

ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ

ΣΧΟΛΗ ΕΠΙΣΤΗΜΩΝ & ΤΕΧΝΟΛΟΓΙΑΣ ΤΗΣ ΠΛΗΡΟΦΟΡΙΑΣ ΤΜΗΜΑ ΣΤΑΤΙΣΤΙΚΗΣ

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On the use of marginal posteriors in marginal likelihood estimation via importance sampling

ABSTRACT

The efficiency of a marginal likelihood estimator where the product of the marginal posterior distributions is used as an importance sampling function is investigated. The approach is generally applicable to multi-block parameter vector settings, does not require additional Markov Chain Monte Carlo (MCMC) sampling and is not dependent on the type of MCMC scheme used to sample from the posterior. The proposed approach is applied to normal regression models, finite normal mixtures and longitudinal Poisson models, and leads to accurate marginal likelihood estimates.