Optimal Progressive Censoring Plans for The Weibull Distribution

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Abstract: In this paper we compute the expected Fisher information and the asymptotic variance-covariance matrix of the ML estimates based on progressively Type-II censored sample from Weibull distribution by direct calculation as well as the missing information principle. These values are then used to determine the optimal progressive censoring plans. Three optimality criteria are considered and some selected optimal progressive censoring plans are presented according to these optimality criteria. We also discuss the construction of progressively censored reliability sampling plans for the Weibull distribution. Illustrative examples are provided with discussion.

Key Words: Acceptance sampling plan; Lifetime data; Maximum Likelihood estimators; Missing Information; Progressive Type-II censoring.