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An Introduction to Singular Spectrum Analysis with SAS/ETS® Software

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ABSTRACT

Singular spectrum analysis (SSA) is a relatively new approach to modeling time series data. Now supported in SAS/ETS® software, the SSA method of time series analysis applies nonparametric techniques to decompose time series into principal components. SSA is particularly valuable for long time series, for which patterns (such as trends and cycles) are difficult to visualize and analyze.

This paper provides an introduction to singular spectrum analysis and demonstrates how to use SAS/ETS software to perform SSA. As an illustration, monthly data on U.S. temperatures over the last century are analyzed to discover significant patterns.

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