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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Hamilton formalism -- Hamilton path intergrals -- Dynamical systems with constraint -- Quantization of constrained systems -- Phase space in gauge theories -- Path intergrals in gauge theories -- Confinement -- Supplementary material.
Sommario/riassunto	The principles of gauge symmetry and quantization are fundamental to modern understanding of the laws of electromagnetism, weak and strong subatomic forces and the theory of general relativity. Ideal for graduate students and researchers in theoretical and mathematical physics, this unique book provides a systematic introduction to Hamiltonian mechanics of systems with gauge symmetry. The book reveals how gauge symmetry may lead to a non-trivial geometry of the physical phase space and studies its effect on quantum dynamics by

path integral methods. It also covers aspects of Hamiltonian path integral formalism in detail, along with a number of related topics such as the theory of canonical transformations on phase space supermanifolds, non-commutativity of canonical quantization and elimination of non-physical variables. The discussion is accompanied by numerous detailed examples of dynamical models with gauge symmetries, clearly illustrating the key concepts.