

## ABSTRACT

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### **Air Pollution in Attica – Application of Non-Parametric Techniques**

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The six most common air pollutants are: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>x</sub>), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM). Non-parametric tests have been developed for the detection of monotone trends in time series of air pollutants data. Such tests are widely used because they are simple, easy to apply and robust to the difficulties that are usually occurred in the data sets of the air pollutants and the related to them variables, a problem quite common in, Attica monitoring sites, data sets. The above mentioned non-parametric statistical tests (reference **Claudia Libiseller, (2002)**. Trend Testing in the presence of covariates, IMPACT 12, *Linköping University, Dept of Mathematics*) are constructed on the platform of the original Mann-Kendall test. The basic type of Mann-Kendall test is applied so as its latest more advanced versions in order to incorporate the influences of variables that has been proved to influence the air pollutants levels. The Sen's Slope Estimate is also applied.

It is considered to be a problem the increasing trend of the ozone among monitoring sites that additionally present relatively high annual average. Some of the monthly averages of the nitrogen dioxide also present increasing trend.