Model-based geostatistics: geospatial statistical methods for public health applications

Lab class. Fitting linear geostatistical models

In this class we again use the data on lead concentration in moss samples contained in the file `lead2000.csv`, which you can download from the course web-site:
`http://www.lancs.ac.uk/diggle/Malawi2015`

1. Transform the data to log-concentrations and calculate the empirical variogram of the transformed data. Comments on any similarities and differences between this and the empirical variogram of the untransformed data.

2. Use the `eyefit()` function to fit a theoretical variogram "by eye" to the empirical variogram of the log-transformed data

3. Use the `likfit` function to obtain maximum likelihood estimates for the same geostatistical model used in Exercise 2.

   Compare the "by eye" and maximum likelihood versions of the fitted theoretical variogram. Comment on any similarities and differences.