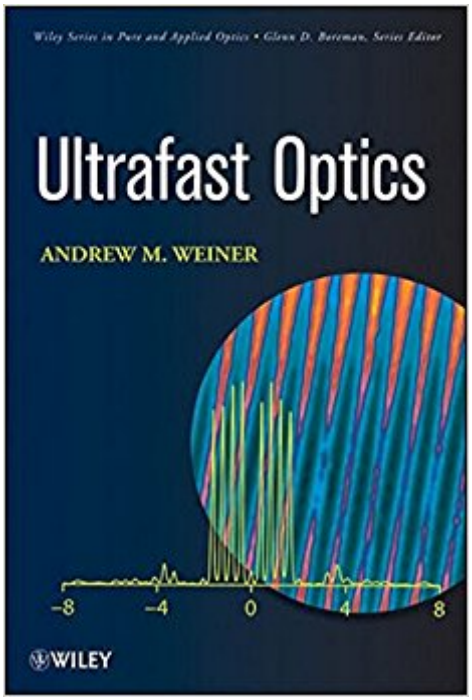
Ultrafast Optics



Synopsis

A comprehensive treatment of ultrafast optics This book fills the need for a thorough and detailed account of ultrafast optics. Written by one of the most preeminent researchers in the field, it sheds new light on technology that has already had a revolutionary impact on precision frequency metrology, high-speed electrical testing, biomedical imaging, and in revealing the initial steps in chemical reactions. Ultrafast Optics begins with a summary of ultrashort laser pulses and their practical applications in a range of real-world settings. Next, it reviews important background material, including an introduction to Fourier series and Fourier transforms, and goes on to cover: Principles of mode-locking Ultrafast pulse measurement methods Dispersion and dispersion compensation Ultrafast nonlinear optics: second order Ultrafast nonlinear optics: third order Mode-locking: selected advanced topics Manipulation of ultrashort pulses Ultrafast time-resolved spectroscopy Terahertz time-domain electromagnetics Professor Weiner's expertise and cutting-edge research result in a book that is destined to become a seminal text for engineers, researchers, and graduate students alike. Ã Â

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Customer Reviews

Ultrafast Optics Andrew M. Weiner Wiley Series in Pure and Applied Optics Glenn D. Boreman, Series Editor

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new light on technology that has already had a revolutionary impact on precision frequency metrology, high-speed electrical testing, biomedical imaging, and in revealing the initial steps in chemical reactions. Ultrafast Optics begins with a summary of ultrashort laser pulses and their practical applications in a range of real-world settings. Next, it reviews important background material, including an introduction to Fourier series and Fourier transforms, and goes on to cover: Principles of mode-locking Ultrafast pulse measurement methods Dispersion and dispersion compensation Ultrafast nonlinear optics: second order Ultrafast nonlinear optics: third order Mode-locking: selected advanced topics Manipulation of ultrashort pulses Ultrafast time-resolved spectroscopy Terahertz time-domain electromagnetics Professor Weiner's expertise and cutting-edge research result in a book that is destined to become a seminal text for engineers, researchers, and graduate students alike.

This text basically got me through the latter half of graduate school. A great reference, for any students of optics. I found it easier to follow than some of the alternative texts.

This is a really well-written book. All the topics are explained clearly, the notation is consistent, both theoretical and experimental techniques are covered in depth, and are easy to follow. Both physical intuition and mathematical insight are provided throughout the book.I found references to be most excellent and relevant, covering both historic papers on the subjects (that have been cited over 400 times), and newer techniques that have been invented recently.The book also has very helpful sections on how exactly to model certain equations numerically, and the issues with this modeling, sometimes providing step-by-step guidelines (which I was able to follow and model my processes).The author has studied (in the long past) with the most famous ultrafast optics professors, which makes him very competent and capable of writing a book of such an excellent quality.I have had this book for the last two years, and find myself using it every week.

Optics(set) Molded Optics: Design and Manufacture (Series in Optics and Optoelectronics) Ultraviolet nanoimprint lithography: Fabrication of ordered nanostructures, integrated optics and electronic devices Geometrical and Visual Optics, Second Edition Geometric, Physical, and Visual Optics, 2e Geometric, Physical, and Visual Optics Optics, Retinoscopy, and Refractometry (Basic Bookshelf for Eyecare Professionals) Geometrical and Visual Optics : A Clinical Introduction Handbook of Visual Optics, Two-Volume Set Clinical Optics and Refraction: A Guide for Optometrists, Contact Lens Opticians and Dispensing Opticians, 1e Seeing the Light: Optics in Nature, Photography, Color, Vision, and Holography Prism and Lens Making, Second Edition: A Textbook for Optical Glassworkers (Series in Optics and Optoelectronics) Modern Classical Physics: Optics, Fluids, Plasmas, Elasticity, Relativity, and Statistical Physics