

Interactive comment on “Calculations of automatic chamber flux measurements of methane and carbon dioxide using short time series of concentrations” by N. Pirk et al.

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The paper is very well written. It uses a good English and writing style. The figures and tables are also very good. I like the topic because to the present there are not specific rules on the choice of fitting models for close chamber measurements, but this is needed. This paper uses a large amount of real data to study the goodness of the fittings in different environmental situations. But moreover, I would like to see a more general conclusion using all the data at once apart of the specific findings in one or another chamber. More clearly, I was wondering whether it would be possible to draw more general conclusions valid for all types of climates within the North-South tran-

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sect. The paper focuses in the implication of some environmental factors as PAR or wind speed on the use of different models for calculating the fluxes, and supports the discussion with some examples in figures (as well as other examples in the supplementary information). But would, for example, PAR affect the curvature difference in the CO₂ fluxes universally? I miss a graph plotting the 50000 data points and a bigger conclusion drawn from it. Then, showing the specific examples in the supplementary material. And the same for the wind speed, etc. In this way, I think that the findings of this paper would be easier to apply to future research. E.g. knowing which type of flux model to use in one or another environment depending on the environmental parameters (water table, PAR, wind speed...). Is that possible?

Secondly: I feel that the title and abstract do not correspond exactly with the content of the paper. I would have written a title like: exploratory analysis on the calculations of CH₄ and CO₂ fluxes in closed chamber measurements related to environmental parameters. Or even better: "implication of environmental variables on the choice of flux model for closed chambers".

Third: The abstract seems to lead to a paper which is going to solve the fitting choice problem with a large amount of data (50000 fluxes). I would like to see a more realistic presentation of the work in the abstract. I had too high expectations when reading it. Also the abstract does not tell the conclusions drawn from the research.

Fourth: It lacks of a clearly exposed hypothesis sentence at the end of the introduction.
with the best wishes

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