

國立中央大學

統計研究所

學術演講

主 講 人：楊洪鼎 助理教授（國立高雄大學統計學研究所）

講 題：**Spatiotemporal modeling of count data with excess zeros via zero-inflated Poisson regression**

時 間：110年03月30日（星期二）上午11：00 ~ 12：00

地 點：中央大學鴻經館M327室

茶 會：上午 10：30 ~ 11：00 地 點：鴻經館 M510 室

ABSTRACT

We introduce a Bayesian hierarchical model to describe spatiotemporal correlated count data with excess zero outcomes. The model is based on zero-inflated Poisson (ZIP) regression to characterize the spatiotemporally varying intensity and the extra possibility of zero outcomes. To take the spatiotemporal correlation into account, we assign a mixed-effects linear model for the intensity with a modified conditional autoregressive model. The probability of pure zero in the ZIP is designed to depend on locations but free of time. The proposed method avoids the computational suffering from spatiotemporal modeling, and we analyzed the tornado touchdown data in Kansas from 1950 to 2015 as a demonstration. The estimated probabilities of no tornado touchdowns help us assess the risk of tornado touchdown across the 105 counties in Kansas.

◎敬請張貼

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