GLOBAL APPROXIMATIONS FOR THE γ-ORDER LOGNORMAL DISTRIBUTION

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Abstract

A generalized form of the usual Lognormal distribution, denoted with $\mathcal{LN}_\gamma$, is introduced through the γ-order Normal distribution $\mathcal{N}_\gamma$, with its p.d.f. defined into $(0, +\infty)$. The study of the c.d.f. of $\mathcal{LN}_\gamma$ is focused on a heuristic method that provides global approximations with two anchor points, at zero and at infinity. Also evaluations are provided while certain bounds are obtained.

Keywords: cumulative distribution function, γ-order Lognormal distribution, global Padé approximation.

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