

ON ESTIMATION OF PARAMETERS AND RELIABILITY CHARACTERISTICS FOR THE TOPP-LEONE DISTRIBUTION USING RECORD VALUE

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SUMMARY

Topp-Leone distribution is considered. Two measures of reliability are discussed, namely $R(t) = P(X > t)$ and $P = P(X > Y)$. Point estimation and testing procedures are developed for $R(t)$ and P based on records. Two types of point estimators are developed—uniformly minimum variance unbiased estimators and maximum likelihood estimators. Asymptotic confidence intervals of the parameters based on MLE and log transformed MLE are constructed. Testing procedures are developed for the hypothesis related to different parametric functions. Simulation results are presented and real life data set is also analysed.

Keywords and phrases: Topp-Leone Distribution, Point estimation, Interval estimation, Records, Simulation studies.

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