

Bayesian analysis of Dynamic Linear Models in R

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In recent years state space models, and dynamic linear models (DLM) in particular, have become more and more important for the analysis of temporal data, particularly from a Bayesian perspective. The increase in computing power, coupled with the development of sophisticated MCMC algorithms has made possible the use of realistically complex models. We have developed a set of functions in R that provides a flexible environment for Bayesian time series analysis using DLM. We see R becoming the new standard for statistical computing, and we believe that having a package for DLM analysis available in R will greatly facilitate the use of Bayesian time series analysis both among statisticians and applied scientists in general. In the talk we will give an overview of the package, including the discussion of some computational issues and novel methods devised to deal with them.