

# ArDec: Autoregressive-based time series decomposition in R

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The extraction of trend and periodic components from an observed time series is a topic of considerable practical importance. Most time series methods require the assumption of stationarity to be met, and therefore the removal of any trend-like or seasonal signals from the data. Furthermore, in many applications such signals are often of interest in themselves. Flexible methods are therefore required for the decomposition of a time series into physically-relevant components. The R package ArDec implements the autoregressive-based time series decomposition of West (1997). The method is based on the dynamic linear representation for an autoregressive process from which results a constructive approach for the decomposition of an observed time series into latent constituent sub-series. The approach and the usage of package ArDec are illustrated through an example of decomposition of sea-level time series.