



ENVIRONMENTAL MONITORING OF CO EMISSIONS: STATISTICAL CHARACTER OF ACQUIRED DATA

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Abstract

A set of experimental data resulted from environmental monitoring and its informational content has to be revealed and checked for its statistical character. As a result in this paper the aim was to verify if the environmental monitoring data obtained for a specific air pollutant monitored during three years presents statistical properties. Based on the results obtained by applying statistical requirements such as fixed location, fixed variation, randomness and fixed distribution, a statistical model for environmental monitoring data of CO pollutant has been proposed. By statistical processing of CO concentration during three year period (March 2004 – March 2007), it has been observed that at a long time scale (months, years) the data set exhibits a statistical character, while at a short time scale (days, weeks) statistical analysis of environmental data seems to be not conclusive due to the interference of some other factors that could alter initial CO concentration data. Moreover, mathematical modelling of these processes requires a normal distribution of data and the Box Cox transformation is recommended in order to obtain a normal distribution of data.

Key words: air quality, carbon monoxide emission, mathematical modelling, statistical processing

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