

Zemax Diode Collimator

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 Introduction to Lens Design
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 DN to [lambda]
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 Handbook of Optoelectronic Device Modeling and Simulation
 Laser Beam Shaping
 Handbook of Distributed Feedback Laser Diodes, Second Edition
 Wavefront Shaping for Biomedical Imaging
 Springer Handbook of Lasers and Optics

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BALLARD DEANNA

Exploring the World with the Laser CRC Press
 Optical coherence tomography (OCT) is a promising non-invasive non-contact 3D imaging technique that can be used to evaluate and inspect material surfaces, multilayer polymer films, fiber coils, and coatings. OCT can be used for the examination of cultural heritage objects and 3D imaging of microstructures. With subsurface 3D fingerprint imaging capability, OCT could be a valuable tool for enhancing security in biometric applications. OCT can also be used for the evaluation of fastener flushness for improving aerodynamic performance of high-speed aircraft. More and more OCT non-medical applications are emerging. In this book, we present some recent advancements in OCT technology and non-medical applications.
Recent Advances in Computer Science and Information Engineering Springer
 This book introduces high power semiconductor laser packaging design. The challenges of the design and various packaging and testing techniques are detailed by the authors. New

technologies and current applications are described in detail.

A Practical Guide to Handling Laser Diode Beams Springer Science & Business Media

This edition contains carefully selected contributions by leading scientists in high-resolution laser spectroscopy, quantum optics and laser physics. Emphasis is given to ultrafast laser phenomena, implementations of frequency combs, precision spectroscopy and high resolution metrology. Furthermore, applications of the fundamentals of quantum mechanics are widely covered. This book is dedicated to Nobel prize winner Theodor W. Hänsch on the occasion of his 75th birthday. The contributions are reprinted from a topical collection published in Applied Physics B, 2016. Selected contributions are available open access under a CC BY 4.0 license via link.springer.com. Please see the copyright page for further details.

Double-Prism Multi-mode Scanning: Principles and Technology Springer Science & Business Media
Laser Beam Shaping: Theory and Techniques addresses the theory and practice of every important technique for lossless beam shaping. Complete with experimental results as well as guidance on when beam shaping is practical and when each technique is appropriate, the Second Edition is updated to reflect significant developments in the field. This authoritative text: Features new

chapters on axicon light ring generation systems, laser-beam-splitting (fan-out) gratings, vortex beams, and microlens diffusers Describes the latest advances in beam profile measurement technology and laser beam shaping using diffractive diffusers Contains new material on wavelength dependence, channel integrators, geometrical optics, and optical software Laser Beam Shaping: Theory and Techniques, Second Edition not only provides a working understanding of the fundamentals, but also offers insight into the potential application of laser-beam-profile shaping in laser system design.

High Power Diode Lasers Society of Photo Optical

Global electro-optic technology and markets.

Testing, Packaging, and Reliability of Semiconductor Lasers V CRC Press

Handbook of Visual Optics offers an authoritative overview of encyclopedic knowledge in the field of physiological optics. It builds from fundamental concepts to the science and technology of instruments and practical procedures of vision correction, integrating expert knowledge from physics, medicine, biology, psychology, and engineering. The chapters comprehensively cover all aspects of modern study and practice, from optical principles and optics of the eye and retina to

novel ophthalmic tools for imaging and visual testing, devices and techniques for visual correction, and the relationship between ocular optics and visual perception.

[Plasmonics in Biology and Medicine](#) CRC Press

Proceedings of SPIE present the original research papers presented at SPIE conferences and other high-quality conferences in the broad-ranging fields of optics and photonics. These books provide prompt access to the latest innovations in research and technology in their respective fields.

Proceedings of SPIE are among the most cited references in patent literature.

Laser Diode Beam Basics, Manipulations and Characterizations Springer Nature

There is no shortage of lens optimization software on the market to deal with today's complex optical systems for all sorts of custom and standardized applications. But all of these software packages share one critical flaw: you still have to design a starting solution. Continuing the bestselling tradition of the author's previous books, *Lens Design, Fourth Edition* is still the most complete and reliable guide for detailed design information and procedures for a wide range of optical systems. Milton Laikin draws on his varied and extensive experience, ranging from innovative cinematographic and special-effects optical systems to infrared and underwater lens systems, to cover a vast range of special-purpose optical systems and their detailed design and analysis. This edition has been updated to replace obsolete glass types and now includes several new designs and sections on stabilized systems, the human eye, spectrographic systems, and diffractive systems. A new CD-ROM accompanies this edition, offering extensive lens prescription data and executable ZEMAX files corresponding to figures in the text. Filled with sage advice and completely illustrated, *Lens Design, Fourth Edition* supplies hands-on guidance for the initial design and final optimization for a plethora of commercial, consumer, and specialized optical systems.

