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Nonparametric inference on Lévy measures and copulas

Axel Bücher, Mathias Vetter

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In this paper nonparametric methods to assess the multivariate L\'evy measure are introduced. Starting from high-frequency observations of a L\'evy process X, we construct estimators for its tail integrals and the Pareto L\'evy copula and prove weak convergence of these estimators in certain function spaces. Given n observations of increments over intervals of length \Delta_n, the rate of convergence is k_n^{-1/2} for k_n = n\Delta_n which is natural concerning inference on the L\'evy measure. Analytic properties of the Pareto L\'evy copula which, to the best of our knowledge, have not been mentioned before in the literature are provided as well. We conclude with a short simulation study on the performance of our estimators.

Submission history

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