

Estimation of stress-strength reliability for inverse Weibull distribution under progressive type-II censoring scheme

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Abstrak

This paper aims to estimate the stress-strength reliability parameter $R = P(Y < X)$ using progressive type-II censored data, when X and Y are two independent inverse Weibull variates with different scale parameters but having common shape parameter. The maximum likelihood estimator (MLE) and approximate maximum likelihood estimator (AMLE) of R are derived. Bayes estimation procedure for R has been also discussed with independent gamma priors and squared error loss function (SELF). Further, a comparative study among MLEs, AMLEs, and Bayes estimates is conducted using simulation approach. Finally, a real-life application of the proposed methodology through considered model is provided using head-neck cancer data.