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	Titolo	An Introduction to Transfer Entropy : Information Flow in Complex Systems / / by Terry Bossomaier, Lionel Barnett, Michael Harré, Joseph T. Lizier
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	Descrizione fisica	1 online resource (XXIX, 190 p. 24 illus., 21 illus. in color.)
	Disciplina	006.3
	Soggetti	Artificial intelligence
		Applied mathematics
		Engineering mathematics
		Statistical physics
		Dynamical systems
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		Computers
		Artificial Intelligence
		Mathematical and Computational Engineering
		Complex Systems
		Theory of Computation
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	Lingua di pubblicazione	Inglese
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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Introduction -- Statistical Preliminaries -- Information Theory -- Transfer Entropy -- Information Transfer in Canonical Systems -- Information Transfer in Financial Markets -- Miscellaneous Applications of Transfer Entropy -- Concluding Remarks.
	Sommario/riassunto	This book considers a relatively new metric in complex systems, transfer entropy, derived from a series of measurements, usually a time series. After a qualitative introduction and a chapter that explains the key ideas from statistics required to understand the text, the authors then present information theory and transfer entropy in depth. A key

feature of the approach is the authors' work to show the relationship between information flow and complexity. The later chapters demonstrate information transfer in canonical systems, and applications, for example in neuroscience and in finance. The book will be of value to advanced undergraduate and graduate students and researchers in the areas of computer science, neuroscience, physics, and engineering.