

1. Record Nr.	UNINA9910144608403321
Titolo	Dissipative Solitons // edited by Nail Akhmediev, Adrian Ankiewicz
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2005
ISBN	9783540315285 3540315284
Edizione	[1st ed. 2005.]
Descrizione fisica	1 online resource (XVIII, 448 p. 220 illus. Also available online.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 661
Disciplina	531/.1133
Soggetti	Lasers Photonics Quantum optics Engineering Optics, Lasers, Photonics, Optical Devices Quantum Optics Engineering, general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Introduction -- Dissipative Solitons of the Swift-Hohenberg Equation -- Dissipative Magneto-Optic Solitons -- Dissipative Solitons in Semiconductor Optical Amplifiers -- Dissipative Solitons in Pattern-Forming Nonlinear Optical Systems: Cavity Solitons and Feedback Solitons -- Solitons in Laser Schemes with Saturable Absorption -- Spatial Resonator Solitons -- Dissipative Temporal Solitons -- Soliton Dynamics in Modelocked Lasers -- Temporal Multi-Soliton Complexes Generated by Passively Modelocked Lasers -- Dissipative Solitons in Reaction-Diffusion Systems -- Discrete Ginzburg-Landau Solitons -- Discrete Dissipative Solitons -- Nonlinear Schroedinger Equation with Dissipation: Two Models for Bose-Einstein Condensates -- Solitary Waves of Nonlinear Equations -- Stability Analysis of Pulses via the Evans Function: Dissipative Systems -- Bifurcations and Strongly Amplitude-Modulated Pulses of the Complex Ginzburg-Landau Equation.
Sommario/riassunto	This volume is devoted to the exciting topic of dissipative solitons, i.e.

pulses or spatially localised waves in systems exhibiting gain and loss. Examples are laser systems, nonlinear resonators and optical transmission lines. The physical principles and mathematical concepts are explained in a clear and concise way, suitable for students and young researchers. The similarities and differences in the notion of a soliton between dissipative systems and Hamiltonian and integrable systems are discussed, and many examples are given. The contributions are written by the world's leading experts in the field, making it a unique exposition of this emerging topic.
