

1 General comments

- The revised manuscript takes into full consideration the suggestions made by reviewers. The authors did a lot of work and new analysis to implement the recommendations. The manuscript can be accepted after minor revision.

We thank the reviewer for acknowledging our extensive efforts.

2 Detailed comments

- L266 Here authors introduce a term ‘poor-person’s inversion’ as a version of ‘poor man’s inversion’ by Chevallier et al (2009). The motivation to rebrand the term ‘poor man’s something’ appears shaky, given the fact the saying itself is deep-rooted in history, and became a part of English language. For example, a newspaper named ‘Poor Man’s Guardian’ was published in 1831-1835 (there is a story in Wikipedia). A suggested replacement has not been as widely accepted, a Google search on it returns little of significance. The recommendation is to stick to the original term as coined by Chevallier et al (2009).

We have added original term to the reference Chevallier et al. [2009]

References

- F. Chevallier, R. J. Engelen, C. Carouge, T. J. Conway, P. Peylin, C. Pickett-Heaps, M. Ramonet, P. J. Rayner, and I. Xueref-Remy. AIRS-based versus flask-based estimation of carbon surface fluxes. *Journal of Geophysical Research*, 114(D20), 10 2009. ISSN 0148-0227. doi: 10.1029/2009jd012311.