1.	Record Nr.	UNINA9910140731303321
	Titolo	Reviews of nonlinear dynamics and complexity . Volume 3 [[electronic resource] /] / edited by Heinz Georg Schuster
	Pubbl/distr/stampa	Weinheim, : Wiley-VCH [Chichester, : John Wiley, distributor], c2010
	ISBN	1-282-71239-X 9786612712395 3-527-63096-1 3-527-63097-X
	Descrizione fisica	1 online resource (261 p.)
	Collana	Annual Reviews of Nonlinear Dynamics and Complexity (VCH) ; ; v.3
	Altri autori (Persone)	SchusterHeinz Georg <1943->
	Disciplina	003.75
	Soggetti	Nonlinear theories Computational complexity Electronic books.
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Reviews of Nonlinear Dynamics and Complexity; Contents; Preface; List of Contributors; 1 The Chaos Computing Paradigm; 1.1 Brief History of Computers; 1.2 The Conceptualization, Foundations, Design and Implementation of Current Computer Architectures; 1.3 Limits of Binary Computers and Alternative Approaches to Computation: What Lies Beyond Moore's Law?; 1.4 Exploiting Nonlinear Dynamics for Computations; 1.5 General Concept; 1.6 Continuous-Time Nonlinear System; 1.7 Proof-of-Principle Experiments; 1.7.1 Discrete-Time Nonlinear System; 1.7.2 Continuous-Time Nonlinear System 1.8 Logic from Nonlinear Evolution: Dynamical Logic Outputs1.8.1 Implementation of Half- and Full-Adder Operations; 1.9 Exploiting Nonlinear Dynamics to Store and Process Information; 1.9.1 Encoding Information; 1.9.2 Processing Information; 1.9.3 Representative Example; 1.9.4 Implementation of the Search Method with Josephson Junctions; 1.9.5 Discussions; 1.10 VLSI Implementation of Chaotic Computing Architectures: Proof of Concept; 1.11 Conclusions; References; 2 How Does God Play Dice?; 2.1 Introduction; 2.2 Model;

Sommario/riassunto	Written in a style that breaks the barriers between the disciplines, this monograph enables researchers from life science, physics, engineering, or chemistry to access the most recent results in a common language. The resulting review character of this project sets it apart from specialized journals, and allows each volume to respond quickly to new developments.This third volume contains new topics ranging from chaotic computing, via random dice tossing and stochastic limit-cycle oscillators, to a number theoretic example of self-organized criticality, wave localization in complex networks