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Descrizione fisica	1 online resource (XIII, 339 p.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 767
Disciplina	515/.45
Soggetti	Mathematical physics Mechanics Fluids Theoretical, Mathematical and Computational Physics Classical Mechanics Fluid- and Aerodynamics
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Symmetries of Differential Equations and the Problem of Integrability -- Number Theory and the Symmetry Classification of Integrable Systems -- Four Lectures: Discretization and Integrability. Discrete Spectral Symmetries -- Symmetries of Spectral Problems -- Normal Form and Solitons -- Multiscale Expansion and Integrability of Dispersive Wave Equations -- Painlevé Tests, Singularity Structure and Integrability -- Hirota's Bilinear Method and Its Connection with Integrability -- Integrability of the Quantum XXZ Hamiltonian.
Sommario/riassunto	This is a unique collection of lectures on integrability, intended for graduate students or anyone who would like to master the subject from scratch, and written by leading experts in the field including Fields Medallist Serge Novikov. Since integrable systems have found a wide range of applications in modern theoretical and mathematical physics, it is important to recognise integrable models and, ideally, to obtain a global picture of the integrable world. The main aims of the book are to present a variety of views on the definition of integrable systems; to develop methods and tests for integrability based on these definitions; and to uncover beautiful hidden structures associated with integrable

equations.

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