

Interactive comment on “Identification of spikes associated with local sources in continuous time series of atmospheric CO, CO₂ and CH₄” by Abdelhadi El Yazidi et al.

Anonymous Referee #2

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The manuscript has been improved since the first submission in acp. The style is more accurate and more information has been added.

However in my opinion there are still things that need to be clarified:

In section 3.1.2 the authors indicates that test values ranging Beta from 1 to 10 had been done. The results of these tests should be presented (at least in the supplementary information). Otherwise, the affirmation that the optimal value is Beta=8 seems arbitrary.

In table 4 it could be interesting to show also the number of spikes manually reported by site managers, at least for the sites where this information is available. (in AMS are

close to 0.1% for all species and 1% for CO₂ according to text).

The overestimation is not reflected in the paper (not even in section 3.3). Probably is very low for both SD and REB methods (as in fact they underestimate the number of events) but needs to be quantified. For example, in section 3.4: was there any event not considered by manual spike detection that was considered as spike by any of the 2 detection methods?

In Table 6, it will be interesting to add the percentage for each classification on the whole series (e.g. OPE filtered data is, in 53% of cases, higher than 1ppm from non filtered. But which percentage of hours this represents on the whole series?)

I figure S6: please, use percentage of hours instead of number of hours. Graph will also be clearer with another X scale. Moreover, as in the text is said the figure is similar for other stations, it will be interesting to add the histograms of all sites.

The reference Foster et al. does not seems to be related with this article.

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