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SAMPLE PARTITIONING ESTIMATION FOR ERGODIC DIFFUSIONS: APPLICATION TO ORNSTEIN-UHLENBECK DIFFUSION

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Abstract

When a diffusion is ergodic its transition density converges to its invariant density, see Durrett (1998). This convergence enabled us to introduce a sample partitioning technique that gives in each sub-sample, maximum likelihood estimators. The averages of these being a natural choice as estimators. To compare our estimators with the optimal we obtained from martingale estimating functions, see Sørensen (1998), we used the Ornstein-Uhlenbeck process for which exact simulations can be carried out.

Keywords: ergodic diffusions; martingale estimating functions; transition and invariant densities; maximum likelihood estimators.

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