

## Estimation of Stress-Strength Parameter for Burr Type XII Distribution Based on Progressive Type-II Censoring

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**Abstract :** In this paper, the estimation of stress-strength parameter  $R = P(Y < X)$  is considered when  $X$ ;  $Y$  the strength and stress respectively are two independent random variables of Burr Type XII distribution. The samples taken for  $X$  and  $Y$  are progressively censoring of type II. The maximum likelihood estimator (MLE) of  $R$  is obtained when the common parameter is unknown. But when the common parameter is known the MLE, uniformly minimum variance unbiased estimator (UMVUE) and the Bayes estimator of  $R = P(Y < X)$  are obtained. The exact confidence interval of  $R$  based on MLE is obtained. The performance of the proposed estimators is compared using the computer simulation.

**Keywords :** Burr Type XII distribution, progressive type-II censoring, stress-strength model, unbiased estimator, maximum-likelihood estimator, uniformly minimum variance unbiased estimator, confidence intervals, Bayes estimator

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