

Small Time Behaviour Of Lévy Processes. Laws of the Iterated Logarithm.

The Law of the Iterated Logarithm (LIL) is one of the deepest results in the classical theory of probability. Historically, any stochastic process whose maximal rate of growth is described a **deterministic** function is said to exhibit LIL behaviour.

In this talk some new results on the small time behaviour of Levy processes will be presented. A comparatively systematic way of describing the deterministic functions, such that scaled with them, the rate of growth of the absolute maximum and the maximum of a Levy process is 1. It is shown that there cannot be a universal link between the characteristics of the Levy process and these functions. Integral criteria will be introduced for checking whether a given function describes the maximal rate of growth for any Levy process with unbounded variation.