

FINDING MODES IN POSTERIOR DISTRIBUTIONS:  
THE CASE OF MIXED LINEAR MODELS

by

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ABSTRACT

Markov Chain Monte Carlo methods are a standard tool for Bayesian practitioners. Questions related to the performance of these algorithms can be answered in part by exploration of the stationary surface of interest. In this paper, we consider the posterior distribution that arises in the case of estimation from components of variance models, and provide analytical tools for describing the corresponding stationary distribution of the appropriate Markov chain. The main theorem and its proof show how to determine the number of local maxima, and their approximate location and relative size. This information can be used by practitioners to custom-design their algorithms.

Key words: Stationary distributions, posterior modes, mixed linear models