ON THE SEMI-MITTAG-LEFFLER DISTRIBUTIONS

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Abstract. The semi-Mittag-Leffler (SML) distribution arises as the marginal of a stationary Markovian process, and is a generalization of the well-known Mittag-Leffler (ML) or positive Linnik distribution. Unlike the ML distribution, which has been well established, few properties of the SML distribution are discussed in the literature. In this paper, we derive some more characterizations of the SML and related distributions. By using stochastic inequalities, we further extend some characterizations, including Pitman and Yor’s (2003) result about the hyperbolic sine distribution.

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Key words and phrases: semi-Mittag-Leffler distribution, positive semi-stable distribution, geometric infinite divisibility, Laplace–Stieltjes transform, characterization of distributions, random summation.

THE FULL TEXT IS AVAILABLE [HERE]