

Interactive comment on “Tropospheric NO₂ vertical column densities over Beijing: results of the first three-years of ground-based MAX-DOAS measurements (2008–2011) and satellite validation” by J. Z. Ma et al.

Anonymous Referee #2

Received and published: 13 December 2012

this paper report the tropospheric NO₂ vertical column densities (VCDs) over Beijing based on ground-based Multi Axis Differential Optical Absorption Spectroscopy (MAX-DOAS), and analysis the results with satellite data. this work is helpful to know the trace gas over North China, and even their effect on climate. But major revised is needed before it is published, including:

1. The manuscript need to be refined further, including writing and photos;
2. How to define the tropospheric NO₂ VCD in this paper? by altitude or something

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



else;

3. The variation of tropospheric NO₂ VCD is owing to variability of PBL (e.g. Fig. 7 and 10). It might be not reasonable, first there are no data of PBL in this manuscript; second the variation of PBL will not affect the NO₂ VCD, it can affect the ground NO₂ concentration. Therefore, further analysis is needed to explain the variation of NO₂ VCD;

4. About the aerosol shielding effect (part 3.6.2), the authors just make case study with AOD values, including 0, 0.1, 0.3, 0.5, 1.0, 2.0 and 3.0, why not use true values since it can be calculated based on satellite data?

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 26719, 2012.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper