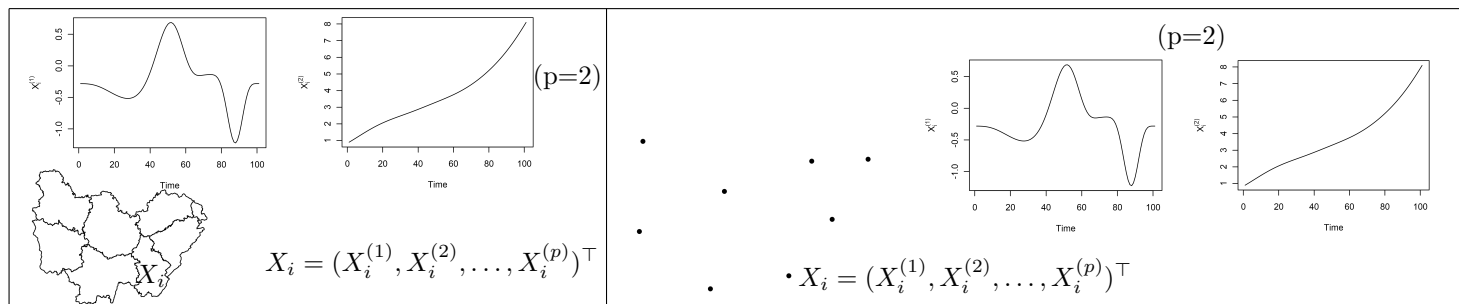


Data



Application example

Lattice data:

- Unemployment rate and fraction of the population that has not graduated from high school over time

Geostatistical data:

- Temperature and air pressure over time

Point pattern:

- Circumference and height of trees over time

Question

Is there a statistically significant cluster of high unemployment rate curves and high fraction of the population with a low level of education over time?

Is there a statistically significant cluster of high temperature and low air pressure curves?

Is there a statistically significant cluster of trees with high circumference and height curves?

Methods

Gaussian data:

- Multivariate distribution-free functional spatial scan statistic
- “MDFSS” argument in the scan function of the package

Non-Gaussian data:

- Multivariate rank-based functional spatial scan statistic
- “MRBFSS” argument in the scan function of the package

Interpretation

There is a statistically significant cluster and by describing the mean or median curve of each variable, we can get an indication of which variables are dominant in the cluster, and which variables present higher or lower curves in that cluster.