



The analysis of PM10 suspended particulate air pollution using several robust techniques: case study in an industrial area, Penang Malaysia

Habshah Midi*

Faculty of Science and Institute for Mathematical Research, Universiti Putra Malaysia, Malaysia -
habshah@upm.edu.my

Hassan S. Uraibi

Faculty of Science and Institute for Mathematical Research, Universiti Putra Malaysia, Malaysia

The suspended particulate of less than 10 microns in size (PM10) is one of the most prevalent forms of pollution in an industrial area in Malaysia. It is known to cause severe effects on human health as well as the ecosystem. As such, predicting PM10 concentration becomes a major issue so that necessary preventive measures can be done. Previous study utilized several classical methods to analyze and model this data. For example, the Ordinary Least Squares (OLS) method is used to model the relationship between the PM10 and several important covariates without checking the existence of high leverage points (HLP), the combined problems

Keywords: Autocorrelation, High Leverage Points, Multicollinearity, Robust technique