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A BAYESIAN SIGNIFICANCE TEST OF CHANGE FOR CORRELATED OBSERVATIONS

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Abstract

This paper presents a Bayesian significance test for a change in mean when observations are not independent. Using a noninformative prior, a unconditional test based on the highest posterior density credible set is determined. From a Gibbs sampler simulation study the effect of correlation on the performance of the Bayesian significance test derived under the assumption of no correlation is examined. This paper is a generalization of earlier studies by KIM (1991) to not independent observations.

Keywords: autoregressive model, change point, HPD region sets, p-value, Gibbs sampler.

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