

Dear authors,

Thank you for responding adequately to the reviewers' comments. I am providing below a few comments from my part, in order for me to proceed to the acceptance of your manuscript for publication.

Careful editing of manuscript. E.g.:

1. Line 37 and throughout the text: Please change annular to annual.
2. Line 99: "As an example, brake wear..."
3. Lines 116-120 "Within German regulation, such number based limits are not considered and only gravimetric concentrations are relevant, whereby the concentrations are higher compared to the ecolabel (e.g. 40 mg/m³ for many different types of wood stoves or 20 mg/m³ respectively 30 mg/m³ for pellet stoves with and without water compartments; values for installations past the year 2014) (Bundesministerium für Justiz und für Verbraucherschutz, 2010):. I think some editing is needed in the brackets where the German regulation limit values are mentioned.
4. Lines 260-262 "The source was identified as domestic heating and aerosol transport from rush-hours based on (NOT off) intercomparisons of various different measurements (e.g. SMPS, CPC, Catalytic Stripper, NAIS, 261 Trace-gas analysis, Aethalometer, etc.)."
5. Line 290: The increased concentrations in the evening are occurring outside (NOT offside) typical rush hours and often reach their peak after...
6. Lines 304-305 "Correlations for other ambient temperature and pressure can be found in the supplementary information". Revise the sentence or at least delete the "other".
7. Lines 332-333 "The high-pressure-area / stationary temperature inversion prevented air exchange that (NOT what) enabled the accumulation of air pollutants."
8. Lines 394-395 "Considering a total of 24 hours for each measurement day, the number of hours exceeding the 20 000 cm⁻³ threshold is 154 / 3144 that (NOT what) amounts to 4.9% of hours during the measurement period."
9. Lines 406-407 "The average PM_{2.5} concentration of the measurement period (11.9 µg/m³) is close to the future annular mean concentration for the year 2030": Please correct to "The average PM_{2.5} concentration of the measurement period (11.9 µg/m³) is close to the future annual limit values for the year 2030"
10. Line 419: A bracket is missing.

Lines 132-134 "Norra et al. (2023) highlighted the relevance of indicative (local) air quality measurements in an urban environment that was, despite the prevalence of official measurements, heavily influenced by local sources.": I don't quite understand the meaning of this sentence. Could the authors please edit it for better clarity?

Lines 138-139 "A diffusion-charge based measurement device is used that have shown great potential for indicative stationary and mobile measurements": Please correct this sentence, such as for example "A diffusion-charge based measurement device is used; this type of devices has shown great potential for indicative stationary and mobile measurements".

Lines 225-230 “Concentrations below the background level of 5 000 cm⁻³ are in blue color. The “low” concentration level according to the WHO good practice statement is not considered to better indicate increased concentrations above the “natural” threshold concentration. Yellow color represents the “high” concentration level of 10 000 cm⁻³ according to the WHO good practice statements for exposure within a 24 hour mean concentration and in red color are values exceeding a concentration of 20 000 cm⁻³ what is classified as a daily maximum hourly mean UFP concentration according to the WHO good-practice statements.” This part should be reviewed according to the updated Figure 3, where a more detailed concentration scale is shown. Also the meaning of the 2nd sentence is not clear. The T “low” concentration level according to the WHO good practice statement is or is not considered?

Lines 234-235 “The Heat Map illustrates, that a significant fraction of the measurement period is subject to air pollution in the morning and evening hours what is linked to human activity.”: Please consider revising to make the meaning clearer. How is the link with human activity supported by the data?

Lines 243-245 “Despite days with low concentrations impacting the calculated mean concentrations, the determined concentration profile shows a pronounced trend, where particle concentrations above the background level around (or even above) 10 000 cm⁻³ are measured during the morning hours...”: In Figure 4 (left) there are no concentrations above 10 000 cm⁻³ (or if so, slightly above)., I suggest changing this sentence to “Despite days with low concentrations impacting the calculated mean concentrations, the determined concentration profile shows a pronounced trend, where particle concentrations above the background level (reaching up to around 10 000 cm⁻³) are measured during the morning hours...”.

Lines 434-436 “Nonetheless, since the future air quality limits are only addressing these mass-based PM-concentrations, areas where measurement stations do show an exceedance of PM-concentration limits due to the emissions from wood-combustion for domestic heating are by association significantly polluted with especially hazardous (black-carbon) nanoparticles.”: This sentence is not clear and the conclusion drawn is not well based. The mass-based PM limit values may not be able to address the pollution by wood burning but this does not mean that all areas where the mass-based limit values are not exceeded are significantly polluted by nanoparticles.