Abstract

In this paper, we presented a new test statistic for testing exponentiality against new better than
renewal used in the RP order $NBRU_{rp}$ based on moment inequality. Pitman's asymptotic
efficiency, The Pitman asymptotic relative efficiency (PARE) are studied for other testes. Critical
values are tabulated for sample size $n=5(1)30(5)50$, the power of the test are calculate. Also
we proposed a test for testing exponentiality versus $NBRU_{rp}$ for right censored data and the power estimates of this test are also simulated for some
commonly used distributions in reliability. Finally, real data are given to elucidate the use of the
proposed test statistic in the reliability analysis.

References


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Index Terms

Computer Science

Applied Mathematics

Keywords

Life distributions, $NBRU_{rp}$ aging class, moment inequalities, exponentiality U-statistic, asymptotic normality, efficiency, Monte Carlo method, power and censored data.