學　術　演　講

講　題：On Estimation of the Logarithm of the Mean Squared Prediction Error of A Mixed-effect Predictor

講　者：Prof. Thuan Nguyen
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時　間：2023年8月2日(星期三)，10:00-11:00

地　點：統計所B1演講廳

Abstract

The mean squared prediction error (MSPE) has been used as an important measure of uncertainty in small area estimation. It is desirable to produce a second-order unbiased MSPE estimator. The task is difficult, however, especially if one needs to take into consideration that an MSPE estimator needs to be positive, or at least nonnegative. In fact, very few MSPE estimators have the property of being both second-order unbiased and guaranteed positive. We consider an alternative, easier approach of estimating the logarithm of the MSPE (log-MSPE), which avoids the issue of positivity. A second-order unbiased estimator of the log-MSPE is derived using the Prasad-Rao linearization method. Empirical studies demonstrate superiority of the proposed log-MSPE estimator over a naive log-MSPE estimator as well as an existing method known as McJack. A real-data example is considered. This work is joint with Jianling Wang, Yihui Luan of Shandong University and Jiming Jiang of the University of California, Davis.

※ 實體與線上視訊同步進行。

※ 茶　會：9：45開始。