

Outlier detection method in multiple circular regression model via robust circular distance

Abstract

The method of outlier detection with regards to circular regression have been widely developed nowadays. Several diagrammatical plots, numerical presentation as well as hypothesis testing have been recommended in detecting the outliers. As we know, the presence of outliers in dataset significantly impacts the parameter estimation and inference of the statistics. The outlier detection that exists in multiple circular regression model (MCRM) also attracting the interest of statisticians and researchers to do the research in depth. This paper presents the outlier detection method in MCRM using circular distance as well as circular error. The proposed method has been investigated through simulation study and the 5% upper percentiles is considered in obtaining the cut-off point as well as the performance power. Here, the procedure successfully identifies two outliers detected in the data set.