[Microrobotics and Microsystem Fabrication](#) Artech House

This book summarizes a five year research project, as well as subsequent results regarding high power diode laser systems and their application in materials processing. The text explores the entire chain of technology, from the semiconductor technology, through cooling mounting and assembly, beam shaping and system technology, to applications in the processing of such materials as metals and polymers. Includes theoretical models, a range of important parameters and practical tips.

Laser Focus World BoD – Books on Demand

Proceedings of SPIE present the original research papers presented at SPIE conferences and other high-quality conferences in the broad-ranging fields of optics and photonics. These books provide prompt access to the latest innovations in research and technology in their respective fields.

Proceedings of SPIE are among the most cited references in patent literature.

Handbook of Visual Optics, Volume Two Society of Photo Optical

Starting from the basics of semiconductor lasers with emphasis on the generation of high optical output power the reader is introduced in a tutorial way to all key technologies required to fabricate high-power diode-laser sources. Various applications are exemplified.

[Illumination and Source Engineering](#) Springer

Learn about the theory, techniques and applications of wavefront shaping in biomedical imaging using this unique text. With authoritative contributions from researchers who are defining the field, cutting-edge theory is combined with real-world practical examples, experimental data and the latest research trends to provide the first book-level treatment of the subject. It is suitable for both background reading and use in a course, with coverage of essential topics such as adaptive optical microscopy, deep tissue microscopy, time reversal and optical phase conjugation, and tomography. The latest images from the forefront of biomedical imaging are included, and full-colour versions are available in the eBook version. Researchers, practitioners and graduate students in optics, biophotonics, biomedical engineering, and biology who use biomedical imaging tools and are looking to advance their knowledge of the subject will find this an indispensable resource.

Lasers & Optronics Society of Photo Optical

This book offers the reader a practical guide to the control and characterization of laser diode beams. Laser diodes are the most widely used lasers, accounting for 50% of the global laser

market. Correct handling of laser diode beams is the key to the successful use of laser diodes, and this requires an in-depth understanding of their unique properties. Following a short introduction to the working principles of laser diodes, the book describes the basics of laser diode beams and beam propagation, including Zemax modeling of a Gaussian beam propagating through a lens. The core of the book is concerned with laser diode beam manipulations: collimating and focusing, circularization and astigmatism correction, coupling into a single mode optical fiber, diffractive optics and beam shaping, and manipulation of multi transverse mode beams. The final chapter of the book covers beam characterization methods, describing the measurement of spatial and spectral properties, including wavelength and linewidth measurement techniques. The book is a significantly revised and expanded version of the title *Laser Diode Beam Basics, Manipulations and Characterizations* by the same author. New topics introduced in this volume include: laser diode types and working principles, non-paraxial Gaussian beam, Zemax modeling, numerical analysis of a laser diode beam, spectral property characterization methods, and power and energy characterization techniques. The book approaches the subject in a practical way with mathematical content kept to the minimum level required, making the book a convenient reference for laser diode users.

Laser Beam Shaping Springer

Optoelectronic devices are now ubiquitous in our daily lives, from light emitting diodes (LEDs) in many household appliances to solar cells for energy. This handbook shows how we can probe the underlying and highly complex physical processes using modern mathematical models and numerical simulation for optoelectronic device design, analysis, and performance optimization. It reflects the wide availability of powerful computers and advanced commercial software, which have opened the door for non-specialists to perform sophisticated modeling and simulation tasks. The chapters comprise the know-how of more than a hundred experts from all over the world. The handbook is an ideal starting point for beginners but also gives experienced researchers the opportunity to renew and broaden their knowledge in this expanding field.

Space Telescopes and Instrumentation I CRC Press

Many optical design technical books are available for many years which mainly deal with image optics design based on geometric optics and using sequential raytracing technique. Some books slightly touched laser beam manipulation optics design. On the other hand many books on laser diodes have been published that extensively deal with laser diode physics with little touching on laser diode beam manipulations and characterizations. There are some internet resources dealing with laser diode beams. However, these internet resources have not covered enough materials with enough details on laser diode beam manipulations and characterizations. A technical book concentrated on laser diode beam manipulations and characterizations can fit in to the open and provide useful information to laser diode users. *Laser Diode Beam Basics, Manipulations and Characterizations* is concentrated on the very practical side of the subject, it only discusses the basic physics and mathematics that are necessary for the readers in order to understand the subject. This book is intended to provide a practical guidance and reference to those scientists and engineers who are still new to laser diode applications, and to those undergraduate and graduate students who are studying lasers and optics. Readers are expected to be able to fast and easily find the most practical and useful information about laser diodes in this book without the need of searching through a sea of information.

