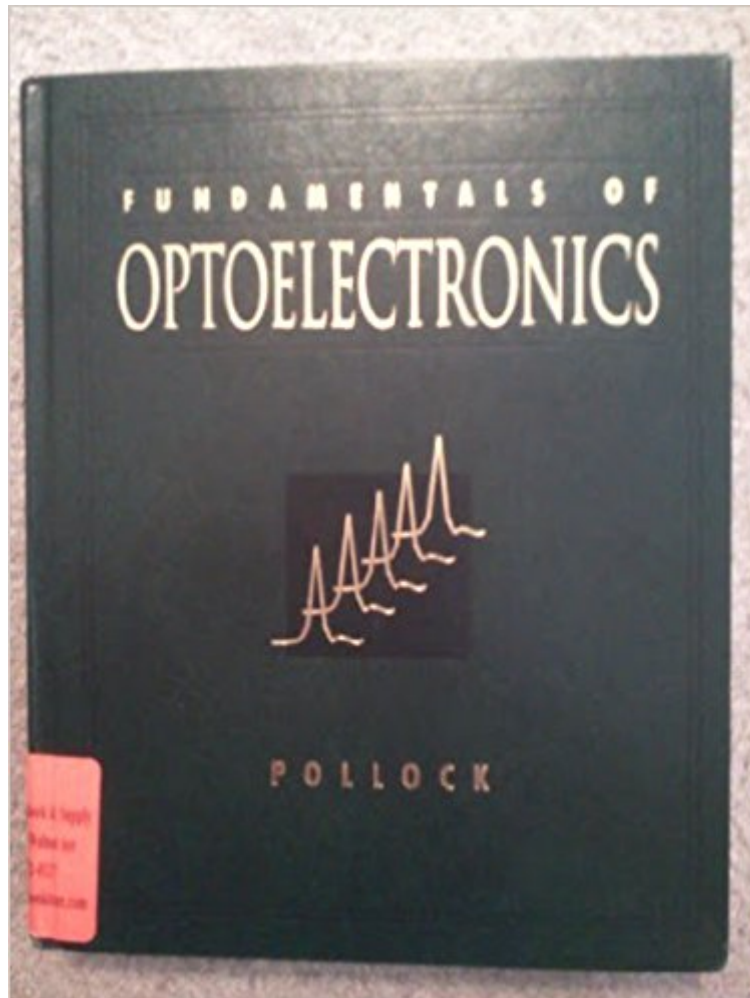




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Fundamentals Of Optoelectronics



Synopsis

Fundamentals of Optoelectronics teaches the basic physics and design engineering of guided wave optical devices. The text explains physical principles in an interactive fashion, stressing understanding, but also involving enough math and physics to provide practical design formula. The text uses a lot of numerical examples and offers numerical homework problems, which brings it up to date with current research and development in industry. The text is pragmatic, aimed at showing the student how to design or simulate real devices. No other available text takes this pragmatic hardware approach.

Book Information

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Customer Reviews

The product was delivered in a timely manner and was in new condition. However the printing quality of the text was terrible. It is not textbook quality. If the publisher was going for a mass produced Holy Bible feel, then they nailed it. I am not sure how they can charge \$200 for this book. It is almost like a newspaper. The publisher of the text is CBLS (Ceramic Book & Literature Service) New Delhi, India. The distributor ACAMEDIA was very sympathetic, kind and understanding. I would purchase from ACAMEDIA again but not from this CBLS.

Ideal as an undergraduate textbook, excellent reference for graduate students! The most important feature of this book is that it is tailored for undergraduate students intending to have an understandable overview of optoelectronics. The presentation is clear and the language is

accessible for any senior student, or even a junior. The figures and graphics are made as simple as possible, in order to focus the student attention to the main issues. Additionally, this book is one, out of only a few, that approaches numeric analysis with straightforward examples (command lines are given for MatLab, Mathematica or C), being a bridge between the pure theory and the real numerical results. The Chapter 9 deals with Beam Propagation Method (BPM), explained in a very concise and consistent way. Its 560 pages cover the most important topics in optoelectronics with a unique equilibrium between theory and applications. The 18 self-contained chapters include Maxwell's Equations, many different types and most relevant properties of waveguides, numeric analysis, BPM, couple mode theory, semiconductor lasers, detectors, noise in optical detection, optical devices, waveguide modulators and fiber-optic sensors. The book also presents lots of good references for further studies. The undergraduate student who wants to understand optoelectronics will find in this book a complete source of information, in an accessible approach.

I have a few books on optical telecommunication components. I used this one as a more advanced introduction text than Palais'. It covers basic electricity and magnetism, waveguide design (both fiber and substrate - i.e. slab and ridge architectures) and various semiconductor lasers. This book has example problems aimed at both the advanced undergrad/early graduate student, as well as the industrial engineer. Some of the problems are nicely worked out as to give you an idea how to use it on your own. An example of this is how the effective index calculation is done. Most text just describe the theoretical foundations. This book covers the theoretical, but also works out a problem showing you the intricacies of an effective index calculation. I highly recommend this book as a text for a course in optoelectronics and as a more advanced introduction for the self-learner. You do need some background in calculus, being comfortable with working problems in electricity and magnetism. Optics background not required to read this book, so it's also ideal for the engineer/non-physics scientist.

If you ever wondered about optical fibers or wanted to know more about the future communication systems, Prof. Pollock's book is the place to start. Accessible and thorough, this book provides an excellent introduction to the subject of optical electronics. Fibers, Solitons, Raman, and Fun Stuff...they're all in there. Go get them! Marius Albota

Soy estudiante de ingenieria electronica y me parece que este libro abre las puertas para entender el area de optoelectronica, que es el futuro de la electronica, al acceder a aplicaciones imposibles

con electrónica "convencional"

Soy estudiante de ingeniería electrónica y me parece que este libro abre las puertas para entender el área de optoelectrónica, que es el futuro de la electrónica.

I have delighted reading this book, its organization and emphasis on basic ideas blend very well with the rather exhaustive coverage of practical issues.

Este libro contiene TODO lo imprescindible que se debe saber acerca de Optoelectrónica.

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