Thank you, Paul, for your efforts to make our article better, we appreciate it. Answers to your comment below in blue.

- There are still some more English grammar issues (e.g. in punctuation, see there is usually no comma before "that" unless it introduces parenthetical information) and in referencing (e.g. not in a coherent style, see e.g. lines 88, 86, 194).

- Please take care that all acronyms are defined at first occurrence in the main text (e.g. SMEAR, CU-APi-TOF, HOM).

- You introduce acronyms for compounds like sulfuric acid (SA) or iodic acid (IA) but then you are not using them consistently. I would suggest to harmonize this within the text.

-We fixed the punctuation issues, the referencing and went through the text and we now use the corresponding acronyms except in figure captions so they are easier to read. (Fixed and checked the following: NPF, CCN, VOC, SMEAR, HOM, DMS, IA, SA, MSA and RH)

- Line 119: The reference of He et al. (2021) is not really correct here since you talk about locations in the Arctic, while this study is a lab-based study.

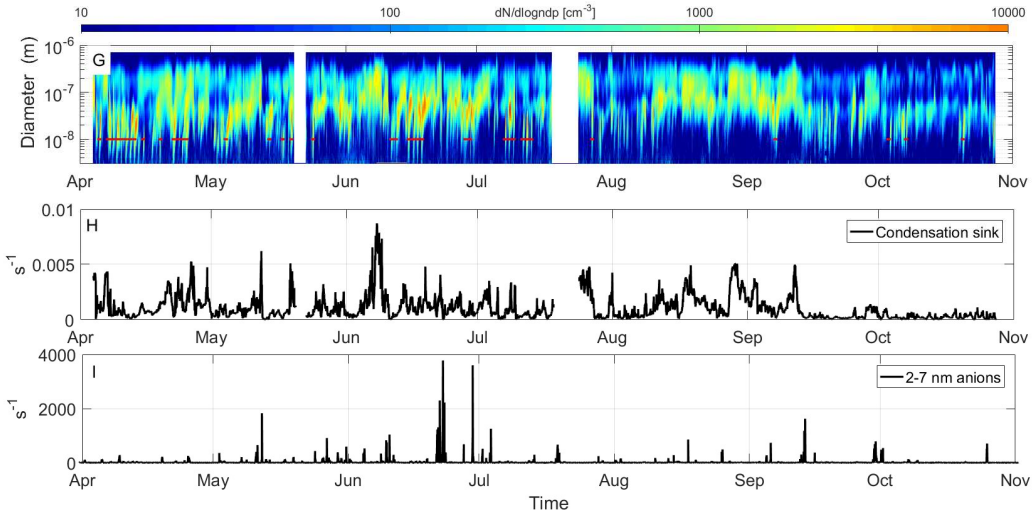
-He et al. (2021) is cited because of the data in the supplementary material (Fig S9 & Fig S10). It reports iodic acid concentrations from Ny Ålesund, Svalbard and Villum, Greenland among locations in the Antarctic. Thus, we would like to keep the citation.

- Line 199 and 201: This is kind of repetitive since this information should be stated the "data availability section".

-We deleted the sentences saying "All meteorological parameters, trace gas concentrations and aerosol data were downloaded directly from smartSMEAR open access database (https://smear.avaa.csc.fi/) and all mass spectrometric data are available on request."

- Figure 2: Please add more tick-labels to panel G (one is not sufficient).

-You're right. More ticks are applied now.



- Line 380 is a bit repetitive compared to line 367.

-True, we deleted the sentence end from line 380 (", due to ocean surface acting as a major source of atmospheric iodine (Carpenter et al., 2013)")

- Line 386: There is something wrong in this parenthesis. Please also refer to the manuscript preparation guideline on how to abbreviate sections, figures, etc within the text. See https://www.atmospheric-chemistry-and-physics.net/submission.html

-We changed the referencing style throughout the text according to the guidelines and this part now reads: (discussed in details in Sect 3.3. and Figure 10).

- Line 395: No comma before “at”.

-Fixed.

- Line 410: “at SMEAR”

-Fixed.

- Figure 6: I wondered about the range of the colorbar, especially in panel B, where overall concentrations were much lower (see Fig. 7A).

-I have updated my Matlab to a much newer version during the last months and the color map is slightly different between figures 6 and 7. It does not change the data plotted in the figures, just the color is slightly different. We double checked all data and they are correct in each separate plot. Hope that is ok.

- Data availability: The data presented in measurement reports must be openly accessible in accordance with the EGU data policy. Stating that “spectrometric data are available on request” is not optimal. I would recommend that you upload your data to a public repository and add the reference (link/DOI) here. See https://www.atmospheric-chemistry-and-physics.net/policies/data_policy.html for more details.

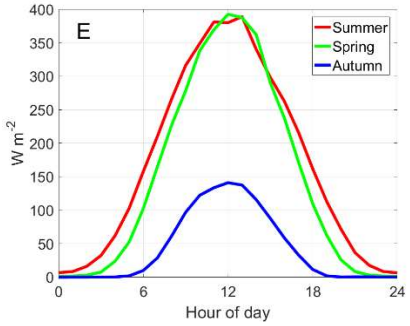
Mass spectrometric data, event analysis, condensation sink and anion concentration data are now available on Zenodo, https://doi.org/10.5281/zenodo.5879549. This information is added to data availability section.

- In the reply letter you mentioned that you added “The SMEAR II data set that includes March data cannot be expected to be perfectly comparable with our data.” but this sentence is not there. Please double-check.

Added the missing sentence in its place now.

- In Fig 3E: The off-set is misleading. I would suggest to fill the gap or use lines instead.

We made a new figure and harmonized the coloring with the other panels also.



- Figure 5B: In the reply you mention that this plot shows 4960 points, which made me think. There could be the risk that e.g. the red points at higher global radiation are just covered by the blue points. You could test to apply a mesh (or grid) on your data and show the median or mean value of the global radiation per grid cell.

The main goal of these figures was to connect higher temperature with higher HOM concentrations. That is presented well by both panels. We originally only wanted to use panel A, because it has the same data and to our opinion it shows the relationship between global radiation, temperature and HOMs better. We added panel B to further emphasize the correlation between temperature and HOMs.

As you can see from the figure above (fixed panel in Fig. 3E), the median global radiation is around 400 W m^{-2} or below that during summer and spring. Thus, there are only a few points that are red or orange in this plot, most of them are shown in the plot where the temperature is at its highest. Thus, we wish to keep these panels unchanged.

Looking forward to your final version!

We have done our best hoping you will like the manuscript better now that it is revised!

Best wishes, Tuija & co-authors