

Completing Missing Data in Air Monitoring Stations Using Diurnal Courses of Regional Pollution Concentrations – Szymon Hoffman, Rafał Jasiński

Summary

Data sets gathered continuously in air monitoring systems are never entirely complete. The problem of missing data in monitoring measure series often has to be solved by modeling. A new method of air monitoring data modelling was tested in the paper. Regional diurnal concentration courses (RDCCs) were used as the main source of knowledge of predicted time series during specified days. The paper presents a comparison of predicted and measured diurnal concentration patterns of two frequently used parameters in air monitoring (PM_{10} and NO_2). The analysis was based on hourly time series of these air pollutants collected in a 3-year period at nine monitoring stations in the Lodź Region. It was shown that well determined regional diurnal concentration patterns could be useful to missing data modelling at the specified monitoring site. Improvement of modelling accuracy is possible after modification of modelling results by adding local difference vectors (LDVs), describing the specificity of the monitoring station.