
Joint Statistics Seminar

The Hong Kong University of Science and Technology

Extreme Values Statistics for Markov Chains via the (pseudo-) Regenerative Method

by

Dr. Jessica Tressou

INRA-Metarisk and ISMT-HKUST

Date: November 23, 2007 (Friday)

Time: 4:00 p.m. - 5:00 p.m.

Venue: Room 3301 (Lift 17/18)

Abstract

In this talk, I will present some specific statistical methods for extremal events in the markovian setup, based on the regenerative method and the Nummelin technique. Exploiting ideas developed in Rootzén (1988), the principle underlying our methodology consists in first generating approximate pseudo-renewal times, and computing then submaxima over the approximate cycles thus obtained. Estimators of tail features of the sample maximum, such as the index of extremal variation, are then constructed by applying standard statistical methods, tailored for the i.i.d. setting, to the submaxima as if they were independent and identically distributed. The estimation of the extremal index is also investigated under suitable assumptions. Eventually, practical issues related to the application of the methodology we propose are discussed and preliminary simulation results are displayed.

This is a Joint work with P. Bertail (Paris X) & S. Cléménçon (ENST, Paris).

❖ **All interested are welcome!** ❖

For details, please contact ISMT Department.