

Wasserstein distances between 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 two independent Lévy processes with possibly infinite Lévy measures.

As an application, we deduce an upper bound for the total variation distance between the marginals of two independent Lévy processes with possibly infinite Lévy measures and non-zero Gaussian components.

Also, a lower bound for the Wasserstein distance of order p between the marginals of two independent Lévy processes is discussed.