

Exploratory analysis of meteorological data measured in opencast coal mine

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Abstract

A set of data was obtained from six meteorological stations located in the proximity of opencast coal mine during one year period with one minute frequency. These data (often incomplete due to electricity outages) were categorized and analyzed. The basic data processing and analysis was performed in MATLAB using in-house built codes. The environmental quantities measured and analyzed within this study were: the PM10 dust concentration, wind speed and direction, air temperature and relative humidity, solar radiation and barometric pressure. Before performing the statistical analysis of the acquired experimental data it was necessary to filter out the unrealistic values obtained from measurement probes as well as to handle the missing data values.

Keywords: exploratory analysis data, analysis of pollution in the vicinity of the opencast mine, PM10 concentration, wind flow, air temperature, relative humidity, solar radiation, barometric pressure.

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References

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