Estimation and prediction for a generalized exponential distribution based on kth lower records.

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Abstract

We present the minimum variance unbiased estimator (MVU estimator), the maximum likelihood estimator (ML estimator) and the Bayesian estimator for the parameter of the generalized exponential distribution im terms of kth lower record values. The Bayes estimators are obtained using the symmetric (for example: squared error, squared log error loss function) and the asymetric (for example: LINEX and General Entropy) loss functions. Interval prediction for future kth lower record values is also presented from a Bayesian point of view. Numerical computations are given to illustrate these procedures.

Keywords

Generalized exponential distribution, Minimum variance estimators, Maximum likelihood estimators, Bayes estimators, kth record values, LINEX loss function, General Entropy loss function, Prediction.