敬請張貼

淡 江 大 學 統 計 學 系

學 術 演 講

講　題：Local Unbiasedness of Confidence Intervals for a Binomial Proportion

主講人：李宗翰 助理教授(國立中正大學數學系)

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摘 要

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.

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