

Interactive comment on “An overview on the airborne measurement in Nepal-part 1: vertical profile of aerosol size-number, spectral absorption and meteorology” by Ashish Singh et al.

Ashish Singh et al.

ashish.singh@iass-potsdam.de

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AC: We kindly appreciate the reviewer's concern about the scope of the paper. We received similar concern from the other reviewer too. Therefore we have tried to address your concerns (for eg. descriptive nature of the paper) by making significant changes in section 3. These changes include:

o 3.1.1 only describes local and synoptic meteorology during flight day period, no overview or other irrelevant description (outside the flight period) were removed. Please see the paragraph (line 198 to 209) o 3.1.2 is shortened to a brief summary (a couple of paragraphs); the original text from the 3.1.2 is moved to the supplement-

C1

tary as section S7; instead section 3.1.2 now has a brief summary of aerosol properties in the Pokhara Valley and presents observed aerosol properties (using AERONET) and synoptic meteorology data observed during the flight days. Figure S7 replaces Figure 3 which is relevant for the description (and suggested by reviewer #1) and the original Figure 3 is moved into supplement (as suggested). (Please see line 241-252) and line 257-267). o 3.1.3. has multiple sub-headers for better organization of the content and edited to make it more concise and easy read. o Some other minor changes include correction related to the description of the elevated layer, errors related to linking measurement signal with sources, description of absorption AE etc.

Abstract and conclusion also address the reviewer's concern on the limitation of the study (see line 26-29 in the abstract and line 445-447). We have specifically highlighted the limitation of the current study and that the study and that the duration of the study may not be reflective of the air quality, aerosol, and meteorology interaction in the Pokhara Valley

Other minor comments.

Something (a verb?) is missing from the sentence on lines 45-46 on the page at the end of abstract.

AC: Corrected. To make the abstract simple, we have removed the whole sentence.

The second paragraph on page 10 gives a too optimistic view on the tight relation between AOD and surface PM_{2.5}. They cite to one paper where this correlation is apparently strong, but this is certainly not generally true. This paragraph needs to be rewritten to provide a more realistic connection between AOD and surface PM concentrations.

AC: Thanks for sharing your concern. In light with the significant revision requested by the other referee as well, we have reduced section 3.1.2 to a couple of paragraphs. Most of the description in section 3.1.2 is moved to supplement including Figure 3. The

C2

new Figure 3 is Figure S7 from the supplement (as suggested by the other reviewer).

However, we agree that the sentence describing the relation between surface PM and AOD is presented without enough evidence or citation and falls short to describe the “not so straightforward” relation that the observation elsewhere has indicated. We have removed that contentious sentence in the supplementary (see section S7 in the supplementary).

Figure 3 contains so different panels that, in my opinion, this figure should be split into 2-3 separate figures (3a-3c together making one figure and figures 3d and 3e either combined into one or preferentially separate figures as well). AC: We have removed the Figure 3 altogether and is now into the supplementary section. Therefore we will keep the figure presentation as it is (for supplementary).

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2018-95/acp-2018-95-AC2-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-95>, 2018.