

SHRINKAGE ESTIMATOR BETWEEN BAYES AND MAXIMUM LIKELIHOOD ESTIMATORS

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ABSTRACT

In this paper the $\widetilde{\theta}_1$ shrinkage estimator between MLE estimator and Bayes estimator. Also $\widetilde{\theta}_2$, the shrinkage estimator between Bayes estimator and MLE estimator, and $\widetilde{\theta}_3$ shrinkage estimator between $\widetilde{\theta}_1$ and $\widetilde{\theta}_2$ for estimating the parameter of exponential distribution of life time is presented. Through simulation study the performance of this estimator was compared to the standard Bayes and MLE estimator with respect to the mean square error (MSE) . We found the $\widetilde{\theta}_3$ shrinkage estimator between $\widetilde{\theta}_1$ and $\widetilde{\theta}_2$ is the best estimator.

KEYWORDS: Exponential Distribution, Bayes Method, Maximum Likelihood Estimation and Shrinkage Estimator