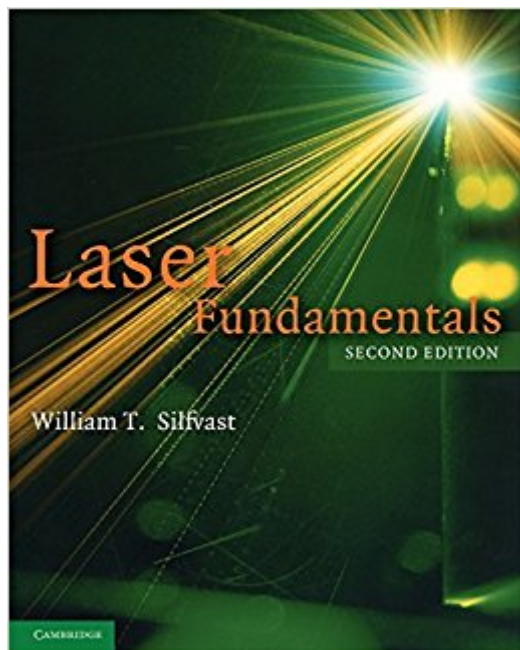


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# Laser Fundamentals



## Synopsis

This updated second edition includes new material throughout, especially though, in the areas of solid-state lasers, semiconductor lasers, and laser cavities. Simple explanations lead the reader logically from the basics of laser action to advanced topics in laser physics and engineering in this comprehensive introduction to the physical and engineering principles of laser operation and design. Direct explanations, examples, and many homework problems make this book invaluable to undergraduate and first-year graduate students taking courses on lasers. Summaries of key types of lasers, use of unique theoretical descriptions, and an extensive bibliography also recommend this volume to researchers.

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## Customer Reviews

Laser Fundamentals is a good read, and I recommend it to students and teachers alike." Physics Today

Simple explanations lead the reader logically from the basics of laser action to advanced topics in laser physics and engineering in this comprehensive introduction to the physical and engineering principles of laser operation and design. Direct explanations, examples, and many homework problems will make this book invaluable to undergraduate and first-year graduate students taking courses on lasers. Summaries of key types of lasers, use of unique theoretical descriptions, and an extensive bibliography also make this volume a valuable reference for researchers.

Something must be wrong with all I am ordering these days. I just bought this book for use in class. The book just arrived. Somehow many of the figures are missing in this text. I am at loss for words now. Just sent one email to Cambridge press if they could help with the figures. Let's see what happens..com: kindly check if other copies you have are the same, i.e., missing many figures throughout.

Simple, informative, logical arrangement. Though contains minor errors. It is great in combination with a simple course of Optics, like Introduction to Modern Optics by G Fowles.

I also recommend Orazio Svelto's book "Principles of Lasers"

Be ready for higher mathematics and a good knowledge of physics.

This book is a good crash course on lasers. It does not have much physical insight which would be nice, but it does run through the basic formulas and concepts you should know. That's a little different from what a physics/math major is used to, but....eh. good enough for government work.

This book is incredible! It will take the reader with an understanding of Calculus and Differential Equations and provide them with inside to a sufficient level of science and notation (from quantum mechanics, Russell-Saunders, etc) and give you all the skills required to design a laser. I have the good fortune of taking the class from the Author, who created the first blue-helium metal vapor laser. His book is providing the insight to the lectures, so I think I could have learned it all just from the text. By the end of this text, I will have designed my first laser, and considering I had never seen one until a few weeks ago... I am fully thankful to this great book, and all the experiences that the contributor gave us. The text has sufficient derivation to see that he's not just dropping down equations, and it is combined with the many figures which explain the physics and actual test data which give you a 'feel' for what is happening. I particularly like the chapter intros that tell you where you are going, but the chapters are packed with information. This was my first formal introduction to quantum mechanics, laser design, material gain, etc. and it is definitely coherent. I predict that this book will be in my collection long after my other texts have been donated to other students or colleagues, because I will not part with it.

Anyone who wants to learn about lasers, should start with this great book. Books of Siegman, Svelto or Yariv may require some mathematical background from the reader, but this book goes over the physical concepts rather than mathematical models, explaining the idea and processes behind the lasing action with examples from real life lasers. It also is a great reference book having a lot of information about many different laser types.

I was looking for a good laser book tried svelto, siegman but they were written at a comparatively higher level, so I found this book, boy! what a relief. I guess the best part of the book is that the author doesn't stress too much on mathematics, electromagnetics or advanced optics. Moreover the early chapters deal with all the fundamentals required to understand lasers (that is covered in later chapters) Bottomline: If you need a quick yet thorough introduction to lasers, this is the book.

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