

Bayesian Analysis of Log Normal Distribution

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ABSTRACT

In the present study Bayesian lower bounds for reliability are obtained when the two-parameter lognormal failure model is used in life testing. Two cases are being considered. First the case of one unknown parameter is studied. Computer simulations were performed for this case, indicating robustness with respect to the prior distribution, as well as small-sample properties of the Bayesian lower bound as compared with the usual lower confidence bound. In the second case, when both parameters were unknown, the Bayesian lower bound has been obtained both for proper conjugate priors and vague priors.

Key words: Lognormal distribution, Bayesian, conjugate prior, robustness.