BayesVarSel. An R package for Bayesian Variable Selection

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Keywords: Bayes Factors, Model Space, Objective Bayes, Robust Priors.

BayesVarSel provides tools for solving Variable selection problems in the context of linear models and from an Objective Bayesian point of view.

BayesVarSel provides a user-friendly interface combining priors which are proved to give good theoretical results with computational advances to assess variable selection. In particular the prior distribution for the parametric space can be choosen among Liang et al. (2008); Zellner and Siow (1980, 1984); Zellner (1986); Bayarri et al. (2012) with the robust prior of Bayarri et al. (2012) being the default one. This prior have many well studied features for model selection and at the same time is available in closed form which allows for much faster computations.

BayesVarSel allows the calculations to be performed either exactly –Bvs(sequential) or PBvs (parallel computation)– or heuristically –GibbsBvs– using a Gibbs sampling algorithm studied in García-Donato and Martínez-Beneito (2013).

Most of the code is written in C and depends on: R (≥ 2.15.0), snow and , MASS

References


