

Authors' response to reviewer comments

We thank the reviewer for taking his/her time to review our manuscript again. As was the case during the first review, the reviewer's comments are addressed on a point-by-point basis with his responses in red. The necessary tracked changes have been made to the manuscript.

The paper "Variation in shortwave water vapour continuum and impact on clear-sky shortwave radiative feedback" by Menang et al. has improved since the initial submission, with all major problems resolved. I commend the authors for the efforts to improve the manuscript. With a few more minor modifications, this paper should be published.

Thank you very much for your positive comments

I do recommend a small amount of further modification in the continuum background section (2.1). Although the continuum version evolution presented in the main paragraph has all the relevant facts, I found the many shifts in the narrative between the self and the foreign continuum to be confusing. Instead, I suggest that the authors present the self continuum information first, and then present the foreign continuum information in a second paragraph. This would allow both clearer exposition and provide an opportunity for the authors to further emphasize that the self continuum is more important than the foreign for what they are considering in this study.

Also, I found the statement about Elsey et al. on line 155 out of place. The paragraph is focused on the evolution of MT_CKD and its close relationship with the various laboratory studies by the Campargue group, and this sentence is not about that. Also, that sentence points out that Elsey et al. indicate "MT_CKD_3.2 is also underestimating the self-continuum", while the previous sentence indicates that MT_CKD_3.2 is stronger than Vasilchenko et al. Therefore, the word "also" seems to not make sense.

Perhaps the authors do not agree with the perspective in my previous review that the experimental techniques used by the Campargue group are superior to the Fourier transform spectrometer approach. Even if that is the case, I think that the authors could still provide their readers with additional context by stating that the Campargue group techniques are highly regarded, which I hope the authors believe. This could be done by inserting text in the sentence that begins on line 144, such as "Optical-feedback-cavity enhanced absorption spectroscopic and cavity ring-down spectroscopic laboratory measurements, considered to be highly accurate, ..."

- We thank the reviewer for these constructive comments and suggestions.
- We have presented the self and foreign continua separately as recommended by the reviewer.
- We agree with the reviewer that the OFCEAS and CRDS measurements are more accurate than FTIR measurements. We apologise that we did not highlight that in our revised manuscript. We have now inserted the text proposed by the reviewer in the paper. We thank the reviewer for this.
- Elsey et al. was included in this paragraph as one of the studies that validated MT_CKD_3.2. Unfortunately, this instead made the paragraph to be confusing. With

the revision of this portion of the manuscript as recommended by the reviewer, Elsey et al. has been removed.

- We have also emphasized the importance of self-continuum for our work as recommended by the reviewer.

227-228 – The authors are incorrect about the name of RRTMG. It is simply “RRTM for GCM applications”. See section 2 in DOI: 10.1175/AMSMONOGRAPHS-D-15-0041.1 This needs to be corrected before the paper is published.

We thank the reviewer for pointing us to formal name of RRTMG. This has now been corrected.

285 – Add space after “2.5”.

Done

337 – “temperatures”

Corrected

416 – “laboratory-implied” is awkward (and maybe not a word). Maybe “observation-based” would be better? Even with this change, this sentence is little misleading in that in the spectral region that is the focus of this paper both MT_CKD_4.1.1 and CAVIAR_updated are constrained to laboratory measurements.

We thank the reviewer for this comment. We agree with the reviewer that the word ‘laboratory-implied’ makes this sentence to be misleading. Since the origin of the MT_CKD and CAVIAR_updated models have already been discussed in the manuscript, we have removed both ‘semi-empirical’ and ‘laboratory-implied’ from this sentence to avoid any misleading information.

421-428 - There are several past tense verbs in this paragraph that probably should be present tense.

The past tense verbs have been corrected as pointed out by the reviewer.