

This thesis deals with the use of statistical state space models of exponential smoothing for estimating the conditional probability distribution of future values of time series. This knowledge allows calculation of interval predictions, not only point forecasts. Methods of exponential smoothing are described and set into the context of state space models. Analytical and simulation methods used in the calculation of interval predictions are presented, in particular simulations based on assumption of normality, bootstrap method or estimated parametric model. The methods are applied to simulated as well as real data and their results are compared.