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Coauthors: Kh. Gopichandra Singh, Department of Statistics, University of Delhi Delhi-110007, India

SEQUENTIAL POINT ESTIMATION PROCEDURES FOR THE TRANSFORMED CHI-SQUARE FAMILY OF DISTRIBUTIONS

AJIT CHATURVEDI

Sequential point estimation procedures are developed for estimating the parameter of transformed chi-square family of distributions. Consideration is given to squared error loss function plus linear cost of sampling. First of all, sequential procedure is developed using uniformly minimum variance unbiased estimator (UMVUE) and second-order approximations are derived for the expected sample size and risk. Then, an improved estimator is proposed, which dominates the UMVUE. Finally, through modification in the stopping rule, negative regret is achieved.

Key words and Phrases: Transformed chi-square family of distributions; uniformly minimum variance unbiased estimator; sequential procedures; improved estimator; negative regret

DEPARTMENT OF STATISTICS, UNIVERSITY OF DELHI, DELHI 110007, INDIA
E-mail address: ajitc2001@yahoo.co.in