

## **BIVARIATE EXPONENTIATED GENERALIZED LINEAR EXPONENTIAL DISTRIBUTION: PROPERTIES, INFERENCE AND APPLICATIONS**

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### SUMMARY

In this paper, a bivariate exponentiated generalized linear exponential distribution is proposed. Several of its statistical and reliability properties including quantiles, joint reliability function, stress-strength reliability, joint reversed (hazard) rate function and joint mean waiting time function are discussed. Moreover, the hazard rate, availability and mean residual lifetime functions for a parallel system are established. The model parameters are estimated using the maximum likelihood method. A simulation is performed to estimate the bias and mean square error for the model parameters. Finally, a real data set is analyzed to illustrate the flexibility of the proposed model.

*Keywords and phrases:* Exponentiated generalized linear exponential distribution; Joint hazard rate function; Joint mean waiting time function; Simulation.

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