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	Descrizione fisica	1 online resource (172 p.)
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	Disciplina	003.7
	Soggetti	Computational intelligence
		Artificial intelligence
		Economics
		Computational complexity
		Computational Intelligence
		Artificial Intelligence
		Economic Theory/Quantitative Economics/Mathematical Methods
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	Lingua di pubblicazione	Inglese
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	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	Introduction: Self-Action Models -- Incentives for Repair in Self-Repair Networks -- A Phase Transition in Self-Repair Networks: Problems and Definitions -- Controlling Repairing Strategy: A Spatial Game Approach -- Adaptive Capability in Space and Time -- Protection of Cooperative Clusters by Membrane -- Duality in Logics of Self-Repair -- Asymmetry between Repair and Infection in Self-Repair Networks -- Dynamics of Self-Repair Networks of Several Types -- Self-Repair Networks as an Epidemic Model -- Self-Repair Networks and the Self-Recognition Model -- Conclusion.
	Sommario/riassunto	This book describes the struggle to introduce a mechanism that enables next-generation information systems to maintain themselves. Our generation observed the birth and growth of information systems, and the Internet in particular. Surprisingly information systems are quite different from conventional (energy, material-intensive) artificial systems, and rather resemble biological systems (information-intensive

systems). Many artificial systems are designed based on (Newtonian) physics assuming that every element obeys simple and static rules; however, the experience of the Internet suggests a different way of designing where growth cannot be controlled but self-organized with autonomous and selfish agents. This book suggests using game theory, a mechanism design in particular, for designing next-generation information systems which will be self-organized by collective acts with autonomous components. The challenge of mapping a probability to time appears repeatedly in many forms throughout this book. The book contains interdisciplinary research encompassing game theory, complex systems, reliability theory and particle physics. All devoted to its central theme: what happens if systems self-repair themselves? .