[Optical Modeling and Performance Predictions](#) Cambridge University Press

CSIE 2011 is an international scientific Congress for distinguished scholars engaged in scientific, engineering and technological research, dedicated to build a platform for exploring and discussing the future of Computer Science and Information Engineering with existing and potential application scenarios. The congress has been held twice, in Los Angeles, USA for the first and in Changchun, China for the second time, each of which attracted a large number of researchers from all over the world. The congress turns out to develop a spirit of cooperation that leads to new friendship for addressing a wide variety of ongoing problems in this vibrant area of technology and fostering more collaboration over the world. The congress, CSIE 2011, received 2483 full paper and abstract

submissions from 27 countries and regions over the world. Through a rigorous peer review process, all submissions were refereed based on their quality of content, level of innovation, significance, originality and legibility. 688 papers have been accepted for the international congress proceedings ultimately.

Diode Laser Arrays Cambridge University Press

This book provides a comprehensive overview of the fundamental principles and applications of semiconductor diode laser arrays. All of the major types of arrays are discussed in detail, including coherent, incoherent, edge- and surface-emitting, horizontal- and vertical-cavity, individually addressed, lattice- matched and strained-layer systems. The initial chapters cover such topics as lasers, amplifiers, external-cavity control, theoretical modeling, and operational dynamics. Spatially incoherent arrays are then described in detail, and the uses of vertical-cavity surface emitter and edge-emitting arrays in parallel optical-signal processing and multi-channel optical recording are discussed. Researchers and graduate students in solid state physics and electrical engineering studying the properties and applications of such arrays will find this book invaluable.

[Lens Design](#) Apprimus Wissenschaftsverlag

"This book is a timely review of the various optical architectures, display technologies, and building blocks for modern consumer, enterprise, and defense head-mounted displays for various applications, including smart glasses, smart eyewear, and virtual-reality, augmented-reality, and mixed-reality headsets. Special attention is paid to the facets of the human perception system and the need for a human-centric optical design process that allows for the most comfortable headset that does not compromise the user's experience. Major challenges--from wearability and visual comfort to sensory and display immersion--must be overcome to meet market analyst expectations, and the book reviews the most appropriate optical technologies to address such challenges, as well as the latest product implementations"--

[Systems Engineering and Analysis of Electro-Optical and Infrared Systems](#) Springer Science & Business Media

Microelectromechanical systems (MEMS) are evolving into highly integrated technologies for a variety of application areas. Add the biological dimension to the mix and a host of new problems and issues arise that require a broad understanding of aspects from basic, materials, and medical sciences in addition to engineering. Collecting the efforts of renowned leaders in each of these fields, *BioMEMS: Technologies and Applications* presents the first wide-reaching survey of the design and application of MEMS technologies for use in biological and medical areas. This book considers both the unique characteristics of biological samples and the challenges of microscale engineering. Divided into three main sections, it first examines fabrication technologies using non-silicon processes, which use materials that are appropriate for medical/biological analyses. These include UV lithography, LIGA, nanoimprinting, injection molding, and hot-embossing. Attention then shifts to microfluidic components and sensing technologies for sample preparation, delivery, and analysis. The final section outlines various applications and systems at the leading edge of BioMEMS technology in a variety of areas such as genomics, drug delivery, and proteomics. Laying a cross-disciplinary foundation for further development, *BioMEMS: Technologies and Applications* provides engineers with an understanding of the biological challenges and biological scientists with an understanding of the engineering challenges of this burgeoning technology.

Society of Photo Optical

This proceedings volume contains selected and expanded contributions presented at the 6th International Symposium of Space Optical Instruments and Applications, held in Delft, the Netherlands on Sep 24th–25th, 2019. The meeting was organized by the Sino-Holland Space Optical Instruments Joint Laboratory and supported by TU Delft. The symposium focused on key innovations of space-based optical instruments and applications, and the newest developments in theory, technology and applications in optics, in both China and Europe. It thus provided a platform for exchanges on the latest research and current and planned optical missions. The major topics covered in these conference proceedings are: space optical remote sensing system design; advanced optical system design and manufacturing; remote sensor calibration and measurement; remote sensing data processing and information retrieval; and remote sensing data applications.