Q1: Was any additional housing applied for the OPC to protect it against humidity or rain? Was it lying down on the roof of the building, or on any platform above the roof? If yes how much height above the roof surface? Can you present any photos of the devices set up?

A1: At the rooftop of the Faculty of Physics is located Radiation Transfer Laboratory where are conducted measurements of the optical and microphysical properties of atmospheric aerosols and clouds, as well as components of radiation fluxes and sensible and latent heat fluxes at the Earth's surface. Some devices, as Oxford Laser shadowgraph, are mounted just for a period of time, in this case for two months as the shadowgraph has a waterproof case. The OPC-N3 was mounted next to it just in the case of high probability of fog events without any protection. The picture of both devices mounted at Radiation Transfer Laboratory will be added.

Q2: In table 2, in the text it is written that OPC sampling was 10 s, then averaged up to 1 minute, in the table it is 1 minute sampling time, please make it consistent.

A2: Yes, I will correct in the table.

Q3: Equation 3, please check if all variables are explained, what is pix^2, is i here another variable or just index?

A3: Yes, We will add missing information.

Q4: Why there was double averaging applied? Why not straight average from 10s to 10 minutes? Please elaborate on how it would change if you would calculate it from 10 s, which was as far as I understood, basic sampling time.

A4: There is no difference in making an average first to 10s and next to 10 minutes, the standard deviation does not change. For clearer reading, it will be corrected that the average will be done right away to 10 minutes.

Q5: How uncertainty would change if you also consider Poisson statistics which represents a random error in the measurements?

A5: We have performed measurements to consider how big the impact will have on uncertainty the Poisson statistics. In Fig. A and Fig B are shown the values of errors for OPC-N3 and for ShadowGraph. The x axis in both figures represents the value for which the uncertainty was calculated and the y axis the uncertainty value. The plot represents how big the impact on total uncertainty has Poisson statistics. Error derived from Poisson statistics gives a greater contribution to the overall uncertainty for cases where a small number of droplets were counted. In the revised manuscript, the contribution to the overall uncertainty from Poisson statistics will be taken into account.

Q6:What was the reason to do the 1 hour averaging? Why not 0.5h or 2 hours? It should be elaborated, how was it representative?

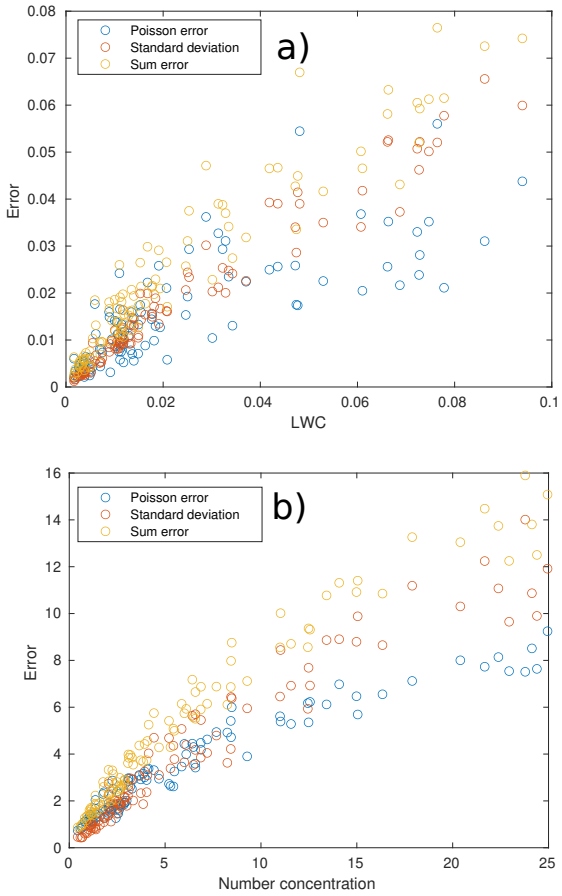

Figure 1: The figure shows the dependence of the error on the measured value from OPC-N3. Colors mark the contribution of the error from the Poisson statistics (blue) and the measurement uncertainty (orange), the total measurement error is shown in yellow. In Fig. a) the uncertainty was calculated for LWC on b) number concentration.

