1 Report 2, March 2023

Q1:Table 2; Sampling
A1: Added units consistently. Data were collected by ShadowGraph in runs, one run was of 10 minutes. During one run there was collected an information about each observed droplet passing through field of view of ShadowGraph.

Q2:Eq. 6 and 9
A2: Corrected.

Q3:Fig. 4; Fig 5 and 6; which day? Provide clearly this info in figs
A3: At the beginning of Section "Microphysical properties of fog" was added information that the graphs were made collectively for all the dates when the fog was registered.

Q4:after first sentence say:
A4: Added.

Q5:new N3 detect particle up to 40 micron, clarify this here
A5: Added.

Q6: AE-51 device on flying platforms??? [...] Please take it out
A6: Deleted

Q7:Table A1; units please
A7: Added in more clearly way.

Q8: Ln420; double however????
A8: Removed.

Q9: Fig A3; After correction it becomes worst (red ones);
A9: We have seen that for example LWC from OPC-N3 is lower than from ShadowGraph. We were analysing what could be the reason of that. We wanted to check if the underestimation may have been due to different RI assumption in OPC-N3. We have performed analysis which is in appendix showing how the looks the data from OPC-N3 after the correction of RI index. As a result indeed the correction increased the LWC, it was due to shifting the droplets to higher bin. However the correction worsened the compliance of mean droplet diameter between OPC-N3 and ShadowGraph. We conclude that the OPC-N3 software attributing droplets radii does not rely directly on Mie Theory. Secondly we discuss other reasons why OPC-N3 can be lowering the values like LWC.

Q10: Table 1; gm-3 is in wrong locations. Also, what is the equation for these coeff. It is not clear to me
A10: The linear regression coefficients, Pearson's correlation coefficient (PCC) and the root mean square error (RMSE) for LWC, N_c, r_{eff}, r, r_s, r_V. The linear

regression was obtained for data without RI correction and with RI correction applied. The linear regression curve of the form y = ax + b was fitted to the respective quantity, where x is the measured value from OPC-N3, a and b are calculated coefficients and y is the measured value from ShadowGraph.