

1. Record Nr.	UNINA9910818908103321
Autore	New Geoffrey (Geoffrey H. C.)
Titolo	Introduction to Nonlinear Optics // Geoffrey New [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2011
ISBN	1-107-21883-7 1-139-06258-1 1-283-11128-4 9786613111289 1-139-07469-5 0-511-97585-6 1-139-07694-9 1-139-06891-1 1-139-07922-0 1-139-08149-7
Descrizione fisica	1 online resource (xv, 257 pages) : digital, PDF file(s)
Classificazione	SCI053000
Disciplina	535/.2
Soggetti	Nonlinear optics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Machine generated contents note: 1. Introduction; 2. Frequency mixing; 3. Crystal optics; 4. Nonlinear optics in crystals; 5. Third-order nonlinear processes; 6. Dispersion and optical pulses; 7. Nonlinear optics with pulses; 8. Some quantum mechanics; 9. Resonant effects; 10. High harmonic generation; Appendices; Answers to problems; Book list; References; Index.
Sommario/riassunto	Since the early days of nonlinear optics in the 1960s, the field has expanded dramatically, and is now a vast and vibrant field with countless technological applications. Providing a gentle introduction to the principles of the subject, this textbook is ideal for graduate students starting their research in this exciting area. After basic ideas have been outlined, the book offers a thorough analysis of second harmonic generation and related second-order processes, before moving on to third-order effects, the nonlinear optics of short optical

pulses and coherent effects such as electromagnetically-induced transparency. A simplified treatment of high harmonic generation is presented at the end. More advanced topics, such as the linear and nonlinear optics of crystals, the tensor nature of the nonlinear coefficients and their quantum mechanical representation, are confined to specialist chapters so that readers can focus on basic principles before tackling these more difficult aspects of the subject.
