

# Simultaneous confidence band for functional data

張中

國立中山大學應用數學系

## Abstract

In this talk, we will propose a resampling algorithm to estimate the simultaneous confidence band (SCB) for the mean function in the context of functional data with any dimensionality (e.g. one dimensional curve or 2- or 3-dimensional images). Our proposed method is robust to the non-normality and heterogeneity of errors. This is a large  $p$  (number of observations for each subject) small  $n$  (number of subject) problem. We will report the sufficient condition that ensures that our resampling SCB estimator is a consistent. Simulation results will also be presented.