1.	Record Nr.	UNINA9910480127203321
	Titolo	Advanced Photonics with Second-Order Optically Nonlinear Processes [[electronic resource] /] / edited by A.D. Boardman, L. Pavlov, S. Tanev
	Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 1998
	ISBN	94-007-0850-5
	Edizione	[1st ed. 1998.]
	Descrizione fisica	1 online resource (X, 486 p. 41 illus.)
	Collana	Nato Science Partnership Subseries: 3, High Technology, , 1388-6576 ; ; 61
	Disciplina	535.2 537.6
	Soggetti	Optics Electrodynamics Lasers Photonics Materials science Applied mathematics Engineering mathematics Classical Electrodynamics Optics, Lasers, Photonics, Optical Devices Characterization and Evaluation of Materials Applications of Mathematics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Bibliographic Level Mode of Issuance: Monograph
	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	to the propagation of cw radiation and solitons in quadratically nonlinear media -- Plane and guided wave effects and devices via quadratic cascading -- Control of laser light parameters by ?(2): ?(2) nonlinear optical devices -- Asymmetric quantum wells for second-order optical nonlinearities -- Experiments on quadratic spatial solitons -- Diffraction beam interaction in quadratic nonlinear media -- A lithium niobate quadratic device for wavelength multiplexing around 1.55?m -- Full vector theory of fundamental and second-harmonic cw waves -- Nonlinear phase shifts in a counterpropagating quasi-phase-matched configuration -- Generation of high power

picosecond pulses by passively mode-locked Nd:YAG laser using frequency doubling mirror -- Collision, fusion, and spiralling of interacting solitons in a bulk quadratic medium -- Quadratic ring-shaped solitary waves -- Solitary and periodic pulses for ?(2): explicit solutions in abundance -- Propagation of ring dark solitary waves in saturable self-defocusing media -- The N-soliton interactions, complex toda chain and stable propagation of NLS soliton trains -- Ray optics theory of self-matched beams mutual focusing in quadratic nonlinear media -- Resonant properties of ?2 in two-particle frequency regions -- On parametric coupled solitons with high-order dispersion -- Large self-phase modulation via simultaneous second harmonic generation and sum frequency mixing -- Pulsed beam self-focusing -- Slow and immobile solitons in quadratic media -- Fermi resonance nonlinear waves and solitons in organic superlattices -- Cascaded processes in gyrotropy media, and novel electro-optical effect on ?(2) nonlinearity -- Classical and quantum aspects of cw parametric interaction in a cavity -- Alternative media for cascading: Second order nonlinearities and cascading in plasma waveguids -- Frequency conversion with semiconductor heterostructures -- Parametric interactions in waveguides realized on periodically poled crystals -- Rb: KTP optical waveguides -- Backward parametric interactions in quasi-phase matched configurations -- Modes of TM field in nonlinear Kerr media -- Numerical simulations of self-induced plasma smoothing of spatially incoherent laser beams -- Effects of impurities on existence and propagation of intrinsic localized modes in ferromagnetic spin chains -- Optical properties and holographic recording in Pb2ScTaO6 single crystal -- Nonlinear effects in bulk semiconductor waveguide switches -- Nonlinear transmission of ultrashort light pulses by a thin semiconductor film for the case of two-photon biexciton excitation -- The optical and structural properties of HxLi1-xNbO3 phases, generated in proton exchanged LiNbO3 optical waveguides -- Optical properties of Bi12TiO20 photorefractive crystals doped with Cu and Ag -- Coherent and incoherent optical processes and phase sensitive adiabatic states -- High average power tunable deep UV generation using cascading second-order nonlinear optical conversions -- Optical filters and switches using photonic bandgap structures -- Thin layer modification of P.V.D.F. with copper sulfide -- Quadratic solitons: past, present and future.

Sommario/riassunto

Although it took some time to establish the word, photonics is both widely accepted and used throughout the world and a major area of activity concerns nonlinear materials. In these the nonlinearity mainly arises from second-order or third-order nonlinear optical processes. A restriction is that second-order processes only occur in media that do not possess a centre of symmetry. Optical fibres, on the other hand, being made of silica glass, created by fusing SiO molecules, are made of material with a centre of z symmetry, so the bulk of all processes are governed by third-order nonlinearity. Indeed, optical fibre nonlinearities have been extensively studied for the last thirty years and can be truly hailed as a success story of nonlinear optics. In fact, the fabrication ofsuch fibres, and the exploitation oftheir nonlinearity, is in an advanced stage - not least being their capacity to sustain envelope solitons. What then ofsecond-order nonlinearity? This is also well-known for its connection to second-harmonic generation. It is an immediate concern, however, to understand how waves can mix and conserve both energy and momentum ofthe photons involved. The problem is that the wave vectors cannot be made to match without a great deal of effort, or at least some clever arrangement has to be made - a special geometry, or crystal arrangement. The whole business

is called phase- matching and an inspection ofthe state-of-the-art today, reveals the subject to be in an advanced state.

2. Record Nr. UNINA9910138866503321

Titolo	Rockfall engineering [[electronic resource] /] / edited by Stephane Lambert, Francois Nicot
Pubbl/distr/stampa	London, : ISTE Hoboken, N.J., : Wiley, 2011
ISBN	1-118-60153-X 1-118-60161-0 1-118-60152-1 1-299-18758-7
Descrizione fisica	1 online resource (461 p.)
Collana	ISTE
Altri autori (Persone)	LambertStephane <1969-> NicotFrancois
Disciplina	624.1/5132 624.15132
Soggetti	Rockslides - Prevention Soil stabilization Rock slopes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title Page; Copyright Page; Table of Contents; Foreword; Introduction; Chapter 1. Geophysical Detection and Characterization of Discontinuities in Rock Slopes; 1.1. Introduction; 1.2. Geophysical parameters and methods; 1.2.1. Introduction; 1.2.2. Seismic velocity; 1.2.3. Electrical resistivity; 1.2.4. Dielectrical permittivity; 1.2.5. Resonance frequency; 1.3. Applications; 1.3.1. Introduction; 1.3.2. Plateau survey: Ravin de l'Aiguille; 1.3.3. Cliff survey: Gorge de la Bourne; 1.3.4. Column survey: Chamousset; 1.4. Conclusions; 1.5. Acknowledgments; 1.6. Bibliography Chapter 2. Remote Sensing and Monitoring Techniques for the Characterization of Rock Mass Deformation and Change Detection2.1.

Sommario/riassunto

Rockfall Engineering is an up-to-date, international picture of the state of the art in rockfall engineering.The three basic stages of rockfalls are considered: the triggering stage, the motion stage, and the interaction with a structure stage; along with contributions including structural characterization of cliffs, remote monitoring, stability analysis, boulder propagation, design of protection structures an risk assessment. Academic contributions are illustrated by practical examples, and completed by engineering contributions where practical purposes are thoroughly considered. This