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Atmospheric Measurement Techniques Discussions

Interactive comment on "Application of relaxed eddy accumulation (REA) on managed grassland" *by* M. Riederer et al.

Anonymous Referee #1

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The paper present an application of the REA technique to the determination of CO2 and 13CO2 flux in a managed grassland. Author and co-authors are well known for their work on micrometeorological techniques (REA, EC) and their uses for CO2 fluxes determination. This work focuses on REA technique and its limitations when deployed over disturbed surfaces due to management (mowing of grassland).

The study is well conducted and detailed, and deserve a publication in AMT.

Here are a few questions or comments.

page 4988, line 21: why only focusing on EC technique here? There are many other micromet technique the have been intensively used for the determination of CO2 fluxes.

page 4991, line 5: what do you mean by time window scheme?

page 4994, line 10: what is this Tx 1937?

page 4998, line 22-23: "..., the accuracy of the system delata13C could be maintained...": not clear to me what do you mean by "maintained"

page 5002, lines 27-28: two time first in the same sentence

page 5003, line 4: figure 7a comes before figures 5 and 6

page 5004, line 20: any reason why there is no difference in up- and downdrafts?

page 5004, lines 22-24: could you be more explicit about "..this adds up to an even smaller 2.5% 13CO2 flux as part of the entire CO2 flux..."?

page 5005, lines 20-29: this seems to me to be more a discussion on the FP model. Is this useful here?

page 5006, line 9: "...event to negative value": this is not true for mean value

page 5006, lines 17-18: REA was developed for compounds no accessible at high rates of sampling 10Hz). So EC and REA are not supposed to be deployed together as suggested, or only for testing/development of the technique

page 5023, figure 4: colour is not really necessary for that figure

page 5026, figure 6: the two dark lines have the same colour

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 4987, 2014.