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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