

ON LAMPERTI STABLE PROCESSES

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Abstract: In this paper, we consider a new family of \mathbb{R}^d -valued Lévy processes that we call *Lamperti stable*. One of the advantages of this class is that the law of many related functionals can be computed explicitly. In the one-dimensional case we provide an explicit form for the characteristic exponent and other several useful properties of the class. This family of processes shares many tractable properties with the tempered stable and the layered stable processes, defined by Rosiński [33] and Houdré and Kawai [16], respectively. We also find a series representation which is used for sample path simulation, illustrated in the case $d = 1$. Finally, we provide many examples, some of which appear in recent literature.

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