

## EXPONENTIATED INVERSE TOPP-LEONE DISTRIBUTION

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### SUMMARY

In this article, we generalize the Inverse Topp-Leone distribution using the exponentiated transformation. We describe the mathematical properties of this exponentiated distribution. The maximum likelihood estimator of the parameters is derived. The Bayes estimation based on square error loss function is computed for general prior information by using Lindely and Tierney and Kadane's (T-K) approximation methods. Comparisons among the suggested estimation methods have been conducted using the mean square error criteria. It is observed that the maximum likelihood method is more efficient than Lindely approximation method and T-K approximation method for all used cases. Real data analysis is performed to illustrate the results.

*Keywords and phrases:* Topp-Leone distribution; exponentiated transformation; maximum likelihood method; Bayes method; Lindely approximation; Tierney and Kadane's (T-K) approximation.

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