

國立東華大學應用數學系  
專題演講

主講人：許緯文先生

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講題：Generalized score test of homogeneity for two-  
component mixture models

時間：100年4月27日(星期三)10:30-12:00

摘要

Score tests are often used to assess for heterogeneity in the population under interesting two-component mixture models. But the existing testing procedures rely on restrictive assumptions, particularly on the form of the alternative. One common restriction is that constant mixing weights are often assumed. In this paper, we adopt a general formulation where the mixing weight is allowed to depend on covariates. A complication is that some nuisance parameters are unidentified under the null. One possible solution to the identifiability problem is to fix these nuisance parameters conditional upon which the pivotal score function results in the processes of these parameters. We extend this idea by deriving a score-based test statistic from these processes. We establish the limiting null distribution of this statistic, which is rigorously approximated by a simple resampling procedure. Our simulation results show that the proposed test can greatly improve efficiently over tests based on constant mixing weights. The practical utility of the methodology is illustrated using a real life example in dental caries research.

上列演講地點於學院A324會議室舉行



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