

Spatial Point Process Analysis of Dengue Fever in Tainan, Taiwan

Authors : Ya-Mei Chang

Abstract : This research is intended to apply spatio-temporal point process methods to the dengue fever data in Tainan. The spatio-temporal intensity function of the dataset is assumed to be separable. The kernel estimation is a widely used approach to estimate intensity functions. The intensity function is very helpful to study the relation of the spatio-temporal point process and some covariates. The covariate effects might be nonlinear. An nonparametric smoothing estimator is used to detect the nonlinearity of the covariate effects. A fitted parametric model could describe the influence of the covariates to the dengue fever. The correlation between the data points is detected by the K-function. The result of this research could provide useful information to help the government or the stakeholders making decisions.

Keywords : dengue fever, spatial point process, kernel estimation, covariate effect

Conference Title : ICSA 2017 : International Conference on Statistics and Analysis

Conference Location : Singapore, Singapore

Conference Dates : September 11-12, 2017