

## **Response to Aristeidis Georgoulias**

Thank you for your useful suggestions. Our answers follow your comments (in *Italics*).

### ***Comments/suggestions:***

*Dear authors, in support of your results I would like to bring your attention to a recent study on satellite-based tropospheric NO<sub>2</sub> trends and trend reversals (1996-2017). In this study, it is shown that several regions in the US experienced a trend reversal around the period 2000 from positive or neutral trends to negative ones. There are also results for selected megacities in the US (e.g. Los Angeles).*

*Georgoulias, A. K., van der A, R. J., Stammes, P., Boersma, K. F., and Eskes, H. J.: Trends and trend reversal detection in 2 decades of tropospheric NO<sub>2</sub> satellite observations, Atmos. Chem. Phys., 19, 6269-6294, <https://doi.org/10.5194/acp-19-6269-2019>, 2019.*

### **Reply:**

Thank you for providing a useful reference. Georgoulias et al. (2019) investigated the trends of mid-morning NO<sub>2</sub> tropospheric vertical column densities around the world at multi-spatial scales from 1996 – 2017 based on GOME, SCIAMACHY, GOME-2A, and GOME-2B products, confirming significant decreases of NO<sub>2</sub> TVCDs over the United States in the recent two decades. The paper is quite relevant to our work, and we will cite the paper during the revision of the manuscript.

## References

Georgoulias, A. K., van der A, R. J., Stammes, P., Boersma, K. F., and Eskes, H. J.: Trends and trend reversal detection in 2 decades of tropospheric NO<sub>2</sub> satellite observations, *Atmos. Chem. Phys.*, 19, 6269-6294, 10.5194/acp-19-6269-2019, 2019.