



CLASSICAL ESTIMATION OF RELIABILITY CHARACTERISTICS IN LINDLEY DISTRIBUTION USING PROGRESSIVE TYPE-II CENSORED DATA WITH BETA-BINOMIAL REMOVALS

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Abstract: This article deals with the classical estimation of reliability characteristics of Lindley distribution using progressive Type-II censored data with beta-binomial removals. Based on the considered censoring scheme, the maximum likelihood estimates of the model parameter and reliability characteristics are obtained. Asymptotic confidence intervals with their coverage probabilities are also computed. The performance of the estimators is evaluated in terms of their standard errors, absolute biases and mean square errors as well as the widths of the confidence intervals. From the study, it is observed that the sample size, effective sample size and beta-binomial parameters play a significant role to estimate the parameter of the distribution. Applicability of the suggested approach is illustrated by analysis of a real-life dataset.

Key words: Lindley distribution, Reliability characteristics, Beta-binomial removals, Simulation.

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