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Titolo	Nonlinear optical and atomic systems [e-book] : at the interface of physics and mathematics / Christophe Besse, Jean-Claude Garreau, editors
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Altri autori (Persone)	Besse, Christopheauthor Garreau, Jean-Claudeauthor
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Note generali	Based on the lectures held on occasion of 2013 Painlevé-CEMPI-PhLAM thematic semester
Nota di bibliografia	Includes bibliographical references and index
Nota di contenuto	Flach, Sergej Nonlinear lattice waves in random potentials Antoine, Xavier Duboscq, Romain Modeling and computation of Bose-Einstein condensates: stationary states, nucleation, dynamics, stochasticity De Bièvre, Stephan Genoud, François Rota Nodari, Simona Orbital stability: analysis meets geometry Macià, Fabricio High-frequency dynamics for the Schrödinger equation, with applications to dispersion and observability
Sommario/riassunto	Focusing on the interface between mathematics and physics, this book offers an introduction to the physics, the mathematics, and the numerical simulation of nonlinear systems in optics and atomic physics. The text covers a wide spectrum of current research on the subject, which is an extremely active field in physics and mathematical physics, with a very broad range of implications, both for fundamental

science and technological applications: light propagation in microstructured optical fibers, Bose-Einstein condensates, disordered systems, and the newly emerging field of nonlinear quantum mechanics. Accessible to PhD students, this book will also be of interest to post-doctoral researchers and seasoned academics