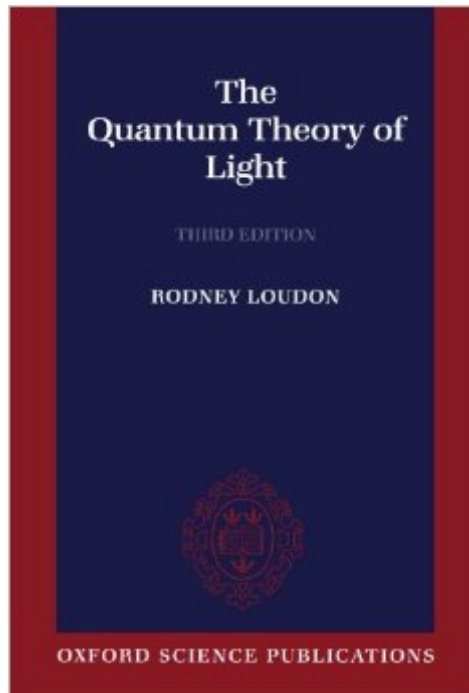


The book was found

# The Quantum Theory Of Light (Oxford Science Publications)



## Synopsis

This Third Edition, like its two predecessors, provides a detailed account of the basic theory needed to understand the properties of light and its interactions with atoms, in particular the many nonclassical effects that have now been observed in quantum-optical experiments. The earlier chapters describe the quantum mechanics of various optical processes, leading from the classical representation of the electromagnetic field to the quantum theory of light. The later chapters develop the theoretical descriptions of some of the key experiments in quantum optics. Over half of the material in this Third Edition is new. It includes topics that have come into prominence over the last two decades, such as the beamsplitter theory, squeezed light, two-photon interference, balanced homodyne detection, travelling-wave attenuation and amplification, quantum jumps, and the ranges of nonlinear optical processes important in the generation of nonclassical light. The book is written as a textbook, with the treatment as a whole appropriate for graduate or postgraduate students, while earlier chapters are also suitable for final-year undergraduates. Over 100 problems help to intensify the understanding of the material presented. To request a copy of the Solutions Manual, visit: <http://global.oup.com/uk/academic/physics/admin/solutions>

## Book Information

Series: Oxford Science Publications

Paperback: 448 pages

Publisher: Oxford University Press; 3 edition (November 23, 2000)

Language: English

ISBN-10: 0198501765

ISBN-13: 978-0198501763

Product Dimensions: 8.9 x 1 x 5.9 inches

Shipping Weight: 1.8 pounds (View shipping rates and policies)

Average Customer Review: 4.4 out of 5 stars Â Â See all reviews Â (5 customer reviews)

Best Sellers Rank: #732,649 in Books (See Top 100 in Books) #289 in Â Books > Science & Math > Physics > Optics #510 in Â Books > Science & Math > Chemistry > Physical & Theoretical #631 in Â Books > Science & Math > Physics > Quantum Theory

## Customer Reviews

This is a decent book. I'd agree that it can be dry and focused on equations more than physics at times, but it offers a very balanced selection of topics, and clearer explanations than many physics books. I particularly like the progression from old quantum theory to semiclassical theory to the fully

quantized theory. It emphasizes the useful aspects of each theory, in particular the usefulness of the old theory in terms of simplicity and accuracy in many situations. History may not always be the best approach to science, but it works if you emphasize the usefulness of simple models and how they follow from more sophisticated models.

For an introduction to quantum optics, the author is to be highly commended for keeping the mathematics and derivations straightforward and easily followed by a senior or 1st year graduate student in experimental physics. Unfortunately, he does not go beyond the math to discuss the physics which the mathematics describe. The problems he includes for students to work out are all derivation of formula with absolutely no application of formula. By the time I got through the book, I realized that I still had no real intuition of how a laser worked, or any understanding of how to apply the quantized radiation field to any real-world problems. So if you're looking for a handbook to give you a simple tour of the mathematics in the quantum theory of light, this is the book for you. If you're looking for a more comprehensive treatment, look elsewhere. The selection of topics is very limited: too little math for a theorist, and too little physics for the experimentalist.

Simply an excellent book, both for teaching - and for reference. The clarity of the explanations - and the math - has kept editions of this book beside me for decades.

A must have for anyone into quantum optics. It's comprehensive, and covers a wide range of topics in the discipline. We used this in a quantum optics course to great effect.

The book is really nice, I highly recommend if you are in looking for fun and training for Olympiads and physics contest

[Download to continue reading...](#)

The Quantum Theory of Light (Oxford Science Publications) A Modern Introduction to Quantum Field Theory (Oxford Master Series in Physics) The Quantum World: Quantum Physics for Everyone Probability: An Introduction (Oxford Science Publications) Scattering Theory: The Quantum Theory of Nonrelativistic Collisions (Dover Books on Engineering) Day Light, Night Light: Where Light Comes From (Let's-Read-and-Find-Out Science 2) Hormone Replacement Therapy: A Guide for Primary Care (Oxford Medical Publications) Methods for the Economic Evaluation of Health Care Programmes (Oxford Medical Publications) Introduction to Quantum Mechanics: in Chemistry, Materials Science, and Biology (Complementary Science) Diccionario Oxford

Complutense de Ciencias / Oxford Dictionary of Science Complutense (Spanish Edition) Quantum Information Theory Atoms in Molecules: A Quantum Theory (International Series of Monographs on Chemistry) Computational Chemistry: Introduction to the Theory and Applications of Molecular and Quantum Mechanics A First Course in Coding Theory (Oxford Applied Mathematics and Computing Science Series) The Universe Is Virtual: Discover the Science of the Future, Where the Emerging Field of Digital Physics Meets Consciousness, Reincarnation, Oneness, and Quantum Forgiveness The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography The Oxford Companion to Popular Music (Oxford Quick Reference) The Oxford Dictionary of Dance (Oxford Quick Reference) Oxford Bible Atlas 4th (fourth) Edition by Curtis, Adrian published by Oxford University Press, USA (2009) The Oxford Handbook of Quaker Studies (Oxford Handbooks)

[Dmca](#)