# STATISTICAL ANALYSIS OF PM2.5 MONITORING DATA IN SUBURBAN AND URBAN AREAS

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As a result of the Clean Air for Europe program and the implementation of the new thematic strategy on air pollution, fine particles PM2.5 are bound to take an increasing part in future European and national regulations. Limit values and long term quality objectives will be set for this pollutant which raises concerns for public health.

In that context a better knowledge of the sources and behaviour of PM2.5 appears essential for the design of relevant monitoring strategies and efficient pollution control policies.

This study is based on three years of continuous measurement of PM2.5 in French cities and suburban areas. Through a statistical analysis, it aims at characterizing PM2.5 pollution according to the urban environment and to identify the contribution of the city to the observed concentrations. Descriptive statistics (histograms, time series) are computed for a selection of monitoring stations located in different French regions. Wherever possible, pairs of urban/suburban stations are examined to compare concentration levels inside and outside the city. Relationships between PM 2.5 concentrations and collocated measurements of other species (PM10, NOx, SO2, CO) are investigated as well as correlation with variables indicative of PM2.5 sources and dispersion processes. This investigation is based on principal component analysis and performed for each season of the year to highlight possible seasonal influences.

## EXTENDED ABSTRACT NOT SUPPLIED