

Interactive comment on “A new disjunct eddy-covariance system for BVOC flux measurements – validation on CO₂ and H₂O fluxes” by R. Baghi et al.

Anonymous Referee #2

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The manuscript describes a new design of a disjunct sampling unit, called MEDEE. As such the manuscript is suitable for publication in AMT. It appears that some sections still need significant copy-editing, I suggest to have this done by the AMT copy editing service or have the manuscript edited by a native English speaker. I have indicated some obvious issues below, which are probably by no means complete. Scientific comments: The test performed on June 15th appeared to be on a day, when turbulence measurements might have been challenging - more analysis on stationarity etc. might be needed to evaluate the accuracy of the calculated DEC and EC fluxes. Discrepancy between the latent heat flux measurements: could this be due to a dampening effect

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of the disjunct sampler? Water vapour measurements are often plagued by surface passivation effects, which can introduce a significant dampening effect. 4176: last sentence is unnecessary – delete – why are you willing to improve the G95 algorithms if you then state it is beyond the scope of this manuscript?

Copy editing comments: Page: 4159, Line 8: Enclosure techniques ARE.... Page 4159, Line 14: what is meant by sampling area? Page 4159: Line 19: change to: It relies on measuring both vertical velocity and scalar concentration... Page 4160: Line 1: change to: ...,the turbulent flux... Page 4160: Line 6: change to: ...relies on similarity theory of the surface layer.... Page 4160: Line 14: change to: ...With this method.... Page 4160: Line 16: change to: ...very difficult to achieve with this method Page 4160: Line 20: change to: ...like with the EA method... Page 4161: Line 13: change to: ...of sequentially measuring... Page 4161: Line 14: change to: ...with the EC and DEC technique... Page 4161: Line 17: change to: ...gases simultaneously, without the use of intermediate reservoirs using only one PTRMS instrument. Page 4161: Line 22: change to: For BVOC flux measurements these DESs have either been used with infra-red gas analysers or PTRMS. Page 4161: Line 24: ...between DEC and EC latent heat flux; Page 4162: Line 7ff: describe sections by their numbering instead Page 4162: Line 14: change to : With the eddy covariance technique... Page 4164: Line 11: revise sentence – it is not clear what the authors state – probably a : by generating a sub-sampled time series from a longer time series (?) Page 4164: Line 16: grammar: ...follows the behavior...well. Page 4161: Line 20: change toduring the two field campaigns... Page 4166: Line 9: change to: ...hermetically seals... Page 4166: Line 25: change to: ...by pulling the piston in the cylinder forward and backward... Page 4168: Line Line 15: change to: ... for an optimal fetch along the main wind directions... Next line: change to: reached during the beginning of the afternoon. Page 4168: Line 22: change to: was harvested Page 4168: Line 26: grammar: from which the sonic temperature is deduced Page 4169: Line 14: what is meant by deported? Page 4169: Line 15: Two meter Page 4169: Line 16: The same type of Teflon line... Page 4169: Line 21: All sensor signals... Page 4169: Line 26: for the covariance

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calculation... Page 4170: Line 3ff: : rephrase this sentence to indicate that this is primarily a proof-of concept study Copy editing page 4171: THE previous sample; CONCENTRATION variation; FOR the complete; IS presented; THE latent heat flux; CO2 fluxes DO not; nor EXHIBIT; Copy editing page 4172: FOR the CO2 flux; FOR the latent heat flux; FOR EC estimates; CO2 flux HAS larger scattering; Page 4172: what is a determination coefficient? Probably correlation coefficient is meant here.

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

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