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Comment

Interactive comment on “Seasonal variation of ozone deposition to a tropical rain forest in southwest Amazonia” by U. Rummel et al.

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Rummel et al. report ozone flux measurements obtained during the LBA-EUSTACH project in the Amazon. As cited by Rummel et al. this project was summarized by Andreae et al. (JGR, 2002), who give an overview on carbon, water and energy fluxes for the same study. Andreae et al. (2002) report various VOC deposition fluxes. As an example an acetone deposition flux of $-232 \text{ ng/m}^2/\text{s}$ was measured near Manaus at the end of the wet season (Table 4; Andreae et al, 2002). From Table 3 (Andreae et al., 2002) the acetone concentration can be estimated to be approx. $2\text{-}3 \text{ ug/m}^3$ for the sites in Manaus and Jaru. This would for example result in mean daytime deposition velocities on the order of $\sim 7\text{-}11 \text{ cm/s}$ for Manaus. Interestingly, Andreae et al. (2002) report deposition velocities for formic and acetic acid ($0.17\text{-}0.23 \text{ cm/s}$) that are smaller

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than those for acetone and other VOCs. Based on the aerodynamic limit (R_a+R_b), the current paper (Figure 9) suggests maximum deposition velocities on the order of 2 to 6 cm/s at a similar site (Jaru) during daytime. This would imply that aerodynamic limits of deposition fluxes (as obtained from Figure 9) are smaller than deposition fluxes of acetone and various other VOCs that the authors have reported previously for the LBA-EUSTACH experiment (Table 4; Andreae et al., 2002). It would be helpful and of interest to the reader if the authors provided an explanation for this discrepancy or a comment on ozone (and/or R_a+R_b) measurements for the site in Manaus if available.

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