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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Integrable Hamiltonian Hierarchies: Spectral Methods -- The Lax Representation and the AKNS Approach -- The Direct Scattering Problem for the Zakharov–Shabat System -- The Inverse Scattering Problem for the Zakharov–Shabat System -- The Generalized Fourier Transforms -- Fundamental Properties of the solvable NLEEs -- Hierarchies of Hamiltonian structures -- The NLEEs and the Gauge Transformations -- The Classical r-Matrix Method -- Integrable Hamiltonian Hierarchies: Geometric Theory of the Recursion Operators -- Smooth Manifolds -- Hamiltonian Dynamics -- Vector-Valued Differential Forms -- Integrability and Nijenhuis Tensors -- Poisson–Nijenhuis structures Related to the Generalized Zakharov–Shabat System -- Linear Bundles of Lie Algebras and Compatible Poisson Structures.
Sommario/riassunto	This book presents a detailed derivation of the spectral properties of the Recursion Operators allowing one to derive all the fundamental properties of the soliton equations and to study their Hamiltonian hierarchies. Thus it is demonstrated that the inverse scattering method for solving soliton equations is a nonlinear generalization of the Fourier transform. The book brings together the spectral and the geometric approaches and as such will be useful to a wide readership: from researchers in the field of nonlinear completely integrable evolution equations to graduate and post-graduate students.

