



## **Field study of diffusion collection rate coefficient in nitrogen dioxide passive samplers.**

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The aim of this work is the study of the diffusion collection rate coefficients of radial geometry Radiello® passive samplers in the field. In summer 2001 and winter 2002 measurement campaigns were made in order to obtain the necessary data to study diffusion collection rate coefficients of the Radiello® NO<sub>2</sub> passive samplers. Measuring campaigns were divided into sampling periods of one week.

Passive samplers were located beside two different points where the Regional Government have air quality monitoring stations for pollutants and meteorological variables named “Grao” and “Ermita”. Influence of several meteorological variables (ambient temperature, wind velocity, humidity and sunlight) and concentration of pollutants in the diffusive rate coefficient were studied.

Temperature has a positive correlation in winter in “Grao” and relative humidity in Ermita in summer with passive collection rate coefficient. In winter, in “Grao” station has been found that ozone, NO, NO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub> and particulate matter has influence in diffusive collection rate coefficient. As well, NO<sub>2</sub> levels influences the diffusive rate coefficient in both sampling sites in summertime and considering both sampling campaigns. In summertime, NO<sub>2</sub> and NO<sub>x</sub> levels influence the diffusion collection rate coefficient in both measuring campaigns in both sampling sites. In “Grao” sampling site, NO and NO<sub>2</sub> also influences. Finally, it should be highlighted that diffusion collection rate coefficient it's very influenced by the meteorological and pollutants variables studied.

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