

Interactive comment on “An innovative eddy-covariance system with vortex intake for measuring carbon dioxide and water fluxes of ecosystems” by Jingyong Ma et al.

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General comment

The new vortex system presented in this paper appears ingenious and original and has the potential to improve closed and enclosed eddy covariance systems. Its application field is large and would help field experimenters to spare maintenance time. The paper is concise, well structured, well written. I will not come back on comments of rev #3 with which I agree.

Specific Comments

In view of its principle, the system should be more efficient for heavier dust particles.

C1

This paper shows that it works successfully in very polluted areas but it could be interesting to evaluate its performances in forest or grasslands ecosystems where dust is characterized by smaller particles.

Figure 4 suggests that the vortex system does not affect the system frequency response. However it has been tested in conditions that are not very challenging (as noted by the authours, the cospectra are already strongly attenuated above 0.1 Hz) and it could be interesting to test the system frequency response in conditions of higher frequency turbulence.

This two remarks could be added in the conclusion section and suggested as further research perspectives.

Miscellaneous

L25, L49 : The application field of the system is larger than announced by the authours as it may concern all trace gas analysers (not only H₂O and CO₂) and also enclosed paths systems.

L192 (and below): the reference is in fact Aubinet et al (2000)

In reference list : check the order of the references (a.o. Burba is misplaced)

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C2