We thank Anonymous Referee #2 for comments and suggestions for improvement of our manuscript. The comments from the reviewer followed by our responses to the comments can be seen below.

Referee comment 1:

Page 14017 line 20: include u* in brackets after “friction velocity”

Response:

We have added this.

Referee comment 2:

Page 14018 line 10: “The Grimm 1.109 has a response time of 1 s” You said this earlier. I don’t think there is any need for repetition.

Response:

The second mentioning of response time of the OPC has been removed.

Referee comment 3:

Page 14020 line 1: Change “to avoid rainwater to enter the sampling line” to “to prevent rainwater entering the sampling line”

Response:

Has been changed.

Referee comment 4:

Page 14020 line 2: Change “was slightly bended also in two other points” to “was also slightly bent at two other points”

Response:

Has been changed.

Referee comment 5:

Page 14020 line 8: Change “loss” to “losses”

Response:

Changed

Referee comment 6:

Page 14020 line 11: Change “Losses due to diffusion were estimated by relations for diffusion in laminar flow in Hinds et al. (1999).” to “Losses due to diffusion were estimated using the relations for diffusion in laminar flow given by Hinds et al. (1999).”

Response:

Changed

Referee comment 7:

Page 14020: “No Webb correction has been applied to the fluxes.” Nevertheless, a reference to Webb et al would be appropriate here.

Response:

Has been added.

Referee comment 8:

Page 14020: How do the inertial and diffusional losses vary for the rest of the size channels?

Response:

We have changed the sentence to:
“The relative losses due to these bends were less than 0.1 % for the first OPC channel ($0.25<D_p<0.28$ µm), gradually increasing with increasing D_p within the OPC size range, to reach 3.2 % for the last OPC channel ($2.0<D_p<2.5$ µm).”

Referee comment 9:

Page 14022: “...likely transported from the Sahara”. On what do you base this? Do you have back trajectories? Also include a reference to where this has been observed previously.

Response:

A major fraction of the dust over the Amazon is thought to derive from long-range transport of Saharan mineral dust rather than local sources (e.g. Talbot et al., 1990; Swap et al., 1992; Formenti et al., 2001). This is consistent with higher mineral dust concentrations in the Amazon during the wet season than during the dry season, because the southerly position of the ITZC during the wet season allows long-range transport from Africa. This is not the case during the dry season.
We have changed the formulation from "there were two clear episodes with inflow of mineral dust" to "there were two clear episodes of higher concentrations of mineral dust" and after added ",likely transported from the Sahara as been observed in several other studies (e.g. Talbot et al., 1990; Swap et al., 1992; Formenti et al., 2001)."
We have not performed any trajectory-study since the origin of the mineral dust is not important for this study. We want to exclude periods of dry deposition of mineral dust regardless of where the mineral dust originates from.

Referee comment 10:

Page 14022: "Eearlier studies of the aerosol number size distribution over the Amazon rain forest have shown that the two dominating aerosol number modes are located at diameters of 60–90nm and 130–190 nm, respectively". I find this sentence a little clumsy. Firstly, change "Eearlier" to "Earlier". These modes are "respectively" to what? If you are referring to the references in the brackets, then put the "respectively" in the brackets with them. I think the sentence would read better as: "Earlier studies of the aerosol number size distribution over the Amazon rain forest have shown that the two dominating modes occur at diameters 60–90 nm and 130–190 nm".

Response:

We have changed to what the referee suggested.

Referee comment 11:

Page 14023 line 1: Is it a statistically significantly larger fraction? If so replace "somewhat" with "significantly". If not, say so.

Response:

We removed these sentences since the difference is not statistically significant.

Referee comment 12:

Page 14023 line 2: Change "of Rissler et al." to "by Rissler et al."

Response:

Changed.

