

**UNIVERSITE LIBRE DE BRUXELLES
DEPARTEMENT DE MATHEMATIQUE
INSTITUT DE RECHERCHE EN STATISTIQUE (ECARES)**

SEMINAIRE

SOME APPLICATIONS OF DUALITY FOR LEVY PROCESSES IN A HALF-LINE

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ABSTRACT

The central topic of this talk is an analytic duality relation for real-valued Levy processes killed upon exiting a half-line. By Nagasawa's theorem, this yields a time-reversal identity involving the Levy process conditioned to stay positive. As examples of applications, we construct a version of the Levy process indexed by the entire real line and started from $-\infty$ which enjoys a natural spatial-stationarity property, and point out that the latter leads to a natural Lamperti-type representation for self-similar Markov processes in $(0;1)$ started from the entrance point $0+$.

This is joint work with Jean Bertoin.