

## **Parameter Estimations Based on Exponential Progressive Type II Censored Data with Binomial**

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### **Abstract**

This study considers the estimation problem for the two-parameter exponential distribution under progressive Type II censoring with random removals, where the number of units removed at each failure time has a binomial distribution. We use the maximum likelihood method to obtain the estimators of parameters and derive the sampling distributions of the estimators. We also construct the confidence intervals for the parameters and percentile of the failure time distribution. Some numerical results of expected test times are carried out for this type of progressive censoring.

*Keywords:* Confidence Interval, Expected Test Time, Failure Time Distribution, Maximum Likelihood Estimator, Random Removals.