利用样本分位数的Logistic总体分布

陈冬(1), 程维虎(2)

(1)北京联合大学基础部, 北京;(2)北京工业大学应用数理学院

摘要　　Harter H.L., Balakrishnan N.等先后讨论了Logistic总体分布参数的极大似然估计, 近似极大似然估计; 其后

Ogawa J., Lloyd E.H., Kulldorff G., Gupta S.S.及Chan L.K. 等又先后讨论了Logistic分布参数的最佳线性无偏估计及估计

的相对效率等问题. 令人遗憾的是: 在大样本情形下，上述估计均难以求得. 为缓解这一困难, 本文讨论利用样本分位数的

Logistic总体的近似最佳线性无偏估计, 给出估计量的大样本性质, 以及样本分位数不超过10情形下, 估计量有渐近最大

相对估计效率时样本分位数的选取方案等.

关键词　　 Logistic总体　 样本分位数　 最佳线性无偏估计　 近似最佳线性无偏估计　 相对估计效率

分类号

AN ASYMPTOTICALLY BEST LINEAR UNBIASED ESTIMATOR FOR THE LOGISTIC POPULATION BASED ON THE SELECTED ORDER STATISTICS

Dong Chen(1),Wei Hu CHENG

(1)Department of Basic Course, Beijing Union University;(2)College of Applied Sciences, Beijing University of Technology, Beijing

Abstract　The maximum likelihood stimator and the approximate maximum likelihood estimator discussed by Harter H.L., Balakrishnan N. and others for the logistic population. After then, Ogawa J., Lloyd E.H., Kulldorff G., Gupta S.S., Chan L.K. and others discussed the best linear unbiased estimator for the logistic population. Unfortunately, it is very trouble to solve them. So, we discuss the asymptotically best linear unbiased estimator for the logistic population based on the selected order statistics, give the properties of the estimator, the variance and the covariance of the estimator in limit in this paper. And then, give the optimum chosen of spacings with the maximum asymptotic relative fficiency based on the order statistics when the selected order statistics number less than 10, and obtain its the maximum asymptotic relative efficiency.

Key words　 logistic population　 order statistics　 best linear unbiased estimator　 asymptotically best linear unbiased estimator　 relative estimation efficiency

DOI:

通讯作者