Statistics Seminar

Department of Mathematical Sciences

DATE:	Friday, September 25, 2015
TIME:	2:30pm to 3:30pm
LOCATION:	WH 329
SPEAKER:	Stanislav Volgushev, Cornell University
TITLE:	Copula based spectral analysis.

Abstract

In this talk we discuss an alternative method for the spectral analysis of a strictly stationary time series. We define a “new” spectrum as the Fourier transform of the differences between copulas of the pairs with lag k and the independence copula. This object is called copula spectral density kernel and allows separating marginal and serial aspects of a time series. The copula spectral density kernel is substantially more informative than the “classical” spectral density obtained from the auto-covariances. In particular, it provides a complete description of the distributions of all pairs with arbitrary lag. We introduce a way to estimate of copula spectral density kernels, comment on the asymptotic properties of the proposed estimator, and discuss several possible extensions.

Itinerary	
9:00 - 11:00	Zuofeng Shang
11:00 - 11:30	Qiqing Yu
11:30 - 12:00	Ganggang Xu
12:00 - 1:00	Lunch
2:30 - 3:30	Talk
3:30 -	Break