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Soggetti	Computer mathematics Computer science—Mathematics Medicine Dynamics Ergodic theory Pattern recognition Coding theory Information theory Computational Mathematics and Numerical Analysis Math Applications in Computer Science Biomedicine, general Dynamical Systems and Ergodic Theory Pattern Recognition Coding and Information Theory
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Nota di contenuto	1. Phase Space in Chaos and Nonlinear Dynamics -- 2. Recurrence Plots -- 3. Fuzzy Logic -- 4. Fuzzy Recurrence Plots -- 5. Fuzzy Recurrence Networks -- 6. Entropy Algorithms -- 7. Applications in Biomedicine.
Sommario/riassunto	This book presents an original combination of three well-known methodological approaches for nonlinear data analysis: recurrence, networks, and fuzzy logic. After basic concepts of these three approaches are introduced, this book presents recently developed methods known as fuzzy recurrence plots and fuzzy recurrence

networks. Computer programs written in MATLAB, which implement the basic algorithms, are included to facilitate the understanding of the developed ideas. Several applications of these techniques to biomedical problems, ranging from cancer and neurodegenerative disease to depression, are illustrated to show the potential of fuzzy recurrence methods. This book opens a new door to theorists in complex systems science as well as specialists in medicine, biology, engineering, physics, computer science, geosciences, and social economics to address issues in experimental nonlinear signal and data processing.

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