PAPOS ALEATÓRIOS

Bayesian residual analysis for spatially correlated data

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This work considers residual analysis and predictive techniques in the identification of individual and multiple outliers in geostatistical data. The standardized Bayesian spatial residual is proposed and computed for three competing models: the Gaussian, Student-t and Gaussian-log-Gaussian spatial processes. In this context, the spatial models are investigated regarding their plausibility for datasets contaminated with outliers. The posterior probability of an outlying observation is computed based on the standardized residuals and different thresholds for outlier discrimination are tested. From a predictive point of view, methods such as the conditional predictive ordinate, the predictive concordance and the Savage-Dickey density ratio for hypothesis testing are investigated in the identification of outliers in the spatial setting. For illustration, contaminated datasets are considered to access the performance of the three spatial models in the identification of outliers in spatial data. Furthermore, an application to wind speed modelling is presented to illustrate the usefulness of the proposed tools in the detection of regions with large wind speeds. Based on joint work with Thais C. O. Fonseca (IM-UFRJ).

Use o QR code para baixar o artigo:

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14 horas e 30 minutos
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