

Interactive comment on “Quality control of CarboEurope flux data – Part II: Inter-comparison of eddy-covariance software” by M. Mauder et al.

Anonymous Referee #1

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I can't say that this topic is very exciting, but the manuscript provides useful information and I think that it deserves to be published. Hopefully it initiates more studies to improve, for instance, high frequency correction methods. I also found that the manuscript was easy to read, was well structured and was not too long.

I have a few comments. Some of them may help to improve the manuscript. Some of them just remain comments.

The open-path analyser LI-7500 seems to generate a lot of trouble. In the manuscript, the spike detection problem comes up all the time. It is not only the spikes that are problematic, the signal levels will also float during and after rain/snow/... events. Is there any software that is able to reject such occasions. Moreover, H₂O measurement are

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usually more sensitive for such disturbances. It may seem that the CO₂ measurement is OK, but actually its Webb correction is already in error.

Coming to the Webb correction, this correction is enormous for an open-path analyser. The accuracy of sensible and latent heat fluxes was not a topic of this manuscript. But it should not be forgotten that those fluxes are important for the Webb correction.

The planar-fit method requires a long measurement period with as many wind directions as possible. Were those 5 days enough to apply a proper planar-fit method? I am not sure that the planar-fit method is always the best choice. On a complex terrain wind is not necessarily in/on the same plane when it is blowing from different directions. The G-ATEM site was located in a terrain depression, so, I am not sure if planar-fit was the appropriate method there.

I am not aware of any firm theoretical basis for the flux maximalisation method. However, it is a common practice today. I was surprised that TK2 uses non-rotated velocity components to find time delays. Is there any justification for that?

WORDING and other 4068, 20 ...to process the standard procedure... 4071, 14 write with words QA/QC 4072, 20 maybe "in" or "of" before the software 4074, 23 flux estimates of WHOSE 4072, 3 Lee et al., 2007b is missing in References 4076, 1 shouldn't it be +19? Fig. 5. my eye detects the measurement of +20 to be erroneous Fig. 2. fluxes more negative than - 35 seem to be too negative for me

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