



## Forecasting time series with SSA.Boot procedure

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### Abstract

Produce reliable and accurate forecasts is essential in any method of time series. To develop such forecasts, the proposed approach relies on the data's decomposition signal and noise, using the non-parametric technique Singular Spectrum Analysis (SSA). The second step is the generation of synthetic series from the noise, using the Bootstrap procedure, produce forecast  $h$  steps ahead for each series, using the automatic algorithms *ets* and *auto.arima*, from R software, and taking the simple average as the final prediction. This approach, called here as SSA.Boot, is applied in six real time series, available in R, and the results obtained are very satisfactory when compared to those methods applied directly to the original data.

**Keywords:** Singular Spectrum Analysis; Bootstrap; Time Series Analysis; Forecast.