

Multivariate and Dynamic Extreme Events with Possibly Misspecified Models (extension)

Initiative: Modellierung und Simulation komplexer Systeme (beendet)

Ausschreibung: Extremereignisse: Modellierung, Analyse und Vorhersage

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Laufzeit: 1 Jahr

Projekt-Website: <http://www.mathematik.uni-kl.de/~wwwfm/RobustRiskEstimation/>

In a seamless extension of the project 'Robust Risk Estimation' a focus is put on multivariate aspects and dynamics of extreme events. In all reference applications, i.e. in financial risks of a bank, public health (hospital length of stay and costs), and hydrology (river discharge), there are important questions where these aspects cannot be ignored. With thin empirical evidence available, misspecification becomes a central issue in the corresponding applications. As a remedy to some extent, the robust procedures will be enhanced applying robust likelihood techniques in order to adjust for minor to moderate model misspecifications. This continues work on the theoretical foundation, development and application of robust procedures for risk management of complex systems in the presence of extreme events. In particular this extends the applicability of the software infrastructure in R developed in the first project with its powerful set of diagnostic tools to assess influence and outlyingness of data.

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