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MLE FOR THE γ-ORDER GENERALIZED NORMAL DISTRIBUTION

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Abstract

The introduced three parameter (position μ, scale Σ and shape γ) multivariate generalized Normal distribution (γ-GND) is based on a strong theoretical background and emerged from Logarithmic Sobolev Inequalities. It includes a number of well known distributions such as the multivariate Uniform, Normal, Laplace and the degenerated Dirac distributions. In this paper, the cumulative distribution, the truncated distribution and the hazard rate of the γ-GND are presented. In addition, the Maximum Likelihood Estimation (MLE) method is discussed in both the univariate and multivariate cases and asymptotic results are presented.

Keywords: γ-order Normal distribution, cumulative distribution, truncated distribution, hazard rate, Maximum likelihood estimation.

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