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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Effect of organic compounds on nanoparticle formation in diluted diesel exhaust" *by* U. Mathis et al.

U. Mathis et al.

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We thank the reviewer for his very helpful comments.

Comment

The response on Comment 3: "The relative sample humidity was calculated at ambient temperature because of fast cooling of the diluted exhaust was achieved." is in contradiction to the experimental section of the manuscript that states: "Taking all contributions into account, the relative sample humidity after the first dilution unit was calculated to range from 30 % to 99 % at the measured sample temperature". Furthermore figure 4 shows one data point at RH$<$10 % which would only be possible if one considers that 45 °C is the corresponding temperature.

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Response

Of course the data point at 9.2 % relative humidity is wrong and refers to g/m3 water by mistake. The correct value is 41 % relative humidity as it can also be seen in Figure 3 (on top panel) at the lowest relative humidity, since the same data set was used to illustrate the humidity effect in Figure 3 and Figure 4.

Comment

Additional it needs to be explicitly stated at which corresponding temperature the relative humidity was calculated, the phrase ambient is not precise enough. Of course the calculation of saturation ratios for the organic substances need also a precise statement on corresponding temperature.

Response

We measured the chamber temperature for each SMPS scan. The temperature only ranged from 24.0 °C to 25.5 °C since the chamber temperature was controlled. To calculate the relative humidity and the saturation ratio, the recorded chamber temperature was considered. We will add this information in the revised manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 227, 2004.