

**Parametric inference for diffusion processes with noisy,
nonsynchronous observations**

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Abstract

We study parametric inference for security prices modeled by parametric diffusion processes with high-frequency observations. In particular, we focus on two specific problems on analysis of high-frequency data, that is, nonsynchronous observations and the presence of observation noise called market microstructure noise. We construct maximum-likelihood-type and Bayes-type estimators of parameters, and study their asymptotic mixed normality. We also study the LAN property and their asymptotic efficiency when diffusion coefficients are constants and observation noise is normal.