

Geosci. Model Dev. Discuss., author comment AC1 https://doi.org/10.5194/gmd-2021-106-AC1, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

## Comment on gmd-2021-106

Joël Thanwerdas et al.

Author comment on "Variational inverse modeling within the Community Inversion Framework v1.1 to assimilate  $\delta^{13}C(CH_4)$  and  $CH_4$ : a case study with model LMDz-SACS" by Joël Thanwerdas et al., Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2021-106-AC1, 2021

On behalf of all Co-Authors, we apologize for this strange sentence in the abstract :

"More importantly, when assimilating both  $CH_4$  and  $\delta^{13}C(CH_4)$  observations, but assuming source signatures are perfectly known increase these differences between the system with  $CH_4$  and the enhanced one with  $\delta^{13}C(CH_4)$  by a factor 3 or 4, strengthening the importance of having as accurate as possible signatures."

Here is a correction :

"More importantly, when assimilating both CH<sub>4</sub> and  $\delta^{13}$ C(CH<sub>4</sub>) observations, but assuming that the source signatures are perfectly known, these differences increase by a factor of 3 or 4, strengthening the importance of having as accurate signature estimates as possible.

We hope that it will clarify the statement.