

# Time series forecasting, model competitions and the theta method

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## Resumo/Abstract:

In this presentation we will talk about recent stochastic expansions for the theta method, the winner of the largest time series competitions (M3-Competition). The theta method caught researchers' attention due to its performance and simplicity. The method, as implemented in the monthly subset of the M3-Competition, decomposes the seasonally adjusted data into two "theta lines", where the first theta line removes the curvature of the data to estimate the long-term trend component and the second theta line doubles the local curvatures of the series to approximate the short-term behavior. The proposed Dynamic Optimised Theta Model is a state space model that optimally selects the best short-term theta line and dynamically revises the long-term theta line. The superior performance of this model is demonstrated through an empirical application in the M3-Competition database.