

New Segmentation of Piecewise Moving-Average Model by Using Reversible Jump MCMC Algorithm

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Abstract : This paper addresses the problem of the signal segmentation within a Bayesian framework by using reversible jump MCMC algorithm. The signal is modelled by piecewise constant Moving-Average (MA) model where the numbers of segments, the position of change-point, the order and the coefficient of the MA model for each segment are unknown. The reversible jump MCMC algorithm is then used to generate samples distributed according to the joint posterior distribution of the unknown parameters. These samples allow calculating some interesting features of the posterior distribution. The performance of the methodology is illustrated via several simulation results.

Keywords : piecewise, moving-average model, reversible jump MCMC, signal segmentation

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