

國立中正大學數學系
暨應用數學碩士班、統計科學碩士班
學 術 演 講

Local Unbiasedness of Confidence Intervals for a Binomial Proportion

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Abstract

A confidence interval is unbiased if the probability of covering the true parameter is no less than the probability of false coverage. In the binomial distribution, a nonrandom confidence interval for a binomial proportion may not be unbiased, but it can satisfy local unbiasedness within specific regions of the parameter space. In this study, we propose a method to determine these regions of local unbiasedness. By applying this methodology, we either confirm the unbiasedness of existing confidence intervals or identify the regions where local unbiasedness holds. Additionally, we define the locally unbiased ratio as the total length of these regions divided by the length of the parameter space. Using the locally unbiased ratio as a criterion, we compare the performance of existing intervals and provide recommendations based on our findings.

日 期:114 年 3 月 5 日(星期三) 16:10~17:00

地 點:本校數學館 527 教室 (嘉義縣民雄鄉大學路 168 號)

茶 會:15:30~16:00 數學館四樓 409 室舉行

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