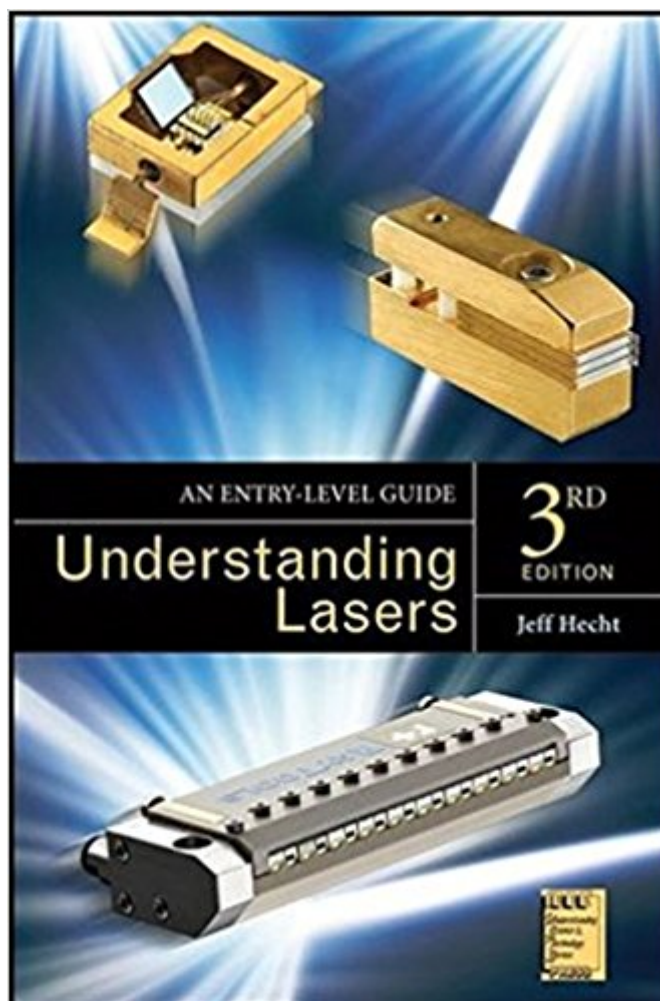


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# Understanding Lasers: An Entry-Level Guide



## Synopsis

Updated to reflect advancements since the publication of the previous edition, *Understanding Lasers: An Entry-Level Guide, 3rd Edition* is an introduction to lasers and associated equipment. You need only a minimal background in algebra to understand the nontechnical language in this book, which is a practical, easy-to-follow guide for beginners. By studying the conceptual drawings, tables, and multiple-choice quizzes with answers provided at the back of the book you can understand applications of semiconductor lasers, solid-state lasers, and gas lasers for information processing, medicine, communications, industry, and military systems.

## Book Information

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## Customer Reviews

"This book is an easy-to-follow guide that requires a minimal background in algebra. The use of simple language, drawings, tables and multiple-choice quizzes make this book an ideal text for advanced high school students, undergraduates studying physics and engineering, and professionals who work with lasers but lack a formal knowledge of the subject." (Optics & Photonic News, April 2009) "College-level libraries strong in science and technology titles will appreciate this easy introduction guide to laser technology, which moves from the foundations of how lasers work and how they are used to discussions of specific advanced laser types, applications, and the science involved." (The Midwest Book Review, September 2008)

An up-to-date and easy-to-follow introduction to laser technology Laser technology has become important in a wide range of practical applications, ranging from medicine and consumer electronics

to telecommunications and military technology. Lasers are also vital tools on the cutting edge of research—eighteen recipients of the Nobel Prize received the award for laser-related research, including the laser itself, holography, laser cooling, and Bose-Einstein condensates. Updated to reflect advancements since publication of the previous edition, *Understanding Lasers, Third Edition* offers an introduction to lasers and associated equipment at a level that nontechnicians can fundamentally understand. The author focuses on real-world lasers and assumes only a minimal background in algebra, making the book a practical, easy-to-follow guide for a broad audience. Beginning with an overview of how lasers work, what they do, and how they're used, the book goes on to explore: Optics and laser accessories Semiconductor diode lasers Gas lasers Low-power laser applications Solid-state and fiber lasers High-power laser applications Lasers in research Complete with conceptual drawings, tables, and multiple-choice quizzes with answers provided at the back of the book, *Understanding Lasers, Third Edition* serves as an ideal introduction to the subject for advanced high school students, undergraduate physics and engineering students, and professionals who work with lasers but lack formal training.

Wonderful! Absolutely marvelous! This book took me from "Oooo, lasers!" to dreams of transverse mode-locking my own nanosecond diode laser. This book truly does break down complex concepts and spoon feeds them to you in understandable chunks. It is truly a must-read for anyone wanting to DIY a laser.

Excellent a most to any one that needs to learn about all type of lasers, very clear, can be use as a text book for a laser class, has questions at the end of each chapter, I give a 10 !!!!

I haven't read such a good book in a long time! Most science books take a lot of space and words to say too little, but this one is perfect. Concise and to the point, much is explained, and explained well, in few words. Not quite summary or outline, but deep enough to explain the concepts sufficiently. Appropriate math and equations are given, and can be understood by anyone with first year college math, or advanced high school. But a lot of effort is not spent detailing the math, rather the relationships are simply stated for knowledge. The emphasis is on explanation of all concepts regarding lasers, and the physics and optics behind it. Good use of graphics and illustrations as well. The book appears to be aimed towards those with some preliminary background and grasp of basic physics and higher math, and who simply want to learn about lasers in particular. If you have absolutely no background in these things to begin with, the material may be hard to follow. I would

say advanced high school or undergraduate college level. My profession and background is science, and I wanted to learn about lasers in detail after seeing videos of recent military weapons tests, and after acquiring a couple of the high power laser "pointers" now available online. They are impressive to say the least, and I wanted to understand what was happening. An entire chapter in the book is devoted to semiconductor lasers, and the concept(s) are explained quite well and in detail. All aspects of laser technology are discussed, from the basic principles of the three main laser types (gas, solid state, semiconductor), the fundamental principle(s) of all laser action, and current/future technology and uses, from optical data storage to military weapons. I highly recommend this book, well worth the price.

Excellent review to the subject. Very practical and thorough. A complete treatment to the important features of each laser type, as well as a grounding in how specific laser mechanisms are used in practice.

Quite complete analysis, very difficult to understand in some places. Little or nothing about necessary attributes of the incoming / laser-light creating light.

This book really assisted me and other classmates to fill in the blanks in basic terminology & understanding from what our professor was teaching in college. It gives you the information in a way for the beginner to connect the dots.

Understanding lasers was an excellent read. I now have a good basic understanding of lasers and stimulated emission. Even the math made sense.

Good

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