1.	Record Nr.	UNINA9910450896003321
	Autore	Wu Chai Wah
	Titolo	Synchronization in coupled chaotic circuits and systems [[electronic resource] /] / Chai Wah Wu
	Pubbl/distr/stampa	River Edge, N.J., : World Scientific, c2002
	ISBN	981-277-842-X
	Descrizione fisica	1 online resource (187 p.)
	Collana	World Scientific series on nonlinear science. Series A, Monographs and treatises ; ; v. 41
	Disciplina	621.3815
	Soggetti	Electronic circuits Chaotic behavior in systems Coupled mode theory 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 (p. 165-172) and index.
	Nota di contenuto	Contents ; Preface ; Chapter 1 Introduction ; Chapter 2 Synchronization in Two Coupled Chaotic Systems ; 2.1 Pecora-Carroll subsystem decomposition ; 2.2 Separable additive coupling ; 2.3 Synchronization and stability ; 2.3.1 Absolute stability ; 2.3.2 Lipschitz nonlinear systems 2.3.3 Circuit theoretical criteria for asymptotical stability 2.4 Communication and signal processing via synchronization of chaotic systems ; 2.5 Synchronization of nonautonomous systems ; 2.5.1 Unidirectional synchronization scheme for nonautonomous systems 2.5.2 Mutual coupling synchronization scheme for nonautonomous systems 2.5.3 Synchronization between different systems ; 2.5.4 Synchronizing nonautonomous systems as communication systems ; 2.6 Synchronization via a scalar signal 2.6.1 Applications of scalar synchronization to chaotic communication system 2.7

Sommario/riassunto	This invaluable book studies synchronization of coupled chaotic circuits and systems, as well as its applications. It shows how one can use stability results in nonlinear control to derive synchronization criteria for coupled chaotic circuits and systems. It also discusses the use of Lyapunov exponents in deriving synchronization criteria. Both the case of two coupled systems and the case of arbitrarily coupled arrays of systems are considered. The book examines how synchronization properties in arrays of coupled systems are dependent on graph-theoretical properties of the underlying coupling