

Prediction Methods in Progressively Censored Data

Prasanta Basak

*Department of Mathematics and Statistics Penn State Altoona Altoona, PA
16601, U.S.A.*

In this article, we consider the best linear unbiased predictors (BLUP), the maximum likelihood predictors (MLP), and the conditional median predictors (CMP) to predict times to failure of units censored in multiple stages in a progressively censored sample from an absolutely continuous population. The properties of MLP such as unbiasedness, consistency and efficiency are examined. The modified MLP (MMLP) is also discussed. Comparison of different predictors is made with respect to mean squared prediction error (MSPE). We note that a certain version of modified CMP is quite easy to compute and it compares very well with all other predictors. Finally, some numerical examples are presented to illustrate all the prediction methods discussed here. Using simulation studies, prediction intervals are also generated for these examples

[Prasanta Basak, Department of Mathematics and Statistics Penn State Altoona Altoona, PA 16601, U.S.A.; fkv@psu.edu]