Εβδομαδιαια Σεμιναρια Τμηματος Μαθηματικων

Extremes, Markov chains and Statistical Modelling of Rare Events

Ιωάννης Παπασταθόπουλος

School of Mathematics, University of Edinburgh, United Kingdom

Extreme value theory is a highly active area of research and its methods and applications constitute the epitome of risk modelling and statistical estimation of rare events. The recent technological advances have resulted in an ever-increasing amount of information available across the whole spectrum of applied sciences. As such, when modelling data in several dimensions, one is typically confronted with the curse of dimensionality. It is widely recognized that the construction of more efficient statistical models and techniques that overcome this problem is imperative. Conditional independence constitutes one of the most fundamental tools and concepts in this direction. On the other hand, the central concept of regular variation, its extensions and refinements provide the recipe for the development of asymptotically justified extreme value models. First, we illustrate an assumption that facilitates the development of extreme value models possessing conditional independence. Subsequently, we obtain from a working example, the dependence structure of a k-th order Markov chain and transfer these ideas to a class of structured graphs.

Αίθουσα Σεμιναρίων Τμήματος Μαθηματικών

Πέμπτη, 10 Σεπτεμβρίου 2015, 12.45 μ.μ.