

JUREK-VERVAAT REPRESENTATION

This mathematical term was coined in the monograph *Mathematical Methods for Financial Markets* by Monique Jeanblanc, Marc Yor and Marc Chesney, Springer Verlag, 2009 , Proposition 11.1.2.3 on page 597.

The representation in question says the following:

A random variable X is selfdecomposable (or Lévy class L) iff

$$X = \int_0^\infty e^{-t} dY(t), \text{ and } Y \text{ is a Lévy process with } E[\log(1+|Y(1)|)] < \infty;$$

- [1] Z.J. Jurek and W.Vervaat (1983), An integral representation for selfdecomposable Banach space valued random variables. *Z. Wahrscheinlichkeitstheorie und verw. Gebiete*, vol. 62 , pp. 347-362.
- [2] Z. J. Jurek (1985), Relations between the s-selfdecomposable and selfdecomposable measures. *Ann. Prob.* vol.13, pp. 592-608.

For the operator-selfdecomposability we refer to:

- [3] Z.J.Jurek (1982), An integral representation of operator-selfdecomposable random variables . *Bull. Acad. Pol. Sci. vol.30*, pp. 385-393.
- [4] Z.J. Jurek and J.D. Mason (1993), *Operator-limit distributions in probability theory*. Wiley Series in Probability and Mathematical Statistics, New York