Atmos. Meas. Tech. Discuss., 5, C1961–C1963, 2012
www.atmos-meas-tech-discuss.net/5/C1961/2012/

Atmospheric Measurement Techniques Discussions

Interactive comment on "A new disjunct eddy-covariance system for BVOC flux measurements – validation on CO_2 and H_2O fluxes" *by* R. Baghi et al.

C. Ammann (Editor)

christof.ammann@art.admin.ch

Received and published: 28 August 2012

In agreement with the anonymous referees I think that the discussion manuscript is of adequate scientific quality and deserves publication in AMT after moderate revisions.

In addition to the comments by the referees, the following issues should be addressed in the revision of the manuscript:

1) In Sections 4.5 and 4.6 (and also in the Abstract) the different flux methods (EC, DEC, SDEC) are only compared in terms of correlation. This is not sufficient! The correlation coefficient is not a measure for quantitative (1:1) agreement. It is only a mea-

sure for linear dependence between two quantities (allowing biases and slopes/ratios different from 1). Please provide more specific information on the quantitative agreement between the methods, e.g. slopes and offsets of a linear regression analysis (with corresponding uncertainties) or similar statistical analysis.

2) P4158,L22: This statement is not in full agreement with the corresponding statement in the conclusions "...of the same order but rather lower than the values reported in the literature..."

3) P4173,L8-9: I do not understand here why the underestimation of the DEC latent heat flux can be "attributed to a different response of the two analysers to H2O fluxctuations". DEC analysers do not need the same fast time response as EC analysers. Please explain this issue in more detail.

4) P4173,L10-12 I do not understand the explanation why the two systems are not inter-calibrated for the period of the field campaign. This would allow to distinguish between (i) simple differences in calibration and (ii) problems in the performance of the DEC/DES system.

5) P4177,L7: This is usually called a "standard emission rate"! The formulation "reduced...emission rate" is misleading here. Please use a clear and consistant denomination for isoprene fluxes and emission rates that are normalised to standard conditions throughout the manuscript!

LANGUAGE AND FORMULATION DETAILS

P4158,L13: better reverse the sentence "Both the simulated and actual DEC fluxes were in agreement with the EC flux".

P4174,L22-23: better write "...into air temperature T by correction of the moisture effect..."

P4175,L8-9: change to "...where then reduced to standard conditions..."

AMTD

5, C1961–C1963, 2012

P4176,L5: change to "...system called MEDEE."

Fig.7 and Fig. 11 captions: better use "measured" instead of "computed"

Figure Captions: Position the labels (a),(b),... consistently at the beginning of the corresponding text (like e.g. in Fig. 6) and not at the end (like e.g. in Figs. 5,7,8).

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 4157, 2012.