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Markov chain Monte Carlo estimation for Bayesian approach based on type-I censored data

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This study considers the estimation of Maximum Likelihood Estimator and the Bayesian Estimator using Jeffrey's prior and Extension of Jeffrey's prior information of the Weibull distribution with type-I censored data. The shape parameter estimation by maximum likelihood method has seen that are not available in closed forms, although they can be solved by numerical methods. Moreover, we can't solve the Bayesian estimates of the parameters, the survival and the hazard functions by analytical approaches; for that Markov chain Monte Carlo is used, where the full conditional distribution for the scale and shape parameters are obtained via Gibbs sampling and Metropolis-Hastings algorithm followed by estimating the survival and hazard functions. The methods are compared to Bayesian using Lindley's approximation and maximum likelihood counterparts and the comparisons are made with respect to the Mean Square Error (MSE) and absolute bias to determine the best estimation of the parameters, the survival and the hazard functions.

Biography

Al Omari Mohammed Ahmed has completed his PhD from Putra University of Malaysia. He is the Head of Department of Mathematics in Faculty of Art and Sciences in Al Baha University. He has published more than 12 papers in reputed journals and is interested in Bayesian Statistics and Survival Analysis Study.

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