

Estimation of $P(X \leq Y)$ for a Bivariate Weibull Distribution

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Abstract

In this paper we deal with estimation of $R = P(X \leq Y)$, where X and Y are random variables from a bivariate weibull distribution and X is censored at Y . We obtain the marginal distribution for observed data and derive MLE, UMVUE and MME of R . Also we obtain Bayes estimators of R under squared error loss (SEL) function. Monte Carlo simulations are carried out to compare these estimators.

Keywords: Bayes estimation, dependent right censoring, Marshall-Olkin's bivariate weibull distribution, reliability, stress-strength.

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