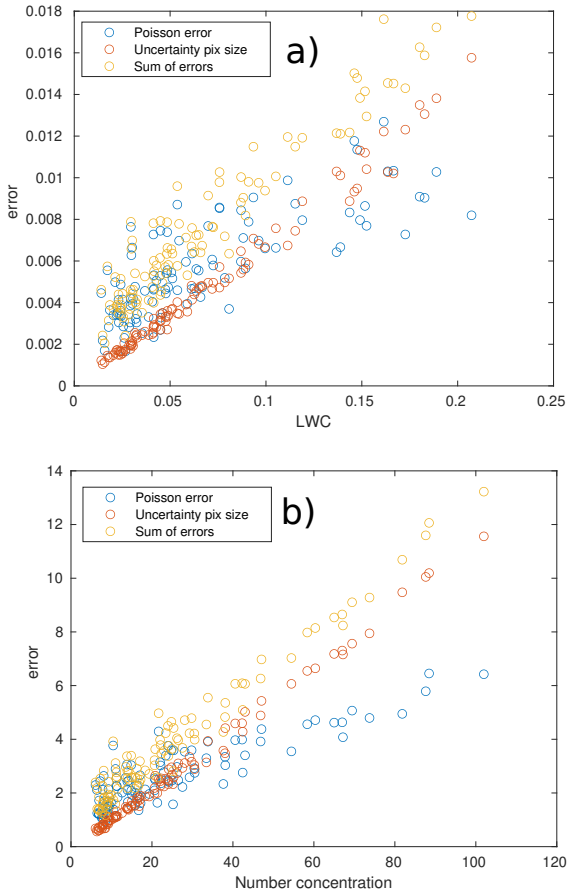

Figure 2: The figure shows the dependence of the error on the measured value from ShadowGraph. Colors mark the contribution of the error from the Poisson statistics (blue) and the measurement uncertainty (orange), the total measurement error is shown in yellow. In Fig. a) the uncertainty was calculated for LWC on b) number concentration.

A6: ShadowGraph in one hour sample XX of air. One run of Shadowgraph was 10 minutes. Making plots every hour allows for receiving a smooth droplet size distribution spectrum from this device. The minimum averaging time was chosen with a smooth spectrum to observe the dynamics of fog.

Q7: Is it 2:00:59 – 3:01:07 really an hour or a little bit more? I understand it is a minor issue, but it just looks strange.

A7: The ShadowGraph collects the data in intervals of 10 minutes, between one run and another, there is a small brake 1-2 seconds for writing the files. As there is a small interval between runs, therefore, the two runes from the first ten minutes of the instrument's operation at the hour do not fall out equally in time. Each plot was made by averaging data from 6 runs of ShadowGraph which gives one hour.

Q8: How it differs from other periods? Can authors present the temporal evolution of droplet size distribution for all sampling periods (at least in the appendix)? The authors should explain to the readers why the analyzed period and later case study in section 4.1 was better than the rest of the time series.

A8: The case of fog from 16-17 November 2020 was chosen for a longer description as it was was the longest period of fog event registered during this study. Other cases of duration between 50 minutes up to 230 minutes. As ShadowGraph samples a small amount of air, making a smooth DSD spectrum is possible from the data aggregated in one hour. For other cases of fog occurrence, it would give 1-3 plots, which wouldn't allow to show the evolution of the fog case.

Q9: Authors with good results applied the Refractive Index correction. Please elucidate if all data presented are based on RIOPC or RIwater because it is not clear to me. Can you present any figure on how the correction influenced the measurements (at least in the appendix)?

A9: During the study we have checked if making a correction of Refractive Index to the data obtained from OPC-N3 would improve the results. The obtained results are inconclusive if the correction improves the data. The RI correction shifts the droplets measured by OPC-N3 to higher values, this improves the LWC comparison. However, the spectra of ShadowGraph and OPC-N3 are less compatible. In the manual, it is not well described how OPC-N3 converts the light scattering to droplet radii. The procedure can be not straight forward Mie Theory. Therefore, applying the correction does not improve the data so well. In the whole article, the standard (assumed by the manufacturer RI_{OPC} was used). We can add in the appendix the same analysis for RI_{water}.

Q10: Is it possible to apply any correction function for all factors influencing the OPC measurements (internal temperature, humidity, refractive index)??

A10: Internal temperature and humidity are not just shifted in comparison to ambient values, those factors are influenced, for example, by sun heating of the device. It can be seen from Figure 2 that internal temperature and humidity had a rapid change after sunrise. The refractive index correction can be explained in the appendix.