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Moment estimators for parameters of Lévy-driven Ornstein-Uhlenbeck processes. (English)
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Summary: We consider the problem of parameter estimation for Ornstein-Uhlenbeck (OU) processes driven by general Lévy processes. We derive our estimators based on the method of moments and establish a joint central limit theorem for these estimators with explicit formulae for their asymptotic covariance matrix. Numerical experiments are also provided to show that not only our estimators are easy to implement but they are also highly efficient. Our work offers a simple and efficient method to estimate the parameters in Lévy-driven OU processes.

MSC:
62Mxx Inference from stochastic processes
62F12 Asymptotic properties of parametric estimators
62M05 Markov processes: estimation; hidden Markov models
60J25 Continuous-time Markov processes on general state spaces

Keywords:
Ornstein-Uhlenbeck process; Lévy process; method of moments; parameter estimation

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