



“Gheorghe Asachi” Technical University of Iasi, Romania



ANALYSIS OF AIR QUALITY IN TWO SITES WITH DIFFERENT LOCAL CONDITIONS

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Abstract

The aim of this paper is to analyze how local and atmospheric conditions influence pollutants' distribution. Two different sites in Romania were chosen for measurement campaigns: Surlari (44° 34', 26° 19') located into a forest and near a lake, and a suburban area, Magurele (44° 21', 26° 2'), where the anthropogenic activities dominate. The same equipments for measurements of surface ozone, CO, NO₂, NO and PM₁₀ were used at the two sites. The measurements were performed in the summer of 2012, for 14 days. The intercomparison between the data sets of the pollutant's concentrations has shown large differences for the two sites, especially in the case of surface ozone. The local conditions have an influence on air quality mostly due to natural sources of ozone and nitrogen oxides. The proximity of the lake and forest influence the surface ozone concentration at Surlari, while traffic and human activities influence SO₂ concentrations, at Magurele. The maximum mass concentration values are similar at the two stations, but dispersion of values is larger at Magurele. During the campaigns period, the concentration values of gaseous pollutants and particulate matter were within the optimal range, according to national air quality reglementations.

Key words: geographical conditions, particulate matter (PM), pollutant concentrations

Received: October 2012; Revised final: February, 2013; Accepted: February, 2013

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