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Titolo	Periodically correlated random sequences : spectral theory and practice / / Harry L. Hurd, Abolghassem Miamee
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Descrizione fisica	1 online resource (382 p.)
Collana	Wiley series in probability and statistics
Altri autori (Persone)	MiameeAbolghassem <1944->
Disciplina	515/.24
Soggetti	Spectral theory (Mathematics) Sequences (Mathematics) Correlation (Statistics) Stochastic processes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes bibliographical references (p. 337-350) and index.
Sommario/riassunto	Uniquely combining theory, application, and computing, this bookexplores the spectral approach to time series analysis The use of periodically correlated (or cyclostationary)processes has become increasingly popular in a range of researchareas such as meteorology, climate, communications, economics, andmachine diagnostics. Periodically Correlated Random Sequencespresents the main ideas of these processes through the use of basicdefinitions along with motivating, insightful, and illustrativeexamples. Extensive coverage of key concepts is provided, includingsecond-order theory, Hilbert spaces, Fourier theory, and thespectral theory of harmonizable sequences. The authors also providea paradigm for nonparametric time series analysis including testsfor the presence of PC structures.

Features of the book include: * An emphasis on the link between the spectral theory of unitaryoperators and the correlation structure of PC sequences * A discussion of the issues relating to nonparametric time seriesanalysis for PC sequences, including estimation of the mean, correlation, and spectrum * A balanced blend of historical background with modernapplication-specific references to periodically correlatedprocesses * An accompanying Web site that features additional exercises aswell as data sets and programs written in MATLAB® forperforming time series analysis on data that may have a PCstructure Periodically Correlated Random Sequences is an ideal text ontime series analysis for graduate-level statistics and engineeringstudents who have previous experience in second-order stochasticprocesses (Hilbert space), vector spaces, random processes, andprobability. This book also serves as a valuable reference forresearch statisticians and practitioners in areas of probabilityand statistics such as time series analysis, stochastic processes, and prediction theory.