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FAKULTÄT
FÜR MATHEMATIK, INFORMATIK
UND NATURWISSENSCHAFTEN

Kolloquium über Mathematische Statistik und Stochastische Prozesse

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Wasserstein distances and other metrics for discretely observed Lévy processes

Abstract:

We present some upper bounds for the Wasserstein distance of order p between the product measures associated with the increments of Lévy processes with possibly infinite Lévy measures. As an application, we derive an upper bound for the total variation distance between the marginals of Lévy processes with possibly infinite Lévy measures and non-zero Gaussian components. A lower bound for the Wasserstein distance of order p is also presented. Furthermore, we investigate the relation between Wasserstein distances, total variation distance and Toscani-Fourier distance; several results connecting these metrics are discussed. This is a joint work in progress with Markus Reiß.

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