



Mixture models applied to heterogeneous populations

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Mixture models are useful to solve problems that involve observed phenomena in heterogeneous populations, this is, populations composed of latent subpopulations. Bayesian approaches have attracted great interest among researchers. In particular, Markov Chain Monte Carlo (MCMC) methods provide a current way to draw inference from these models. However, when the number of subpopulations is considered unknown, more sophisticated methods are required to perform the Bayesian analysis. The reversible jump MCMC (RJMCMC) is an alternative method in this case. The aim of this work is to analyze the fit of a mixture model under different settings of heterogeneity, sample sizes and estimating the number of subpopulations or not. A Normal mixture model is evaluated using simulated and real datasets.

Keywords: subpopulations; Bayesian Inference; RJMCMC.