1. Record Nr.   UNINA9910438140003321

   Autore   Golyandina Nina

   Titolo   Singular spectrum analysis for time series / / Nina Golyandina, Anatoly Zhigljavsky

   Pubbl/distr/stampa New York, : Springer, 2013

   ISBN   1-299-19783-3
                       3-642-34913-7

   Edizione   [1st ed. 2013.]

   Descrizione fisica 1 online resource (125 p.)

   Collana   SpringerBriefs in statistics, , 2191-544X

   Altri autori (Persone) ZhigljavskyAnatoly

   Disciplina   330.1951

   Soggetti   Time-series analysis
                       Spectral theory (Mathematics)
                       Decomposition (Mathematics)

   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.

   Nota di contenuto   Introduction: Preliminaries -- SSA Methodology and the Structure of the Book -- SSA Topics Outside the Scope of this Book -- Common Symbols and Acronyms -- Basic SSA: The Main Algorithm -- Potential of Basic SSA -- Models of Time Series and SSA Objectives -- Choice of Parameters in Basic SSA -- Some Variations of Basic SSA -- SSA for Forecasting, interpolation, Filtration and Estimation: SSA Forecasting Algorithms -- LRR and Associated Characteristic Polynomials -- Recurrent Forecasting as Approximate Continuation -- Confidence Bounds for the Forecast -- Summary and Recommendations on Forecasting Parameters -- Case Study: 'Fortified Wine' -- Missing Value Imputation -- Subspace-Based Methods and Estimation of Signal Parameters -- SSA and Filters.

   Sommario/riassunto Singular spectrum analysis (SSA) is a technique of time series analysis and forecasting combining elements of classical time series analysis, multivariate statistics, multivariate geometry, dynamical systems and signal processing. SSA seeks to decompose the original series into a sum of a small number of interpretable components such as trend, oscillatory components and noise. It is based on the singular value decomposition of a specific matrix constructed upon the time series. Neither a parametric model nor stationarity are assumed for the time

series. This makes SSA a model-free method and hence enables SSA to have a very wide range of applicability. The present book is devoted to the methodology of SSA and shows how to use SSA both safely and with maximum effect. Potential readers of the book include: professional statisticians and econometricians, specialists in any discipline in which problems of time series analysis and forecasting occur, specialists in signal processing and those needed to extract signals from noisy data, and students taking courses on applied time series analysis.