Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2019-709-RC1, 2019

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Methane Emissions from the Munich Oktoberfest" *by* Jia Chen et al.

Anonymous Referee #1

Received and published: 13 November 2019

General comments: This very original paper shows that methane emissions from large festivals such as the Munich Oktoberfest are measurable and non-negligible despite the time-limited event. In-situ methane measurements around the festival area are evaluated with plume modeling to assess the emissions and their uncertainties. The study about this somewhat amusing but also serious topic is comprehensive and robust. It is well written, concise, and contains informative figures. I therefore recommend publication after consideration of the following comments.

Specific comments:

p. 5 line 4: explain what is a Kaiser window, or give a reference

p. 5 line 7: explain why you chose 5 ppm as threshold, and how your results change when you choose another value.

Printer-friendly version

Discussion paper

Figure 8: by comparison with Fig 9 I would expect a third, certainly smaller yet distinct peak around 8.5 ug/(m2s) due to the weekend emissions. Why is this peak missing in Fig. 8? If Fig. 8 shows all emission estimates, then could it be that you did less measurements on a weekend day such that these measurements/samples are under-represented? In this case your overall emissions would be biased low. Maybe I have overlooked it: have you indicated how evenly in time your measurements were spaced, both over the course of the week, and over the course of the day (important for Fig. 11)? An additional figure could clarify this and eliminate doubts about a systematic bias due to possibly irregularly spaced measurement times. Also, in case of weekend under-representation, you could introduce weights to your measurements.

Figure 11: include the number of samples in the caption if it is constant, or as an additional line if not.

Technical corrections:

p. 5 line 6: better “minima”, not “valleys”

p. 10 line 16: better “run”, not “round”

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2019-709, 2019.

Printer-friendly version

Discussion paper