

Interactive comment on “Influence of airmass transport events on the variability of surface ozone at Xianggelila Regional Atmosphere Background Station, Southwest China” by J. Ma et al.

Anonymous Referee #2

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General comments

The paper discusses an analysis of stratospheric intrusion of ozone-rich air masses detected in a two-year period at the Xianggelila background station located at high altitude in south-western China. A normalized indicator was developed to evacuate the occurrence of cases of downward transport of ozone. This is an interesting topic suitable for ACP. I have some suggestions that could be taken into account in the revision detailed in my specific comments.

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Specific comments

In abstract (Lines 8-10). “It is shown that most frequent transport events.”. It is not very clear if authors intend that in winter the events are more frequent or that these events are more intense. Further, it would be possible to include a quantitative (even if approximate) estimation of the mentioned contribution?

The Y indicator developed here is quite similar to the SI indicator developed in Cristofanelli et al. (2009, Theoretical and Applied Climatology 97, pp. 317-325) even if this last is based on Be the general idea and structure of the two indicators are similar. It would be interesting if author try include a discussion to compare the performances of the two indicators.

In several parts of the paper it is spoken generically of “ozone transport”. I believe that it is better to specify when it is needed that it is downward transport otherwise it could be confused with advection.

In section 2.2 there is a detailed description of the instruments and of the calibration procedures used. It is missing a description of the measurement uncertainties. Please add it.

Section 3.3. Please change “detect limit” with “detection limit”.

In caption of Fig. 11. Please change “bigger” with “larger”.

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