國 立 中 央 大 學

統 計 研 究 所

學 術 演 講

主 講 人：林良靖 教授（成功大學統計學系）

講　　題：**Efficient and semi-positive definite pre-averaging realized covariance estimator**

時　　間：104 年 10 月 06 日（星期二）上午 11：00 ～ 12：00

地　　點：中央大學鴻經館 M605 室

茶　　會：上午 10：30 ～11：00　　　地　點：鴻經館　510　室

ABSTRACT

We propose an efficient and semi-positive definite (SPD) pre-averaging realized covariance estimator with the fastest convergence rate of $O_p^{-1/4}(n)$. The estimator is robust to the presence of market microstructure noise and is computed with asynchronous and noisy high dimensional high frequency data. Our contributions include an innovative synchronizing technique that provides informative synchronized high frequency data without losing or distorting dependence structure, and a new correction approach that ensures semi-positive definition of realized covariance matrix without sacrificing convergence rate. Simulation study and real data analysis demonstrate superior performance compared with several alternatives.

Key Words: Asynchronous trade; Dynamic filter; High dimensional high Frequency Data; Microstructure noise; Realized covariance; Semi-positive definite matrix.

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