Functional Time Series Driven by Dynamic Systems

by

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Abstract

Traditionally, time series analysis deals with scalar or vector observations for each time period, using linear, nonlinear or nonparametric approaches. Modern data collection capability has lead to broader definition of 'data' and more and more observations are in the form of functions, images, and distributions. When such observations are observed over time and exhibit dynamic behaviors, time series models in the functional space becomes a necessary and useful tool for analyzing such data as well as making predictions of the future. In this talk we present a new approach of modeling and analyzing functional time series through a dynamic system approach. Modeling, estimation and prediction issues will be discussed, with several applications.