

## Abstract

All finite-dimensional and also infinite-dimensional Lévy processes are completely determined by Borel probability measures on a fixed sample space within a highly saturated nonstandard model of simple type logic. Each Lévy process is the standard part of a fixed process, defined on the fixed sample space, only depending on the dimension  $d$  of the Lévy process. Two Lévy processes can be identified, if they satisfy the same Lévy triplet. This is a constant appearing in the Fourier transformation (Lévy-Khintchine formula) of the associated probability measure. In this triplet there exists a Lévy measure, controlling the jump-part of the process, and a symmetric nonnegative-definite matrix, representing the diffusion-part of the process, generated by the measure. The diffusion part of the measure is concentrated on  $k$  elements with  $1 \leq k \leq 2d$  and can be constructed in an effective way (local constructivity). Finally, we take a quick glance at two important examples and at infinite-dimensional Brownian motion.