Referee comment 12:

figure 3: Why do you show dN/dlogDp on both a natural and logarithmic axis? I would just show one or the other - preferably the logarithmic axis. In the caption, change "...when data collected when the friction velocity is below 0.1 m s-1" to "...from data collected when u* is above 0.1 m s-1" since you reject data when u* is below 0.1 m s-1, correct?

Response:

The reason for including a figure with natural Y-axis for the number size distribution (a) was to make it possible to compare this with the volume distribution (c), for which natural Y-axis worked best. (A figure with logarithmic Y-axis was necessary for analysis of the larger diameters in the number distribution). However, we have now done as the referee suggested and removed the plot with natural Y-axis.

Referee comment 13:

Page 14023 line 11: Change "This is consistent with that biomass burning is known to be a large source of primarily accumulation mode particles (Reid et al., 2005)" to "This is consistent with the observation by Reid et al. (2005) that biomass burning is a large source of primarily accumulation mode particles."

Response:

We have changed to something similar to what the referee suggested, but changed to an earlier reference (because Reid et al. (2005) is a review paper).

Referee comment 14:

Page 14023: Change "at minimum in daytime" to "at a minimum during the day"

Response:

We have removed this sentence due to next comment from the referee.

Referee comment 15:

Page 14023 line 26 to page 14024 line 2: But are these observations statistically significant given the variability shown in figure 4a, and therefore can you really make the conclusion in the following sentence? I am not fully convinced by this argument.

Referee:

We agree with the referee that the trends are small in Fig. 4a. Therefore we have removed the sentences from line 26 on page 14023 to line 7 on page 14024. To make it consistent, we have also removed similar conclusions on lines 8-15 and line 17 on page 14025.

Referee comment 16:

Page 14024: "The nocturnal transfer velocities are slightly higher in the wet season than in the dry season". Is this statistically significant?

Response:

We have removed this sentence because of the large uncertainties in nocturnal fluxes due to stable stratification, advection etc.

Referee comment 17:

Page 14024 line 26 to page 14025 line 7: I would say this information is more appropriate for the figure caption rather than the main text. Please shorten this paragraph to a very brief summary at most and leave the full description for the figure caption.

Response:

We have shortened the paragraph, and instead added more information in the figure caption.

Referee comment 18:

Page 14026 lines 19-21: Again, this information is better placed in the figure caption. Indeed it already is in the caption - does it really need to be repeated in the main text? Similarly for Page 14027 lines 21-25.

Response:

We have changed information of the figures to the figure captions.

Referee comment 19:

Page 14028 lines 27-28: Remove "numbers of"

Response:

Changed.

Referee comment 20:

Page 14030 lines 27-28: “To exclude the anthropogenic sector does obviously not change the sign of the flux of 0.25–0.45 μm particles”. What do you mean by the word “obviously”? It doesn’t seem to be in the correct position in the sentence. If you mean it doesn’t change the sign “noticeably”, then use this word instead: “. . .does not noticeably change the sign. . .”

Response:

We meant “obviously” more like in the meaning of “evidently”. However, we have now removed “obviously”.

Referee comment 21:

Page 14031 line 5: Change “instead will” to “will instead”

Response:

We have removed these words since this section was slightly rewritten due to a comment from referee 3.

Referee comment 22:

Page 14032 lines 2-3: Change “One argument for that rainfall may be important for the...” to “One argument for rainfall being important to the...”

Response:

Changed

Referee comment 23:

Page 14032 lines 19-22: Change this sentence to “Neither does solar radiation seem to generate the emission directly, since the photosynthetic radiation is at maximum at noon, or even an hour before, as a result of increasing cloudiness in the afternoon.” I think it would be useful to show this graphically as well.

Response:

We have changed to what the referee suggested. We have also added a figure (Fig. 13) illustrating the median diurnal cycles of photosynthetic active radiation and some other meteorological parameters discussed in the same section.

Referee comment 24:

Page 14033 lines 1-2: Change “The relative humidity was during the wet season observed...” to “The relative humidity during the wet season was observed...”

Response:

Changed