

國立中山大學應用數學系

學術演講

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講題：Spatial Regression Model Selection When
Covariates and Random Effects Are Correlated

時間：2019/04/18（星期四）14:10 ~ 15:00

地點：理學院四樓理 SC 4011 室

茶會：15:00 於理 SC 4010 室（系辦公室）

摘要

The spatial random effects model is popular in analyzing spatially referenced data. The model includes spatially observed covariates and unobserved spatial random effects, which if not deal properly with the confounding between the two components, parameter estimation and spatial prediction had been demonstrated to be unreliable. In this research, we focus on discussing the estimation of regression coefficients and the selection of covariates for spatial regression under the presence of spatial confounding. We first introduce an adjusted estimation method of regression coefficients and the consequent spatial predictor when spatial confounding exists. From a prediction point of view, we then propose a generalized conditional Akaike information criterion to select a subset of covariates, resulting in variable selection and spatial prediction that are satisfactory. Statistical inferences of the proposed methodology are justified theoretically and numerically. This is a joint work with Yung-Huei Chiou and Chun-Shu Chen.

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