

國立中央大學

統計研究所

學術演講

主 講 人：銀慶剛 教授（國立清華大學統計學研究所）

講 題：Sparse Matrix Estimation Based on Greedy Algorithms and Information Criteria

時 間：110年01月05日（星期二）上午11：00 ~ 12：00

地 點：中央大學鴻經館M429室

茶 會：上午 10：30 ~ 11：00 地 點：鴻經館 510 室

ABSTRACT

We consider the problem of estimating the covariance matrix of serially correlated vectors whose dimension is allowed to be much larger than the sample size. We propose using the orthogonal greedy algorithm (OGA) together with a high-dimensional Akaike's information criterion (HDAIC) to estimate the matrix, and show that the proposed estimate is rate optimal under a sparsity condition more flexible than those in the existing literature. When the covariance matrix is bandable, we introduce a banding/tapering estimate whose parameters are chosen by a novel information criterion. The rate optimality of the latter estimate is also established. (This is joint work with Hsueh-Han Huang and Ruey Tsay.)

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