Modelling Extremal Dependence

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In many fields of applications one has to model the stochastic behavior of jointly extremal observations. For instance, for an insurance company which sells a building insurance and a householder's insurance to the same customer it is of vital necessity to model jointly large claim sizes in both lines of business.

After a brief introduction to the modelling of univariate large observations, we discuss (modifications of) a non-parametric model for the dependence structure of jointly extreme values of a random vector which was proposed by Ledford and Tawn in 1996. In particular, we indicate how to estimate the probability of a quite general extremal event. Moreover, we introduce a graphical tool to validate the model, that may also serve as a building block in the construction of a statistical test for the main model assumption.