

On statistical inference for Lévy-driven models

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This presentation is concerned with statistical inference for a class of Lévy-driven models discretely observed at high frequency. We propose the stable quasi-maximum likelihood estimator, which stems from the small-time stable approximation of the data-increment distributions, and prove its asymptotic mixed normality. Our asymptotic result clarifies that, in case where the underlying process is of pure-jump type, the non-Gaussian stable contrast function leads to much better asymptotic behavior compared with the conventional Gaussian one. The finite-sample performance of the proposed estimator is studied through simulations.

Keywords. Discrete-time sampling, quasi-maximum likelihood estimation, stochastic differential equation with jumps