

Non stationarity and some applications

Paul Doukhan,
Université de Cergy-Pontoise

Abstract

Non stationarity is a common feature of real data sets. We should mention that stationarity usually associated with ergodicity is an important feature to derive the consistency of statistical procedures. In this talk we try to introduce the main tools for the analysis of non stationary time series. A first one is the use of change point analysis to work on stationary or approximately stationary models. After this reduction we shall explain over some examples how to proceed with locally stationary and periodic data sets. The talk will derive mostly ideas or general principal rather than rigorous mathematical developments. Nevertheless several ongoing research projects will be stressed. The case of exogenous data needs additional attention.