

*Black: referee's comments green: authors' answers*

*First of all, we would like to thank the referee for the detailed analysis of our paper.*

*For the details, please look into the paper with keeping track of changes.*

Referee #2

Dear authors,

first I have to apologize for the long time that this manuscript has spent in review. It was extremely difficult to find reviewers that were not connected with the FRM4GHG project. This project includes a large part of the FTIR community. From the ones I identified, 6 were unavailable, declined or had a conflict of interests. Therefore, I would like to extend special thanks to anonymous reviewer #1 who provided a thorough report on time.

Unfortunately, the whole process took place while I was absorbed by tragic family matters for several months. The backlog that piled up while I was hardly able to work also delayed this review process. I appreciate your understanding that the first author Minqiang Zhou has expressed to me personally already.

Not being able to come up with 2 reviewers in the end, I am forced to resort to an editor's review to finish the process. My own FTIR experience is limited to TCCON hi-resolution retrievals with GGG on the IFS125HR. My experience with NDACC, SFIT4 and low-resolution retrievals is very limited. Therefore, I would only add the minor comments below and leave the detailed corrections to the report already provided by reviewer #1.

Kind regards

Dietrich Feist

First of all, we would like to thank Dietrich Feist and Thomas Wagner for your great help of handling our manuscript. We understand that many relative colleagues are involved in the FRM4GHG-1/2 projects and it is difficult to find the experts. We also heard that it was a very hard time for Dietrich during the last couple months, and we sincerely hope everything gets better now!

Comments:

- I find the naming of the bands 1-6, V1, V2, 3V2, 4V2 confusing. For clarity, please provide a table that describes the major parameters (wave number range, instrument, species retrieved).

Thanks for your comment. We add a table to show the information of these abbreviaiton in the revised version.

- p. 14, l. 7: Do you mean standard deviation with "stds"? Please spell out to avoid confusion.

Std stands for 'standard deviation' and stds stands for 'standard deviations'. It has been clarified now in the revised version.