

Interactive comment on “A dual, single detector relaxed eddy accumulation system for long-term measurement of mercury flux” by S. Osterwalder et al.

Anonymous Referee #1

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Osterwalder et al. report on a new design of a GEM REA system, its design, implementation and preliminary data from two contrasting study sites.

I think this is an excellent paper - the new REA design will certainly help to make more defensible GEM flux measurements over extended periods in the future, which is urgently required to better constrain the global mercury cycle. The paper is well suited for AMT(D), is well written and adequately presented. I thus have only a few minor comments, following below (note that page and line numbers refer to printer-friendly version of the paper):

p. 8117, l. 13-16: this technique has been termed eddy accumulation, as opposed to REA

p. 8117, l. 23: say something about the drawbacks of REA as well? E.g. no post-processing coordinate rotation?

p. 8118, l. 18: the concept of the "dual inlet REA" as opposed to single inlet systems should be introduced here

p. 8118, l. 18-p. 8119, l. 11: reformulate this section to explicitly include a statement of objectives for this study

p. 8120, l. 1-2: the name of the urban study site has not been mentioned previously

p. 8121, l. 2: '... was recorded ...'

p. 8121, l. 6: refer to Table S1 after (A1, A2)

p. 8121, l. 10: '... were installed ...' – use past tense throughout!

p. 8123, l. 15: '... were performed ...'

p. 8124, Eq. 5: as the equation stands the ratio amounts to unity

p. 8125, l. 5: '... will be determined ...', as this is yet to come at this point?

p. 8125, l. 12: the integral turbulence test would also identify larger than expected turbulence – basically this test looks at the deviation from the modelled value

p. 8125, l. 14: you mean the sonic measurement of the three wind components?

p. 8130, l. 8: '... showed ...'

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