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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Detection and variability of combustion-derived vapor in an urban basin" *by* Richard P. Fiorella et al.

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This additional comment contains two new tables (as a supplement) that were requested by the reviewers: Table 2, which shows Keeling-style slope estimates for each PCAP event, and Table 3, which makes explicit estimates of the fraction of urban humidity arising from combustion for each PCAP event with paired water isotope and CO2 data.

We also referenced a revised version of Fig. 10 in our response to the reviewers, but this file was not included in this comment. We are including it here.

Please also note the supplement to this comment:

https://www.atmos-chem-phys-discuss.net/acp-2017-1106/acp-2017-1106-AC2-supplement.pdf

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-1106, 2018.

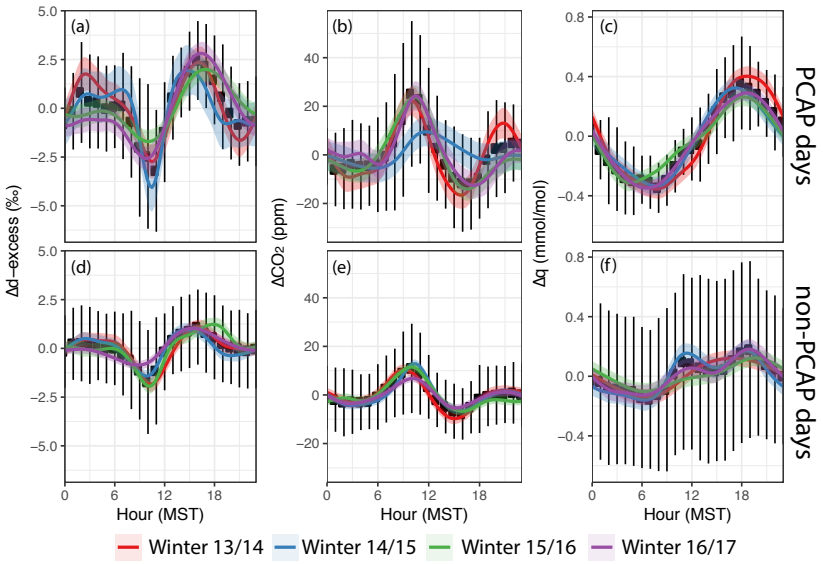

Figure 10. Seasonal average diurnal cycles of Δd-excess (left column), ΔCO_2 (center column), and Δq (right column) for days in PCAP conditions (top row) or non-PCAP conditions (bottom row). The diurnal cycle is approximated here as the deviation from a 24-hr moving average. Mean values across all four years are shown as black symbols, with black vertical lines indicating 1σ variability. The mean diurnal cycle is modeled for each year independently as a GAM using cubic cyclic smoothing splines, and regression standard error shown as a color shading. The influence of CDV in the diurnal cycle is apparent from comparing Δd-excess and CO_2 cycles: increases in CO_2 co-occur with decreases in d-excess during the early morning and late afternoon periods.

Fig. 1.