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ASSESSMENT OF SURFACE-OZONE IN BUCHAREST, ROMANIA FOCUSED ON TRENDS FOR THREE YEARS

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Abstract

The aim of this study is to analyze the surface-ozone concentration mass variations in Bucharest for the 2005-2007 period. Data files from eight urban sites in Bucharest area were processed to extract the surface-ozone features. Generally, the results have shown that the highest values of surface- ozone concentrations are in the summer and in the afternoon, as in the literature. The smallest values are in December and January in all the three years. Monthly mean concentrations have shown a clear pattern with maximum values during spring or early summer (70-80μg m^{-3} at rural station in March and April) and minimum in winter (2-6μg m^{-3} in December, at traffic stations). The seasonal variation was the net result of varying precursor concentrations of the surface-ozone. In addition to the seasonal variation, ozone concentrations have presented a diurnal variation as a result of vertical mixing, surface dry deposition and photochemistry. The trend of surface-ozone concentrations in Bucharest was negative at all sites and for the whole period. The comparison between monthly variations of measured and modeled values was analyzed for 2007, a drought year. The similarity of the simulated and measured values proved that the OML model can be used to forecast the surface-ozone evolution.

Key words: pollution, surface-ozone, urban

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