

Interactive comment on “On the diurnal, weekly, seasonal cycles and annual trends in atmospheric CO₂ at Mount Zugspitze, Germany during 1981–2016” by Ye Yuan et al.

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Received and published: 11 September 2018

This is an interesting manuscript. It is good to see that diurnal, weekly and seasonal cycles in CO₂ are being investigated by the ground-based CO₂ measurement community. The importance of the seasonal cycle is obvious. The value of accounting for the diurnal and weekly cycles has been pointed out in previous work from a model perspective such as Nassar et al. (2013) and Liu et al. (2017), which would be worthwhile to cite in revisions to this manuscript. These cycles in anthropogenic CO₂ emissions have implications for the design of future satellite systems aiming to quantify anthropogenic CO₂ emissions at various scales to support emission reduction efforts.

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References

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Y. Liu, N. Gruber, D. Brunner. Spatiotemporal patterns of the fossil-fuel CO₂ signal in central Europe: results from a high-resolution atmospheric transport model. *Atmos. Chem. Phys.*, 17, 14145–14169, 2017, <https://doi.org/10.5194/acp-17-14145-2017>

Interactive comment on *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2018-850>, 2018.

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