comprehensive reference text covering electro-optical systems, optical system design, optical physics, holography, Fourier optics, and optical metrology. It emphasizes physical insight aimed at engineering applications. This book is suitable as an advanced undergraduate or graduate level text; problems and solutions are included.

The advances of photorefractive optics have demonstrated many useful and practical applications, which include the development of photorefractive optic devices for computer communication needs. To name a couple significant applications: the large capacity optical memory, which can greatly improve the accessible high-speed CD-ROM and the dynamic photorefractive gratings, which can be used for all-optic switches for high-speed fiber optic networks. This book is an important reference both for technical and non-technical staffs who are interested in this field. * Covers the recent development in materials, phenomena, and applications * Includes growth, characterization, dynamic gratings, and liquid crystal PR effect * Includes applications to photonic devices such as large capacity optical memory, 3-D interconnections, and dynamic holograms * Provides the recent overall picture of current trends in photorefractive optics * Includes optical and electronic properties of the materials as applied to dynamic photorefractive fiber

Designed for senior undergraduate/first year graduate students in electrical engineering departments, this text covers key subjects in optical electronics and their applications in modern optical communications where optical waves are used as carriers of information.

Progress in Optics

Interactions, Devices, and Applications

Volume 2: Laser Design and Laser Systems

Optical Pattern Recognition

Handbook of Laser Technology and Applications (Three- Volume Set)

Since it was first published in 1995, Photonic Crystals has remained the definitive text for both undergraduates and researchers on photonic band-gap materials and their use in controlling the propagation of light. This newly expanded and revised edition covers the latest developments in the field, providing the most up-to-date, concise, and comprehensive book available on these novel materials and their applications. Starting from Maxwell's equations and Fourier analysis, the authors develop the theoretical tools of photonics using principles of linear algebra and symmetry, emphasizing analogies with traditional solid-state physics and quantum theory. They then investigate the unique phenomena that take place within photonic crystals at defect sites and surfaces, from one to three dimensions. This new edition includes entirely new chapters describing important hybrid structures that use band gaps or periodicity only in some directions: periodic waveguides, photonic-crystal slabs, and photonic-crystal fibers. The authors demonstrate how the capabilities of photonic crystals to localize light can be put to work in devices such as filters and splitters. A new appendix provides an overview of computational methods for electromagnetism. Existing chapters have been considerably updated and expanded to include many new three-dimensional photonic crystals, an extensive tutorial on device design using temporal coupled-mode theory, discussions of diffraction and refraction at crystal interfaces, and more. Richly illustrated and accessibly written, Photonic Crystals is an indispensable resource for students and researchers. Extensively revised and expanded Features improved graphics throughout Includes new chapters on photonic-crystal fibers and combined index-and band-gap-guiding Provides an introduction to coupled-mode theory as a powerful tool for device design Covers many new topics, including omnidirectional reflection, anomalous refraction and diffraction, computational photonics, and much more.

Since its inception in 1966, the series of numbered volumes known as Semiconductors and Semimetals has distinguished itself through the careful selection of well-known authors, editors, and contributors. The "Willardson and Beer" Series, as it is widely known, has succeeded in publishing numerous landmark volumes and chapters. Not only did many of these volumes make an impact at the time of their publication, but they continue to be well-cited years after their original release. Recently, Professor Eicke R. Weber of the University of California at Berkeley joined as a co-editor of the series. Professor Weber, a well-known expert in the field of semiconductor materials, will further contribute to continuing the series' tradition of publishing timely, highly relevant, and long-impacting volumes. Some of the recent volumes, such as Hydrogen in Semiconductors, Imperfections in III/V Materials, Epitaxial Microstructures, High-Speed Heterostructure Devices, Oxygen in Silicon, and others promise that this tradition will be maintained and even expanded. Reflecting the truly interdisciplinary nature of the field that the series covers, the volumes in Semiconductors and Semimetals have been and will continue to be of great interest to physicists, chemists, materials scientists, and device engineers in modern industry.

Nonlinear Optical Crystals contains the most complete and up-to-date reference material on properties of nonlinear optical crystals including: Traditional and specific applications The mathematical formulas necessary for the calculation of the frequency conversion process A survey of 63 nonlinear optical crystals containing more than 1500 different references with full titles Recent applications of common and novel nonlinear materials, including quasi-phase matching Special consideration for periodically-poled and self-frequency-doubling materials Significant amount of crystallophysical, thermophysical, spectroscopic, electro-optic and magneto-optic information

Optical Waves in CrystalsPropagation and Control of Laser RadiationWiley-Interscience

Theory and Applications

Optics of Liquid Crystal Displays

Basic Effects

Nonlinear Optical Crystals: A Complete Survey

Guided-Wave Acousto-Optics

Molding the Flow of Light - Second Edition

Based on a Cal Tech course, this is an outstanding introduction to formal quantum mechanics for advanced undergraduates in applied physics. The treatment's exploration of a wide range of topics culminates in two eminently practical subjects, the semiconductor transistor and the laser. Each chapter concludes with a set of problems. 1982 edition.

The invention of the laser was one of the towering achievements of the twentieth century. At the opening of the twenty-first century we are witnessing the burgeoning of the myriad technical innovations to which that invention has led. The Handbook of Laser Technology and Applications is a practical and long-lasting reference source for scientists and engineers who work with lasers. The Handbook provides, a comprehensive guide to the current status of lasers and laser systems; it is accessible to science or engineering graduates needing no more than standard undergraduate knowledge of optics. Whilst being a self-contained reference work, the Handbook provides extensive references to contemporary work, and is a basis for studying the professional journal literature on the subject. It covers applications through detailed case studies, and is therefore well suited to readers who wish to use it to solve specific problems of their own. The first of the three volumes comprises an introduction to the basic scientific principles of lasers, laser beams and non-linear optics. The second volume describes the mechanisms and operating characteristics of specific types of laser including crystalline solid - state lasers, semiconductor diode lasers, fibre lasers, gas lasers, chemical lasers, dye lasers and many others as well as detailing the optical and electronic components which tailor the laser's performance and beam delivery systems. The third volume is devoted to case studies of applications in a wide range of subjects including materials processing, optical measurement techniques, medicine, telecommunications, data storage, spectroscopy, earth sciences and astronomy, and plasma fusion research. This vast compendium of knowledge on laser science and technology is the work of over 130 international experts, many of whom are recognised as the world leaders in their respective fields. Whether the reader is engaged in the science, technology, industrial or medical applications of lasers or is researching the subject as a manager or investor in technical enterprises they cannot fail to be informed and enlightened by the wide range of information the Handbook supplies.

Das Buch enth ä lt folgende Beitr ä ge: R.B. Heimann, Edmonton, J. Kleiman, Downsview, Canada: Schock-induziertes Wachstum von superharten MaterialienD. Schwabe, Gie € en, FRG: Durch Oberfl ä chenspannungsgradienten getriebene Konvektion in KristallzuchtschmelzenH.-J. Weber, Dortmund, FRG: Elektrooptische Effekte, Kristalle und Bauteile.

As most crystals are generated by crystals, the interaction between light and crystals is vital to the success of any optics-related endevour. This paperback reprint provides a new generation of engineers and physicists with the fundamental knowledge needed to study this complex interaction.

Nonlinear Optics in Semiconductors I

Handbook of Laser Technology and Applications: Principles

Quantum Electronics

Liquid Crystals

Diode Lasers and Photonic Integrated Circuits

Optics in Magnetic Multilayers and Nanostructures