

Estimation for lognormal distributions with type II highly censored data

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Abstract

Due to cost or time consideration, censoring technology is usually used to shorten the life testing time in practical applications. For highly reliable products, the censoring proportions are more likely greater than 0.5. Such data are called highly censored data. In such a case, it is not easy to obtain a precise estimation of reliability information that is of interest, even though maximum likelihood (ML) methods are utilized. In this paper, with respect to a type II highly censored data coming from lognormal distributions, the Peaks-over-Threshold (POT) model to estimate the lifetime quantile of interest. A comparison with ML method is made to evaluate the effectiveness of the proposed method.

Keywords: highly censored data, Peaks-over-Threshold model, lognormal distribution