## Supplement

## Answers to interactive comment 1

Please find the changed figures below:






Fig. 2. Time series of data observed in the LFT comprising relative humidity RH (\%) , ambient particle volume concentration $\mathrm{V}\left(\mathrm{D}_{p}=10-\right.$ $470 \mathrm{~nm})\left(\mu \mathrm{m}^{3} \mathrm{~cm}^{-3}\right)$, ambient aerosol number concentration $\mathrm{N}\left(\mathrm{cm}^{-3}\right)$, refractory particle number concentration $\mathrm{N}_{300^{\circ} \mathrm{C}}\left(\mathrm{cm}^{-3}\right)$, and absorption coefficient $\mathrm{b}_{a b s}\left(\mathrm{Mm}^{-1}\right)$. The small dots in dark grey indicate 15 min averages, the black squares the one monthly adjacent average and its standard deviation in light grey. Horizontal lines show the maxima of the one monthly adjacent average for each dry season.


Fig. 3. Same as Figure 2 but for data observed in the BL.


Fig. 4. Diurnal cycles of relative humidity RH (\%), ambient particle volume concentration $\mathrm{V}\left(\mathrm{D}_{\mathrm{p}}=10-470 \mathrm{~nm}\right)\left(\mu \mathrm{m}^{3} \mathrm{~cm}^{-3}\right)$, ambient acrosol number concentration $\mathrm{N}\left(\mathrm{cm}^{-3}\right)$, refractory particle number concentration $\mathrm{N}_{3000^{\circ} \mathrm{C}\left(\mathrm{cm}^{-3}\right) \text {, and absorption coefficient }}$ $\mathrm{b}_{a b a}\left(\mathrm{Mm}^{-1}\right)$. The bars indicate 25 th percentile-median- 75 th percentile, the squares the arithmetic mean. Red colour indicates observations during the dry season, blue colour during the wet season. The time is local time (UTC-4.5 h).

(a)

(b)

Fig. 5. Possible fire events affecting the observations according to the trajectory analysis ( -10 days). Red triangles represent the Venezuelan dry season, blue triangles its wet season. Panel (a) shows all possible fire events not accounting for precipitation along the air mass transport path way. Panel (b) shows all fire events excluding events with precipitation along the transport path way.


Fig. 6. Relative humidity RH (\%), ambient particle volume concentration $\mathrm{V}\left(\mathrm{D}_{p}=10-470 \mathrm{~nm}\right)\left(\mu \mathrm{m}^{3} \mathrm{~cm}^{-3}\right)$, ambient aerosol number concentration $\mathrm{N}\left(\mathrm{cm}^{-3}\right)$, refractory particle number concentration $\mathrm{N}_{300^{\circ} \mathrm{C}}\left(\mathrm{cm}^{-3}\right)$, and absorption coefficient $\mathrm{b}_{a b s}\left(\mathrm{Mm}^{-1}\right)$ versus the number of fire events detected since the last precipitation event according to the trajectory analysis ( -10 days).

