



MAX-DOAS measurements of NO₂ column densities in Vienna

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In the VINDOBONA (VIenna horizontal and vertical Distribution OBServations Of Nitrogen dioxide and Aerosols) project, two Multi AXis Differential Optical Absorption Spectroscopy (MAX-DOAS) systems will be set up at two different locations and altitudes in Vienna, Austria.

After comparison measurements in Bremen, Germany, and Cabauw, The Netherlands, the first of the two MAX-DOAS instruments was set up at the University of Veterinary Medicine in the northeastern part of Vienna in December 2016. The instrument performs spectral measurements of visible scattered sunlight at defined horizontal and vertical viewing directions. From these measurements, column densities of NO₂ and aerosols are derived by applying the DOAS analysis. First preliminary results are presented.

The second MAX-DOAS instrument will be set up in April/May 2017 at the University of Natural Resources and Life Sciences in the northwestern part of Vienna. Once these two instruments are measuring simultaneously, small campaigns including car DOAS zenith-sky and tower DOAS off-axis measurements are planned.

The main emphasis of this project will be on the installation and operation of two MAX-DOAS instruments, the improvement of tropospheric NO₂ and aerosol retrieval, and the characterization of the horizontal, vertical, and temporal variations of tropospheric NO₂ and aerosols in Vienna, Austria.