

Outlier Detection in Circular Regression Model using Minimum Spanning Tree Method

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ABSTRACT

The existence of outliers in a circular regression model can lead to many errors, for example in inferences and parameter estimations. Therefore, this study aims to develop new algorithms that can detect outliers by using the minimum spanning tree method. The proposed algorithms are extended from Satari's single-linkage algorithm. The algorithms were examined via simulation studies with different number of sample sizes and level of contaminations. Then, the performances of both algorithms were measured using "success" probability. The results revealed that the proposed methods were performed well and able to detect all the outliers planted in the study.

Keywords: Outliers; Circular regression model; Clustering; Single linkage algorithm; Minimum spanning tree.

Instruction: Presentation Scope (Please bold/underline ONE only) :

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Applied Mathematics

Computational Mathematics

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