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Autore	Mosekilde Erik
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Nota di contenuto	Contents ; PREFACE ; 1 COUPLED NONLINEAR OSCILLATORS ; 1.1 The Role of Synchronization ; 1.2 Synchronization Measures ; 1.3 Mode-Locking of Endogenous Economic Cycles ; 2 TRANSVERSE STABILITY OF COUPLED MAPS ; 2.1 Riddling Bubbling and On-Off Intermittency ; 2.2 Weak Stability of the Synchronized Chaotic State ; 2.3 Formation of Riddled Basins of Attraction ; 2.4 Destabilization of Low-Periodic Orbits ; 2.5 Different Riddling Scenarios ; 2.6 Intermingled Basins of Attraction ; 2.7 Partial Synchronization for Three Coupled Maps 3 UNFOLDING THE RIDDLING BIFURCATION 3.1 Locally and Globally Riddled Basins of Attraction ; 3.2 Conditions for Soft and Hard Riddling ; 3.3 Example of a Soft Riddling Bifurcation ; 3.4 Example of a Hard Riddling Bifurcation ; 3.5 Destabilization Scenario for $a = a_1$ 3.6 Coupled Intermittency-III Maps ; 3.7 The Contact Bifurcation ; 3.8 Conclusions ; 4 TIME-CONTINUOUS SYSTEMS ; 4.1 Two Coupled

Rossler Oscillators	; 4.2 Transverse
Destabilization of Low-Periodic Orbits	
; 4.3 Riddled Basins	; 4.4 Bifurcation Scenarios for
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4.5 The Role of a Small Parameter Mismatch	
4.6 Influence of Asymmetries in the Coupled System	
; 4.7 Transverse Stability of the Equilibrium Point	
; 4.8 Partial Synchronization of Coupled Oscillators	
; 4.9 Clustering in a System of Four Coupled Oscillators	
4.10 Arrays of Coupled Rossler Oscillators	

Sommario/riassunto

Interacting chaotic oscillators are of interest in many areas of physics, biology, and engineering. In the biological sciences, for instance, one of the challenging problems is to understand how a group of cells or functional units, each displaying complicated nonlinear dynamic phenomena, can interact with one another to produce a coherent response on a higher organizational level. This book is a guide to the fascinating new concept of chaotic synchronization. The topics covered range from transverse stability and riddled basins of attraction in a system of two coupled logistic maps over par
