

**A STUDY OF CONFIDENCE INTERVAL BIASES OF ACCELERATED  
LIFE TESTING SYSTEM WITH CENSORED DATA TYPE II FOR  
EXPONENTIAL DISTRIBUTION**

By

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**Abstract**

Reliability is a probability of product or system that has good operating for some period that has been determined without failure. Accelerated life testing is one of test that used for testing reliability of product or system. Analysis of accelerated life testing is a method to measure reliability of product or system by increasing the strains to gain the failure occur sooner than normal condition. Accelerated life testing can be completed data or censored data. Censored data type II is reliability data with  $r$  observation of failure in random sample  $n$  size, where  $r \leq n$ . In this research, the Exponential distribution is used as distribution of reliability data. Estimation of parameter  $\theta$  is determined by using Maximum Likelihood Estimation (MLE) method, for confidence interval of parameter  $\theta$  is determined by using Povital Quantity. The simulation study for 1000 refrain show that there are 36 confidence interval consist no parameter  $\theta$ .

**Keyword** : Accelerated Life Testing, Exponential Distribution, Maximum Likelihood Estimation, Povital Quantity.