

Bayesian Approach to the Prediction in Lifetime Model when the Sample Size is a Random Variable

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Abstract

The prediction of future ordered observations shows how long a sample of units might run until all fail in life testing. This paper deals with the problem of obtaining some Bayesian predictive densities and prediction intervals of the future observations in the Rayleigh distribution where the first r ordered observations have been observed. Using an inverse gamma prior distribution, some predictive densities and prediction intervals are proposed and studied when the sample size is a random variable. Also the behaviors of the proposed results are examined via numerical examples.

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