



Interferences of commercially available NO₂ instruments under different conditions

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For the correct understanding of atmospheric chemical processes and validation of models predictions, reliable measurements of different atmospheric trace species are necessary. NO_x (NO + NO₂) play a crucial role in tropospheric photochemistry, regulating production rates of O₃. The detection of NO by chemiluminescence technique is widely accepted. However NO₂ detection it is a more difficult task since many of the different commercial techniques used are affected by interferences. Chemiluminescence instruments for NO₂, that are used for the indirect detection in monitoring networks and smog chambers, use either molybdenum or photolytic converters and are affected by either positive (NO_y) or negative (radical formation in the photolytic converter) interferences. Erroneous conclusions can be reached if these interferences are not taken into consideration. In the present study, interferences of commercial NO₂ instruments (molybdenum, xenon lamp and blue-light type converters) are presented and discussed under very different conditions, i.e. for tunnel, smog chamber and kerbside measurements.