Testing Hypothesis for New Class of Life Distribution Nbufr- t0

Abstract

A new concept of ageing distribution, namely new better (worse) than used in failure rate at specific time (NBUFR- (NWUFR-)) are introduced. The problem is investigated how to prove that after a specified time of operation the failure rate of an item is greater than the corresponding failure rate of a new item. This problem occurs in various areas like for instance in industry, when designing a maintenance policy. A test statistics that based on the goodness of fit method are derived for testing exponentially versus the NBUFR- alternatives. The percentiles and powers of this test statistic are tabulated. The asymptotic efficiencies for some alternatives are derived. A medical data is taken as a practical application.

References

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Index Terms

Computer Science
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Keywords

NBUFR-; NWUFR-; Mont Carlo method; Hypotheses testing; NBUFR; U-statistic; Life testing; Exponential distribution; Goodness of fit testing; Efficiency; Power of test.