SpatialExtremes Package's Lab
Author: Mathieu Ribatet
Lecturer: Léo Belzile

Abstract: In this lab we will see how one can use the SpatialExtremes package to analyze and model spatial extreme values using max-stable processes. After a brief recap about the the inner structure of max-stable process, this lab will start with descriptive analysis specific to extreme values (f-madogram, concurrence probabilities, concurrence cells and symbol plots). Next we will see how to fit simple (parametric) max-stable processes (using the maximum pairwise likelihood estimator or a least square approach), perform model selection, prediction and simulate from a fitted model. Finally we will see how one can define trend surfaces for the marginal parameters of the max-stable processes, i.e., work with arbitrary GEV margin and not unit Fréchet ones.