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Sommario/riassunto

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.
