

中央研究院統計科學研究所

學術演講

講題： Comparison of concordance correlation coefficients via variance components with model selection and model-averaged approaches for longitudinal overdispersed Poisson data

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地點： 中央研究院統計科學研究所6005會議室(環境變遷研究大樓A棟)

※茶會： 上午10:10開始

Abstract

The concordance correlation coefficient (CCC) is not only used for continuous data but has also been extended for discrete scales to assess agreement. Variance components (VC) is an approach to the estimation of CCC through adjusting for covariates, and allowing dependency between replicated samples over time. This study focuses on estimating intra-, inter- and total-CCCs using the VC approach under extended overdispersed three-way Poisson mixed-effects models for longitudinal overdispersed Poisson data. In addition, to avoid fitting data with a misspecified model, thus yielding biased CCC estimates, corrected conditional Akaike information criterion (CAICC) and corrected conditional Bayesian information criterion (CBICC) measures are adopted for model selection. The model-averaged approach which is the most robust estimator of CCC obtained by combining the estimators of the VC approach with model selection via CAICC and CBICC is also proposed. Simulation studies are conducted to compare the performance of VC with and without model selection via CAICC and CBICC and the model-averaged approach for longitudinal Poisson and overdispersed Poisson data sets. An application of corticospinal diffusion tensor tractography study is presented for illustration. It can be concluded that the model-averaged approach is a reliable procedure yields small mean square errors and nominal 95% coverage rates.

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