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Titolo	Replication of Chaos in Neural Networks, Economics and Physics / / by Marat Akhmet, Mehmet Onur Fen
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ISBN	3-662-47500-6
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Descrizione fisica	1 online resource (468 p.)
Collana	Nonlinear Physical Science, , 1867-8440
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Soggetti	Statistical physics Difference equations Functional equations Mechanics Mechanics, Applied Economics Biomathematics Applications of Nonlinear Dynamics and Chaos Theory Difference and Functional Equations Theoretical and Applied Mechanics Economic Theory/Quantitative Economics/Mathematical Methods Mathematical and Computational Biology
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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.
Nota di contenuto	Introduction -- Replication of Continuous Chaos about Equilibria -- Chaos Extension in Hyperbolic Systems -- Entrainment by Chaos -- Chaotification of Impulsive Systems by Perturbations -- Chaos Generation in Continuous/Discrete-Time Models -- Economic Models with Deterministic Chaos as Generated by Exogenous Continuous/Discrete Shocks -- Replication of Chaos by Neural Networks -- ntrainment by Spatiotemporal Chaos in Glow Discharge-Semiconductor Systems.
Sommario/riassunto	This book presents detailed descriptions of chaos for continuous-time systems. It is the first-ever book to consider chaos as an input for

differential and hybrid equations. Chaotic sets and chaotic functions are used as inputs for systems with attractors: equilibrium points, cycles and tori. The findings strongly suggest that chaos theory can proceed from the theory of differential equations to a higher level than previously thought. The approach selected is conducive to the in-depth analysis of different types of chaos. The appearance of deterministic chaos in neural networks, economics and mechanical systems is discussed theoretically and supported by simulations. As such, the book offers a valuable resource for mathematicians, physicists, engineers and economists studying nonlinear chaotic dynamics.