Title: Simulation of Correlated Levy Negative Binomial Processes for Quantitative Risk Modelling

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Abstract:

In the context of quantitative risk modelling extremal dependence structure between risk processes is one of the main concerns. Backward methods recently studied to construct and simulate correlated multi-variate Poisson processes turn out to be computationally ecient and allow to incorporate extremal correlation patterns. In this talk, we will discuss the construction and simulation of correlated Levy negative bi-nomial processes which are appealing models for over-dispersed count data such as operational losses. A backward construction which relies on the conditional uniformity of the increment processes under a particular setting will be presented in detail. The attainable correlation boundaries under forward and backward approaches will be compared. We will also discuss the use of a copula to have more flexible time correlation patterns.