Reviewer 1

Some wording and typos need to be corrected. My suggestions and labels can be found as notes in the original manuscript which I uploaded.

I am still missing a brief but important description of the complete pathway of the electric signal in an eddy covariance setup. There are several steps of analog to digital and digital to analog conversions between the measurement cell of the analyzer and the communication port of the data acquisition system. This could also be explained with some kind of circuit diagram. In the end it should be clear where to find the limiting conversion in terms of signal resolution. Is this always the D/A-conversion of the LI6262 or could it also be another conversion in the system when using a different setup? Some researchers have been using the raw signal outputs of the LI6262, which limitations do we face in this case? Of course, not all possible scenarios can be simulated in the way the authors did, but I think it is worth to describe a bit more detailed the electronic signal processing and other possible setups or scenarios.

Answer:

We thank the reviewer for the suggested wording and followed his/her suggestions.

We added on page 2, line 14-18 some remarks about the electronic circuit together with references where the possible systems are described in more details, because the electronic circuit of the used system was already published by Moncrieft et al. [, 1997 #284].

Because we used for our study the full measurement range we have moved the explanation from Section 2.2 to the more general part of Section 2.1.

Reference:

Moncrieff, J. B., Massheder, J. M., DeBruin, H., Elbers, J., Friborg, T., Heusinkveld, B., Kabat, P., Scott, S., Søgaard, H., and Verhoef, A.: A system to measure surface fluxes of momentum, sensible heat, water vapor and carbon dioxide, J. Hydrol., 188-189, 589-611, doi: 10.1016/S0022-1694(96)03194-0, 1997.

Reviewer 2

Dear Authors,

thank you for your replies.

As I suggested in previous review stage, you reported in Figure 4 standard error (s.e.) estimates associated with slope parameters.

Given the scatter of data and the R2 value, it seems strange to me that s.e. estimates are equal to 0, in particular during winter season

More likely it is a typo error, but since they have an important effect on conclusions, I would suggest you to check them before the manuscript is accepted for final publication.

Answer:

Thanks for bringing this inconsistency to our attention. It is a misunderstanding: the numbers in question are not s.e. estimates, but offsets of the linear equation in the sense of: y = slope x + offset, we showed these values already in the initial submission. The plus/minus symbol is misleading, we will modify the figure caption to make it clear. Nevertheless, we calculated confidence intervals for the slope, based on the standard error of the linear regression slope (which is e.g. 0.045 in case of figure 5, right panel). As one would anticipate from the figure, the slope does not significantly differ from unity. We added this information to the text.