

On sequential parameter estimation in stochastic differential equations involving fractional Brownian motion

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Abstract

We consider maximum likelihood estimate for drift parameter in SDE involving fBm and establish asymptotic properties of this estimate. The generalized fractional Ornstein-Uhlenbeck process is considered as an example. Then we treat the sequential maximum likelihood estimate for drift parameter and discuss its advantages. At last, we consider the problem of sequential parameter estimation in the mixed model involving Wiener process and fractional Brownian motion. In this case it is impossible to construct maximum likelihood estimate, however, we can proceed with quasi-likelihood estimate.