

SERIES REPRESENTATION OF TIME-STABLE STOCHASTIC PROCESSES

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Abstract: A stochastically continuous process $\xi(t)$, $t \geq 0$, is said to be *time-stable* if the sum of n i.i.d. copies of ξ equals in distribution the time-scaled stochastic process $\xi(nt)$, $t \geq 0$. The paper advances the understanding of time-stable processes by means of their LePage series representations as the sum of i.i.d. processes with the arguments scaled by the sequence of successive points of the unit intensity Poisson process on $[0, \infty)$. These series yield numerous examples of stochastic processes that share one-dimensional distributions with a Lévy process.

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