Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2017-1193-RC2, 2018

Atmospheric Chemistry and Physics Discussions

Interactive comment on "UV measurements at Marambio and Ushuaia during 2000–2010" *by* Kaisa Lakkala et al.

Anonymous Referee #2

Received and published: 27 March 2018

The manuscript of Lakkala et al. is sort of a follow-up paper of Lakkala et al. 2005 - "Quality assurance of the solar UV network in the Antarctic". It describes a 10-year long measurement series of UV measurements performed with multichannel radiometers. The instruments have been in continuous operation since 2000 at Marambio-Station (Antarctic peninsula) and Ushuaia (South Argentina). The authors give a well-rounded introduction into the ozone topic and the goals of the NILU-UV network. The introduction is followed up by a description of the radiometers and their corresponding measuring sites, as well as a description of how the erythemally weighted UV products presented in this work are calculated. The authors deliver a comprehensive description of the applied QC/QA procedures. The authors highlight UV index and UV dose time series and show the correlation of high UV occurrences while the stations are in-

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Discussion paper

side the polar vortex. All in all, these are well documented time series of data that are made available to the scientific community and should therefore be published in ACP.

I encourage the authors to consider the following comments:

p1, l. 7: "daily doses" instead of "dailydoses", pls change throughout the document

p2,l.13: "begining" -> "beginning"

Capitalize references to specific figures, tables, chapters, sections, equations: p3, l.29: "eq. 1" -> "Eq. 1". Not sure about the specific style guides of ACP, but I suggest to capitalize e.g. Equation 1, Figure 1, Appendix C since they are names of the entities they refer to. Please unify throughout the manuscript.

p4, l20ff: you present lamp measurements in great detail just to inform the reader four sites later on p9, l6. that they are not used for the instrument calibration. I recommend giving that information already in Section 2.2.1.

p9, l2: You state that the instruments are calibrated 2-3 times a year, some channels show a significant drift during that time scale. How big are the steps that occur in your data after those calibrations? Provide a percentage (up to x

p9, l8-10 channel 2 -> channel two

Results: Your results focus on the presentation of long-term time series and daily means - did you consider mentioning the number of measurements performed per day (or the time intervals between single measurements)? You could for example show data of one particular day to illustrate the capabilities of tracking fast ozone changes. If the paper gets too lengthy consider skipping some figures of UV daily dose since they show a very similar behavior like those of the UV index.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-1193, 2018.