

File revision date:

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Data Set Description:

PI: Ankie Piters  
Site(s): De Bilt 52.1N 5.18E; Cabauw 51.97N 4.93E  
Measurement Quantities: NO<sub>2</sub>, aerosol, O<sub>3</sub>

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Reference Articles:

Kreher et al, 2020, AMT 13, 2169  
Roscoe et al, 2010, AMT 3, 1629)  
Vlemmix et al, 2011, ACPD 11, 28895

Instrument Description:

The MAX-DOAS instrument in De Bilt is a commercial systems, SkySpec Compact System, obtained from Airyx. It has a high grade Avantes spectrometer with back thinned detector, a wavelength range of 330-490 nm and a spectral resolution of about 0.6 nm. The instrument is temperature stabilized and maintains a self-corrected viewing elevation angle. The Pandora instrument #118, purchased from SciGlob, is at Cabauw since 2016, and has been completely revised in 2020. It has a temperature controlled Avantes spectrometer with a wavelength range of 272-538 nm. The calibration (lab and in-operation) and data processing is performed by Pandonia Global Network (PGN).

Algorithm Description:

The off-axis spectra from both MAX-DOAS and Pandora are corrected for electronic offset and dark current and sent to the FRM4DOAS central processing system. It produces low-vertical resolution profiles of tropospheric NO<sub>2</sub> and aerosol (off-axis products) and total columns of ozone (zenith products). The FRM4DOAS algorithm is described in detail in this document:  
[https://frm4doas.aeronomie.be/ProjectDir/Deliverables/FRM4DOAS\\_D6\\_MAXDOAS\\_Algorithm\\_ATB\\_D\\_v02\\_20180130.pdf](https://frm4doas.aeronomie.be/ProjectDir/Deliverables/FRM4DOAS_D6_MAXDOAS_Algorithm_ATB_D_v02_20180130.pdf)

Instrument history

Cabauw-Pandora:  
data since 2020

DeBilt-MAXDOAS:  
data since 2020