

# 中央研究院統計科學研究所

## 學術演講

講題：Sensitivity Analysis and Visualization for Functional Data

演講人：黃郁芬 教授  
成功大學數學系

時間：2019年9月2日（星期一）上午10:30-12:00

地點：中央研究院統計科學研究所6005會議室(環境變遷研究大樓A棟)

※茶會：上午10:10開始

### Abstract

During analyzing functional data process, the presence of outliers can greatly influence the results on modeling and forecasting of functional data, which may lead to the inaccurate conclusion. Hence, detection of such outliers becomes an essential task. Visualization of data not only plays a vital role in discovering the features of data before applying statistical models and summary statistics but also is an auxiliary tool in identifying outliers. The research involved visualization and sensitivity analysis for functional data has not yet received much attention in the literature to date. Thus, this becomes the focus of this paper. To this end, we propose a method combined influence function with the iteration scheme motivated by Zou et al.(2012) for identifying outliers in functional data, and develop new visualization tools for displaying features and grasping the outliers in functional data. Furthermore, comparisons between our proposed methods with the existing methods are also investigated. Finally, we illustrate these proposed methods with simulation studies and real data examples .

中央研究院  
統計科學研究所