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SPATIAL EVALUATION OF NO_2, SO_2, PM10 AND BTEX CONCENTRATIONS IN URBAN AMBIENT AIR

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Abstract

During period from 2014–2015 ambient air quality researches, concentration of NO_2, SO_2 and BTEX (benzene, toluene, ethylbenzene and xylenes) and PM10 was measured. In order to evaluate the spatial distribution of pollutants, 5 sampling sites in Anykščiai city (Lithuania) were chosen. Measured values of NO_2, SO_2, PM10 and benzene were compared with limit values set for these pollutants in ambient air according to 2008/50/EC and 2000/69/EC directives. Toluene, ethylbenzene, and xylenes (*ortho*, *meta*, and *para*), were not included into the list of pollutants, which amount in ambient air is regulated according to European Union criteria. These pollutants are regulated since July 1, 2007 according to national criteria of Lithuania. The NO_2 concentrations in Anykščiai varied from 3.1–4.5 μg/m^3. The SO_2 concentration was found in the range of <0.3–3.7 μg/m^3. PM10 concentration was found in the range of 10.0–29.0 μg/m^3. Benzene concentrations in Anykščiai varied from 0.4 – 2.8 μg/m^3, toluene concentrations in Anykščiai varied from 0.9–2.8 μg/m^3, ethylbenzene concentrations in Anykščiai varied from <0.4–1.8 μg/m^3, xylenes concentrations in Anykščiai varied from 0.6–5.7 μg/m^3. The annual average of NO_2, SO_2, PM10 and BTEX and concentrations were below the permissible limits in all five places.

Key words: ambient air, BTEX, NO_2, SO_2, PM10

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