A Generalized-Value Approach on Performing Inferences for the Generalized Inverted Exponential Distribution Reliability Function

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Life-testing and reliability studies are very important in providing warranties on lifetime of products. The exponential distribution is very popular statistical model extensively applied in many fields. This study considers a novel approach based on a generalize variable method for the inference about the reliability function of generalized inverted exponential distribution (GIED) with progressive type II censoring with fix removals. Based on these assumptions, obtain both the generalized and classical lower boundaries and p-values for the reliability function used for hypothesis testing. An example with the scheme of progressive type-II data and Monte Carlo simulation applied to illustrate the proposed method. An application to deep groove ball bearings data, even though both lower boundaries gives similar results, classical p-values are larger than the generalized p-values which show that the proposed method works better under any conditions, but the classical method does not for some cases.

Keywords: Generalized p-value, generalized con dence interval, progressively type IIcensored sample, fixed removals, generalized inverted exponential distribution