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	ISBN	981-19-7435-7
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	Descrizione fisica	1 online resource (540 pages)
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		Astronomy
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		Engineering Mechanics
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	Nota di contenuto	Introduction -- Symplectic Method for Finite-Dimensional System -- Multi-Symplectic Method for Infinite-Dimensional Hamiltonian System -- Dynamic Symmetry Breaking and Generalized Multi-Symplectic Method for Non-Conservative System -- Structure-Preserving Analysis on Impact Dynamic Systems -- Structure-Preserving Analysis on Dynamics of Micro/Nano Systems -- Structure-Preserving Analysis on Astrodynamics Systems.
	Sommario/riassunto	To make the content of the book more systematic, this book mainly briefs some related basic knowledge reported by other monographs and papers about geometric mechanics. The main content of this book is based on the last 20 years' jobs of the authors. All physical processes can be formulated as the Hamiltonian form with the energy conservation law as well as the symplectic structure if all dissipative effects are ignored. On the one hand, the important status of the Hamiltonian mechanics is emphasized. On the other hand, a higher requirement is proposed for the numerical analysis on the Hamiltonian

system, namely the results of the numerical analysis on the Hamiltonian system should reproduce the geometric properties of which, including the first integral, the symplectic structure as well as the energy conservation law. .