

This work deals with spatial statistics methods that are suitable for analysing spatial epidemiological data. The work presents tests of spatial autocorrelation and applies them on data of the number of people infected by Covid 19. The main part of the work is Bayesian modelling of epidemiological data using Integrated Nested Laplace Approximations. We summarise the main principles of this method and present a chosen model for given data. Besides the spatial aspect of the data, the work shows how to incorporate other risk factors into the model and how to make the model spatio-temporal. Furthermore the work applies the model on the data and tests the suitability of the model with a global envelope test.